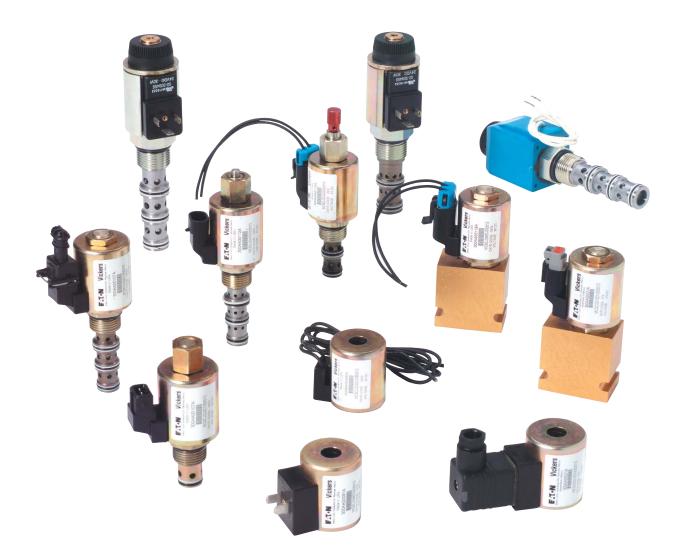
F1·N Vickers

Solenoid Valves

Poppet and Spool type solenoid actuated valves for applications up to 350 bar (5000 psi) and 227 L/min (60 USgpm)



Α

Solenoid Valves

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Solenoid Valves

Section Contents (cont.)

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•			Δ-152

Quality Products and Innovative solutions

This catalog gives basic specifications for the full line of Vickers screw-in cartridge solenoid valves. Its purpose is to provide a quick, convenient reference tool when choosing Vickers cartridge valves or designing a system using these components.

Two pressure ratings are shown for all products featured in this catalog typical application pressure and fatigue pressure. The typical application pressure rating is the maximum recommended operating pressure for the valve in a given system. The fatigue pressure rating is the pressure for the valve to be free for infinite life from metal fatigue. Vickers solenoid valves are offered with the widest choice of flow paths and position options to satisfy most requirements. These options include:

- 2-way. 2-position, normally open and normally closed spool and poppet valves
- 3-way, 2-position spool valves
- 4-way, 2-position spool valves
- 4-way, 3-position spool valves

Valve Features and Benefits

- Products in this catalog have been fatigue tested for one million cycles at 132% or 10 million cycles at 115% of rated pressure
- Rated flows up to 227 L/min (60 USgpm)
- Poppet and spool designs
- Standard cartridge
 cavities
- All operating parts are hardened steel, ground and honed for long life and low leakage
- Cartridge design for maximum flexibility and minimal manifold space requirements
- Optional low-cost manual override is available on selected models

- All exposed surfaces are zinc dichromate plated to resist corrosion
- All aluminum manifolds are gold anodized to resist corrosion
- Reliable, economical and compact
- Manual override options are available on all solenoid valves except SBV series valves

Note

Solenoid valve coil details are shown in section C.

Solenoid Valves

Coils

Coil Features and Benefits Note Solenoid valve coil details are shown in section C.	The solenoid operated directional valves in this catalog are offered with a choice of standard voltages and several types of electri- cal connections. For other coil ratings and connec- tions, consult your Eaton representative. Standard AC coils are inter- nally rectified to supply them with DC current, therefore they have no "inrush" current value.	 Coils are rated for continuous duty Coils are interchangeable for serviceability Variety of voltages and terminations Coils offer a one-piece weather-proof encapsulated design, eliminating the need for extra seals AC voltage coils are internally full-wave rectified for 50 or 60 cycle (Hz) applications 	An arc suppression diode molded into the coil is avail- able as a standard option on DC coils. Also available, are explosion-proof coils and cartridges that are CSA approved and recognized by the US Underwriters Laboratories.
Protection of Internally Rectified Coils	The rectifiers used in these coils may require protection from high voltage surges in some electrical circuits con- taining highly inductive or capacitive components. These include certain types of motors, solenoids, relays, and transformers.	Protection is simple and inexpensive. It consists of installing a commercially available voltage surge sup- pressor like the General Electric MOV varistor V130LA20A for 115 volts AC or the V250LA20A for 230 volts AC, across the AC line	supplying the rectified com- ponents. A single suppres- sor will normally protect all of the rectified components in the circuit, as shown in the surge suppressor circuit diagram below.
Note Solenoid valve coil details are shown in section C.	Surge suppressor circuit diagram	AC line Voltage surge suppress (MOV varistor) Rectified components	sor
WARNING Application of these products beyond published perform- ance specifications may cause valve malfunction which may result in per- sonal injury and/or dam- age to the machine.		surge coils must be co producing side of the surg components must be No inductive or	capacitive loads between the surge rectified valves
WARNING Maintain 5-8 Nm (4-6 ft. lbs) maxi- mum torque on valve tube nut. Over tightening may cause valve or coil failure.	CAUTION Coils may be hot to touch if used in continuous applications.		

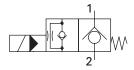
SV5-8-C/CM

Poppet type, normally closed solenoid valve, 210 bar

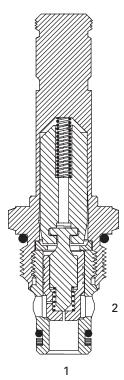
Description

The SV5-8-C is a 2-way, 2-position, poppet type, pilot operated, normally closed, solenoid valve. This valve is used in applications requiring low leakage, such as single acting cylinder applications.

Functional Symbol



Sectional View

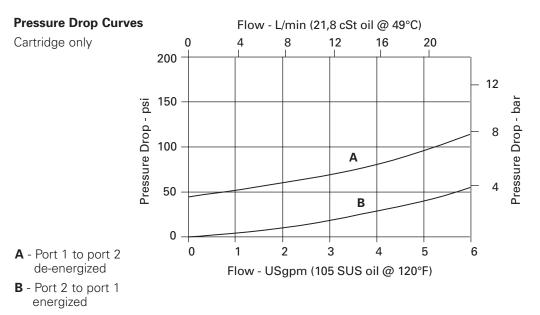


Operation

In the de-energized position, the SV5-8-C blocks flow from port 2 to port 1, and free flow is allowed from port 1 to port 2. In the energized position, flow from port 1 to port 2 is restricted and free flow is allowed from port 2 to port 1.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (10	05 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	less than 5 drops/min. max @ 210 bar (3000 psi)
Coil duty	Continuous from 85% to 110% of nominal voltage
Response times (100% rated voltage and flow)	Energize:18 ms De-Energize: 46 ms
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-8-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0,28 kg (0.62 lbs)
Seal kit	02-165875 (Buna-N), 02-165877 (Viton [®]) Viton is a registered trademark of E.I. DuPont



SV5	_	8	(\	/)	– C	;	(M)	(F) –	(A) **	_	***	()	÷ S	. –	00	1
1	1	1	11		1	1	I I	1	1	1	11	1	1	11	Ш	1	1	L

6

7

8

26,0 (1.02) 9

10 11

12

1 Function

SV5 - Solenoid valve

2 Size

8 - 8	size
--------------	------

3	Seal material
Bla	nk - Buna-N

V - Viton®

4 Style

C - Normally closed

5 Manual override option Blank - No manual override

M - Knob type For valve dimensions with manual override option installed see page A-153.

6 Filter option

Blank - None F - Filter screen

7 Valve housing material

4 5

2 3

Omit for cartridge only - Aluminum

8 Port Size

1

Α

CODE	PORT SIZE	HOUSING NUMBER
0	Cartridge only	
2G	1/4" BSPP	02-160727
3G	3/8" BSPP	02-160728
4T	SAE 4	02-160730
6Т	SAE 6	02-160731
8T	SAE 8	02-160732

See section J for housing details.

Ø 31,7

 9 Voltage rating 00 - No coil 12D - 12VDC 24D - 24VDC 36D - 36VDC 	24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *0ptional arc suppression diode.
---	--

10 Connector types

Blank - No coil

- G SO 4400 DIN 43650 **Q** Spade terminals
- W Leadwire
- N Deutsch (DC only) Y - Amp JR (DC only)
- D Metripack 150 male (DC only)
- J Metripack 280 male (DC only)

11 Coil series

S - 8 series, 20 W

For coil part numbers and dimensions see Section C.

12 Special features

00 - None

(Only required if valve has special features, omitted if "00.")

Dimensions

mm (inch)

Torque cartridge in aluminum or steel housing 34-41 Nm (25-30 ft. lbs)

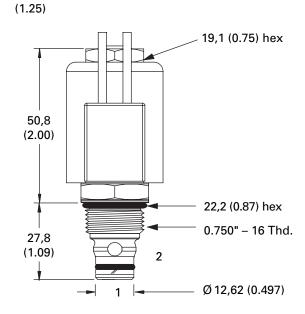
Note

When solenoid valve is ordered as cartridge only, coil nut is included.



WARNING

Maintain 5-8 Nm (4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.



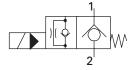
SV15-8-C/CM

Poppet type, normally closed solenoid valve, 350 bar

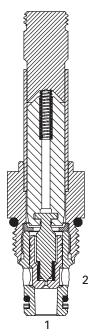
Description

The SV15-8-C is a 2-way, 2-position, pilot operated, poppet type, normally closed, screw-in cartridge solenoid valve.

Functional Symbols



Sectional View

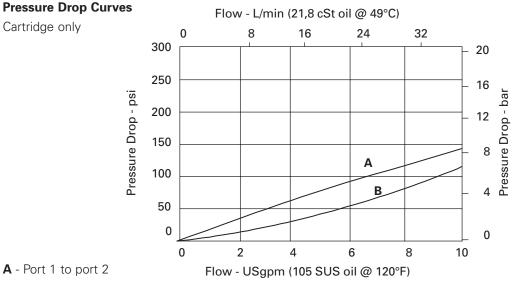


Operation

In the de-energized position, this valve blocks flow from port 2 to port 1 and free flow is allowed from port 1 to port 2. In the energized position, flow from port 1 to port 2 is restricted while free flow is allowed from port 2 to port 1.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 c.	ST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)
Rated flow	37 L/min (10 USgpm)
Internal leakage, port 2 to port 1	5 drops/min. max @ 210 bar (3000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-8-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Steel
Weight cartridge only	0,11 kg (0.25 lbs)
Seal kit	02-165875 (Buna-N), 02-165877 (Viton®) Viton is a registered trademark of E.I. DuPont



B - Port 2 to port 1

SV15	– 8 (V) -	- C (M) -	- (S) ** -	- **** * P – 00
	23	4 5	6 7	8 9 10 11

SV15 - Solenoid valve

2 Size

8 - 8 size

3 Seal material

Blank - Buna-N **V** - Viton[®]

4 Style

C - Normally closed

5 Manual override option

Blank - No manual override M - Manual override

For valve dimensions with manual override option installed see page A-153.

6 Valve housing material

Blank - Cartridge only S - Steel

Dimensions

mm (inch)

Torque cartridge in aluminum or steel housing 34-41 Nm (25-30 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.



WARNING Maintain 5-8 Nm

(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

7	Por	t Size	
~~		DODT	

CODE	PORT SIZE	HOUSING NUMBER
0	Cartridge only	
2G	1/4" BSPP	02-160733
3G	3/8" BSPP	02-160734
4T	SAE 4	02-160736
6T	SAE 6	02-160737
8T	SAE 8	02-160738

See section J for housing details.

Ø 12,6 (0.500)

8 Voltage rating 00 - No coil 12D - 12VDC 24D - 24VDC 36D - 36VDC

24A - 24VAC **115A** - 115VAC **230A** - 230VAC **12B** - 12VDC/w diode* **24B** - 24VDC/w diode* *0ptional arc suppression diode.

9 Connector types

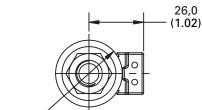
Blank - No coil

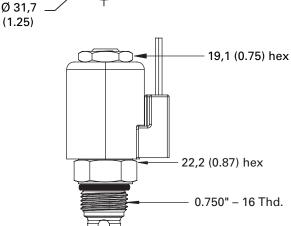
- G ISO 4400 DIN 43650
- **Q** Spade terminals
- W Leadwire
- N Deutsch (DC only)
- Y Amp JR (DC only)
- **D** Metripack 150 male (DC only)
- J Metripack 280 male (DC only)

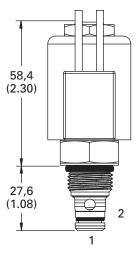
10 Coil series

P - 8 series, 23 W For coil part numbers and dimensions see Section C.

11 **Special features 00** - None (Only required if valve has special features, omitted if "00.")





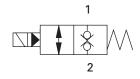


Bi-directional, normally closed solenoid valve

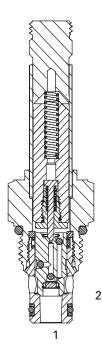
Description

The SBV11-8-C is a 2-way, 2-position, bi-directional, normally closed, poppet type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View

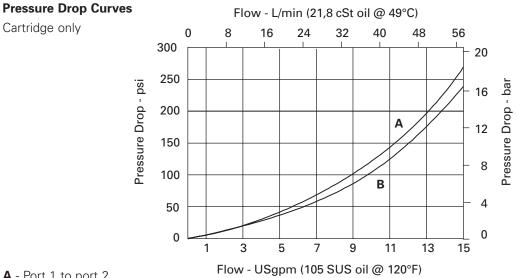


Operation

In the de-energized position, flow is blocked in both directions. In the energizedposition, flow is allowed in both directions.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (10	05 SUS) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)
Rated flow	60 L/min (15 USgpm)
Internal leakage, port 1 to port 2 & port 2 to port 1	5 drops/min. max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-8-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum or steel
Weight cartridge only	0,12 kg (0.26 lbs)
Seal kit	02-160777 (Buna-N), 02-160778 (Viton [®]) Viton is a registered trademark of E.I. DuPont



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

SBV11 –	8 (V) – C	- (*) ** -	- **** * P –	00
		5 6	7 8	10
6 Port Size				8 Connec

HOUSING NUMBER

Aluminum

02-160727

02-160728

02-160730

02-160731

02-160732

1 Function

SBV11 - Solenoid bi-directional valve

2 Size

8 - 8 size

3 Seal material

Blank - Buna-N

V - Viton®

4 Style

C - Normally closed

5 Valve housing material

					9		
Blan	ık -	Ca	rtrid	ge	on	ly	

A - Aluminum **S** - Steel

7 Voltage rating
00 - No coil
12D - 12VDC
24D - 24VDC
36D - 36V/DC

CODE

0

2G

3G

4T

6T

8T

PORT SIZE

Cartridge only

1/4" BSPP

3/8" BSPP

SAE 4

SAE 6

SAE 8

See section J for housing details.

24A - 24VAC **115A** - 115VAC **230A** - 230VAC **12B** - 12VDC/w diode* **24B** - 24VDC/w diode* *0ptional arc suppression diode.

Steel

02-160733

02-160734

02-160736

02-160737

02-160738

8 Connector types

Blank - No coil

- **G** ISO 4400 DIN 43650
- **Q** Spade terminals
- W Leadwire
- N Deutsch (DC only)
- Y Amp JR (DC only)
- D Metripack 150 male (DC only)
- J Metripack 280 male (DC only)

9 Coil series

P - 8 series, 23 W For coil part numbers and dimensions see Section C.

10 Special features

00 - None

(Only required if valve has special features, omitted if "00.")

Dimensions

mm (inch)

Torque cartridge in aluminum or steel housing 34-41 Nm (25-30 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.



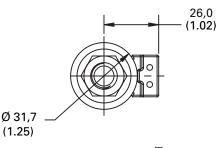
WARNING Maintain 5-8 Nm

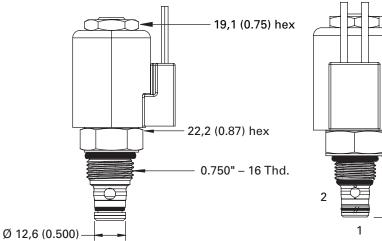
(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.



Aluminum housings can be used for pressures up to 210 bar (3000 psi).

Steel housings must be used for operating pressures above 210 bar (3000 psi).





58,4

(2.30)

27,7

(1.09)

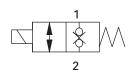
SBV12-8-C

Bi-directional, normally closed solenoid valve (low flow version)

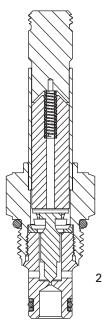
Description

The SBV12-8-C is a 2-way, 2-position, bi-directional, direct acting, normally closed, poppet type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



1

Operation

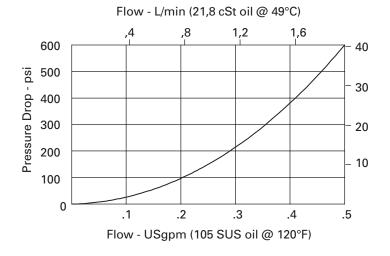
In the de-energized position, flow is blocked in both directions. In the energizedposition, flow is allowed in both directions.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (10	5 SUS) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)
Rated flow	1 L/min (0.25 USgpm)
Internal leakage, port 1 to port 2 and port 2 to port 1	5 drops/min. max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-8-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum or steel
Weight cartridge only	0,120 kg (0.26 lbs)
Seal kit	02-160777 (Buna-N), 02-160778 (Viton®) Viton is a registered trademark of E.I. DuPont

Pressure Drop Curve

Cartridge only



8 Connector types

G - ISO 4400 DIN 43650 **Q** - Spade terminals

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male

For coil part numbers and dimensions

(DC only)

P - 8 series, 23 W

10 Special features

(Only required if valve has special features, omitted if "00."

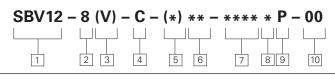
9 Coil series

see Section C.

00 - None

Blank - No coil

W - Leadwire



1 Function

SBV12 - Solenoid bi-directional valve

2 Size

8 - 8 size

3 Seal material

Blank - Buna-N

V - Viton®

4 Style

C - Normally closed

5 Valve housing material

Blank - Cartridge only **A** - Aluminum S - Steel

Dimensions

mm (inch)

Torque cartridge in aluminum or steel housing 34-41 Nm (25-30 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.

WARNING Maintain 5-8 Nm

(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may

cause valve failure. WARNING

Aluminum housings can be used for

pressures up to 210 bar (3000 psi). Steel housings must be used for operating pressures above 210 bar (3000 psi).

7	Port Size

CODE	PORT SIZE	HOUSING NUMBER		
		Aluminum	Steel	
0	Cartridge only			
2G	1/4" BSPP	02-160727	02-160733	
3G	3/8" BSPP	02-160728	02-160734	
4T	SAE 4	02-160730	02-160736	
6T	SAE 6	02-160731	02-160737	
8T	SAE 8	02-160732	02-160738	
See sectio	See section J for housing details.			

7 Voltage rating
00 - No coil
12D - 12VDC
24D - 24VDC

36D - 36VDC

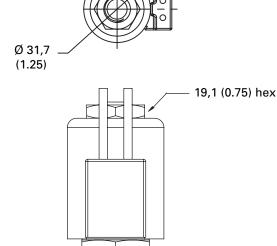
22,2 (0.87) hex

Ø 12,62 (0.497)

115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.

24A - 24VAC

26,0 (1.02)



58,4 (2.30)27,7 (1.09)2 1

0.750" - 16 Thd.

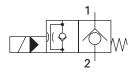
SV1-10-C/CM/CR

Poppet type, normally closed solenoid valve

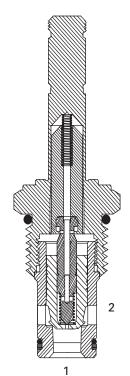
Description

The SV1-10-C is a 2-way, 2-position, pilot operated, poppet type, normally closed, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



A-14

Operation

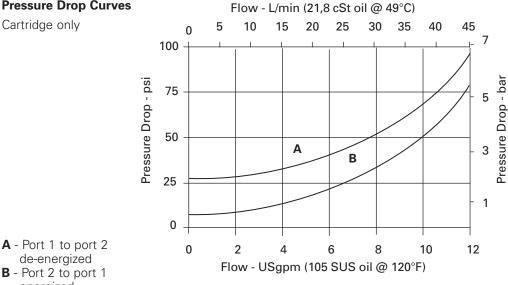
In the de-energized position, this valve blocks flow from port 2 to port 1 and free flow is allowed from port 1 to port 2.

In the energized position, flow from port 1 to port 2 is restricted while free flow is allowed from port 2 to port 1.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	45 L/min (12 USgpm)
Internal leakage	less than 5 drops/min. max @ 210 bar (3000 psi)
Coil duty	Continuous from 85% to 110% of nominal voltage
Response times (100% rated voltage and flow)	Energize:18 ms De-Energize: 46 ms
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-10-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0,4 kg (0.87 lbs)
Seal kit	565803 (Buna-N), 566086 (Viton [®]) Viton is a registered trademark of E.I. DuPont

Pressure Drop Curves



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

SV1 –	10 (V) -	- C (*) (F) -	- ** -	**** * - (00
		4 5 6			10

SV1 - Solenoid valve

2 Size

10 - 10 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style

C - Normally closed

5 Manual Override Options

Blank - No manual override M - Knob type R - Cable type For valve dimensions with manual override option installed see page A-153.

6 Filter option

Blank - None F - Filter screen

Dimensions

mm (inch)

Torque cartridge in aluminum housing 47-54 Nm (35-40 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.



WARNING

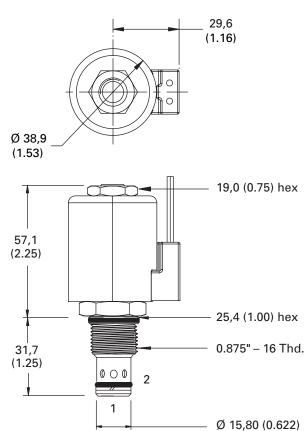
Maintain 5-8 Nm (4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

7 Port Size			
CODE	PORT SIZE	HOUSING NUMBER	
0	Cartridge only		
3B	3/8" BSPP	02-175462	
6T	SAE 6	566151	
2G	1/4" BSPP	876702	
3G	3/8" BSPP	876703	
6H	SAE 6	876700	
8H	SAE 8	876701	
Concentration of fear boundary describe			

See section J for housing details.

8 V	oltage rating
0 0 - N	lo coil
12D -	12VDC
24D -	24VDC
36D -	36VDC

24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.



9 Connector types

Blank - No coil

- G ISO 4400 DIN 43650
- **Q** Spade terminals
- W Leadwire
- N Deutsch (DC only)
- **Y** Amp JR (DC only)
- D Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

For coil part numbers and dimensions see Section C.

10 Special features

00 - None (Only required if valve

has special features, omitted if "00.")

Note

Use J series, 23 W coils with this solenoid valve.

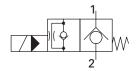
SV11-10-C/CM

Poppet type, normally closed solenoid valve, 350 bar

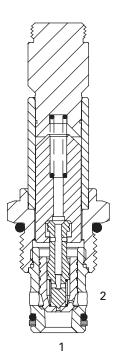
Description

The SV11-10-C is a 2-way, 2position, pilot operated, poppet type, normally closed, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View

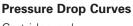


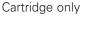
Operation

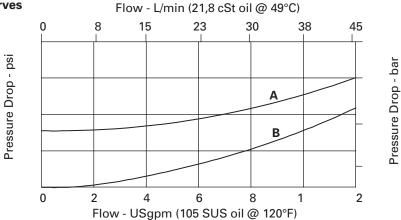
In the de-energized position, this valve blocks flow from port 2 to port 1 and free flow is allowed from port 1 to port 2. In the energized position, flow from port 1 to port 2 is restricted while free flow is allowed from port 2 to port 1.

RATINGS AND SPECIFICATIONS

5 SUS) and 49°C (120°F)
350 bar (5000 psi)
310 bar (4500 psi)
45 L/min (12 USgpm)
5 drops/min. max @ 350 bar (5000 psi)
-40° to 100°C (-40° to 212°F)
Continuous from 85% to 110% of nominal voltage
C-10-2
All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Cleanliness code 18/ 16/13
Steel
0,18 kg (0.39 lbs)
565803 (Buna-N), 566086 (Viton®) Viton is a registered trademark of E.I. DuPont







A - Port 1 to port 2 de-energized

B - Port 2 to port 1 energized

	SV			•* – **** * H – – – – – – – – – – – – – – – – – – –	
Function /11 - Solenoid valve		Ive housing mat - Cartridge only	erial		 Connector types Blank - No coil G - ISO 4400 DIN 43650
Size - 10 size		rt Size			Q - Spade terminals W - Leadwire N - Deutsch (DC only)
Seal material	CODE	PORT SIZE	HOUSING NUMB	ER	Y - Amp JR (DC only)
ank - Buna-N	0	Cartridge only			D - Metripack 150 male
Viton [®]	2G	1/4" BSPP	02-175102		(DC only)
	3G	3/8" BSPP	02-175103		J - Metripack 280 male
Style	6T	SAE 6	02-175100		(DC only)
Normally closed	8T	SAE 8	02-175101		10 Coil series
Manual override option	See sectio	on J for housing details.			H - 10 series, 29 W
ank - No manual override - Manual override	8 Vo	Itage rating	24A - 24\ 115A - 11		For coil part numbers and dimensions see Section C.
valve dimensions with manual ride option installed see page A-153.	00 - No 12D - 7 24D - 2 36D - 3	12VDC 24VDC	230A - 23 12B - 12\ 24B - 24\		 Special features O0 - None (Only required if valve has special features, omitted if "00.")
mensions (inch)		-			
que cartridge in eel housing 68-75 Nm)-55 ft. lbs)		Ø 38,9 (1.53) [−]			
			/	22,2 (0.875) hex	
ite			/ m		
nen solenoid valve is dered as cartridge only, il nut is included.					57,8 (2.28)
	25,4	4 (1.00) hex 🦯			
Maintain 5-8 Nm (4-6 ft. lbs) maxi- um torque on valve tube				- 0.875" – 14 Thd.	31,7 (1.25)

1

SV1

2

10 -

3

Blar V - \

4

C - N

5

Blan М-For va overrio

Dim

mm (ii

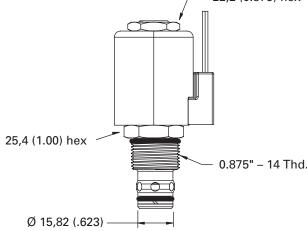
Torq stee (50-

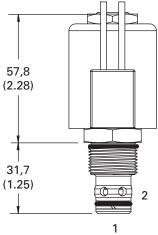
Note

Whe orde coil



mum torque on valve tube nut. Over tightening may cause valve failure.



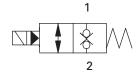


Bi-directional, normally closed solenoid valve

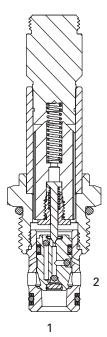
Description

The SBV11-10-C is a 2-way, 2-position, bi-directional, normally closed, poppet type, screw-in cartridge, solenoid valve.

Functional Symbol



Sectional View

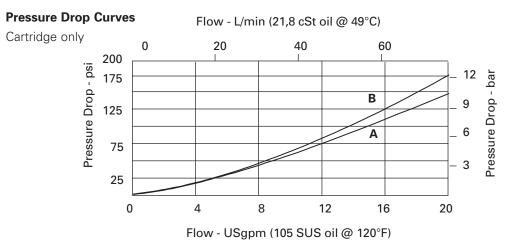


Operation

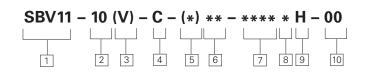
In the de-energized position, flow is blocked in both directions. In the energized position, flow is allowed in both directions.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 c	ST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)
Rated flow	76 L/min (20 USgpm)
Internal leakage	5 drops/min. max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum or steel
Weight cartridge only	0,18 kg (0.39 lbs)
Seal kit	565806 (Buna-N), 889627 (Viton [®]) Viton is a registered trademark of E.I. DuPont



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



SBV11 - Solenoid bi-directional valve

2 Size

10 - 10 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style

C - Normally closed

5 Valve housing material

Blank - Cartridge only **A** - Aluminum

S - Steel

Dimensions

mm (inch)

Torque cartridge in housing

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

S - 68-75 Nm (50-55 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.

WARNING

Maintain 5-8 Nm

(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.



WARNING

Aluminum housings can be used for pressures up to 210

bar (3000 psi) Steel housings must be used for operating pressures above 210 bar (3000 psi).

6 Port Size				
CODE	PORT SIZE	HOUSING NUMBER		
		Aluminum	Steel	
0	Cartridge only			
2G	1/4" BSPP	876702	02-175102	
3G	3/8" BSPP	876703	02-175103	
3B	3/8" BSPP	02-175462	_	
6H	SAE 6	876700	_	
6T	SAE 6	566151	02-175100	
8H	SAE 8	876701	_	
8T	SAE 8	_	02-175101	
See sectio	n J for housing details.			

7 Voltage rating

00 - No coil 12D - 12VDC 24D - 24VDC 36D - 36VDC 24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.

8 Connector types Blank - No coil

G - ISO 4400 DIN 43650

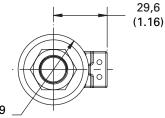
- **Q** Spade terminals
- W Leadwire
- N Deutsch (DC only)
- Y Amp JR (DC only)
- D Metripack 150 male (DC only)
- J Metripack 280 male (DC only)

9 Coil series

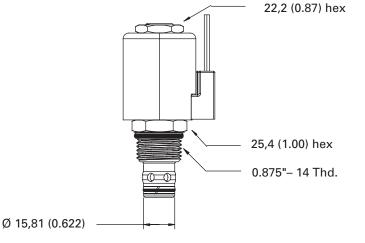
H - 10 series, 29 W For coil part numbers and dimensions see Section C.

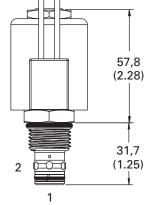
10 Special features

00 - None (Only required if valve has special features, omitted if "00.")









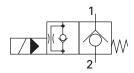
SV2-10-C/CM/CR

2-way, poppet type, normally closed solenoid valve

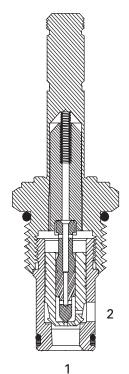
Description

The SV2-10-C is a 2-way, 2-position, pilot operated, poppet type, normally closed, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



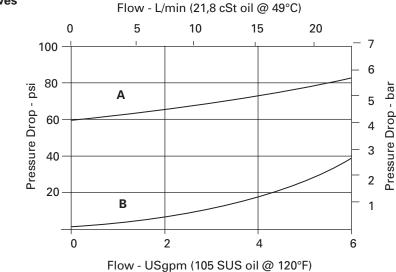
Operation

In the de-energized position, this valve blocks flow from port 2 to port 1 and free flow is allowed from port 1 to port 2. In the energized position, flow from port 1 to port 2 is restricted while free flow is allowed from port 2 to port 1.

RATINGS AND SPECIFICATIONS

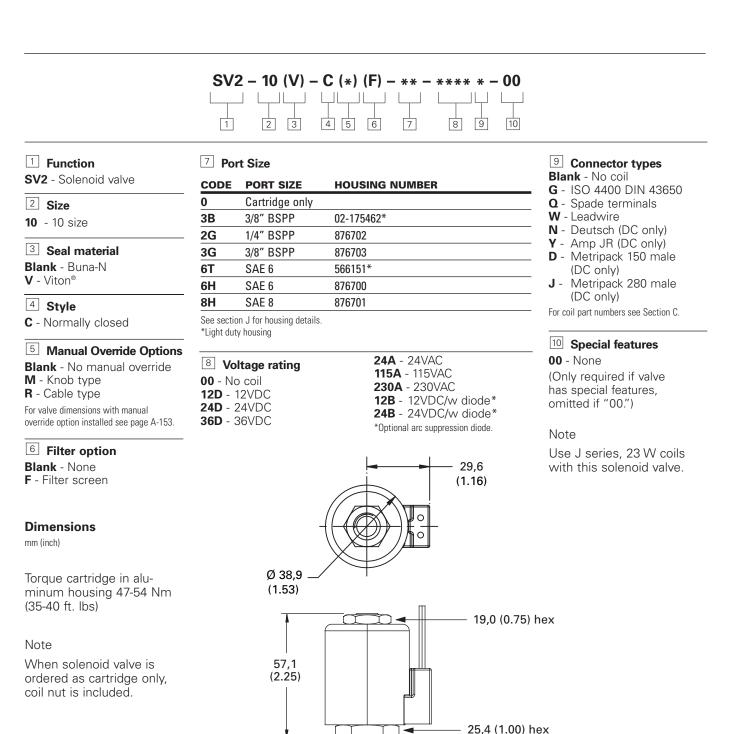
Performance data is typical with fluid at 21,8 cST (10	5 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	5 drops/min. max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight cartridge only	0,4 kg (0.87 lbs)
Seal kit	565803 (Buna-N), 566086 (Viton®) Viton is a registered trademark of E.I. DuPont





A - Port 1 to port 2 de-energized

B - Port 2 to port 1 energized



31,7

(1.25)

0 0 0

1

2



WARNING

Maintain 5-8 Nm (4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

EATON Vickers Screw-In Cartridge Valves V-VLOV-MC001-E3 January 2006

0.875" - Thd.

Ø 15,80 (0.622)

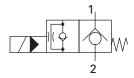
SV12-10-C/CM

Poppet type, normally closed solenoid valve, 350 bar

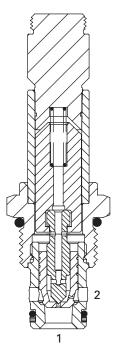
Description

The SV12-10-C is a 2-way, 2-position, pilot operated, poppet type, normally closed, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View

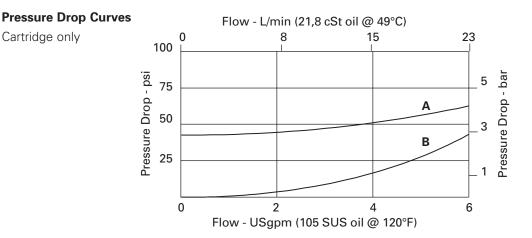


Operation

In the de-energized position, this valve blocks flow from port 2 to port 1 and free flow is allowed from port 1 to port 2. In the energized position, flow from port 1 to port 2 is restricted while free flow is allowed from port 2 to port 1.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (10	5 SUS) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	5 drops/min. max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Steel
Weight cartridge only	0,18 kg (0.39 lbs)
Seal kit	565803 (Buna-N), 566086 (Viton®) Viton is a registered trademark of E.I. DuPont



A - Port 1 to port 2 de-energized

B - Port 2 to port 1 energized

2 Size

10 - 10 size

V - Viton®

4 Style

S - Steel

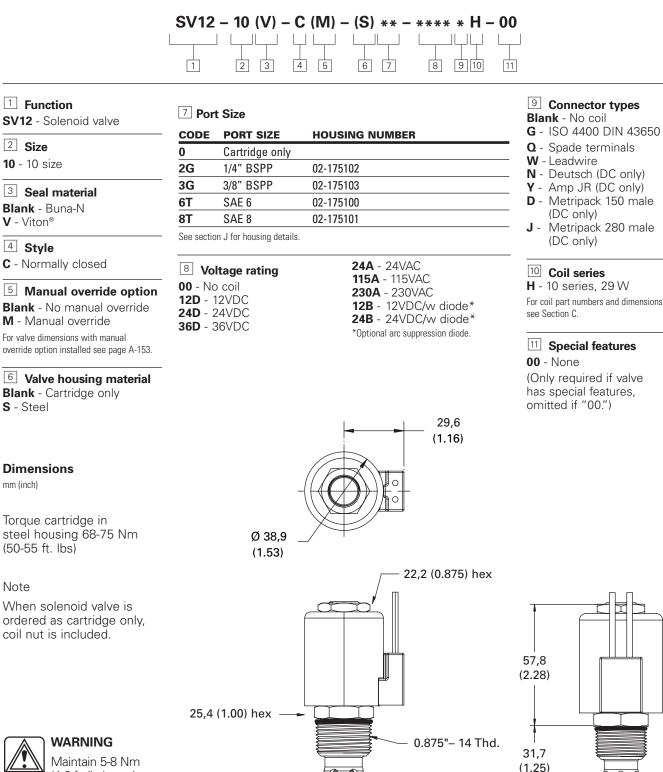
Dimensions mm (inch)

(50-55 ft. lbs)

Note

3 Seal material

Blank - Buna-N



(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.





2

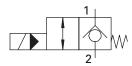
SV3-10-C/CM/CR

Poppet type, normally closed solenoid valve (free reverse flow)

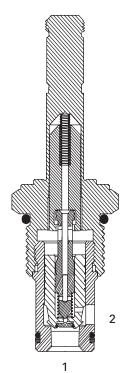
Description

The SV3-10-C is a 2-way, 2-position, poppet-type, normally closed screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Operation

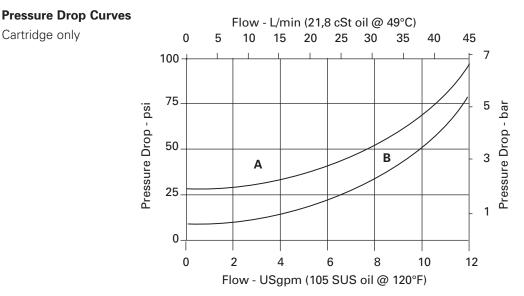
Cartridge only

In the de-energized position, flow is blocked from port 2 to port 1 and free flow is allowed from port 1 to port 2.

In the energized position, the poppet lifts to allow flow in either direction.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST	⁻ (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	45 L/min (12 USgpm)
Internal leakage	less than 5 drops/min. max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight cartridge only	0,4 kg (0.87 lbs)
Seal kit	565803 (Buna-N), 566086 (Viton [®]) Viton is a registered trademark of E.I. DuPont



A - Port 1 to port 2 de-energized

B - Port 2 to port 1 energized

SV3 – 1	10 (V) –	- C (*) (F) –	** -	**** * - 00
	2 3		7	

SV3 - Solenoid valve

2 Size

10 - 10 size

3 Seal material

Blank - Buna-N **V** - Viton®

4 Style

C - Normally closed

5 Manual override option

Blank - No manual override **M** - Knob type **R** - Cable type For valve dimensions with manual override option installed see page A-153.

6 Filter option

Blank - None **F** - Filter screen

Dimensions

mm (inch)

Torque cartridge in aluminum housing 47-54 Nm (35-40 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.

WARNING
WARNING Maintain 5-8 Nm

(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

7 Port Size

CODE	PORT SIZE	HOUSING NUMBER
0	Cartridge only	
3B	3/8" BSPP	02-175462*
2G	1/4" BSPP	876702
3G	3/8" BSPP	876703
6T	SAE 6	566151*
6H	SAE 6	876700
8H	SAE 8	876701

*Light duty housing See section J for housing details.

8 Voltage rating 00 - No coil

12D - 12VDC **24D** - 24VDC **36D** - 36VDC

24A - 24VAC **115A** - 115VAC **230A** - 230VAC **12B** - 12VDC/w diode* **24B** - 24VDC/w diode* *0ptional arc suppression diode.

29,6

(1.16)

9 Connector types

Blank - No coil

- G ISO 4400 DIN 43650
- ${\boldsymbol Q}$ Spade terminals
- W Leadwire
- N Deutsch (DC only)
- Y Amp JR (DC only)
- **D** Metripack 150 male (DC only)

J - Metripack 280 male (DC only) For coil part numbers and dimensions

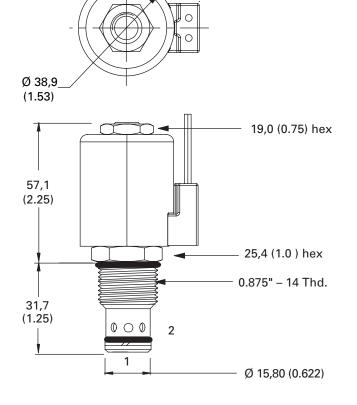
For coll part numbers and dimensions see Section C.

10 Special features

00 - None (Only required if valve has special features, omitted if "00.")

Note

Use J series, 23 W coils with this solenoid valve.



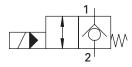
SV13-10-C/CM

Poppet type, normally closed solenoid valve, 350 bar (free release flow)

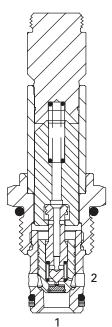
Description

The SV13-10-C is a 2-way, 2-position, pilot operated, poppet type, normally closed, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View

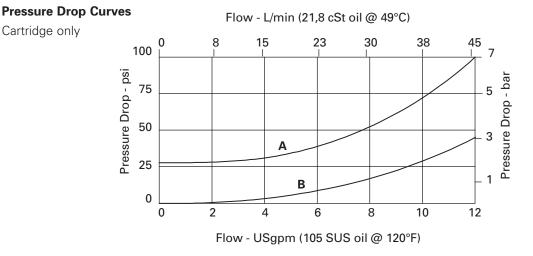


Operation

In the de-energized position, this valve blocks flow from port 2 to port 1 and free flow is allowed from port 1 to port 2. In the energized position, bi-directional flow is allowed between port 1 and port 2.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (10	5 SUS) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)
Rated flow	45 L/min (12 USgpm)
Internal leakage, port 2 to port 1	5 drops/min. max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Steel
Weight cartridge only	0,18 kg (0.39 lbs)
Seal kit	565803 (Buna-N), 566086 (Viton®) Viton is a registered trademark of E.I. DuPont



A - Port 1 to port 2

B - Port 2 to port 1 energized

SV13	– 10 (V)	– C (M) -	- (S) ** -	**** * H – 00	
	23	4 5	6 7		

HOUSING NUMBER

02-175102

02-175103

02-175100

02-175101

1 Function

SV13 - Solenoid valve

2	Size
---	------

10 - 10 size

3 Seal material

Blank - Buna-N **V** - Viton[®]

4 Style

C - Normally closed

5 Manual override option Blank - No manual override M - Manual override For valve dimensions with manual

override option installed see page A-153.

6 Valve housing material

Blank - Cartridge only **S** - Steel

Dimensions

mm (inch)

Torque cartridge in steel housing 68-75 Nm (50-55 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.

3G 3/8" BSPP 6T SAE 6 8T SAE 8 See section J for housing details.

PORT SIZE

1/4" BSPP

Cartridge only

7 Port Size

CODE

0

2G

8 Voltage rating 00 - No coil 12D - 12VDC 24D - 24VDC 36D - 36VDC

24A - 24VAC
115A - 115VAC
230A - 230VAC
12B - 12VDC/w diode*
24B - 24VDC/w diode*
*Optional arc suppression diode.

9 Connector types

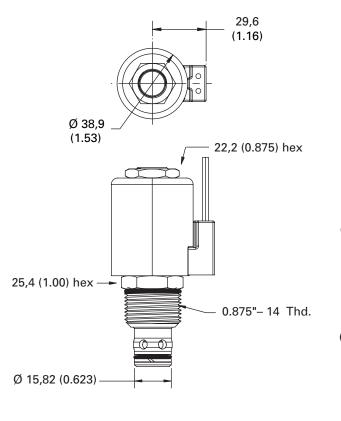
- Blank No coil
- **G** ISO 4400 DIN 43650 **Q** - Spade terminals
- **W** Leadwire
- **N** Deutsch (DC only)
- Y Amp JR (DC only)
- D Metripack 150 male (DC only)
- J Metripack 280 male (DC only)

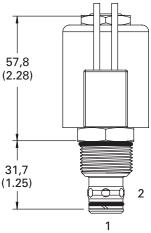
10 Coil series

H - 10 series, 29 W For coil part numbers and dimensions see Section C.

11 Special features

00 - None (Only required if valve has special features, omitted if "00.")





(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

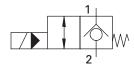
SV3-12-C/CM/CR

Poppet type, normally closed solenoid valve (free reverse flow)

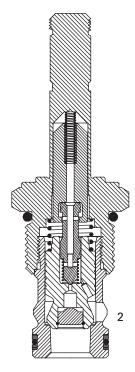
Description

The SV3-12-C is a 2-way, 2-position, poppet-type, pilot-operated, normally closed solenoid cartridge valve.

Functional Symbol



Sectional View



1

Operation

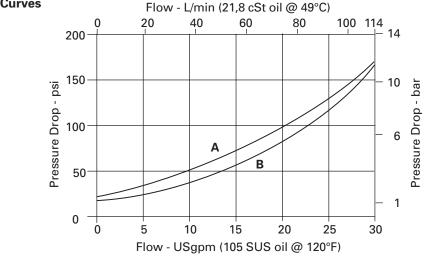
In the de-energized position, flow is blocked from port 2 to port 1 and free flow is allowed from port 1 to port 2. In the energized position, the poppet lifts to allow flow in either direction.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST	(105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	114 L/min (30 USgpm)
Internal leakage (port 2 to port 1)	less than 5 drops/min. max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Response times (100% rated voltage and flow)	Energize:75 ms De-Energize: 150 ms
	C-12-2 or C-12-2U per if undercut is required. If undercut is not specified, USgpm and 20 psi @ 30 USgpm higher pressure drop.
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0,336 kg (0.74 lbs)
Seal kit	02-165889 (Buna-N), 02-165888 (Viton®) Viton is a registered trademark of E.I. DuPont

Pressure Drop Curves

Cartridge only



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

SV3 -	- 12 (V)	– C (*) -	- (A) -	- ***	****	* –	00	
	2 3	4 5	6	7	8	9	10	
7 Port	Size							[

SV3 - Solenoid valve

2	Size
---	------

12 - 12 size

3 Seal material

Blank - Buna-N **V** - Viton[®]

• vitori

4 Style

C - Normally closed

5 Manual override option Blank - No manual override

M - Knob type

R - Cable type

For valve dimensions with manual override option installed see page A-153.

⁶ Valve housing material

- Omit for cartridge only
- A Aluminum (standard)
- S Steel

Dimensions

mm (inch)

Torque cartridge in housing

- **A** 81-95 Nm (60-70 ft. lbs)
- **S** 102-115 Nm (75-85 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.



WARNING

Maintain 5-8 Nm (4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

CODE	PORT SIZE	HOUSING NUMBER	
		Aluminum	Steel
0	Cartridge only		
4G	1/2" BSPP	02-161118	02-172062
4GU	1/2" BSPP	02-161116	02-172512
6G	3/4" BSPP	02-161117	02-169665
6GU	3/4" BSPP	02-161115	02-162922
10T	SAE 10	02-160640	02-169744
10TU	SAE 10	02-160641	02-169817
12T	SAE 12	02-160644	02-169782
12TU	SAE 12	02-160645	02-169790

See section J for housing details.

8 Voltage rating
00 - No coil
12D - 12VDC
24D - 24VDC
36D - 36VDC

24A - 24VAC **115A** - 115VAC **230A** - 230VAC **12B** - 12VDC/w diode* **24B** - 24VDC/w diode* *0ptional arc suppression diode.

29,6

9 Connector types Blank - No coil

- **G** ISO 4400 DIN 43650
- **Q** Spade terminals
- **W** Leadwire
- **N** Deutsch (DC only)
- **Y** Amp JR (DC only)
- D Metripack 150 male (DC only)
- J Metripack 280 male (DC only)

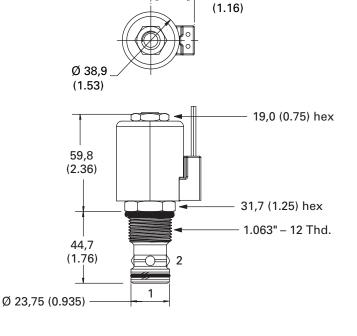
For coil part numbers and dimensions see Section C.

10 Special features 00 - None

(Only required if valve has special features, omitted if "00.")

Note

Use J series, 23 W coils with this solenoid valve.



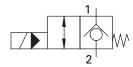
SV13-12-C/CM

Poppet type, normally closed solenoid valve, 350 bar (free reverse flow)

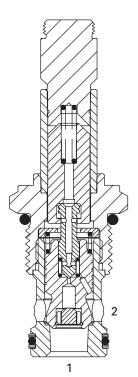
Description

The SV13-12-C is a 2-way, 2-position, pilot operated, poppet type, normally closed, screw-in solenoid cartridge valve.

Functional Symbol



Sectional View

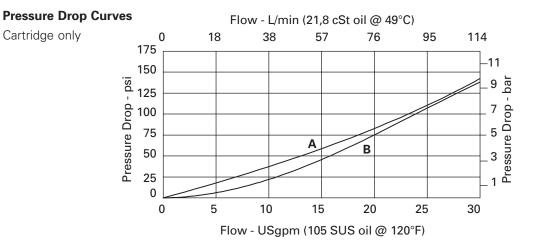


Operation

In the de-energized position, flow is blocked from port 2 to port 1 and free flow is allowed from port 1 to port 2. In the energized position, the poppet lifts to allow flow in either direction.

RATINGS AND SPECIFICATIONS

Performance data is typical v	with fluid at 21,8 cST (105 SUS) and 49°C (120°F)
Typical application pressure	(all ports) 350 bar (5000 psi)
Cartridge fatigue pressure (ir	nfinite life) 310 bar (4500 psi)
Rated flow	114 L/min (30 USgpm)
Internal leakage	less than 5 drops/min. max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-12-2 or C-12-2U Add "U" after number if undercut is required. If undercut is not specified, expect 10 psi@15 USgpm and 20 psi @ 30 USgpm higher pressure drop.
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Steel
Weight cartridge only	0,27 kg (0.59 lbs)
Seal kit	02-165889 (Buna-N), 02-165888 (Viton®) Viton is a registered trademark of E.I. DuPont



A - Port 1 to port 2

B - Port 2 to port 1 energized

SV13 -	- 12 (V) ·	– C (M) -	- (S) ** –	**** * H -	- 00
			6 7		

SV13 -	Solenoid	valve
--------	----------	-------

2	Size
---	------

12 - 12 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style

C - Normally closed

5 Manual override option

Blank - No manual override **M** - Manual override For valve dimensions with manual override option installed see page A-153.

⁶ Valve housing material

Blank - Cartridge only

S - Steel (standard)

A - Aluminum

Dimensions

mm (inch)

Torque cartridge in housing

S - 102-115 Nm (75-85 ft. lbs) **A** - 81-95 Nm (60-70 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.

CODE	PORT SIZE	HOUSING NUMBER	
		Aluminum	Steel
0	Cartridge only		
4G	1/2" BSPP	02-161118	02-172062
4GU	1/2" BSPP	02-161116	02-172512
6G	3/4" BSPP	02-161117	02-169665
6GU	3/4" BSPP	02-161115	02-162922
10T	SAE 10	02-160640	02-169744
10TU	SAE 10	02-160641	02-169817
12T	SAE 12	02-160644	02-169782
12TU	SAE 12	02-160645	02-169790
-			

See section J for housing details.

Voltage rating
00 - No coil
12D - 12VDC
24D - 24VDC
36D - 36VDC

7 Port Size

24A - 24VAC **115A** - 115VAC **230A** - 230VAC **12B** - 12VDC/w diode* **24B** - 24VDC/w diode* *0ptional arc suppression diode.

9 Connector types Blank - No coil

G - ISO 4400 DIN 43650

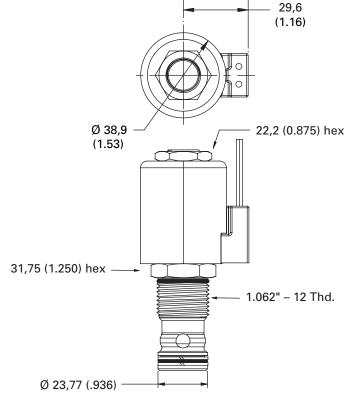
- **Q** Spade terminals
- W Leadwire
- N Deutsch (DC only)
- **Y** Amp JR (DC only)
- D Metripack 150 male (DC only)
- J Metripack 280 male (DC only)

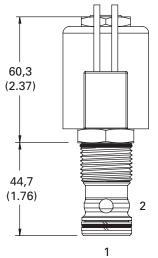
10 Coil Series

H - 10 series, 29 W For coil part numbers and dimensions see Section C.

11 Special features

00 - None (Only required if valve has special features, omitted if "00.")





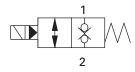
WARNING

Maintain 5-8 Nm (4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure. Bi-directional, normally closed solenoid valve

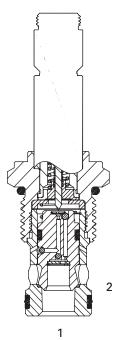
Description

The SBV11-12-C is a 2-way, 2-position, bi-directional, normally closed, poppet type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Operation

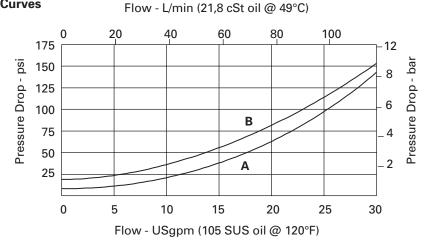
In the de-energized position, flow is blocked in both directions. In the energizedposition, flow is allowed in both directions.

RATINGS AND SPECIFICATIONS

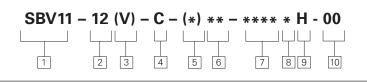
Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)		
Typical application pressure (all ports)	350 bar (5000 psi)	
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)	
Rated flow	114 L/min (30 USgpm)	
Internal leakage, port 1 to port 2 and port 2 to port 1	5 drops/min. max @ 350 bar (3000 psi)	
Temperature range	-40° to 100°C (-40° to 212°F)	
Coil duty	Continuous from 85% to 110% of nominal voltage	
	C-12-2 or C-12-2U r if undercut is required. If undercut is not specified, JSgpm and 20 psi @ 30 USgpm higher pressure drop.	
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.	
Filtration	Cleanliness code 18/ 16/13	
Housing material (standard)	Aluminum or steel	
Weight cartridge only	0,27 kg (0.59 lbs)	
Seal kit	02-165889 (Buna-N), 02-165888 (Viton [®]) Viton is a registered trademark of E.I. DuPont	

Pressure Drop Curves

Cartridge only



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



SBV11 - Solenoid bi-directional valve

2 Size

12 - 12 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style

C - Normally closed

5 Valve housing material

Blank - Cartridge only **A** - Aluminum

S - Steel

CODE	PORT SIZE	HOUSING NUMBER		
		Aluminum	Steel	
0	Cartridge only			
4G	1/2" BSPP	02-161118	02-172062	
4GU	1/2" BSPP	02-161116	02-172512	
6G	3/4" BSPP	02-161117	02-169665	
6GU	3/4" BSPP	02-161115	02-162922	
10T	SAE 10	02-160640	02-169744	
10TU	SAE 10	02-160641	02-169817	
12T	SAE 12	02-160644	02-169782	
12TU	SAE 12	02-160645	02-169790	

See section J for housing details.

Voltage rating00 - No coil
12D - 12VDC
24D - 24VDC
36D - 36VDC

6 Port Size

24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *0ptional arc suppression diode.

29.6

(1.16)

8 Connector types Blank - No coil

G - ISO 4400 DIN 43650

- **Q** Spade terminals
- W Leadwire
- N Deutsch (DC only)
- **Y** Amp JR (DC only)
- D Metripack 150 male (DC only)
- J Metripack 280 male (DC only)

9 Coil series

H - 10 series, 29 W For coil part numbers and dimensions see Section C.

10 Special features

00 - None (Only required if valve has special features, omitted if "00.")

Dimensions

mm (inch)

Torque cartridge in housing

A - 81-95 Nm (60-70 ft. lbs)

S - 102-115 Nm (75-85 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.



WARNING

Maintain 5-8 Nm (4-6 ft. lbs) maxi-

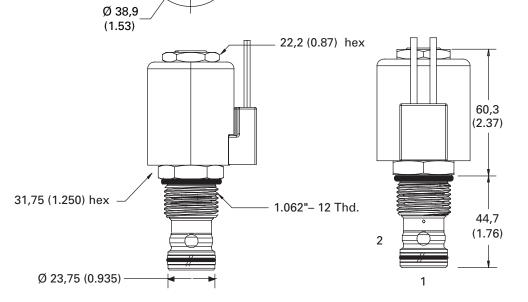
mum torque on valve tube nut. Over tightening may cause valve failure.



WARNING Aluminum housings

can be used for

pressures up to 210 bar (3000 psi) Steel housings must be used for operating pressures above 210 bar (3000 psi).



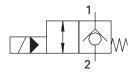
SV1-16-C/CM/CR

Poppet type, normally closed solenoid valve (free reverse flow)

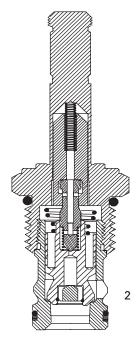
Description

The SV1-16-C is a 2-way, 2-position, poppet type, pilot operated, normally closed screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



1

Operation

In the de-energized position, flow is blocked from port 2 to port 1 and free flow is allowed from port 1 to port 2.

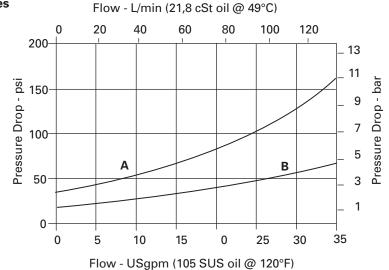
In the energized position, bi-directional flow is allowed between port 1 and port 2.

RATINGS AND SPECIFICATIONS

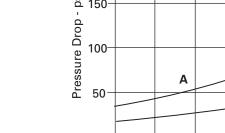
Performance data is typical with fluid at 21,8 cS	ST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	132 L/min (35 USgpm)
Internal leakage, port 2 to port 1	less than 5 drops/min. max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-16-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	1,15 kg (2.53 lbs)
Seal kit	565810 (Buna-N), 02-889609 (Viton®) Viton is a registered trademark of E.I. DuPont

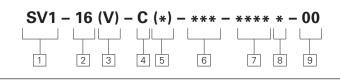
Pressure Drop Curves

Cartridge only



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





SV1 - Solenoid valve

² Size

16 - 16 size

3 Seal material

Blank - Buna-N

V - Viton®

- 4 Style
- C Normally closed

5 Manual override option

Blank - No manual override **M** - Knob type **R** - Cable type For valve dimensions with manual override option installed see page A-153.

Dimensions

mm (inch)

Torque cartridge in aluminum housing 108-122 Nm (80-90 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.



(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

6 Port Size			
CODE	PORT SIZE	HOUSING NUMBER	
0	Cartridge only		
6B	3/4" BSPP	02-175463*	
12T	SAE 12	566149*	
6G	3/4"BSPP	876717	
10H	SAE 10	876717	
12H	SAE 12	566113	
*Light duty housing			

See section J for housing details.

Voltage rating 00 - No coil 12D - 12VDC 24D - 24VDC

36D - 36VDC



Ø 38,9 (1.53)

8 Connector types

Blank - No coil

- **G** ISO 4400 DIN 43650
- ${\boldsymbol Q}$ Spade terminals
- W Leadwire
- N Deutsch (DC only)
- Y Amp JR (DC only)
- **D** Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

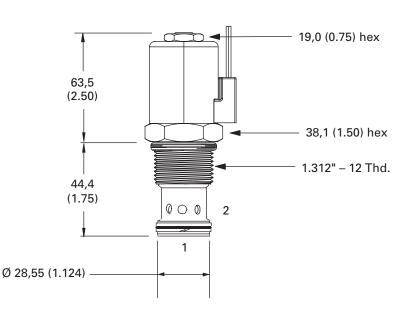
For coil part numbers and dimensions see Section C.

9 Special features00 - None

(Only required if valve has special features, omitted if "00.")

Note

Use J series, 23 W coils with this solenoid valve.



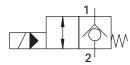
SV13-16-C/CM

Poppet type, normally closed solenoid valve, 350 bar (free reverse flow)

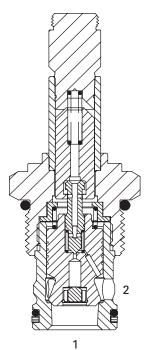
Description

The SV13-16-C is a 2-way, 2-position, pilot operated, poppet type, normally closed, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View

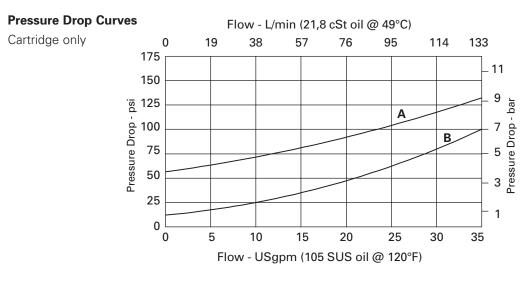


Operation

In the de-energized position, flow is blocked from port 2 to port 1 and free flow is allowed from port 1 to port 2. In the energized position, the poppet lifts to allow flow in either direction.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 c.	ST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)
Rated flow	132 L/min (35 USgpm)
Internal leakage	less than 5 drops/min. max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-16-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Steel
Weight cartridge only	0,39 kg (0.85 lbs)
Seal kit	565810 (Buna-N), 889609 (Viton®) Viton is a registered trademark of E.I. DuPont



A - Port 2 to port 1 energized

	SV13 – 16 (V) – 1 2 3	C (M) – (S) ** – **** * H – G (M) – (S) ** – * * * * H – G (T) * * * * H –	00
Function SV13 - Solenoid valve	7 Port Size	HOUSING NUMBER	9 Connector types Blank - No coil
2 Size 16 - 16 size	0 Cartridge only 4G 1/2" BSPP 6G 3/4" BSPP	02-175106 02-175107	 G - ISO 4400 DIN 43650 Q - Spade terminals W - Leadwire N - Deutsch (DC only)
 3 Seal material Blank - Buna-N ✔ - Viton[®] 	10T SAE 10 12T SAE 12 See section J for housing details	02-175104 02-175105	 Y - Amp JR (DC only) D - Metripack 150 male (DC only) J - Metripack 280 male (DC only)
 4 Style C - Normally closed 5 Manual override option Blank - No manual override 	8 Voltage rating 00 - No coil 12D - 12VDC 24D - 24VDC	24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode*	Coil Series H - 10 series, 29 W For coil part numbers and dimensions see Section C.
 M - Manual override For valve dimensions with manual override option installed see page A-153. Calve housing material 	36D - 36VDC	*Optional arc suppression diode.	III Special features 00 - None (Only required if valve)
Blank - Cartridge only S - Steel		29,6 (1.16)	has special features, omitted if "00.")
mm (inch) Torque cartridge in steel housing 136-149 Nm (100-110 ft. lbs)	Ø 38,9 (1.53)		
Note When solenoid valve is ordered as cartridge only, coil nut is included.		22,2 (0.875) hex	64,1 (2.52)
	38,1 (1.50) hex —	1.312"-12 Thd.	
WARNING Maintain 5-8 Nm (4-6 ft. lbs) maxi- mum torque on valve tube nut. Over tightening may cause valve failure.	Ø 28,54 (1.124) ——		44,6 (1.76) 1

A-37

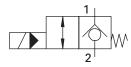
SV2-20-C/CM/CR

Poppet type, normally closed solenoid valve (free reverse flow)

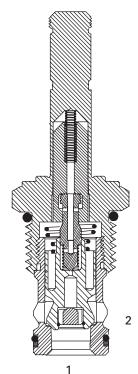
Description

The SV2-20-C is a 2-way, 2-position, poppet type, pilot operated, normally closed screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Operation

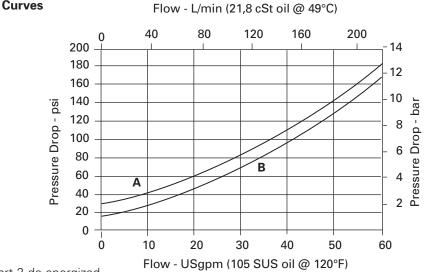
In the de-energized position, flow is blocked from port 2 to port 1 and free flow is allowed from port 1 to port 2. In the energized position, bi-directional flow is allowed between port 1 and port 2.

RATINGS AND SPECIFICATIONS

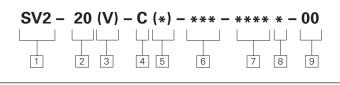
Performance data is typical with fluid at 21,8 cST	(105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	227 L/min (60 USgpm)
Internal leakage, port 2 to port 1	less than 5 drops/min. max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-20-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	1,2 kg (2.70 lbs)
Seal kit	889615 (Buna-N), 889619 (Viton®) Viton is a registered trademark of E.I. DuPont

Pressure Drop Curves

Cartridge only



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



SV2 - Solenoid valve

2	Size
---	------

20 - 20 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style

C - Normally closed

5 Manual override option

Blank - No manual override **M** - Knob type **R** - Cable type For valve dimensions with manual override option installed see page A-153.

Dimensions

mm (inch)

Torque cartridge in aluminum housing 128-155 Nm (95-115 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.

	WARNING
	Maintain 5-8 Nm
\square	(1-6 ft lbs) mavi-

(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

6 Port Size				
CODE	PORT SIZE	HOUSING NUMBER		
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		
*Light duty housing				

*Light duty housing See section J for housing details.

7 Voltage rating00 - No coil

12D - 12VDC 24D - 24VDC 36D - 36VDC

24A - 24VAC **115A** - 115VAC **230A** - 230VAC **12B** - 12VDC/w diode* **24B** - 24VDC/w diode* *0ptional arc suppression diode.

8 Connector types

Blank - No coil

- **G** ISO 4400 DIN 43650
- ${\bf Q}$ Spade terminals
- W Leadwire
- N Deutsch (DC only)
- Y Amp JR (DC only)
- D Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

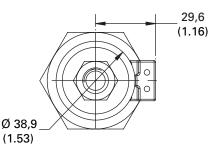
For coil part numbers and dimensions see Section C.

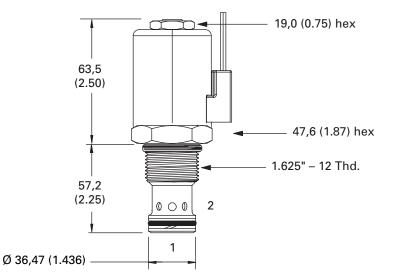
9 Special features00 - None

(Only required if valve has special features, omitted if "00.")

Note

Use J series, 23 W coils with this solenoid valve.





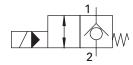
SV13-20-C/CM

Poppet type pilot operated solenoid valve, 350 bar

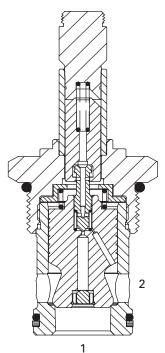
Description

The SV13-20-C is a 2-way, 2-position, pilot operated, poppet type, normally closed, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View

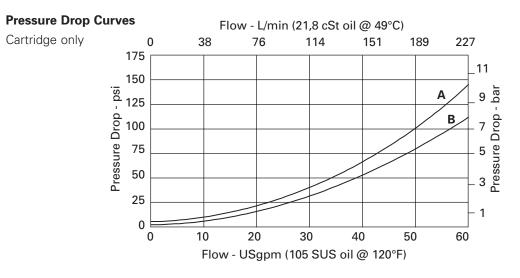


Operation

In the de-energized position, flow is blocked from port 2 to port 1 and free flow is allowed from port 1 to port 2. In the energized position, the poppet lifts to allow flow in either direction.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 c	ST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	227 L/min (60 USgpm)
Internal leakage, port 2 to port 1	less than 5 drops/min. max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-20-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Steel
Weight cartridge only	0,62 kg (1.37 lbs)
Seal kit	889615 (Buna-N), 889619 (Viton®) Viton is a registered trademark of E.I. DuPont



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

SV13 ·	- 20 (V)	– C (M) ·	– (S) ** –	**** * H – 00
	2 3		6 7	

SV13 - Solenoid valve

² Size

20 - 20 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style C - Normally closed

5 Manual override option Blank - No manual override M - Manual override

For valve dimensions with manual override option installed see page A-153.

⁶ Valve housing material

Blank - Cartridge only S - Steel

Dimensions

mm (inch)

Torque cartridge in steel housing163-183 Nm (120-135 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.



(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

7 Port Size

CODE	PORT SIZE	HOUSING NUMBER
0	Cartridge only	
6G	3/4" BSPP	02-175110
8G	1" BSPP	02-175111
12T	SAE 12	02-175108
16T	SAE 16	02-175109

See section J for housing details.

Ø 38,9

(1.53)

8 Voltage rating 00 - No coil 12D - 12VDC 24D - 24VDC 36D - 36VDC

47,6 (1.875) hex

24A - 24VAC **115A** - 115VAC **230A** - 230VAC **12B** - 12VDC/w diode* **24B** - 24VDC/w diode* *0ptional arc suppression diode.

9 Connector types

Blank - No coil

- G ISO 4400 DIN 43650
- ${\boldsymbol Q}$ Spade terminals
- W Leadwire
- N Deutsch (DC only)
- Y Amp JR (DC only)
- **D** Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

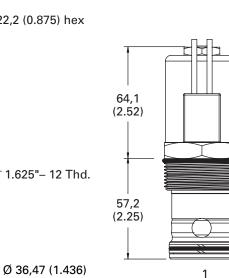
10 Coil Series

H - 10 series, 29 W For coil part numbers and dimensions see Section C.

11 Special features

00 - None (Only required if valve

has special features, omitted if "00.") - 29,6 (1.16) - 22,2 (0.875) hex



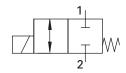
2

Spool type, normally closed solenoid valve

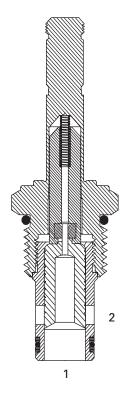
Description

The SV4-8-C is a two-way, two-position, spool type, direct acting, normally closed solenoid valve.

Functional Symbol



Sectional View



Operation

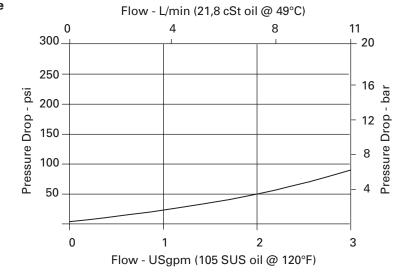
In the de-energized position, the SV4-8-C blocks flow in both directions. In the energized position, the spool lifts to allow flow in either direction.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	11 L/min (3USgpm)
Internal leakage	82 cm³/min (5 in³/min) max. @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Response times (100% rated voltage and flow)	Energize: 27 ms De-Energize: 24 ms
Cavity	C-8-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0,27 kg (0.60 lbs)
Seal kit	02-160777 (Buna-N), 02-160778 (Viton®) Viton is a registered trademark of E.I. DuPont

Pressure Drop Curve

Cartridge only



Port 1 to port 2 or Port 2 to port 1 (energized)

7 8

6

1 Function

SV4 - Solenoid valve

2 Size

~		\sim	
x	-	Я	SIZE
•		0	0120

3 Seal material

Blank - Buna-N **V** - Viton[®]

V - VILON-

4 Style

C - Normally closed

5 Manual override option

Blank - No manual override **M** - Knob type For valve dimensions with manual

override option installed see page A-153.

6 Filter option

Blank - None

F - Filter screen

7 Valve housing material

4 5

2 3

Omit for cartridge only - Aluminum

8 Port Size

1

Α

CODE	PORT SIZE	HOUSING NUMBER
0	Cartridge only	
2G	1/4" BSPP	02-160727
3G	3/8" BSPP	02-160728
4T	SAE 4	02-160730
6T	SAE 6	02-160731
8T	SAE 8	02-160732

See section J for housing details.

9 Voltage rating	24A - 24VAC	
00 - No coil 12D - 12VDC 24D - 24VDC 36D - 36VDC	115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.	12 Spec 00 - Non (Only rec has spec
	1 11	a paitta di

10 Connector types Blank - No coil

- **G** ISO 4400 DIN 43650
- **Q** Spade terminals
- W Leadwire

10 11

9

26,0

- N Deutsch (DC only)
- **Y** Amp JR (DC only)
- **D** Metripack 150 male
- (DC only) J - Metripack 280 male
- (DC only)

11 Coil series

S - 8 series, 20 W For coil part numbers and dimensions see Section C.

12 Special features

00 - None (Only required if valve has special features, omitted if "00.")

Dimensions

mm (inch)

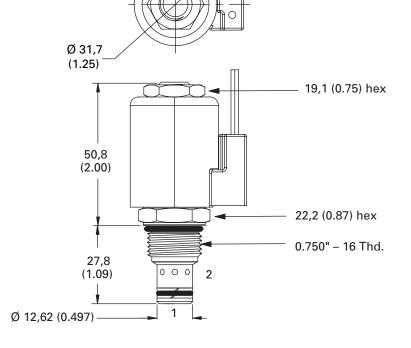
Torque cartridge in aluminum housing 34-41 Nm (25-30 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.



Maintain 5-8 Nm (4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.



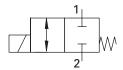
SV14-8-C/CM

Spool type, normally closed solenoid valve, 350 bar

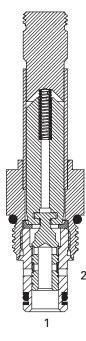
Description

The SV14-8-C is a 2-way, 2-position, spool type, normally closed, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Operation

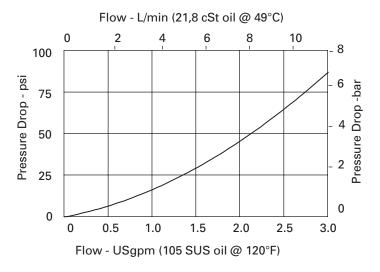
In the de-energized position, flow is blocked in both directions. In the energized position, the spool lifts to allow flow in either direction.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 c	ST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)
Rated flow	11 L/min (3 USgpm)
Internal leakage, port 2 to port 1	140cm³(8.5in³/min.) max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-8-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Steel
Weight cartridge only	0,11 kg (0.25 lbs)
Seal kit	02-160777 (Buna-N), 02-160778 (Viton®) Viton is a registered trademark of E.I. DuPont

Pressure Drop Curve

Cartridge only



Port 2 to port 1 or port 1 to 2 (energized)

	SV14	4 – 8 (V) – C , , , , , , , , , , , , , , , , , , ,	(M) – (S) ** – **** * P – 00	
Image: Image shows a start of the start	Blank	Ive housing ma - Cartridge only	terial	Image: Connector types Blank - No coil G - ISO 4400 DIN 43650
2 Size	S - Ste	el		Q - Spade terminals
8 - 8 size	7 Po	rt Size		W - Leadwire
	CODE	PORT SIZE	HOUSING NUMBER	N - Deutsch (DC only) Y - Amp JR (DC only)
3 Seal material	0	Cartridge only		D - Metripack 150 male
Blank - Buna-N	2G	1/4" BSPP	02-160733	(DC only)
V - Viton®	3G	3/8″ BSPP	02-160734	J - Metripack 280 male
4 Style	4T	SAE 4	02-160736	(DC only)
C - Normally closed	6T	SAE 6	02-160737	10 Coil Series
	8T	SAE 8	02-160738	P - 8 series, 23 W
 Manual override option Blank - No manual override M - Manual override 	_	on J for housing details		For coil part numbers and dimensions see Section C.
For valve dimensions with manual override option installed see page A-153.	00 - No 12D - 24D - 1	l tage rating o coil 12VDC 24VDC 36VDC	24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.	 Special features O0 - None (Only required if valve has special features, omitted if "00.")
Dimensions mm (inch) Torque cartridge in			26,0 (1.02)	
steel housing 34-41 Nm (25-30 ft. lbs)		31,7 25)		
Note	(1.	201	[]	
When solenoid valve is ordered as cartridge only,			15,8 (0.62) hex	

1

2

3

coil nut is included.

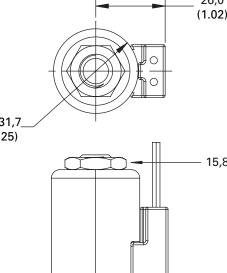
WARNING Maintain 5-8 Nm

mum torque on valve tube

nut. Over tightening may cause valve failure.

(4-6 ft. lbs) maxi-

5



0 🗢 0

Ø 12,6 (0.500) -

58,4 (2.30) 27,7 (1.09)0 @ 0 2

EATON Vickers Screw-In Cartridge Valves V-VLOV-MC001-E3 January 2006

22,2 (0.87) hex

0.750" – 16 Thd.

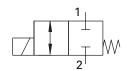
SV4-10-C/CM/CR

Spool type, normally closed solenoid valve

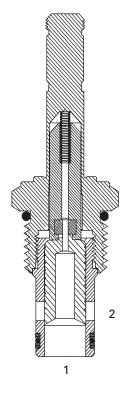
Description

The SV4-10-C is a 2-way, 2-position, direct acting, spool-type, normally closed screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Operation

In the de-energized position, flow is blocked in both directions. In the energized position, the spool lifts to allow flow in either direction.

RATINGS AND SPECIFICATIONS

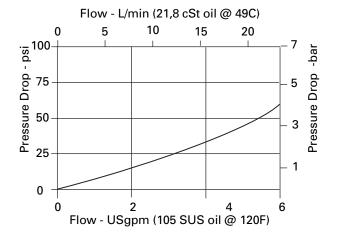
Performance data is typical with fluid at 21,8 cST (1	05 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	82 cm³/min (5 in³/min) max. @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0,4 kg (0.87 lbs)
Seal kit	565806 (Buna-N), 889627 (Viton®) Viton is a registered trademark of E.I. DuPont

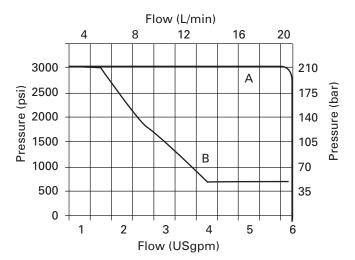
Pressure Drop Curve

Cartridge only

Pressure drop vs. flow

Port 1 to port 2 or port 2 to port 1 (energized)





Operating Limits

A - Port 2 to Port 1

B - Port 1 to Port 2

SV4 ·	- 10 (V) -	- C (*) (F) -	- **	**** * -	00
		4 5 6			10

SV4 - Solenoid valve

2 Size

10 - 10 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style

C - Normally closed

5 Manual override option

Blank - No manual override M - Knob type R - Cable type For valve dimensions with manual override option installed see page A-153.

6 Filter option

Blank - None F - Filter screen

Dimensions

mm (inch)

Torque cartridge in aluminum housing 47-54 Nm (35-40 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.

	WARNING
∕♥∖∖∣	Maintain 5 9

Maintain 5-8 Nm (4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

7 Port Size				
CODE	PORT SIZE	HOUSING NUMBER		
0	Cartridge only			
3B	3/8" BSPP	02-175462		
6T	SAE 6	566151		
2G	1/4"BSPP	876702		
3G	3/8″BSPP	876703		
6H	SAE 6	876700		
8H	SAE 8	876701		
See section J for housing details.				

24A - 24VAC **8** Voltage rating 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.

00 - No coil

12D - 12VDC

24D - 24VDC

36D - 36VDC

9 Connector types

Blank - No coil

- G ISO 4400 DIN 43650
- **Q** Spade terminals
- W Leadwire
- N Deutsch (DC only)
- Y Amp JR (DC only)
- D Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

For coil part numbers and dimensions see Section C.

10 Special features

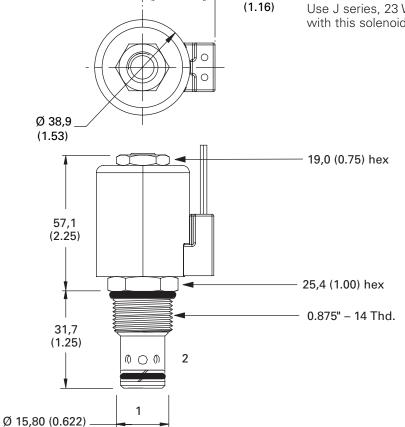
00 - None

(Only required if valve has special features, omitted if "00.")

Note

29,6

Use J series, 23 W coils with this solenoid valve.



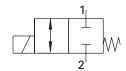
SV14-10-C/CM

Spool type, normally closed solenoid valve, 350 bar

Description

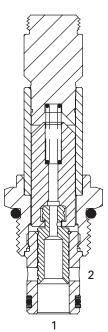
The SV14-10-C is a 2-way, 2-position, spool type, normally closed screw-in cartridge solenoid valve.

Functional Symbol



Sectional View

A-48



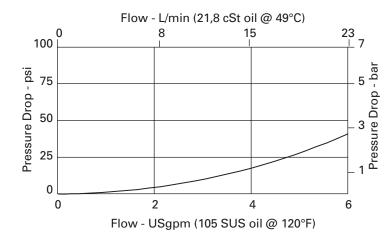
Operation

In the de-energized position, flow is blocked in both directions. In the energized position, the spool lifts to allow flow in either direction.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 d	cST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage (port 2 to port 1)	140 cm³/min. (8.5 in³/min.) max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Steel
Weight cartridge only	0,18 kg (0.39 lbs)
Seal kit	565806 (Buna-N), 889627 (Viton®) Viton is a registered trademark of E.I. DuPont





Port 1 to port 2 or port 2 to port 1 (energized)

	SV14	⊢ 10 (V) − ↓ ↓ ↓ ↓ 2 3	C (M) – (S) ** – **** * H –	• 00
Function		t Size		9 Connector types Blank - No coil
SV14 - Solenoid valve	CODE	PORT SIZE	HOUSING NUMBER	G - ISO 4400 DIN 43650
2 Size	0	Cartridge only	00.175400	Q - Spade terminals
10 - 10 size	2G	1/4" BSPP	02-175102	W - Leadwire N - Deutsch (DC only)
	<u>3G</u>	3/8" BSPP	02-175103	- Y - Amp JR (DC only)
Seal material	<u>6Т</u> 8Т	SAE 6	02-175100	— D - Metripack 150 male
Blank - Buna-N V - Viton®		SAE 8	02-175101	(DC only)
	See section	on J for housing detail	S.	J - Metripack 280 male (DC only)
4 Style C - Normally closed	8 Vol 00 - No	tage rating	24A - 24VAC 115A - 115VAC	10 Coil series
 Manual override option Blank - No manual override M - Manual override 	12D - 24D -	12VDC 24VDC 36VDC	230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *0ptional arc suppression diode.	H - 10 series, 29 W For coil part numbers and dimensions see Section C.
For valve dimensions with manual override option installed see page A-153.				Special features00 - None
6 Valve housing material				(Only required if valve has special features,
Blank - Cartridge only S - Steel				omitted if "00.")
			29,6 (1.16)	

Dimensions

mm (inch)

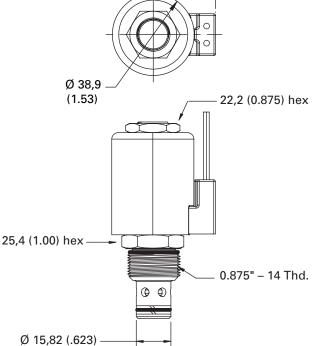
Torque cartridge in steel housing 68-75 Nm (50-55 ft. lbs)

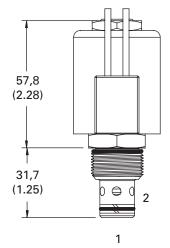
Note

When solenoid valve is ordered as cartridge only, coil nut is included.

> WARNING Maintain 5-8 Nm

(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.





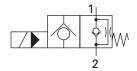
SV5-8-O/OP/OS

Poppet type, normally open solenoid valve

Description

The SV5-8-O is a 2-way, 2-position, poppet type, pilot operated, normally open, solenoid valve. This valve is used in applications requiring low leakage, such as single acting cylinder applications.

Functional Symbol



Sectional View

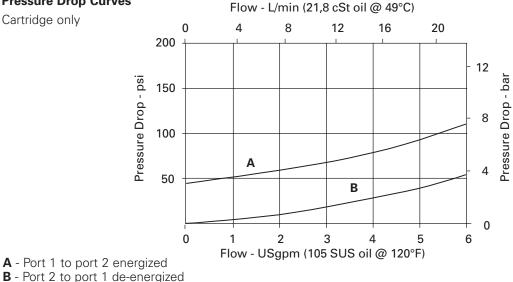
Operation

In the de-energized position, the SV5-8-O allows free flow from port 2 to port 1, and restricted flow from port 1 to port 2. In the energized position, flow is blocked from port 2 to port 1, and free flow is allowed from port 1 to port 2.

RATINGS AND SPECIFICATIONS

NATINGS AND STECHTCATION	5	
Performance data is typical with fl	uid at 21,8 cST (10	5 SUS) and 49°C (120°F)
Typical application pressure (all po	orts)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite	life)	210 bar (3000 psi)
Rated flow		23 L/min (6 USgpm)
Internal leakage	less than 5 drops,	/min. max @ 210 bar (3000 psi) with valve energized
Temperature range		-40° to 120°C (-40° to 248°F)
Coil duty		Continuous from 85% to 110% of nominal voltage
Response times (100% rated voltag	e and flow)	Energize: 24 ms De-Energize: 25 ms
Cavity		C-8-2
Fluids		All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration		Cleanliness code 18/ 16/13
Housing material (standard)		Aluminum
Weight including coil		0,28 kg (0.62 lbs)
Seal kit		02-165875 (Buna-N), 02-165877 (Viton®) Viton is a registered trademark of E.I. DuPont





EATON Vickers Screw-In Cartridge Valves V-VLOV-MC001-E3 January 2006

SV5 - 8 (V) - O (*) (F) - (A) ** - **** * S - 00

1 2 3 4 5 6 7 8 9 10 11

1 Function

SV5 - Solenoid valve

² Size

ize

3 Seal material	
Blank - Buna-N	
V - Viton®	

4 Style

O - Normally open

5 Manual override option

Blank - No manual override

P - Push type S - Screw type

For valve dimensions with manual

override option installed see page A-152.

6 Filter option

Blank - None F - Filter screen

Dimensions

mm (inch)

Torque cartridge in aluminum or steel housing 34-41 Nm (25-30 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.



WARNING

Maintain 5-8 Nm (4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

- Aluminum	
Port Size	

CODE	PORT SIZE	HOUSING NUMBER
0	Cartridge only	
2G	1/4" BSPP	02-160727
3G	3/8" BSPP	02-160728
4T	SAE 4	02-160730
6T	SAE 6	02-160731
8T	SAE 8	02-160732

See section J for housing details.

7 Valve housing material

Α

8

Omit for cartridge only

24D - 24VDC 24B - 24	15VAC
------------------------------------	-------

10 Connector types Blank - No coil

- G ISO 4400 DIN 43650
- **Q** Spade terminals
- W Leadwire

12

- N Deutsch (DC only)
- **Y** Amp JR (DC only)
- D Metripack 150 male (DC only)
- J Metripack 280 male (DC only)

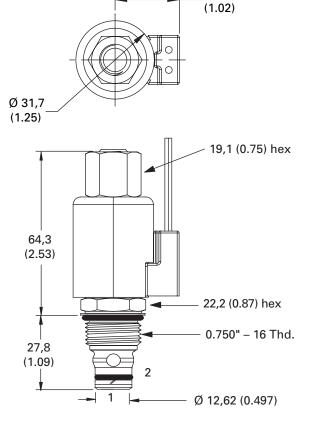
11 Series Coil

S - 8 series, 20 W For coil dimensions see Section C.

12 Special features

00 - None

(Only required if valve has special features, omitted if "00.")





26,0

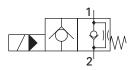
SV15-8-0/0P/0S

Poppet type, normally open solenoid valve, 350 bar

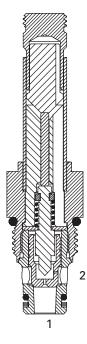
Description

The SV15-8-O is a 2-way, 2-position, pilot operated, poppet type, normally open, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Operation

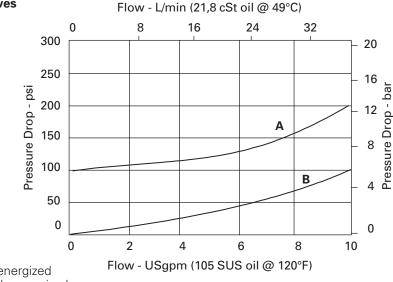
In the de-energized position, flow from port 1 to port 2 is restricted, while free flow is allowed from port 2 to port 1. In the energized position, flow is blocked from port 2 to port 1, and flow is allowed from port 1 to port 2, when coil forces are overcome.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cS	ST (105 SUS) and 49°C (120°F)		
Typical application pressure (all ports)	350 bar (5000 psi)		
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)		
Rated flow	37 L/min (10 USgpm)		
Internal leakage, port 2 to port 1	5 drops/min. max @ 210 bar (3000 psi)		
Temperature range -40° to 100°C (-40° to 212			
Coil duty	Continuous from 85% to 110% of nominal voltage		
Cavity	C-8-2		
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.		
Filtration	Cleanliness code 18/ 16/13		
Housing material (standard)	Steel		
Weight cartridge only	0,11 kg (0.25 lbs)		
Seal kit 02-165875 (Buna-N), 02-165877 Viton is a registered trademark of			

Pressure Drop Curves

Cartridge only



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

	SV1 !	5 – 8 (V) – 2 3	D (*) – (S) ** – **** * P 	
Image: Temperature SV15 - Solenoid valve	⁶ Va Blank S - Ste	lve housing m a - Cartridge only el	terial	[
2 Size 8 - 8 size		rt Size PORT SIZE	HOUSING NUMBER	(
3 Seal material		Cartridge only	HOUSING NOMBER	
Blank - Buna-N	2G	1/4" BSPP	02-160733	
V - Viton®	3G	3/8" BSPP	02-160734	,
4 Style	4T	SAE 4	02-160736	
O - Normally open	6T	SAE 6	02-160737	
	8T	SAE 8	02-160738	
Manual override option Blank - No manual override P - Push type		on J for housings.	116A 116\/AC	
	8 1/0	ltago rating	115A - 115VAC	

S - Screw type

For valve dimensions with manual override option installed see page A-152.

Dimensions

mm (inch)

Torque cartridge in aluminum or steel housing 34-41 Nm (25-30 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, nut is included.

	WARNING
	Maintain 5-8
\leftarrow	(16 ft lbc) r

cause valve failure.

laintain 5-8 Nm (4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may

8 Voltage rating 00 - No coil 12D - 12VDC 24D - 24VDC 36D - 36VDC 24A - 24VAC

230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.

9 Connector types/coil

Blank - No coil G - ISO 4400 DIN 43650

- **Q** Spade terminals
- W Leadwire
- N Deutsch (DC only)
- Y Amp JR (DC only)
- D Metripack 150 male
- (DC only) J - Metripack 280 male
- (DC only)

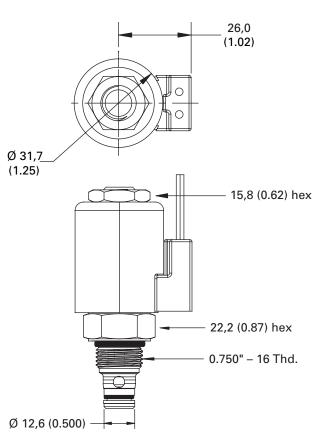
10 Coil series

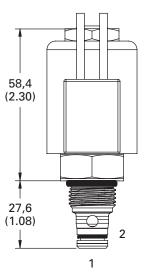
P - 8 series, 23 W

For coil dimensions see Section C.

11 Special features

00 - None (Only required if valve has special features, omitted if "00.")



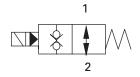


Bi-directional, normally open solenoid valve

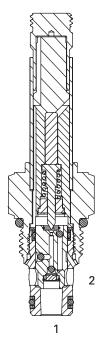
Description

The SBV11-8-O is a 2-way, 2-position, bi-directional, normally open, poppet type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Operation

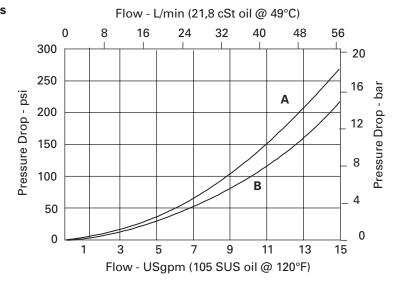
In the de-energized position, flow is allowed in both directions. In the energizedposition, flow is blocked in both directions.

RATINGS AND SPECIFICATIONS

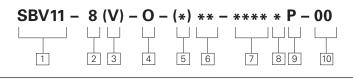
Performance data is typical with fluid at 21,8 cST (10	05 SUS) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)
Rated flow	60 L/min (15 USgpm)
Internal leakage, port 1 to port 2 & port 2 to port 1	5 drops/min. max @ 350 bar (5000 psi) when energized
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-8-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum or steel
Weight cartridge only	0,12 kg (0.26 lbs)
Seal kit	02-160777 (Buna-N), 02-160778 (Viton®) Viton is a registered trademark of E.I. DuPont

Pressure Drop Curves

Cartridge only



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



SBV11 - Solenoid bi-directional valve

2 Size

8 - 8 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style

O - Normally open

5 Valve housing material

Blank - Cartridge only A - Aluminum S - Steel

Dimensions

mm (inch)

Torque cartridge in aluminum or steel housing 34-41 Nm (25-30 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, nut is included.

WARNING

Maintain 5-8 Nm (4-6 ft. lbs) maxi-

mum torque on valve tube nut. Over tightening may cause valve failure.



WARNING

Aluminum housings can be used for pressures up to 210

bar (3000 psi) Steel housings **must** be used for operating pressures above 210 bar (3000 psi).

CODE	PORT SIZE	HOUSING NUMBER			
		Aluminum	Steel		
0	Cartridge only				
2G	1/4" BSPP	02-160727	02-160733		
3G	3/8" BSPP	02-160728	02-160734		
4T	SAE 4	02-160730	02-160736		
6T	SAE 6	02-160731	02-160737		
8T	SAE 8	02-160732	02-160738		

See section J for housings

6 Port Size

7 Voltage rating
00 - No coil
12D - 12VDC
24D - 24VDC
36D - 36VDC

24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.

8 Connector types

Blank - No coil G - ISO 4400 DIN 43650

Q - Spade terminals

- W Leadwire
- N Deutsch (DC only)
- **Y** Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

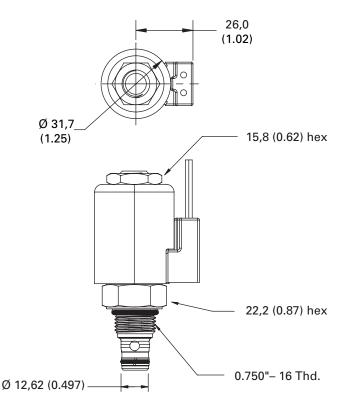
9 Coil series

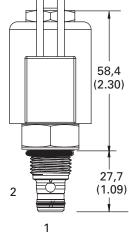
P - 8 series, 23 W

For coil dimensions see Section C.

10 Special features

00 - None (Only required if valve has special features, omitted if "00.")





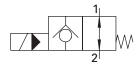
SV3-10-O/OP/OS

Poppet type, normally open solenoid valve (free reverse flow)

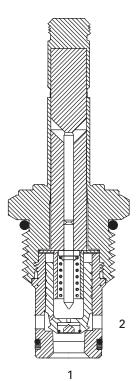
Description

The SV3-10-O is a 2-way, 2-position, poppet type, pilot operated, normally open, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Operation

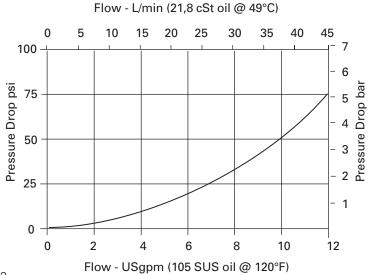
In the de-energized position, this valve allows bidirectional flow between port 1 and port 2. In the energized position, flow is blocked from port 2 to port 1, and is allowed from port 1 to port 2 when coil forces are overcome.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)				
Typical application pressure (all ports)	210 bar (3000 psi)			
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)			
Rated flow	45 L/min (12 USgpm)			
Internal leakage, port 2 to port 1	less than 5 drops/min. max @ 210 bar (3000 psi)			
Temperature range	-40° to 120°C (-40° to 248°F)			
Coil duty	Continuous from 85% to 110% of nominal voltage			
Cavity	C-10-2			
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.			
Filtration	Cleanliness code 18/ 16/13			
Housing material (standard)	Aluminum			
Weight including coil	0,4 kg (0.87 lbs)			
Seal kit	565803 (Buna-N), 566086 (Viton®) Viton is a registered trademark of E.I. DuPont			

Pressure Drop Curve

Cartridge only



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

		O (*) (F) - ** - **** * - 00 	
1 Function	7 Port Size		9 Connector types
SV3 - Solenoid valve	CODE PORT SIZE	HOUSING NUMBER	Blank - No coil
2 Size	0 Cartridge only		G - ISO 4400 DIN 43650 Q - Spade terminals
10 - 10 size	3B 3/8″ BSPP	02-175462*	W - Leadwire
10 3126	6T SAE 6	566151*	N - Deutsch (DC only)
3 Seal material	2G 1/4" BSPP	876702	Y - Amp JR (DC only)D - Metripack 150 male
Blank - Buna-N	3G 3/8″ BSPP	876703	(DC only)
V - Viton®	6H SAE 6	876700	J - Metripack 280 male
4 Style	SAE 8	876701	(DC only)
O - Normally open	*Light duty housing.		For coil dimensions see Section C.
	See section J for housings.		
5 Manual Override Option			10 Special features
Blank - No manual override	8 Voltage rating	24A - 24VAC	00 - None
P - Push type	00 - No coil	115A - 115VAC 230A - 230VAC	(Only required if valve has special features,
S - Screw type For valve dimensions with manual	12D - 12VDC	12B - 12VDC/w diode*	omitted if "00.")
override option installed see page A-152.	24D - 24VDC 36D - 36VDC	24B - 24VDC/w diode*	
	30D - 30VDC	*Optional arc suppression diode.	Note
6 Filter option			Use J series, 23 W coils
Blank - None F - Filter screen		29,6	with this solenoid valve.
r - Filler Screen		(1.16)	
Dimensions			
mm (inch)			
To serve a contribution in	Ø 38,9		
Torque cartridge in aluminum housing 47-54	(1.53)		
Nm (35-40 ft. lbs)	(
(,	f		
Note			9,0 (0.75) hex
			9,0 (0.75) flex
When solenoid valve is			
ordered as cartridge only, coil nut is included.			
	70,0		
	(2.76)		
	The second se	25,4	(1.00) hex
WARNING	•		
Maintain 5-8 Nm	 7 1 7	0.875	5 ″ – 14 Thd.
(4-6 ft. lbs) maxi-	31,7		
mum torque on valve tube	(1.25)		

2

 $\bigcirc \bigcirc \bigcirc$

1

1

Ø15,80 (0.622) _

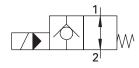
SV13-10-0/0P/0S

Poppet type, normally open solenoid valve, 350 bar (free reverse flow)

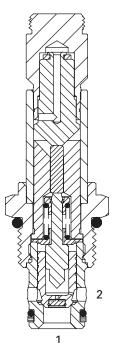
Description

The SV13-10-O is a 2-way, 2-position, pilot operated, poppet type, normally open screw-in solenoid cartridge valve.

Functional Symbol



Sectional View

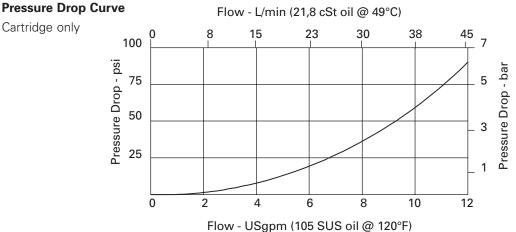


Operation

In the de-energized position, this valve allows bidirectional flow between port 1 and port 2. In the energized position, flow is blocked from port 2 to port 1, and is allowed from port 1 to port 2, when coil forces are overcome.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 c	51 (105 505) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)
Rated flow	45 L/min (12 USgpm)
Internal leakage	less than 5 drops/min. max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-2
Fluids	All general purpose hydraulic fluids such as MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Steel
Weight cartridge only	0,18 kg (0.39 lbs)
Seal kit	565803 (Buna-N), 566086 (Viton®) Viton is a registered trademark of E.I. DuPont



Application Note

This valve is pilot operated and requires a minimum flow of 1-2 L/min (0.3-.5 USgpm) in order to shift. For operation at very low flow conditions contact your Eaton representative. Port 1 to port 2 and port 2 to port 1 de-energized

	SV13	- 10 (V) - 0) – (*) C	S) ** –	**** *	H – 00	
				6 7	89		
1 Function SV13 - Solenoid valve	 6 Valve housing material Blank - Cartridge only S - Steel 						9 Connect Blank - No c G - ISO 4400
2 Size 10 - 10 size	7 Po	rt Size					Q - Spade te W - Leadwire
IU - 10 SIZE	CODE	PORT SIZE	HOUSIN		R		N - Deutsch
3 Seal material	0	Cartridge only					Y - Amp JRD - Metripac
Blank - Buna-N	2G	1/4" BSPP	02-17510	2			(DC only)
V - Viton®	3G	3/8" BSPP	02-17510	3			J - Metripac

4 Style

O - Normally open

5 Manual override option

Blank - No manual override

- **P** Push type
- S Screw type

For valve dimensions with manual override option installed see page A-152.

CODE	PORT SIZE	HOUSING NUMBER
0	Cartridge only	
2G	1/4" BSPP	02-175102
3G	3/8" BSPP	02-175103
6T	SAE 6	02-175100
8T	SAE 8	02-175101

See section J for housings.

8 Voltage rating			
00 - No coil 12D - 12VDC 24D - 24VDC 36D - 36VDC			

Ø 38,9

24A - 24VAC
115A - 115VAC
230A - 230VAC
12B - 12VDC/w diode*
24B - 24VDC/w diode*
*Optional arc suppression diode.

29,6

(1.16)

tor types

coil 00 DIN 43650

- terminals
- re
- h (DC only)
- R (DC only)
- ack 150 male y)
- ack 280 male (DC only)

10 Coil series

H - 10 series, 29 W For dimensions see Section C.

11 Special features

00 - None (Only required if valve has special features, omitted if "00.")

Dimensions

mm (inch)

Torque cartridge in steel housing 68-75 Nm (50-55 ft. lbs)

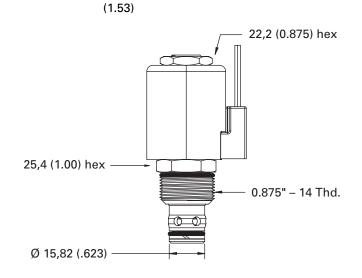
Note

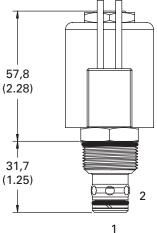
When solenoid valve is ordered as cartridge only, nut is included.

WARNING
Maintain 5-8 Nm (4-6 ft. lbs) maxi-

mum torque on valve tube

nut. Over tightening may cause valve failure.





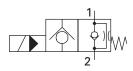
SV5-10-O/OP/OS

Poppet type, normally open solenoid valve

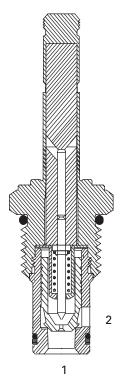
Description

The SV5-10-O is a 2-way, 2-position, poppet type, pilot operated, normally open, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Operation

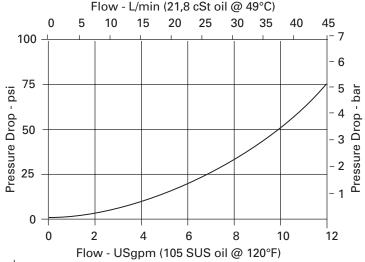
In the de-energized position, flow from port 1 to port 2 is restricted while free flow is allowed from port 2 to port 1. In the energized position, flow is blocked from port 2 to port 1, and flow is allowed from port 1 to port 2 when coil forces are overcome.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 c	ST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	45 L/min (12 USgpm)
Internal leakage, port 2 to port 1	less than 5 drops/min. max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0,4 kg (0.87 lbs)
Seal kit	565803 (Buna-N), 566086 (Viton®) Viton is a registered trademark of E.I. DuPont

Pressure Drop Curve

Cartridge only



Port 2 to port 1 de-energized

SV5 -	10 (V) -	- O (*) (F) -	- ** -	**** * -	00
	23		7	89	10

SV5 - Solenoid valve

2	Size
---	------

10 - 10 size

3 Seal material

Blank - Buna-N **V** - Viton®

V - VILOII

4 Style

O - Normally open

5 Manual Override Option

Blank - No manual override P - Push type S - Screw type For valve dimensions with manual override option installed see page A-152.

6 Filter option

Blank - None **F** - Filter screen

Dimensions

mm (inch)

Torque cartridge in aluminum housing 47-54 Nm (35-40 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.

	WARNING
	Maintain 5-8 Nm
\mathbb{N}	WARNING Maintain 5-8 Nr

(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

7 Port Size				
CODE	PORT SIZE	HOUSING NUMBER		
0	Cartridge only			
3B	3/8" BSPP	02-175462*		
6T	SAE 6	566151*		
2G	1/4" BSPP	876702		
3G	3/8" BSPP	876703		
6H	SAE 6	876700		
8H	SAE 8	876701		

*Light duty housing. See section J for housings.

8 Voltage rating00 - No coil

12D - 12VDC 24D - 24VDC 36D - 36VDC 24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *0ptional arc suppression diode.

9 Connector types

Blank - No coil G - ISO 4400 DIN 43650

- **Q** Spade terminals
- W Leadwire
- W Leadwire
- N Deutsch (DC only)
- Y Amp JR (DC only)
- D Metripack 150 male (DC only)
- J Metripack 280 male (DC only)

For coil dimensions see Section C.

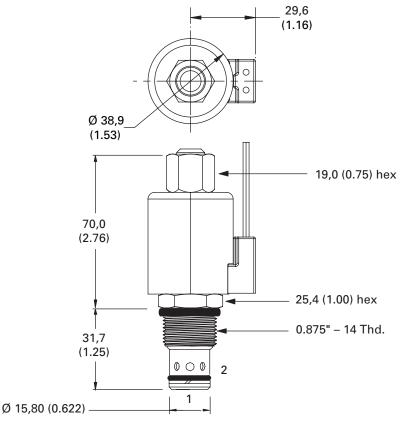
10 Special features

00 - None (Only required if valve

has special features, omitted if "00.")

Note

Use J series, 23 W coils with this solenoid valve.



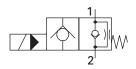
SV15-10-O/OP/OS

Poppet type normally open solenoid valve, 350 bar

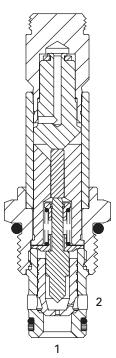
Description

The SV15-10-O is a 2-way, 2-position, pilot operated, poppet type, normally open screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Application Note

This valve is pilot operated and requires a minimum flow of 1-2 L/min (0.3- 0.5 USgpm) in order to shift. For operation at very low flow conditions contact your Eaton representative.

Operation

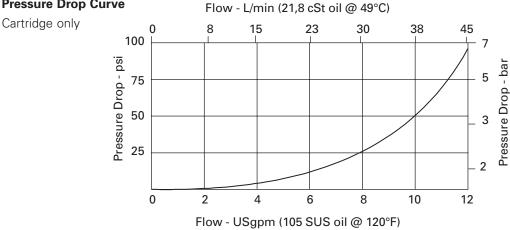
In the de-energized position, flow from port 1 to port 2 is restricted, while free flow is allowed from port 2 to port 1.

In the energized position, flow is blocked from port 2 to port 1, and flow is allowed from port 1 to port 2, when coil forces are overcome.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cS	T (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)
Rated flow	45 L/min (12 USgpm)
Internal leakage	less than 5 drops/min. max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Steel
Weight cartridge only	0,18 kg (0.39 lbs)
Seal kit	565803 (Buna-N), 566086 (Viton [®]) Viton is a registered trademark of E.I. DuPont

Pressure Drop Curve



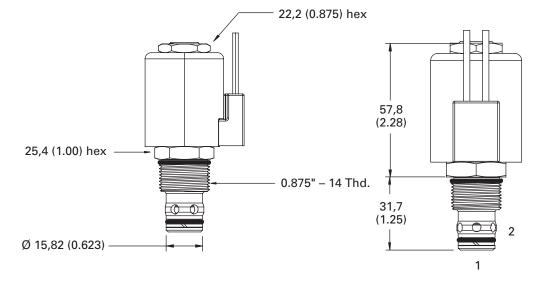
Port 2 to port 1 de-energized

 Function SV15 - Solenoid valve 	 6 Valve housing material Blank - Cartridge only S - Steel 	Connector types Blank - No coil Context Address
2 Size 10 - 10 size	Image: State of the state o	 G - ISO 4400 DIN 43650 Q - Spade terminals W - Leadwire N - Deutsch (DC only)
 3 Seal material Blank - Buna-N V - Viton[®] 4 Style O - Normally open 5 Manual override option 	O Cartridge only 2G 1/4" BSPP 02-175102 3G 3/8" BSPP 02-175103 6T SAE 6 02-175100 8T SAE 8 02-175101 See section J for housings.	Y - Amp JR (DC only) D - Metripack 150 male (DC only) J - Metripack 280 male (DC only) 10 Coil series H - 10 series, 29 W
Blank - No manual override P - Push type S - Screw type For valve dimensions with manual override option installed see page A-152.	Image: Solution of the system Im	For coil dimensions see Section C. 11 Special features 00 - None (Only required if valve has special features, omitted if "00.")
Dimensions nm (inch)	29,6 (1.16)	

Ø 38,9 (1.53)

Note

When solenoid valve is ordered as cartridge only, nut is included.



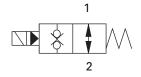


(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure. Bi-directional, normally open solenoid valve

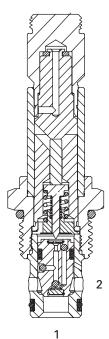
Description

The SBV11-10-O is a bi-directional, 2-way, 2-position, normally open, poppet type, screw-in cartridge, solenoid valve.

Functional Symbol



Sectional View



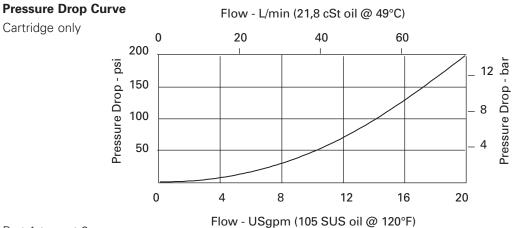
A-64

Operation

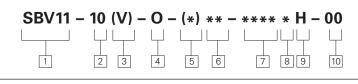
In the de-energized position, flow is allowed in both directions. In the energizedposition, flow is blocked in both directions.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)		
Typical application pressure (all ports)	350 bar (5000 psi)	
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)	
Rated flow	76 L/min (20 USgpm)	
Internal leakage, port 1 to port 2 or port 2 to port 1	5 drops/min. max @ 350 bar (5000 psi)	
Temperature range	-40° to 100°C (-40° to 212°F)	
Coil duty	Continuous from 85% to 110% of nominal voltage	
Cavity	C-10-2	
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.	
Filtration	Cleanliness code 18/ 16/13	
Housing material (standard)	Aluminum or steel	
Weight cartridge only	0,18 kg (0.39 lbs)	
Seal kit	565806 (Buna-N), 889627 (Viton®) Viton is a registered trademark of E.I. DuPont	



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



SBV11 - Solenoid bi-directional valve

² Size

10 - 10 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style

O - Normally open

5 Valve housing material

Blank - Cartridge only

A - Aluminum

S - Steel

Dimensions

mm (inch)

Torque cartridge in housing **A** - 47-54 Nm (35-40 ft. lbs)

S - 68-75 Nm (50-55 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, nut is included.



WARNING

Maintain 5-8 Nm (4-6 ft. lbs) maxi-

mum torque on valve tube nut. Over tightening may cause valve failure.



WARNING Aluminum housings

can be used for pressures up to 210 bar (3000 psi) Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi).

6 Port size					
CODE	PORT SIZE	HOUSING NUMBER			
		Aluminum	Steel		
0	Cartridge only				
2G	1/4" BSPP	876702	02-175102		
3G	3/8" BSPP	876703	02-175103		
3B	3/8" BSPP	02-175462*	_		
6H	SAE 6	876700	_		
6T	SAE 6	566151*	02-175100		
8H	SAE 8	876701	-		
8T	SAE 8	_	02-175101		
*Light duty housings					

*Light duty housings. See section J for housings.

7 V	oltage rating
00 -	No coil
12D -	12VDC
24D -	24VDC
36D -	36VDC

24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode*

8 Connector types Blank - No coil

G - ISO 4400 DIN 43650

Q - Spade terminals

- W Leadwire
- N Deutsch (DC only)
- **Y** Amp JR (DC only)
- D Metripack 150 male (DC only)
- J Metripack 280 male (DC only)

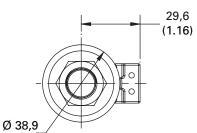
9 Coil series

H - 10 series, 29 W

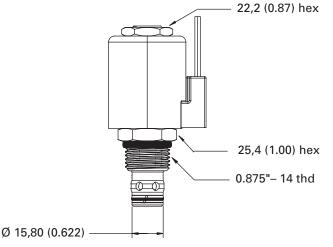
For coil dimensions see Section C.

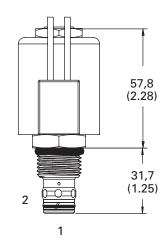
10 Special features

00 - None (Only required if valve has special features, omitted if "00.")









SV3-12-0/0P/0S

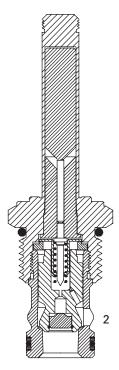
Poppet type, normally open solenoid valve

Description

The SV3-12-O is a 2-way, 2position, poppet-type, pilotoperated, normally open solenoid cartridge valve.

Functional Symbol

Sectional View



1

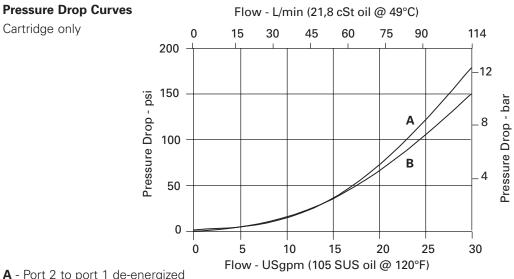
Operation

In the de-energized position, flow can pass through the valve from port 1 to port 2, or from port 2 to port 1.

In the energized position, flow is blocked from port 2 to port 1, and allowed from port 1 to port 2 when the coil force is overcome.

RATINGS AND SPECIFICATIONS

INATIMO AND OF LOITION		
Performance data is typical	with fluid at 21,8 cST (1	105 SUS) and 49°C (120°F)
Typical application pressure (all ports)		210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow		114 L/min (30 USgpm)
Internal leakage, port 2 to p	ort 1	less than 5 drops/min. max @ 210 bar (3000 psi)
Temperature range		-40° to 120°C (-40° to 248°F)
Coil duty		Continuous from 85% to 110% of nominal voltage
Response times (100% rated	l voltage and flow)	Energize: 75 ms De-Energize: 150 ms
Cavity		C-12-2 or C-12-2U er if undercut is required. If undercut is not specified, JSgpm and 20 psi @ 30 USgpm higher pressure drop.
Fluids		All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration		Cleanliness code 17/15/12
Housing material (standard)		Aluminum
Weight including coil		0,336 kg (0.74 lbs)
Seal kit		02-165889 (Buna-N), 02-165888 (Viton®) Viton is a registered trademark of E.I. DuPont



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

Cartridge only

SV3 -	· 12 (V) ·	- O (*) -	- (A) *	** (U)	- **** * - 00
	23	4 5		7	8 9 10

SV3 - Solenoid val	ve
--------------------	----

2	Size
---	------

```
12 - 12 size
```

3 Seal material

Blank - Buna-N

V - Viton®

4 Style

O - Normally open

5 Manual Override Option

Blank - No manual override

P - Push type

S - Screw type

For valve dimensions with manual override option installed see page A-152.

6 Valve housing material Omit for cartridge only

A - Aluminum

Dimensions

mm (inch)

Torque cartridge in aluminum housing 81-95 Nm (60-70 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.

WARNING Maintain 5-8 Nm

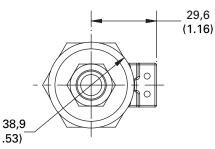
(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

7 Port Size				
CODE	PORT SIZE	HOUSING NUMBER	CAVITY	
0	Cartridge only			
4G	1/2" BSPP	02-161118	C-12-2	
6G	3/4" BSPP	02-161117	C-12-2	
10T	SAE 10	02-160640	C-12-2	
12T	SAE 12	02-160644	C-12-2	
4GU	1/2" BSPP	02-161116	C-12-2U	
6GU	3/4" BSPP	02-161115	C-12-2U	
10TU	SAE 10	02-160641	C-12-2U	
12TU	SAE 12	02-160645	C-12-2U	
Can anotical I for housings				

See section J for housings.

8 Voltage rating
00 - No coil
12D - 12VDC
24D - 24VDC
36D - 36VDC

24A - 24VAC **115A** - 115VAC **230A** - 230VAC **12B** - 12VDC/w diode* **24B** - 24VDC/w diode* *0ptional arc suppression diode.



9 Connector types Blank - No coil

- G ISO 4400 DIN 43650
- **Q** Spade terminals
- W Leadwire
- N Deutsch (DC only)
- Y Amp JR (DC only)
- D Metripack 150 male (DC only)
- J Metripack 280 male (DC only)

For coil dimensions see Section C.

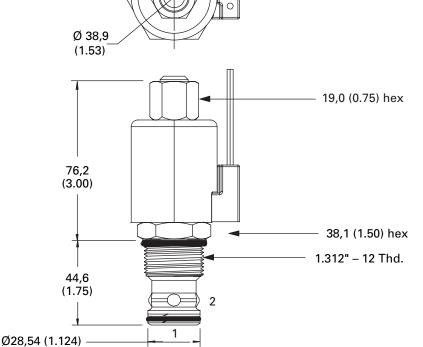
10 Special features

00 - None

(Only required if valve has special features, omitted if "00.")

Note

Use J series, 23 W coils with this solenoid valve.



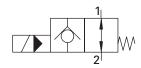
SV13-12-0/0P/0S

Poppet type normally open solenoid valve, 350 bar

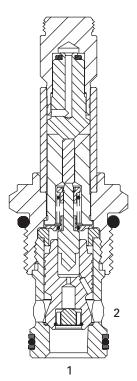
Description

The SV13-12-O is a 2-way, 2-position, pilot operated, poppet type, normally open screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Application Note

This valve is pilot operated and requires a minimum flow of 1-2 L/min (0.3 - 0.5 USgpm) in order to shift. For operation at very low flow conditions contact your Eaton representative.

Operation

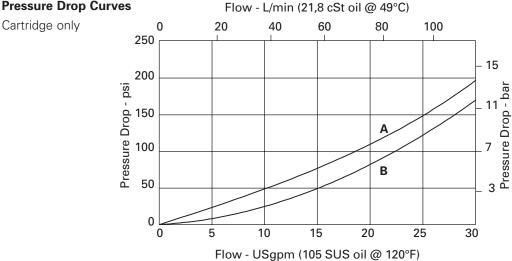
In the de-energized position, flow can pass through the valve from port 1 to port 2, or from port 2 to port 1.

In the energized position, flow is blocked from port 2 to port 1, and allowed from port 1 to port 2 when the coil force is overcome.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)				
Typical application pressure	(all ports) 350 bar (5000 psi)			
Cartridge fatigue pressure (ir	nfinite life) 310 bar (4500 psi)			
Rated flow	114 L/min (30 USgpm)			
Internal leakage	less than 5 drops/min. max @ 350 bar (5000 psi)			
Temperature range	-40° to 100°C (-40° to 212°F)			
Coil duty	Continuous from 85% to 110% of nominal voltage			
Cavity	C-12-2 or C-12-2U Add "U" after number if undercut is required. If undercut is not specified, expect 10 psi@15 USgpm and 20 psi @ 30 USgpm higher pressure drop.			
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.			
Filtration	Cleanliness code 18/ 16/13			
Housing material (standard)	Steel			
Weight cartridge only	0,27 kg (0.59 lbs)			
Seal kit	02-165889 (Buna-N), 02-165888 (Viton®) Viton is a registered trademark of E.I. DuPont			

Pressure Drop Curves



A - Port 1 to port 2 de-energized

B - Port 2 to port 1 de-energized

	SV13	– 12 (V) – C	D (*) – (S) ** – **** * H – 00	
1 Function SV13 - Solenoid valve		ve housing ma t - Cartridge only	terial	9 Connector types Blank - No coil
2 Size 12 - 12 size		rt Size PORT SIZE	HOUSING NUMBER	 G - ISO 4400 DIN 43650 Q - Spade terminals W - Leadwire N - Deutsch (DC only)
3 Seal material Blank - Buna-N V - Viton [®]	0 4G 4GU 6G	Cartridge only 1/2" BSPP 1/2" BSPP 3/4" BSPP	02-175062 02-172512 02-169665	 Y - Amp JR (DC only) D - Metripack 150 male (DC only) J - Metripack 280 male (DC only)
 4 Style O - Normally open 5 Manual override option 	6GU 10T 10TU	3/4" BSPP SAE 10 SAE 10	02-162922 02-169744 02-169817	10 Coil series H - 10 series, 29 W
Blank - No manual override P - Push type S - Screw type For valve dimensions with manual	12T 12TU See sectio	SAE 12 SAE 12 on J for housings.	02-169782 02-169790	For coil dimensions see Section C. 11 Special features 00 - None
override option installed see page A-152.	8 Vo 00 - No 12D - 2 24D - 2 36D - 3	12VDC 24VDC	24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode*	(Only required if valve has special features, omitted if "00.")
Dimensions mm (inch)	300 - 3	SOVDC	*Optional arc suppression diode.	
Torque cartridge in steel housing 102-115 Nm (75-85 ft. lbs)				
Note When solenoid valve is ordered as cartridge only, nut is included.		Ø 38, (1.53		
				60,3 (2.37)
WARNING Maintain 5-8 Nm (4-6 ft. lbs) maxi- mum torque on valve tube	31,75	i (1.250) hex —	1.062" – 12 Thd.	44,7 (1.76)
nut. Over tightening may cause valve failure.	Ø	23,77 (.936) —		

A-69

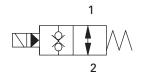
1

Bi-directional, normally open solenoid valve

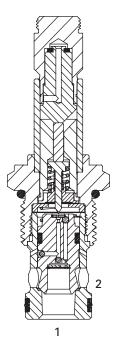
Description

The SBV11-12-O is a bi-directional, 2-way, 2-position, normally open, poppet type, screw-in cartridge, solenoid valve.

Functional Symbol



Sectional View



Operation

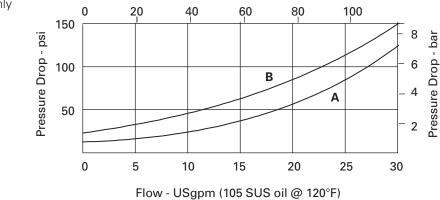
In the de-energized position, flow is allowed in both directions. In the energized position, flow is blocked in both directions.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)				
Typical application pressure (all ports)	350 bar (5000 psi)			
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)			
Rated flow	114 L/min (30 USgpm)			
Internal leakage, port 1 to port 2 & port 2 to port	1 5 drops/min. max @ 350 bar (5000 psi)			
Temperature range	-40° to 100°C (-40° to 212°F)			
Coil duty	Continuous from 85% to 110% of nominal voltage			
	C-12-2 or C-12-2U ber if undercut is required. If undercut is not specified, 5 USgpm and 20 psi @ 30 USgpm higher pressure drop.			
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.			
Filtration	Cleanliness code 18/ 16/13			
Housing material (standard)	Aluminum or steel			
Weight cartridge only	0,27 kg (0.59 lbs)			
Seal kit	02-165889 (Buna-N), 02-165888 (Viton [®]) Viton is a registered trademark of E.I. DuPont			

Pressure Drop Curves

Cartridge only



Flow - L/min (21,8 cSt oil @ 49°C)

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

SBV11 -	12 (V) ·	- O - (*) ** -	**** * H
1	2 3		7 8 9

SBV11 - Solenoid bi-directional valve

2 Size

12 - 12 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style

O - Normally open

5 Valve housing material

Blank - Cartridge only

A - Aluminum S - Steel

Dimensions

mm (inch)

- Torque cartridge in housing
- A 81-95 Nm (60-70 ft. lbs)
- S 102-115 Nm (75-85 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, nut is included.

WARNING Maintain 5-8 Nm

(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.



WARNING Aluminum housings

can be used for pressures up to 210 bar (3000 psi) Steel housings must be used for operating pressures above 210 bar (3000 psi).

6 Port Size				
CODE	PORT SIZE	ALUMINUM	STEEL	
0	Cartridge only			
4G	1/2" BSPP	02-161118	02-172062	
4GU	1/2" BSPP	02-161116	02-172512	
6G	3/4" BSPP	02-161117	02-169665	
6GU	3/4" BSPP	02-161115	02-162922	
10T	SAE 10	02-160640	02-169744	
10TU	SAE 10	02-160641	02-169817	
12T	SAE 12	02-160644	02-169782	
12TU	SAE 12	02-160645	02-169790	

See section J for housings.

7 Voltage rating **00** - No coil 12D - 12VDC 24D - 24VDC 36D - 36VDC

24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.

29.6

Connector types Blank - No coil

- G ISO 4400 DIN 43650
- **Q** Spade terminals
- W Leadwire
- N Deutsch (DC only)
- Y Amp JR (DC only)
- D Metripack 150 male (DC only)
- J Metripack 280 male (DC only)

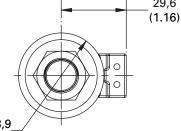
9 Coil series

H - 10 series, 29 W

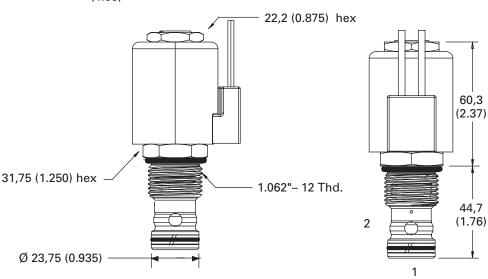
For coil dimensions see Section C.

10 Special features

00 - None (Only required if valve has special features, omitted if "00.")







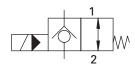
SV3-16-0/0P/0S

Poppet type, normally open solenoid valve

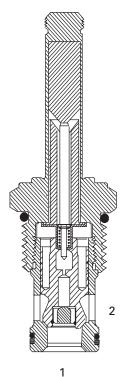
Description

The SV3-16-O is a 2-way, 2-position, poppet type, pilot operated, normally open, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View

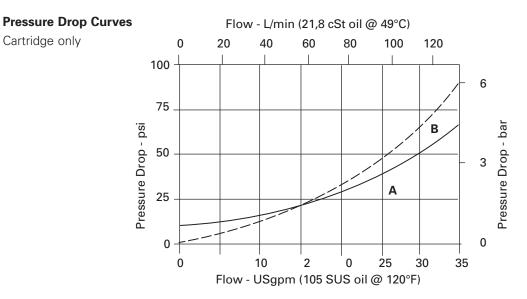


Operation

In the de-energized position, this valve allows bidirectional flow between port 1 and port 2. In the energized position, flow is blocked from port 2 to port 1 and allowed from port 1 to port 2 when coil forces are overcome.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)	
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	132 L/min (35 USgpm)
Internal leakage, port 2 to port 1	less than 5 drops/min. max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-16-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0,9 kg (1.98 lbs)
Seal kit	565810 (Buna-N), 889609 (Viton®) Viton is a registered trademark of E.I. DuPont



A - Port 1 to port 2 energized

B - Port 2 to port 1 de-energized

SV3 –	16 (V) -	- O (*) –	· (A) *** -	· **** * - 00
			6 7	

1 Function

SV3 - Solenoid valve

2	Size
---	------

16 - 16 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style

O - Normally open

- **5** Manual Override Option
- Blank No manual override
- P Push type

S - Screw type

For valve dimensions with manual override option installed see page A-152.

6 Valve housing material

Omit for cartridge only A - Aluminum

Dimensions

mm (inch)

Torque cartridge in aluminum housing 108-122 Nm (80-90 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.

	WARNING
	Maintain 5-8 Nm
Ķ——→	(1 C ft lb a) manui

9 (4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

7 Port Size				
CODE	PORT SIZE	HOUSING NUMBER		
0	Cartridge only			
6B	3/4" BSPP	02-175463*		
12T	SAE 12	566149*		
6G	3/4" BSPP	876718		
10H	SAE 10	876717		
12H	SAE 12	566113		
See section J for housings. *Light duty housing				

8 Voltage rating 00 - No coil 12D - 12VDC 24D - 24VDC 36D - 36VDC

24A - 24VAC	
115A - 115VAC	
230A - 230VAC	
12B - 12VDC/w diode	Э
24B - 24VDC/w diode	Э
*Optional arc suppression diode	е

9 Connector types

Blank - No coil G - ISO 4400 DIN 43650

- **Q** Spade terminals
- W Leadwire
- N Deutsch (DC only)
- Y Amp JR (DC only) D - Metripack 150 male
- (DC only)
- J Metripack 280 male (DC only)

For coil dimensions see Section C.

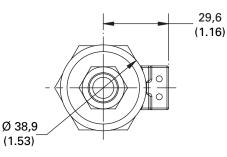
10 Special features

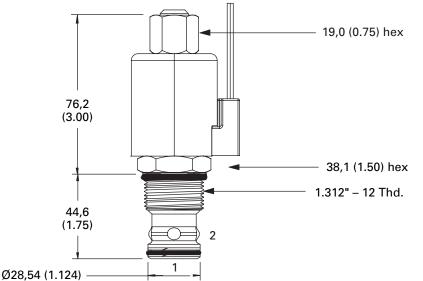
00 - None

(Only required if valve has special features, omitted if "00.")

Note

Use J series, 23 W coils with this solenoid valve.





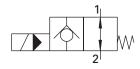
SV13-16-0/0P/0S

Poppet type normally open solenoid valve, 350 bar

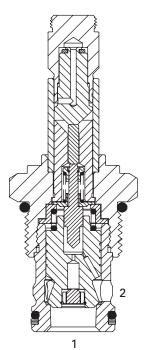
Description

The SV13-16-O is a 2-way, 2-position, pilot operated, poppet type, normally open screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Application Note

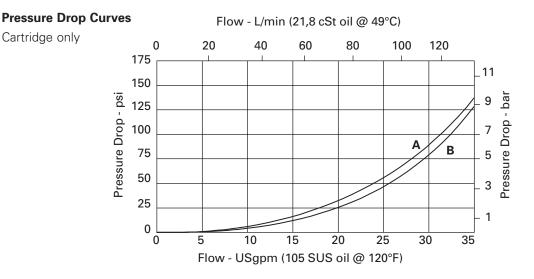
This valve is pilot operated and requires a minimum flow of 1-2 L/min (0.3 - .5 USgpm) in order to shift. For operation at very low flow conditions contact your Eaton representative.

Operation

In the de-energized position, this valve allows bidirectional flow between port 1 and port 2. In the energized position, flow is blocked from port 2 to port 1 and allowed from port 1 to port 2, when the coil forces are overcome.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)
Rated flow	132 L/min (35 USgpm)
Internal leakage	less than 5 drops/min. max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-16-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Steel
Weight cartridge only	0,39 kg (0.85 lbs)
Seal kit	565810 (Buna-N), 889609 (Viton®) Viton is a registered trademark of E.I. DuPont



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

	SV13		D (*) – (S) ** – **** * H		
Function SV13 - Solenoid valve		lve housing ma t - Cartridge only el	terial		 Gonnector types Blank - No coil G - ISO 4400 DIN 43650 Conductor types
2 Size					Q - Spade terminals W - Leadwire
16 - 16 size					N - Deutsch (DC only)
	CODE	PORT SIZE	HOUSING NUMBER		Y - Amp JR (DC only)
3 Seal material	0	Cartridge only			D - Metripack 150 male
Blank - Buna-N	4G	1/2" BSPP	02-175106		(DC only)
V - Viton®	6G	3/4" BSPP	02-175107		J - Metripack 280 male
4 Style	10T	SAE 10	02-175104		(DC only)
O - Normally open	12T	SAE 12	02-175105		10 Coil series
5 Manual override option	See sectio	on J for housings.			H - 10 series, 29 W For coil dimensions see Section C.
Blank - No manual override P - Push type	8 Vo	Itage rating	24A - 24VAC 115A - 115VAC		11 Special features

- S Screw type

For valve dimensions with manual override option installed see page A-152.

00 - No coil 12D - 12VDC 24D - 24VDC 36D - 36VDC

115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.

29,6

(1.16)

-)
- ale
- ale

Special features

00 - None (Only required if valve has special features, omitted if "00.")

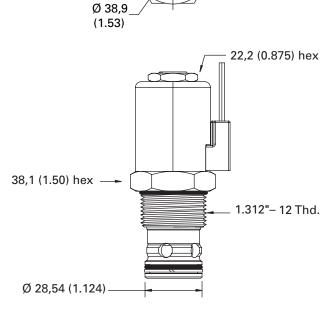
Dimensions

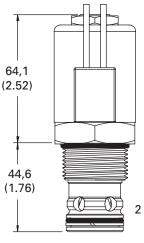
mm (inch)

Torque cartridge in steel housing 136-149 Nm (100-110 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, nut is included.





WARNING Maintain 5-8 Nm

(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

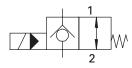
SV3-20-0/0P/0S

Poppet type, normally open solenoid valve

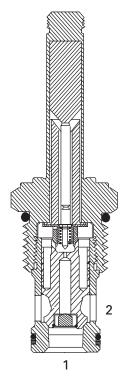
Description

The SV3-20-O is a 2-way, 2-position, poppet type, pilot operated, normally open, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Operation

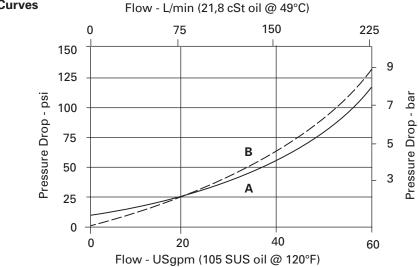
In the de-energized position, this valve allows bidirectional flow between port 1 and port 2. In the energized position, flow is blocked from port 2 to port 1 and allowed from port 1 to port 2 when coil forces are overcome.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	227 L/min (60 USgpm)
Internal leakage, port 2 to port 1	less than 5 drops/min. max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Response times (100% rated voltage and flow)	Energize: 75 ms De-Energize: 150 ms
Cavity	C-20-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	1,2 kg (2.70 lbs)
Seal kit	889615 (Buna-N), 889619 (Viton®)
	Viton is a registered trademark of E.I. DuPont

Pressure Drop Curves

Cartridge only



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

SV3 -	- 20 (V) -	- O (*) -	- *** -	**** * - 00

1 Function

SV3 - Solenoid valve

2 Size

20 - 20 size

3 Seal material

Blank - Buna-N

V - Viton®

4 Style

C - Normally open

5 Manual override option

Blank - No manual override P - Push type

S - Screw type For valve dimensions with manual override option installed see page A-152.

Dimensions

mm (inch)

Torque cartridge in aluminum housing 128-155 Nm (95-115 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.



Maintain 5-8 Nm (4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

6 Port Size				
CODE	PORT SIZE	HOUSING NUMBER		
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		

*Light duty housings.

See pages J-3 and J-4 for housings.

7 Voltage rating
00 - No coil
12D - 12VDC
24D - 24VDC
36D - 36VDC

24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.

Q - Spade terminals W - Leadwire N - Deutsch (DC only) Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

8 Connector types Blank - No coil

G - ISO 4400 DIN 43650

J - Metripack 280 male (DC only)

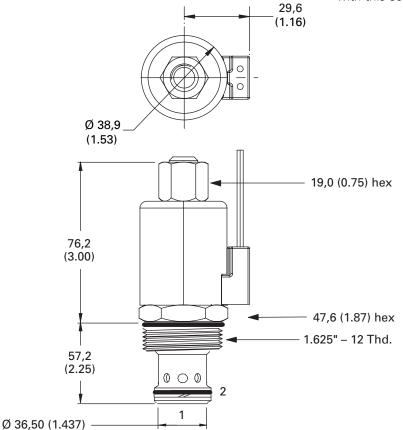
For coil dimensions see Section C.

9 Special features

00 - None (Only required if valve has special features, omitted if "00.")

Note

Use J series, 23 W coils with this solenoid valve.



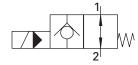
SV13-20-0/0P/0S

Poppet type, normally open solenoid valve

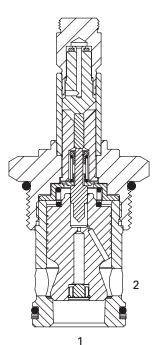
Description

The SV13-20-O is a 2-way, 2-position, pilot operated, poppet type, normally open screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Application Note

This valve is pilot operated and requires a minimum flow of 1-2 L/min (0.3 - .5 USgpm) in order to shift. For operation at very low flow conditions contact your Eaton representative.

Operation

In the de-energized position, this valve allows bidirectional flow between port 1 and port 2. In the energized position,

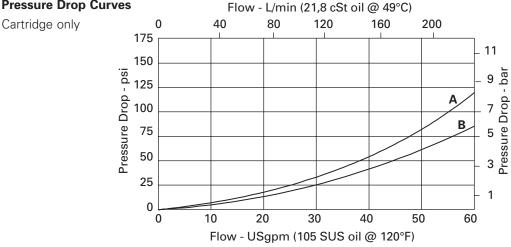
flow is blocked from port 2 to port 1 and allowed from port 1 to port 2, when the coil forces are overcome.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (10	5 SUS) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)*
Cartridge fatigue pressure (infinite life)	210 bar (4500 psi)
Rated flow	227 L/min (60 USgpm)
Internal leakage, port 2 to port 1	less than 5 drops/min. max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-20-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Steel
Weight cartridge only	0,62 kg (1.37 lbs)
Seal kit	889615 (Buna-N), 889619 (Viton®) Viton is a registered trademark of E.I. DuPont

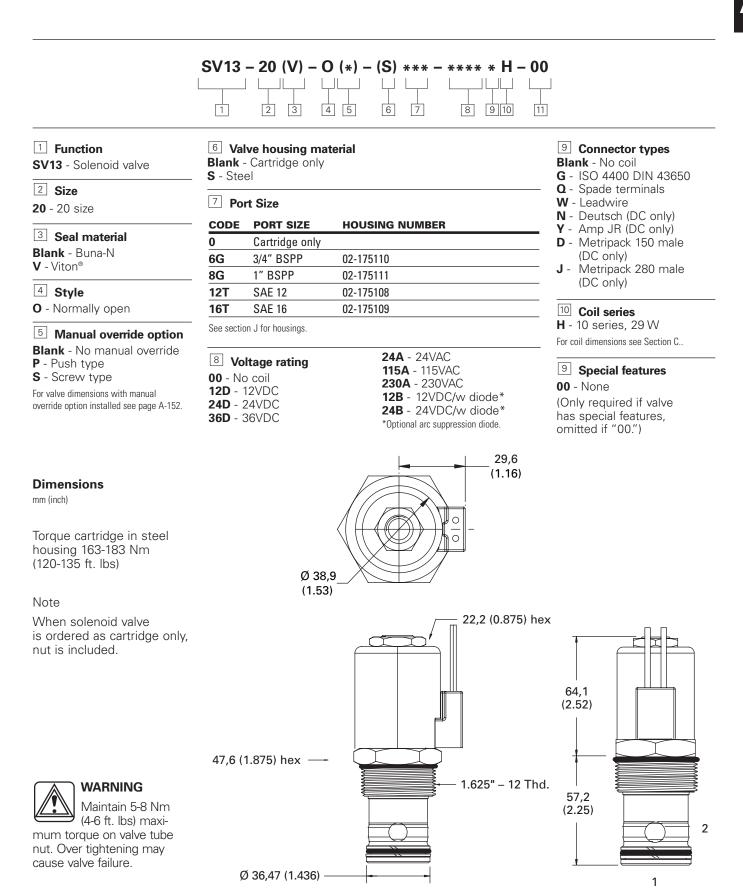
*For application pressure over 280 bar (4000 psi) consult factory

Pressure Drop Curves



A - Port 2 to port 1 de-energized

B - Port 1 to port 2



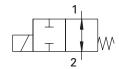
A-79

Poppet type, normally open solenoid valve

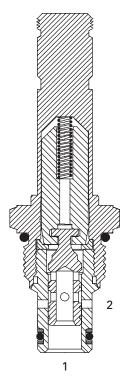
Description

The SV4-8-O is a 2-way, spool type, direct acting, normally open, solenoid valve.

Functional Symbol



Sectional View



Operation

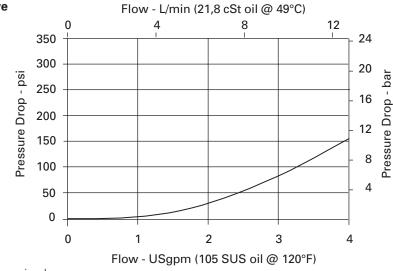
In the de-energized position, the SV4-8-O valve allows bi-directional flow between ports 1 and 2. In the energized position, both ports 1 and 2 are blocked.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	13 L/min (4 USgpm)
Internal leakage	82 cm³/min (5 in³/min) max. @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Response times (100% rated voltage and flow)	Energize: 21 ms De-Energize: 38 ms
Cavity	C-8-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0,27 kg (0.60 lbs)
Seal kit	02-160777 (Buna-N), 02-160778 (Viton®) Viton is a registered trademark of E.I. DuPont

Pressure Drop Curve

Cartridge only



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

SV4 – 8 (V) – O (M) (F) – (A) ** – **** * S – 00

7 8

6

1 Function

SV4 - Solenoid valve

² Size

8	-	8	size
8	-	8	SIZE

3	Se	al m	aterial
	-	_	

Blank - Buna-N V - Viton®

4 Style

O - Normally open

5 Manual override option

Blank - No manual override M - Knob type For valve dimensions with manual override option installed see page A-153.

6 Filter option Blank - None

F - Filter screen

7 Valve housing material

4 5

Omit for cartridge only - Aluminum

8 Port Size

2 3

1

Α

CODE	PORT SIZE	HOUSING NUMBER
0	Cartridge only	
2G	1/4" BSPP	02-160727
3G	3/8" BSPP	02-160728
4T	SAE 4	02-160730
6T	SAE 6	02-160731
8T	SAE 8	02-160732

See section J for housings.

00 - No coil	
12D - 12VDC	
24D - 24VDC	
36D - 36VDC	

24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.

9

10 11

12

10 Connector types Blank - No coil

- G ISO 4400 DIN 43650
- **Q** Spade terminals
- W Leadwire
- N Deutsch (DC only)
- Y Amp JR (DC only)
- D Metripack 150 male (DC only)
- J Metripack 280 male (DC only)

11 Coil series

S - 8 series, 20 W

For coil part numbers see Section C.

12 Special features

00 - None (Only required if valve has special features, omitted if "00.")

Dimensions

mm (inch)

Torque cartridge in steel or aluminum housing 34-41 Nm (25-30 ft. lbs)

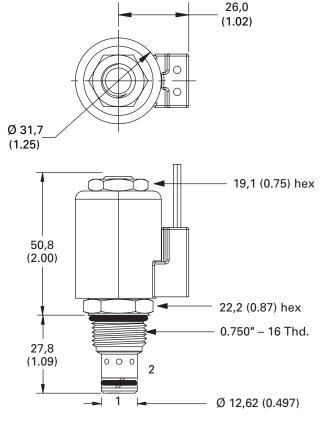
Note

When solenoid valve is ordered as cartridge only, coil nut is included.



WARNING

Maintain 5-8 Nm (4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.



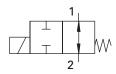
SV14-8-0/0M

Spool type, normally open solenoid valve, 350 bar

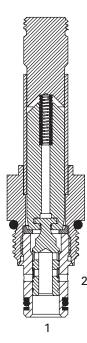
Description

The SV14-8-O is a 2-way, 2position, spool type, direct acting, normally open screw-in cartridge solenoid valve.

Functional Symbol



Sectional View

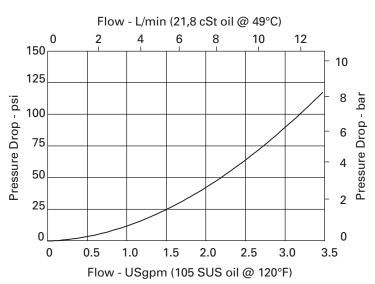


Operation

In the de-energized position, this valve allows bidirectional flow between port 1 and port 2. In the energized position, both ports are closed.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 d	cST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)
Rated flow	13 L/min (3.5 USgpm)
Internal leakage, port 2 to port 1	140 cm³/min (8.5 in³/min) max. @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-8-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Steel
Weight cartridge only	0,11 kg (0.25 lbs)
Seal kit	02-165875 (Buna-N), 02-165877 (Viton®) Viton is a registered trademark of E.I. DuPont



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

Pressure Drop Curve

Cartridge only

	SV14		D (M) – (S) ** – **** * P – 00]
Function SV14 - Solenoid valve Size	6 Va Blank S - Ste	lve housing m - Cartridge only el	aterial /	 Connector typ Blank - No coil G - ISO 4400 DIN Q - Spade termina
8 - 8 size	7 Po	rt Size		W - Leadwire
o - o size	CODE	PORT SIZE	HOUSING NUMBER	N - Deutsch (DC o
3 Seal material	0	Cartridge only		Y - Amp JR (DC oD - Metripack 150
Blank - Buna-N	2G	1/4" BSPP	02-160733	(DC only)
V - Viton®	3G	3/8" BSPP	02-160734	J - Metripack 280
4 Style	4T	SAE 4	02-160736	(DC only)
O - Normally open	6Т	SAE 6	02-160737	¹⁰ Coil series
5 Manual annida antian	8T	SAE 8	02-160738	10 Coil series P - 8 series, 23 W

5 Manual override option Blank - No manual override

M - Manual override

For valve dimensions with manual override option installed see page A-153.

See section J for housings.

8 Voltage rating
00 - No coil
12D - 12VDC
24D - 24VDC
36D - 36VDC

24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.

> 26,0 (1.02)

pes

- 43650
- als
- only)
- only)
- 0 male
- 0 male

P - 8 series, 23 W

For coil dimensions see Section C.

11 Special features

00 - None (Only required if valve has special features, omitted if "00.")

Dimensions

mm (inch)

Torque cartridge in steel or aluminum housing 34-41 Nm (25-30 ft. lbs)

Note

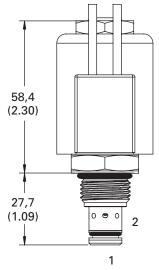
When solenoid valve is ordered as cartridge only, nut is included.



WARNING

Maintain 5-8 Nm (4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

Ø 31,7 (1.25) 15,8 (0.62) hex 22,2 (0.87) hex 0.750" - 16 Thd. • C Ø 12,6 (0.500)



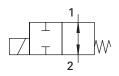
SV4-10-O/OM/OR

Spool type, normally closed solenoid valve

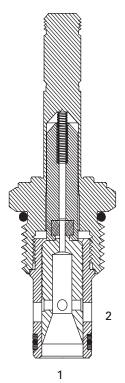
Description

The SV4-10-O is a 2-way, 2-position, spool type, direct acting, normally open, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



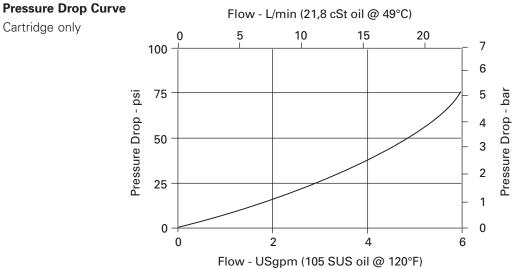
Operation

In the de-energized position, this valve allows bidirectional flow between port 1 and port 2.

In the energized position both ports are closed.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 c	ST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage, port 2 to port 1	82 cm³/min (5 in³/min) max. @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including cartridge	0,4 kg (0.87 lbs)
Seal kit	565806 (Buna-N), 889627 (Viton [®]) Viton is a registered trademark of E.I. DuPont



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

Cartridge only

SV4 – 10 (V) – O (*) (F) – ** – **** * – 00

1 Function

SV4 - Solenoid valve

	2	Size
--	---	------

10 - 10 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style

O - Normally open

5 Manual override option

Blank - No manual override **M** - Knob type **R** - Cable type For valve dimensions with manual override option installed see page A-153.

6 Filter option

Blank - None **F** - Filter screen

Dimensions

mm (inch)

Torque cartridge in aluminum housing 47-54 Nm (35-40 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.

WARNING
WARNING Maintain 5-8 Nm

(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

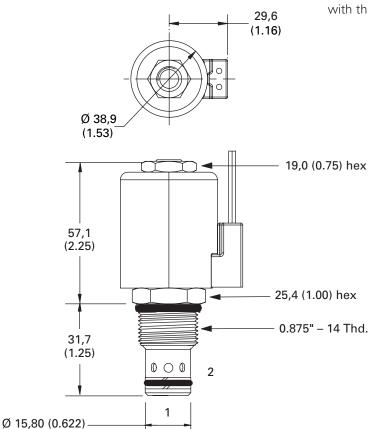
7 Port Size		
CODE	PORT SIZE	HOUSING NUMBER
0	Cartridge only	
3B	3/8" BSPP	02-175462*
6T	SAE6	566151*
2G	1/4" BSPP	876702
3G	3/8" BSPP	876703
6H	SAE 6	876700
8H	SAE 8	876701

*Light duty housing. See section J for housings.

8 Voltage rating 00 - No coil

12D - 12VDC **24D** - 24VDC **36D** - 36VDC

24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *0ptional arc suppression diode.



9 Connector types Blank - No coil

G - ISO 4400 DIN 43650

- **Q** Spade terminals
- W Leadwire
- **N** Deutsch (DC only)
- **Y** Amp JR (DC only)
- **D** Metripack 150 male
- D Metripack 150 male (DC only)
- J Metripack 280 male (DC only)

For coil dimensions see Section C.

10 Special features

00 - None

(Only required if valve has special features, omitted if "00.")

Note

Use J series, 23 W coils with this solenoid valve.

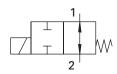
SV14-10-O/OM

Spool type, normally open solenoid valve, 350 bar

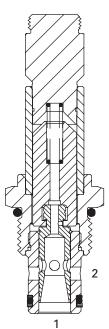
Description

The SV14-10-O is a 2-way, 2-position, spool type, direct acting, normally open screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Operation

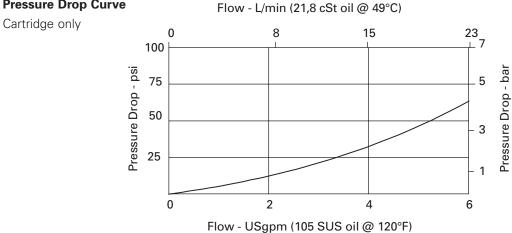
In the de-energized position, this valve allows bidirectional flow between port 1 and port 2.

In the energized position, both ports are closed.

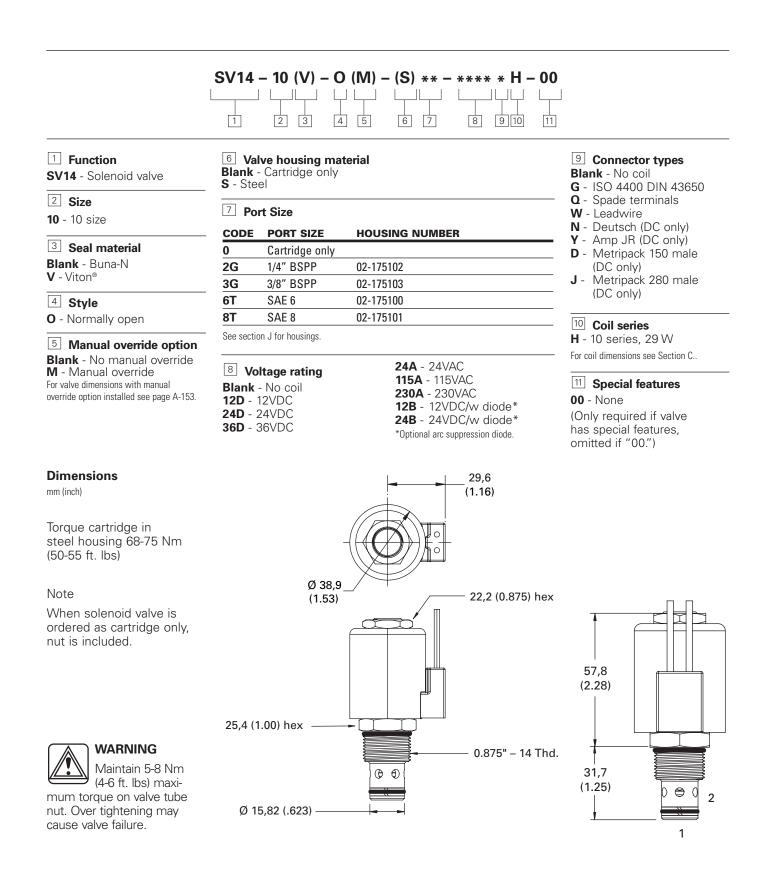
RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 c	ST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage, port 2 to port 1	140 cm³/min. (8.5 in³/min.) max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Steel
Weight cartridge only	0,18 kg (0.39 lbs)
Seal kit	566806 (Buna-N), 889627 (Viton®) Viton is a registered trademark of E.I. DuPont

Pressure Drop Curve



A



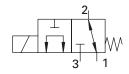
3-way, 2-position spool type solenoid valve,

Description

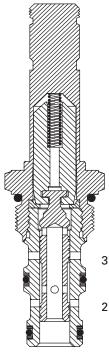
The SV1-8-3 is a 3-way, 2-position, direct acting, spool type solenoid valve.

This valve can be used in applications requiring separate pressure and tank

Functional Symbol



Sectional View



1

lines, such as a single acting cylinder, or any other application where a threeway, two-position solenoid valve is needed.

Operation

In the de-energized position, the SV1-8-3 allows flow from port 2 to port 1, while port 3 is blocked. In the energized position, flow is allowed from port 1 to port 3, while port 2 is blocked.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 c	ST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	11 L/min (3 USgpm)
Internal leakage (per land)	82 cm³/min (5 in³/min) max. @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-8-3
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0,30 kg (0.66 lbs)
Seal kit	02-160755 (Buna-N), 02-160756 (Viton®) Viton is a registered trademark of E.I. DuPont

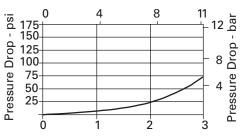
Pressure Drop Curves

Cartridge only

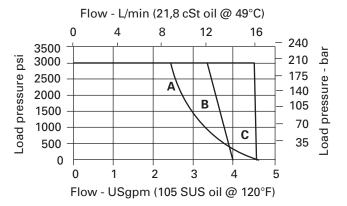
Operating Limits

- A Selector 1 to 3
- **B** Normally Open **C** - Normally closed and
 - Selector 1 to 2

Flow - L/min (21,8 cSt oil @ 49°C)



Flow - USgpm (105 SUS oil @ 120°F)



SV1 -	- 8 (V) -	- 3 (M) -	- (A) ** -	**** * S – 00
	2 3	4 5	6 7	8 9 10 11

1 Function

SV1 - Solenoid valve

2 Size

8 - 8 size

3	Seal	material

Blank - Buna-N V - Viton®

v - vitori

4 Style

3 - 3-way, 2 position

5 Manual override option

Blank - No manual override **M** - Knob type

For valve dimensions with manual override option installed see page A-153.

Dimensions

mm (inch)

Torque cartridge in steel or aluminum housing 34-41 Nm (25-30 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.

WARNING	
Maintain 5-8 Nm	

(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

6 Valve housing material

Omit for cartridge only **A** - Aluminum

7 Port Size

CODE	PORT SIZE	HOUSING NUMBER
0	Cartridge only	
2G	1/4" BSPP	02-160739
3G	3/8" BSPP	02-160740
4T	SAE 4	02-160741
6T	SAE 6	02-160742

See section J for housings.

8 Voltage rating	
Blank - No coil	
12D - 12VDC	
24D - 24VDC	
36D - 36VDC	

24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *0ptional arc suppression diode.

9 Connector types

Blank - No coil

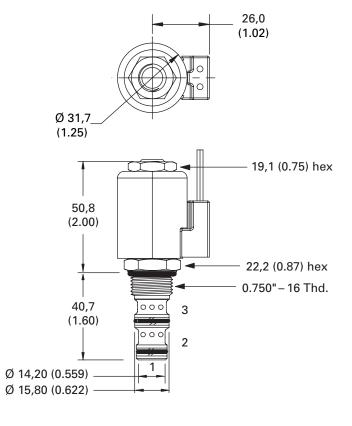
- G ISO 4400 DIN 43650
- **Q** Spade terminals
- W Leadwire
- N Deutsch (DC only)
- Y Amp JR (DC only)
- D Metripack 150 male (DC only)
- J Metripack 280 male (DC only)

10 Coil series

S - 8 series, 20 W

Special features00 - None

(Only required if valve has special features, omitted if "00.")



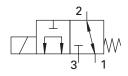
SV11-8-3/3M

3-way, 2-position spool type solenoid valve, 350 bar

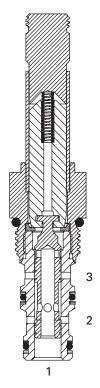
Description

The SV11-8-3 is a 3-way, 2-position, direct acting, spool type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Operation

In the de-energized position, this valve allows flow from port 2 to port 1 while port 3 is blocked. In the energized position, flow is allowed from port 1 to port 3 while port 2 is blocked.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST	(105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)
Rated flow	11 L/min (3 USgpm)
Internal leakage, combined port 2 and port 1	140 cm³/min. (8.5 in³/min.) max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-8-3
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Steel
Weight cartridge only	0,13 kg (0.28 lbs)
Seal kit	02-160755 (Buna-N), 02-160756 (Viton®) Viton is a registered trademark of E.I. DuPont

Performance characteristics

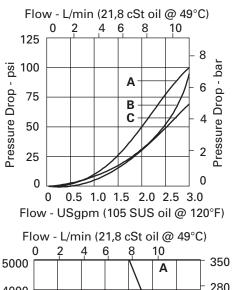
Cartridge only

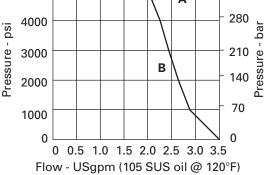
Pressure drop vs. flow

- **A** Port 1 to 2 and 1 to 3 **B** - Port 3 to 1
- **C** Port 2 to 1

Operating Limits

- A Normally open & closed
- B Selector 1 to 2 and 1 to 3





SV11	– 8 (V)	– 3 (M) -	- (S) ** –	**** * P	- 00	
	23	4 5	6 7	8910	11	
 6 Valv Blank - S - Stee	/e housing Cartridge c I	material only				ৃ Bla G -
						Q -

2 Size 8 - 8 size

3 Seal material

Blank - Buna-N V - Viton®

1 Function

SV11 - Solenoid valve

4 Style

3 - 3-way, 2 position

5 Manual override option

Blank - No manual override M - Manual override For valve dimensions with manual override option installed see page A-153.

7 Port Size

CODE	PORT SIZE	HOUSING NUMBER
0	Cartridge only	
2G	1/4" BSPP	02-160743
3G	3/8" BSPP	02-160744
4T	SAE 4	02-160745
6T	SAE 6	02-160746

See section J for housings.

8 Voltage rating 00 - No coil 12D - 12VDC 24D - 24VDC

36D - 36VDC

24A - 24VAC
115A - 115VAC
230A - 230VAC
12B - 12VDC/w diode*
24B - 24VDC/w diode*
*Optional arc suppression diode.

Connector types

ank - No coil - ISO 4400 DIN 43650

- Spade terminals
- W Leadwire
- N Deutsch (DC only)
- **Y** Amp JR (DC only) D - Metripack 150 male
- (DC only)
- J Metripack 280 male (DC only)

10 Coil series

P - 8 series, 23 W

For coil dimensions see Section C.

11 Special features

00 - None (Only required if valve has special features, omitted if "00")

Dimensions

mm (inch)

Torque cartridge in steel or aluminum housing 34-41 Nm (25-30 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, nut is included.

WARNING

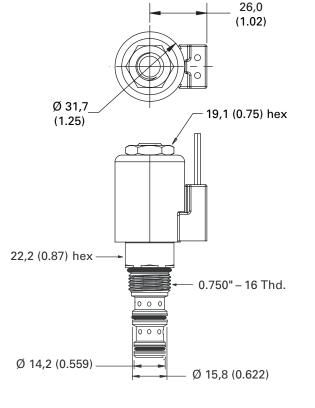
mum torque on valve tube

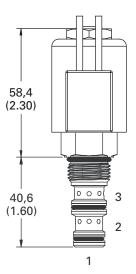
nut. Over tightening may

cause valve failure.

Maintain 5-8 Nm

(4-6 ft. lbs) maxi-



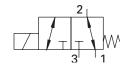


3-way, 2-position, spool type solenoid valve

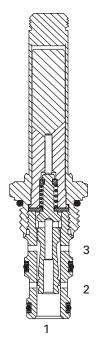
Description

The SV4-8-3 is a 3-way, 2-position, direct acting, spool type solenoid valve.

Functional Symbol



Sectional View



Operation

In the de-energized position, the SV4-8-3 allows flow from port 2 to port 1, while port 3 is blocked. In the energized position, flow is allowed from port 2 to port 3, while blocking port 1. Pressure on port 1 should not exceed 20 bar (300 psi).

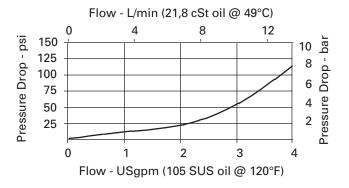
RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	13 L/min (4 USgpm)
Internal leakage	82 cm³/min (5 in³/min) max. @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Response times (100% rated voltage and flow)	Energize: 22 ms De-Energize: 27 ms
Cavity	C-8-3
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0,29 kg (0.64 lbs)
Seal kit	02-160755 (Buna-N), 02-160756 (Viton®) Viton is a registered trademark of E.I. DuPont

Pressure Drop Curve

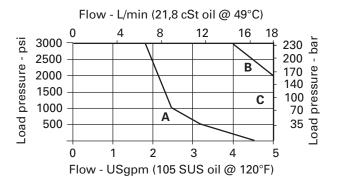
Cartridge only

Port 2 to port 1 and port 2 to port 3



Operating Limits

- A Normally open port 1 to port 2
- **B** Normally closed port 3 to port 1
- C Selector 2 to 1 and 2 to 3



	SV4	I – 8 (V) – 3	(M) – (A) ** – **** * S – 00 	
 Function SV4 - Solenoid valve Size 	Or • • Alu	Ive housing ma nit for cartridge Iminum		 9 Connect Blank - No c G - ISO 4400 Q - Spade te
8 - 8 size	7 Port Size			W - Leadwire N - Deutsch
 3 Seal material Blank - Buna-N V - Viton[®] 	CODE 0 2G 3G	PORT SIZE Cartridge only 1/4" BSPP 3/8" BSPP	HOUSING NUMBER 02-160739 02-160740	 Y - Amp JR D - Metripace (DC only J - Metripace
4 Style	4T	SAE 4	02-160741	(DC only
 3 - 3-way, 2 position Manual override option Blank - No manual override M - Push type For valve dimensions with manual override option installed see page A-152. 	8 Vo 00 - N 12D - 24D -	SAE 6 on J for housings. oltage rating o coil 12VDC 24VDC 24VDC 36VDC	02-160742 24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.	10 Coil serie S - 8 series, For coil dimensions 11 Special f 00 - None (Only require the as special if "0")

Dimensions

mm (inch)

Torque cartridge in aluminum or steel housing 34-41 Nm (25-30 ft. lbs)

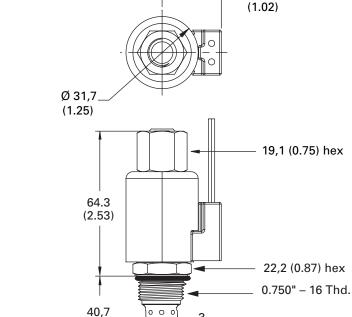
Note

When solenoid valve is ordered as cartridge only, coil nut is included.



WARNING

Maintain 5-8 Nm (4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.



(1.60)

Ø 15,80 (0.622)

3

2

0 0

1

*Optional arc suppression diode.

26,0

tor types coil

- 00 DIN 43650
- erminals
- re
- h (DC only) R (DC only)
- ick 150 male
- y) ick 280 male
- y)

ies

20 W ns see Section C.

features

ed if valve has special features, omitted if "00.")

Ø 14,20 (0.559)

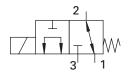
SV1-10-3/3M/3R

3-way, 2-position, spool type solenoid valve

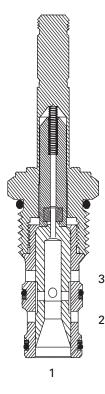
Description

The SV1-10-3 is a 3-way, 2-position, direct acting, spool type screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Operation

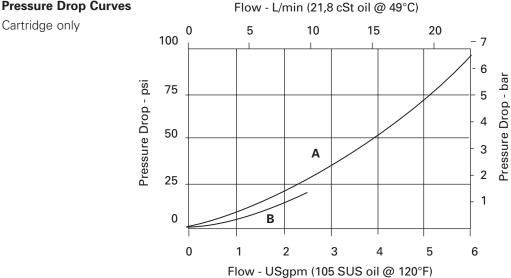
In the de-energized position, this valve allows flow from port 2 to port 1 while port 3 is blocked.

In the energized position, flow is allowed from port 1 to port 3 while port 2 is blocked.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST	(105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm) Max. flow port 1 to 2 – 10 L/min (2.5 USgpm)
Internal leakage	164 cm³/min (10 in³/min) max. @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-3
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0,42 kg (0.93 lbs)
Seal kit	889624 (Buna-N), 889688 (Viton®) Viton is a registered trademark of E.I. DuPont

Pressure Drop Curves



A - Port 3 to port 1 energized

B - Port 1 to port 2 de-energized

SV1 -	10 (V) ·	- 3 (*) -	- ** -	**** *	00
	23	4 5	6	7 8	9

1 Function

SV1	- So	lenoid	valve
-----	------	--------	-------

2	Size
---	------

10 - 10 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style

3 - 3-way, 2 position

5 Manual override option

Blank - No manual override **M** - Knob type **R** - Cable type For valve dimensions with manual override option installed see page A-153.

CODE PORT SIZE **HOUSING NUMBER** 0 Cartridge only 3B 3/8" BSPP 02-173358* **6**T SAE6 566162* 2G 1/4" BSPP 876705 3G 3/8" BSPP 876714 6H SAE 6 876704 8H SAE 8 876711

*Light duty housing. See section J for housings.

6 Port Size

7 Voltage rating 00 - No coil 12D - 12VDC 24D - 24VDC 36D - 36VDC

24A - 24VAC **115A** - 115VAC **230A** - 230VAC **12B** - 12VDC/w diode* **24B** - 24VDC/w diode* *0ptional arc suppression diode.

8 Connector types

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

For coil dimensions see Section C.

9 Special features

00 - None (Only required if valve has special features,

has special features omitted if "00.")

Note

Use J series, 23 W coils with this solenoid valve.

Dimensions

mm (inch)

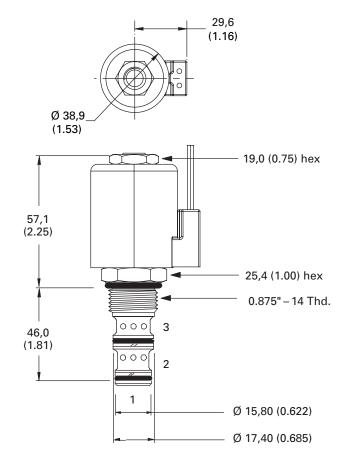
Torque cartridge in aluminum housing 47-54 Nm (35-40 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.



(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.



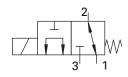
SV11-10-3/3M

3-way, 2-position, spool type solenoid valve, 350 bar

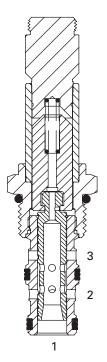
Description

The SV11-10-3 is a 3-way, 2position, direct acting, spool type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Operation

In the de-energized position, this valve allows flow from port 2 to port 1 while port 3 is blocked. In the energized position, flow is allowed from port 1 to port 3 while port 2 is blocked.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (10	05 SUS) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage, port 2 to port 1	164 cm³/min. (10 in³/min.) max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-3
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Steel
Weight cartridge only	0,19 kg (0.42 lbs)
Seal kit	889624 (Buna-N), 889688 (Viton®) Viton is a registered trademark of E.I. DuPont

Pressure Drop Curves

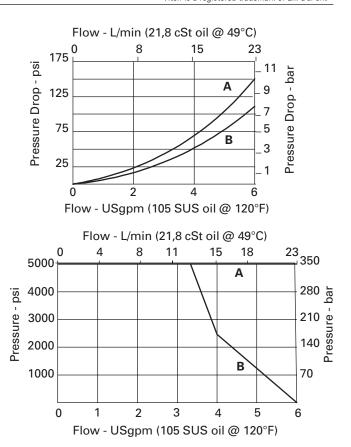
Cartridge only

- A Port 3 to port 1
- B Port 1 to port 2

Operating Limits

A - Normally open, normally closed selector 1 to 2





 Function SV11 - Solenoid valve 		lve housing ma - Cartridge only el	terial	 9 Connector types Blank - No coil G - ISO 4400 DIN 43650
2 Size	7 Po	rt Size		 Q - Spade terminals W - Leadwire
10 - 10 size	CODE	PORT SIZE	HOUSING NUMBER	N - Deutsch (DC only)
3 Seal material	0	Cartridge only		 Y - Amp JR (DC only) D - Metripack 150 male
Blank - Buna-N	2G	1/4" BSPP	02-175127	(DC only)
V - Viton®	3G	3/8" BSPP	02-175128	J - Metripack 280 male (DC only)
4 Style	6T	SAE 6	02-175124	(DC ONIY)
3 - 3-way, 2 position	8T	SAE 8	02-175125	Coil series
5 Manual override option	See section	on J for housings.		H - 10 series, 29 W For coil dimensions see Section C.
For valve dimensions with manual override option installed see page A-153.	24D - 2	o coil 12VDC 24VDC 36VDC	115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *0ptional arc suppression diode.	 Special features O0 - None (Only required if valve has special features, omitted if "00.")
Dimensions mm (inch) Torque cartridge in			29,6 (1.16)	
steel housing 68-75 Nm (50-55 ft. lbs)		<i>a</i>		
(,		Ø 38,9 (1.53)		
Note		(/ 22,2 (0.875) hex	
When solenoid valve is ordered as cartridge only, nut is included.				57,8 (2.28)

000

Ø 15,82 (.623)

Ø 17,42 (.686) -



(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure. 3

2

00

1

(1.81)

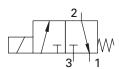
SV4-10-3/3P/3S

3-way, 2-position, spool type solenoid valve

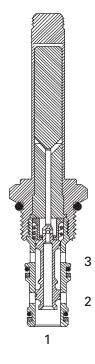
Description

The SV4-10-3 is a 3-way, 2-position, direct acting, spool type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



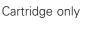
Operation

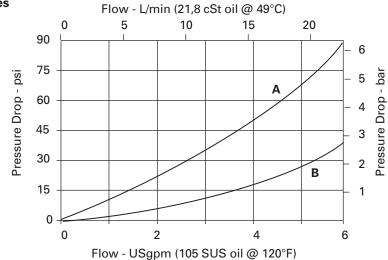
In the de-energized position, this valve allows flow from port 2 to port 1 while port 3 is blocked. In the energized position, flow is allowed from port 2 to port 3 while port 1 is blocked.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST	(105 SUS) and 49°C (120°F)
Typical application pressure * Flow from P1 to P2 must be less than 7,6 L/min (2 USgpm)	210 bar (3000 psi)*
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm) Max. flow port 1 to port 2 - 10 L/min (2.5 USgpm)
Internal leakage	164 cm³/min (10 in³/min) max. @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-3
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0,42 kg (0.93 lbs)
Seal kit	889624 (Buna-N), 889688 (Viton®) Viton is a registered trademark of E.I. DuPont

Pressure Drop Curves





A - Port 3 to port 2 energized

B - Port 2 to port 1 de-energized

SV4 -	- 10 (V) -	- 3 (*) -	- ** -	**** * - 00
				7 8 9

1 Function

SV4 - Solenoid valve

	2	Size
--	---	------

10 - 10 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style

3 - 3-way, 2 position

5 Manual override option

Blank - No manual override

P - Push type

mm (inch)

Note

cause valve failure.

S - Screw type

For valve dimensions with manual override option installed see page A-153.

6 Port Size			
PORT SIZE	HOUSING NUMBER		
Cartridge only			
3/8" BSPP	02-173358*		
SAE6	566162*		
1/4" BSPP	876705		
3/8" BSPP	876714		
SAE 6	876704		
SAE 8	876711		
	PORT SIZE Cartridge only 3/8" BSPP SAE6 1/4" BSPP 3/8" BSPP SAE 6		

*Light duty housing. See section J or housings

7 Voltage rating 00 - No coil 12D - 12VDC 24D - 24VDC

36D - 36VDC

24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.

8 Connector types Blank - No coil

G - ISO 4400 DIN 43650

- **Q** Spade terminals
- W Leadwire
- N Deutsch (DC only)
- **Y** Amp JR (DC only)
- D Metripack 150 male (DC only)
- J Metripack 280 male (DC only)

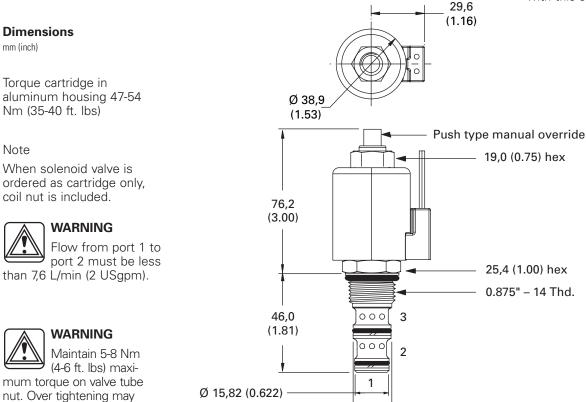
For coil dimensions see Section C.

9 Special features

00 - None (Only required if valve has special features, omitted if "00.")

Note

Use J series, 23 W coils with this solenoid valve.



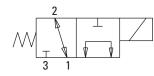
Ø 17,40 (0.685) -

3-way, 2-position, spool type solenoid valve

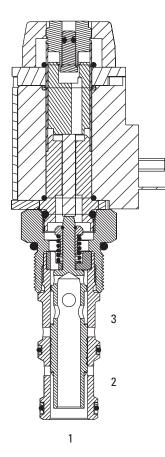
Description

The SV1A/B-12-3 is a 3-way, 2-position, direct acting, spool type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



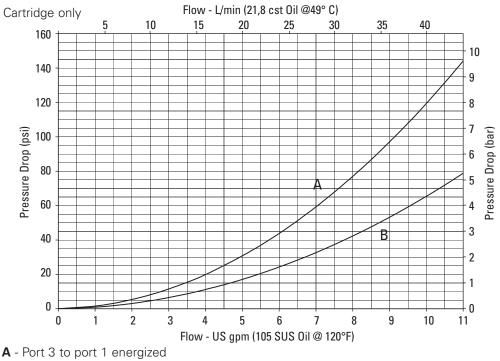
Operation

In the de-energized position, this valve allows flow from port 1 to port 2 while port 3 is blocked. In the energized position, flow is allowed from port 3 to port 1 while port 2 is blocked.

RATINGS AND SPECIFICATIONS

Performance data is	typical with fluid at 21,8 c	ST (105 SUS) and 49°C (120°F)
Typical application pressure		210 bar (3000 psi)
Cartridge fatigue pre	ssure (infinite life)	210 bar (3000 psi)
Rated flow SV	1A-12-3	38 L/min (10 USgpm) Max. flow port 1 to port 2 - 27 L/min (7 USgpm)
SV	1B-12-3	42 L/min (11 USgpm) Max. flow port 1 to port 2 - 34 L/min (9 USgpm)
Internal leakage		300 cm³/min (21.5 in³/min) max. @ 210 bar (3000 psi)
Temperature range		-40° to 120°C (-40° to 248°F)
Coil duty		Continuous from 85% to 110% of nominal voltage
Cavity		C-12-3
Fluids		All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration		Cleanliness code 18/ 16/13
Housing material (sta	andard)	Aluminum
Weight including coil	SV1A-12-3	0,68 kg (1.5 lbs)
	SV1B-12-3	0,86 kg (1.9 lbs)
Seal kit		9900171-000 (Buna-N), 9900172-000 (Viton®) Viton is a registered trademark of E.I. DuPont

Pressure Drop Curves



B - Port 1 to port 2 de-energized

SV1 * – 12 * – 3P – **** – **** * * * * – ** 1 2 3 4 5 6 7 8 9 10 11

PORT SIZE

3/4" BSPP

SAE 12

Cartridge only

Function SV1 - Solenoid value

 001011010	•••

- ² Max Flow
- **A** 38 L/min (10 USgpm) **B** - 42 L/min (11 USgpm)

3 Size

12 - 12 size

4 Seal Material

Blank - Buna-N V - Viton®

V - Viton

5 Style

3P - 3 way, push type manual overide

7 Voltage rating
00 - No coil
12D - 12VDC
24D - 24VDC
24A - 24VAC
110A - 110VAC
115A - 115VAC
12B - 12VDC/w diode*
24B - 24VDC/w diode3
*Optional arc suppression diode.

6 Port Size

CODE

A6G

A12H

0

8 Connector types Blank - No coil G - ISO 4400 DIN 43650 W - Leadwire N - Deutsch (DC only) For coil dimensions see Section C.

02-161816

02-160646

HOUSING NUMBER

9 Coil types

Blank - No coil

- L L series (30W EN 490) used for SV1A-12
- **R** R series (30W) used for SV1B-12

10 Coil special features

Blank - No coil 00 - No special feature

11 Special features

00 - None (Only required if valve has special features, omitted if "00.")

Dimensions

mm (inch)

Torque cartridge in aluminum housing 81-95 Nm (60-70ft. lbs)

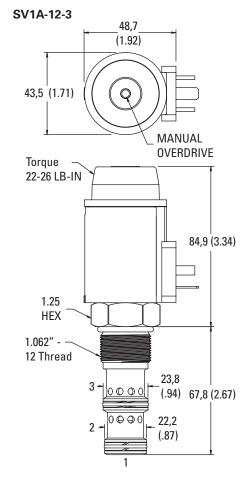
Note

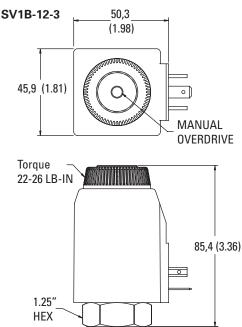
When solenoid valve is ordered as cartridge only, coil nut is included.

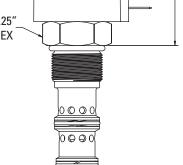


WARNING Maintain 2.5-3 Nm

(1.8-2.2 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.





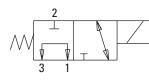


3-way, 2-position, spool type solenoid valve

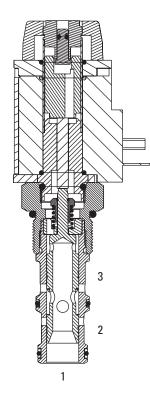
Description

The SV2A/B-12-3 is a 3-way, 2-position, direct acting, spool type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



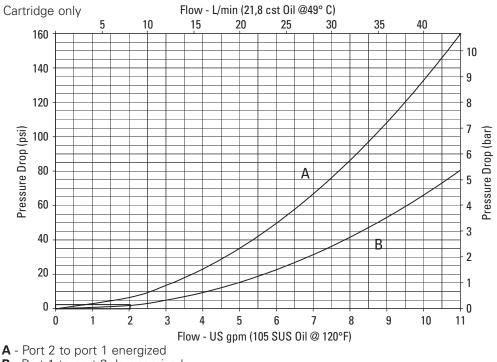
Operation

In the de-energized position, this valve allows flow from port 1 to port 3 while port 2 is blocked. In the energized position, flow is allowed from port 2 to port 1 while port 3 is blocked.

RATINGS AND SPECIFICATIONS

Performance data is t	typical with fluid at 21,8 c	cST (105 SUS) and 49°C (120°F)	
Typical application pressure		210 bar (3000 psi)	
Cartridge fatigue pres	sure (infinite life)	210 bar (3000 psi)	
		30 L/min (8 USgpm) Max. flow port 1 to port 3 - 27 L/min (7 USgpm)	
SV2	2B-12-3	38 L/min (10 USgpm) Max. flow port 1 to port 3 - 34 L/min (9 USgpm)	
Internal leakage		300 cm³/min (21.5 in³/min) max. @ 210 bar (3000 psi)	
Temperature range		-40° to 120°C (-40° to 248°F)	
Coil duty		Continuous from 85% to 110% of nominal voltage	
Cavity		C-12-3	
Fluids		All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.	
Filtration		Cleanliness code 18/ 16/13	
Housing material (sta	ndard)	Aluminum	
Weight including coil	SV2A-12-3	0,68 kg (1.5 lbs)	
	SV2B-12-3	0,86 kg (1.9 lbs)	
Seal kit		9900171-000 (Buna-N), 9900172-000 (Viton®) Viton is a registered trademark of E.I. DuPont	

Pressure Drop Curves



B - Port 1 to port 3 de-energized

SV2 * - 12 * - 3P - **** - **** * * * * - ** 1 2 3 4 5 6 7 8 9 10 11

PORT SIZE

3/4" BSPP

Cartridge only

Function	
SV2 - Solenoid	valve

2 Max Flow

- **A** 30 L/min (8 USgpm)
- **B** 38 L/min (10 USgpm)

3 Size

12 - 12 size

4 Seal Material

- Blank Buna-N V - Viton®
- V Viton

5 Style

3P - 3 way, push type manual overide

7 Voltage rating
00 - No coil
12D - 12VDC
24D - 24VDC
24A - 24VAC
110A - 110VAC
115A - 115VAC

12B - 12VDC/w diode*

24B - 24VDC/w diode*

*Optional arc suppression diode.

6 Port Size

CODE

A6G

A12H

0

SAE 12	02-160646
	 8 Connector types Blank - No coil G - ISO 4400 DIN 43650 W - Leadwire

G - ISO 4400 DIN 43650
 W - Leadwire
 N - Deutsch (DC only)
 For coil dimensions see Section C.

02-161816

HOUSING NUMBER

9 Coil types

- Blank No coil
- L L series (30W EN 490) used for SV2A-12
- **R** R series (30W) used for SV2B-12

10 Coil special features

Blank - No coil **00** - No special feature

11 Special features

00 - None (Only required if valve has special features, omitted if "00.")

Dimensions

mm (inch)

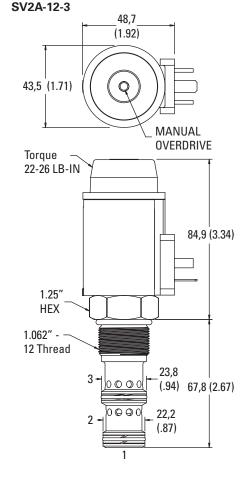
Torque cartridge in aluminum housing 81-95 Nm (60-70ft. lbs)

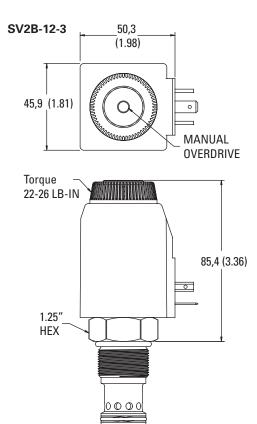
Note

When solenoid valve is ordered as cartridge only, coil nut is included.



(1.8-2.2 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.





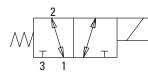
0000

3-way, 2-position, spool type solenoid valve

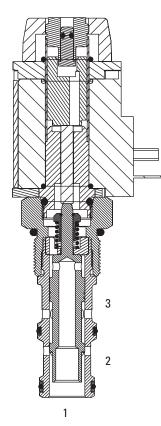
Description

The SV4A/B-12-3 is a 3-way, 2-position, direct acting, spool type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Operation

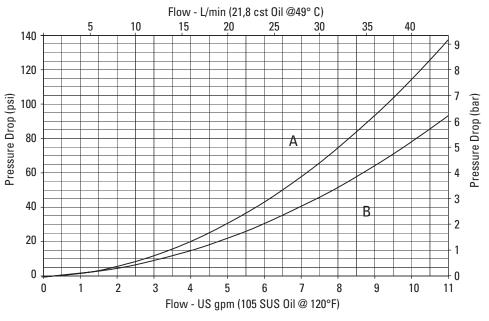
In the de-energized position, this valve allows flow from port 1 to port 3 while port 2 is blocked. In the energized position, flow is allowed from port 2 to port 1 while port 3 is blocked.

RATINGS AND SPECIFICATIONS

cal with fluid at 21,8 c	cST (105 SUS) and 49°C (120°F)		
sure	210 bar (3000 psi)		
re (infinite life)	210 bar (3000 psi)		
12-3 12-3	34 L/min (9 USgpm) 42 L/min (11 USgpm)		
	300 cm³/min (21.5 in³/min) max. @ 210 bar (3000 psi)		
	-40° to 120°C (-40° to 248°F)		
ature range -40° to 120°C (-40° to 248°I Continuous from 85% to 110% of nominal voltag			
Cavity			
	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.		
	Cleanliness code 18/ 16/13		
ard)	Aluminum		
SV4A-12-3	0,68 kg (1.5 lbs)		
SV4B-12-3	0,86 kg (1.9 lbs)		
	9900171-000 (Buna-N), 9900172-000 (Viton®) Viton is a registered trademark of E.I. DuPont		
	re (infinite life) 12-3 12-3 12-3 ard) SV4A-12-3		

Pressure Drop Curves

Cartridge only



A - Port 3 to port 2 energized **B** - Port 2 to port 1 de-energized

SV4 * -	· 12 * -	3P –	**** -	**** * * ** -	**
	34	5	6		11

PORT SIZE

3/4" BSPP

SAE 12

Cartridge only

1	Function	
S٧	4 - Solenoid	valve

Ĩ					
	2	1	Max		0.00
	~		VIdX	- F I	

- **A** 34 L/min (9 USgpm)
- **B** 42 L/min (11 USgpm)

3 Size

12 - 12 size

4 Seal Material

- Blank Buna-N V - Viton®
- V Viton

5 Style

3P - 3 way, push type manual overide

7 Voltage rating
00 - No coil
12D - 12VDC
24D - 24VDC
24A - 24VAC
110A - 110VAC
115A - 115VAC
12B - 12VDC/w diode*

24B - 24VDC/w diode*

*Optional arc suppression diode.

6 Port Size

CODE

A6G

A12H

0

8 Connector types
Blank - No coil
G - ISO 4400 DIN 43650
W - Leadwire
N - Deutsch (DC only)
For coil dimensions see Section C

02-161816

02-160646

HOUSING NUMBER

9 Coil types

Blank - No coil

- L L series (30W EN 490) used for SV4A-12
- **R** R series (30W) used for SV4B-12

10 Coil special features

Blank - No coil **00** - No special feature

11 Special features

00 - None (Only required if valve has special features, omitted if "00.")

Dimensions

mm (inch)

Torque cartridge in aluminum housing 81-95 Nm (60-70ft. lbs)

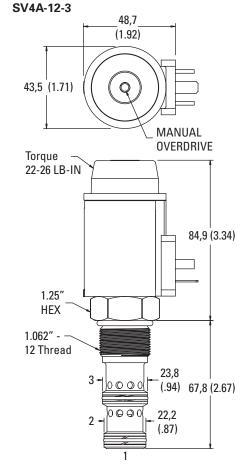
Note

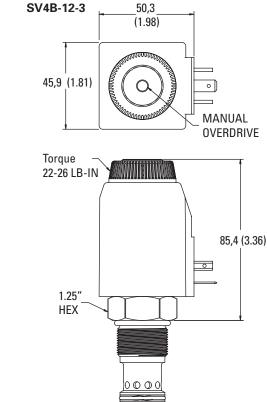
When solenoid valve is ordered as cartridge only, coil nut is included.



WARNING Maintain 2.5-3 Nm

(1.8-2.2 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.





0000

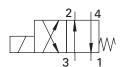
SV1-8-4/4M

4-way, 2-position, spool type

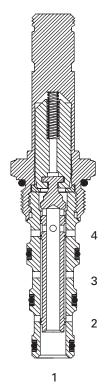
Description

The SV1-8-4 is a 4-way, 2-position, direct acting, spool type solenoid valve.

Functional Symbol



Sectional View

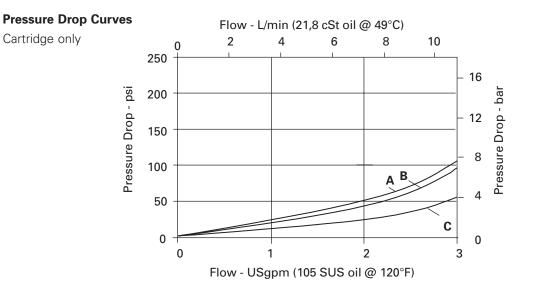


Operation

In the de-energized position, the SV1-8-4 allows flow from port 4 to port 1, and from port 3 to port 2. In the energized position, flow is allowed from port 3 to port 4, and from port 2 to port 1.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (10	5 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	11 L/min (3 USgpm)
Internal leakage (per land)	82 cm³/min (5 in³/min) max. @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-8-4
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0,31 kg (0.69 lbs)
Seal kit	02-160757 (Buna-N), 02-160758 (Viton®) Viton is a registered trademark of E.I. DuPont



A - Port 3 to port 4 or port 3 to port 2

- **B** Port 4 to port 1
- C Port 2 to port 1

SV1 – 8 (V) – 4 (M) – (A) ** – **** * S – 00

1	2 3	4 5	6 7	8 9 10

1 Function

SV1 - Solenoid valve

2 Size

3 Seal material	
Blank - Buna-N	
V - Viton®	

4 Style

4 - 4-way, 2 position

5 Manual override option

Blank - No manual override **M** - Manual override For valve dimensions with manual override option installed see page A-153.

Dimensions

mm (inch)

Torque cartridge in steel or aluminum housing 34-41 Nm (25-30 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.

6 Valve housing material

Omit for cartridge only - Aluminum

7 Port Size

Α

CODE	PORT SIZE	HOUSING NUMBER
0	Cartridge only	
2G	1/4" BSPP	02-160747
3G	3/8" BSPP	02-160748
4T	SAE 4	02-160749
6T	SAE 6	02-160750

See section J for housings.

8 Voltage rating	
00 - No coil 12D - 12VDC	
24D - 24VDC 36D - 36VDC	

24A - 24VAC
115A - 115VAC
230A - 230VAC
12B - 12VDC/w diode*
24B - 24VDC/w diode*
*Optional arc suppression diode.

9 Connector types Blank - No coil

- **G** ISO 4400 DIN 43650
- **Q** Spade terminals
- W Leadwire

11

- N Deutsch (DC only)
- **Y** Amp JR (DC only)
- **D** Metripack 150 male (DC only)
- J Metripack 280 male (DC only)

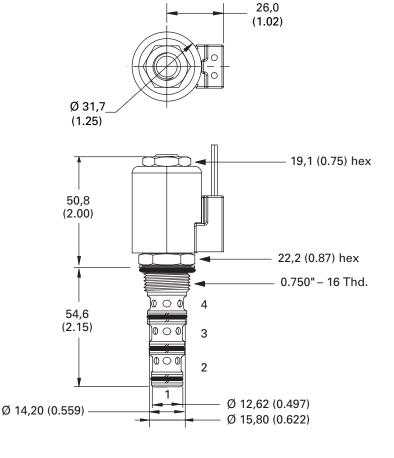
10 Coil series

S - 8 series, 20 W

For coil dimensions see Section C.

11 **00** - None

(Only required if valve has special features, omitted if "00.")



(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

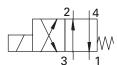
SV11-8-4/4M

4-way, 2-position spool type solenoid valve, 350 bar

Description

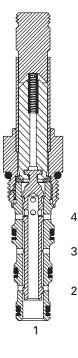
The SV11-8-4 is a 4-way, 2-position, direct acting, spool type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View

A-108



Operation

In the de-energized position, this valve allows flow from port 3 to port 2 and from port 4 to port 1. In the energized position, flow is allowed from port 3 to port 4 and from port 2 to port 1.

RATINGS AND SPECIFICATIONS

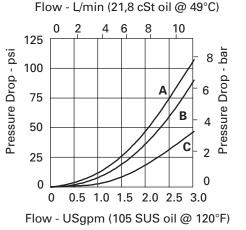
' (105 SUS) and 49°C (120°F)
350 bar (5000 psi)
310 bar (4500 psi)
11 L/min (3 USgpm)
270 cm³/min. (16.5 in³/min.) max @ 350 bar (5000 psi)
-40° to 100°C (-40° to 212°F)
Continuous from 85% to 110% of nominal voltage
C-8-4
All general purpose hydraulic fluids such as MIL-H-5606, SAE 10, SAE 20 etc.
Cleanliness code 18/ 16/13
Steel
0,14 kg (0.30 lbs)
02-160757 (Buna-N), 02-160758 (Viton®) Viton is a registered trademark of E.I. DuPont

Performance Characteristics

Cartridge only

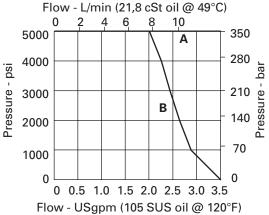
Pressure drop vs. flow

- A Port 3 to 4 and 3 to 2
- **B** Port 4 to 1
- **C** Port 2 to 1



Operating Limits

A - Port 2 to1, 4 to 1, and 3 to 2 **B** - Port 3 to 4



SV11	– 8 (V) -	- 4 (M) -	- (S) ** –	**** * P -	00
	23	4 5	6 7		11

SV11 - Solenoid valve

2 Size

8 - 8 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style

4 - 4-way, 2 position

5 Manual override option

Blank - No manual override M - Manual override For valve dimensions with manual override option installed see page A-153.

⁶ Valve housing material Blank - Cartridge only S - Steel

7 Port Size

CODE	PORT SIZE	HOUSING NUMBER
0	Cartridge only	

0	Cartridge only	
2G	1/4" BSPP	02-160751
3G	3/8" BSPP	02-160752
4T	SAE 4	02-160753
6T	SAE 6	02-160754

See section J for housings.

 8 Voltage rating 00 - No coil 12D - 12VDC 24D - 24VDC 24D - 24VDC 	24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode*
36D - 36VDC	24B - 24VDC/w diode* *Optional arc suppression diode.

9 Connector types

Blank - No coil G - ISO 4400 DIN 43650

- **Q** Spade terminals W - Leadwire
- N Deutsch (DC only)
- **Y** Amp JR (DC only) D - Metripack 150 male
- (DC only)

J - Metripack 280 male (DC only)

10 Coil series

P - 8 series, 23 W

For coil dimensions see Section C.

Special features

00 - None (Only required if valve has special features, omitted if "00.")

Dimensions

mm (inch)

Torque cartridge in aluminum or steel housing 34-41 Nm (25-30 ft. lbs)

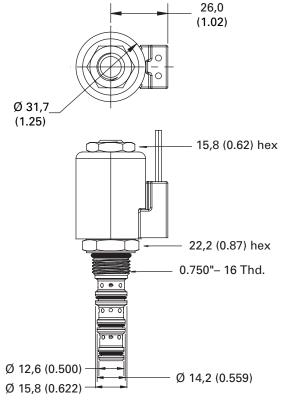
Note

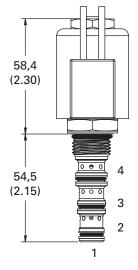
When solenoid valve is ordered as cartridge only, nut is included.

WARNING
Maintain 5-8

Maintain 5-8 Nm

9 (4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.



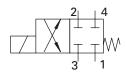


4-way, 2-position spool type solenoid valve

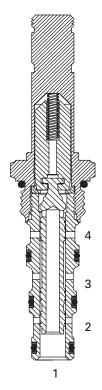
Description

The SV2-8-4 is a four-way, two-position, direct acting, spool-type solenoid valve.

Functional Symbol



Sectional View



Operation

The SV2-8-4 has all ports blocked in the de-energized position.

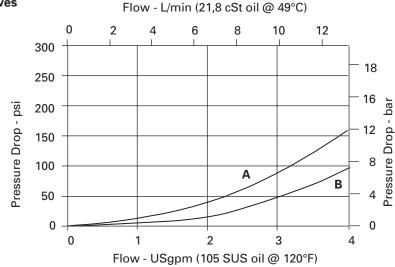
In the energized position, flow is allowed from port 2 to port 1, and from port 3 to port 4.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	13 L/min (4 USgpm)
Internal leakage	82 cm³/min (5 in³/min) max. @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Response times (100% rated voltage and flow)	Energize: 21 ms De-Energize: 42 ms
Cavity	C-8-4
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0,30 kg (0.66 lbs)
Seal kit	02-160757 (Buna-N), 02-160758 (Viton®) Viton is a registered trademark of E.I. DuPont

Pressure Drop Curves

Cartridge only



A - Port 3 to port 4 **B** - Port 2 to port 1

	SV2 –	8 (V) – 4 (IV 2 3 4 5	1) - (A) ** - **** * S - 00 	
Function SV2 - Solenoid valve Size				 9 Connector types Blank - No coil G - ISO 4400 DIN 43650 Conde terminal
2 Size 8 - 8 size				 Q - Spade terminals W - Leadwire
	CODE	PORT SIZE	HOUSING NUMBER	 N - Deutsch (DC only) Y - Amp JR (DC only)
3 Seal material	0	Cartridge only		D - Metripack 150 male
Blank - Buna-N	2G	1/4" BSPP	02-160747	(DC only)
V - Viton®	3G	3/8" BSPP	02-160748	J - Metripack 280 male
4 Style	4T	SAE 4	02-160749	— (DC only)
4 - 4-way, 2 position	6T	SAE 6	02-160750	10 Series Coil
5 Manual override option	See sec	tion J for housings.		S - 8 series, 20 W For coil dimensions see Section C.
Blank - No manual override M - Manual override For valve dimensions with manual override option installed see page A-153.	00 - N 12D - 24D -	Voltage rating No coil 12VDC 24VDC 36VDC	24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.	11 Special features 00 - None (Only required if valve has special features, omitted if "00.")

Dimensions

mm (inch)

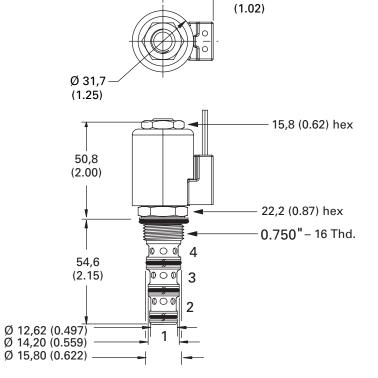
Torque cartridge in aluminum or steel housing 34-41 Nm (25-30 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.

WARNING
Maintain 5-8 Nm

(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.



- 26,0

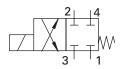
SV12-8-4/4M

4-way, 2-position spool type solenoid valve, 350 bar

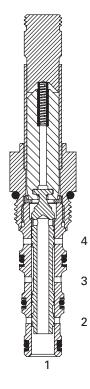
Description

The SV12-8-4 is a 4-way, 2-position, direct acting, spool type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Operation

In the de-energized position all ports are blocked. In the energized position, flow is allowed from port 3 to port 4 and from port 2 to port 1.

RATINGS AND SPECIFICATIONS

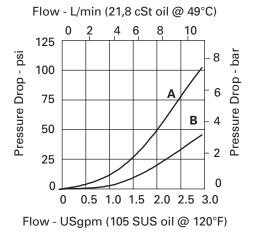
Performance data is typical with fluid at 21,8 cS	T (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)
Rated flow	13 L/min (3.5 USgpm)
Internal leakage, port 2 to port 1	82 cm³/min. (5 in³/min.) max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-8-4
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Steel
Weight cartridge only	0,14 kg (0.30 lbs)
Seal kit	02-160757 (Buna-N), 02-160758 (Viton®) Viton is a registered trademark of E.I. DuPont

Performance Characteristics

Cartridge only

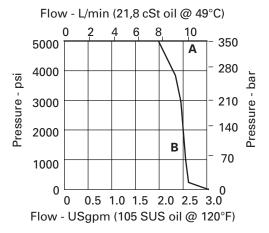
Pressure drop vs. flow

- A Port 3 to port 4
- **B** Port 2 to port 1



Operating Limits

A - Port 2 to port 1 **B** - Port 3 to port 4



S L	SV12 – 8 (V) – 4 (M 1 2 3 4 5) – (S) ** – **** * P – 0()
1 Function SV12 - Solenoid valve	6 Valve housing mat Blank - Cartridge only S - Steel	erial	 Connector types Blank - No coil G - ISO 4400 DIN 43650
2 Size 8 - 8 size	7 Port Size		 Q - Spade terminals W - Leadwire N - Deutsch (DC only)
 3 Seal material Blank - Buna-N V - Viton[®] 4 Style 	CODEPORT SIZE0Cartridge only2G1/4" BSPP3G3/8" BSPP4TSAE 4	HOUSING NUMBER 02-160751 02-160752 02-160753	Y - Amp JR (DC only) D - Metripack 150 male (DC only) J - Metripack 280 male (DC only)
 4 - 4-way, 2 position 5 Manual override option Blank - No manual override 	6T SAE 6 See page J-13 for housings.	02-160754 24A - 24VAC	10 Coil series P - 8 series, 23 W For coil dimensions see Section C.
M - Manual override For valve dimensions with manual override option installed see page A-153.	8 Voltage rating 00 - No coil 12D - 12VDC 24D - 24VDC 36D - 36VDC	115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.	 Special features None (Only required if valve has special features, omitted if "00.")
Dimensions mm (inch)	-	29,6 (1.16)	
Torque cartridge in aluminum or steel housing 34-41 Nm (25-30 ft. lbs)	Ø 38,9_ (1.53)		
Note When solenoid valve is ordered as cartridge only, nut is included.		22,2 (0.87) hex 0.750" – 16 Thd.	58,4 (2.30) 54,5 (2.15) 500 3
WARNING	Ø 12,6 (0.500) Ø 15,8 (0.622)	Ø 14,2 (0.559)	1

WARNING Maintain 5-8 Nm (4-6 ft. lbs) maximum torque on valve tube

nut. Over tightening may cause valve failure.

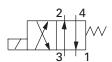
SV1-10-4/4M/4R

4-way, 2-position spool type solenoid valve

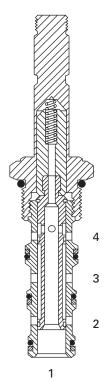
Description

The SV1-10-4 is a 4-way, 2-position, direct acting, spool type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



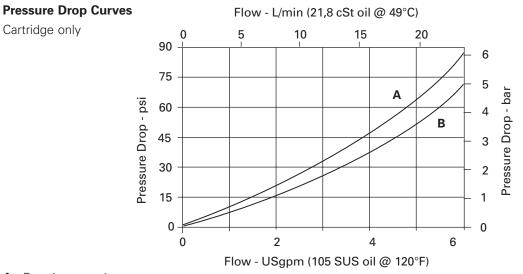
Operation

In the de-energized position, this valve allows flow from port 2 to port 3 and from port 4 to port 1.

In the energized position, flow is allowed from port 3 to port 4 and from port 4 to port 1.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (10	05 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	164 cm³/min (10 in³/min) max. @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-4
Fluids	All general purpose hydraulic fluids such as MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0,44 kg (0.96 lbs)
Seal kit	889625 (Buna-N), 566080 (Viton®) Viton is a registered trademark of E.I. DuPont



A - Port 4 to port 1 B - Port 3 to port 2

Cartridge only

SV1 -	- 10 (V) ·	- 4 (*) -	- ** -	**** * - 00
	23			

SV1 - Solenoid valve

[2	Size
---	---	------

10 - 10 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style

4 - 4-way, 2 position

5 Manual override option

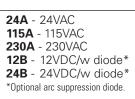
Blank - No manual override M - Knob type R - Cable type For valve dimensions with manual override option installed see page A-153.

6 Port Size

	0120	
CODE	PORT SIZE	HOUSING NUMBER
0	Cartridge only	
3B	3/8" BSPP	02-179705*
6T	SAE6	566161*
2G	1/4" BSPP	876709
3G	3/8" BSPP	876715
6H	SAE 6	876708
8H	SAE 8	876713

*Light duty housing. See section J for housings.

7 Voltage rating **00** - No coil 12D - 12VDC 24D - 24VDC 36D - 36VDC



8 Connector types Blank - No coil

- G ISO 4400 DIN 43650
- **Q** Spade terminals
- W Leadwire
- N Deutsch (DC only)
- **Y** Amp JR (DC only)
- D Metripack 150 male
- (DC only)

J - Metripack 280 male (DC only)

For coil dimensions see Section C.

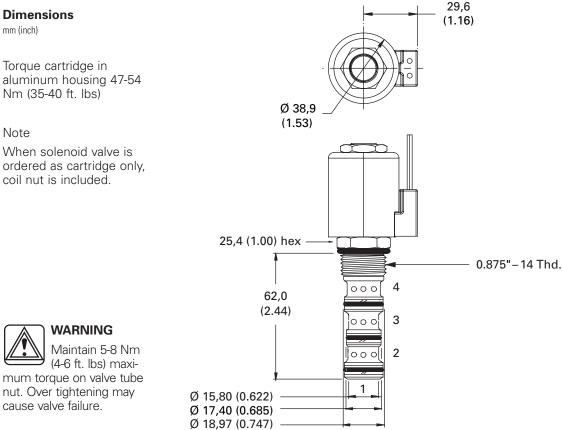
9 Special features

00 - None

(Only required if valve has special features, omitted if "00.")

Note

Use J series, 23 W coils with this solenoid valve.



EATON Vickers Screw-In Cartridge Valves V-VLOV-MC001-E3 January 2006

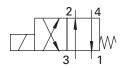
SV11-10-4/4M

4-way 2-position spool type solenoid valve, 350 bar

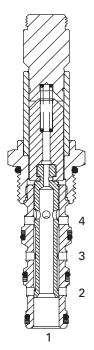
Description

The SV11-10-4 is a 4-way, 2position, direct acting, spool type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



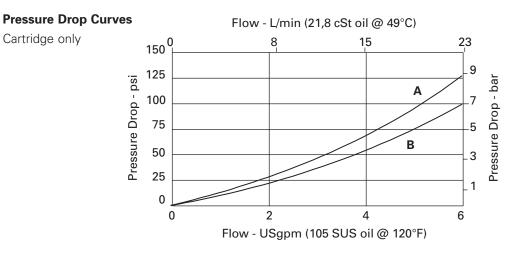
Operation

In the de-energized position, this valve allows flow from port 3 to port 2 and from port 4 to port 1.

In the energized position, flow is allowed from port 3 to port 4 and from port 2 to port 1.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cS	T (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage, port 2 to port 1	82 cm³/min. (5 in³/min.) max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-4
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Steel
Weight cartridge only	0,21 kg (0.46 lbs)
Seal kit	889625 (Buna-N), 566080 (Viton®) Viton is a registered trademark of E.I. DuPont Co



A - Port 3 to port 2 **B** - Port 4 to port 1

Cartridge only

 Function SV11 - Solenoid valve 	6 Valve ho Blank - Omit S - Steel			 Connector types Blank - No coil G - ISO 4400 DIN 43650
2 Size				— Q - Spade terminals
0 - 10 size	7 Port Siz			W - Leadwire N - Deutsch (DC only)
Seal material			HOUSING NUMBER	Y - Amp JR (DC only)
		ridge only BSPP	02-175139	D - Metripack 150 male (DC only)
- Viton®		BSPP	02-175140	J - Metripack 280 male
1 Style	6T SAE		02-175137	(DC only)
- 4-way, 2-position	8T SAE		02-175138	10 Coil series
	See section J for			H - 10 series, 29 W
Manual override option		0		For coil dimensions see Section C.
1 - Manual override	8 Voltage	rating	24A - 24VAC 115A - 115VAC	
or valve dimensions with manual	00 - No coil	-	230A - 230VAC	Special features 00 - None
verride option installed see page A-153.	12D - 12VD 24D - 24VD		12B - 12VDC/w diode*	(Only required if valve
	36D - 36VD		24B - 24VDC/w diode* *Optional arc suppression diode.	has special features,
				omitted if "00.")
			29,6 (1.16)	
Vimensions m (inch)				
orque cartridge in				
teel housing 68-75 Nm				
50-55 ft. lbs)		Ø 38,		22,2 (0.875) hex
		(1.53	3)	/
ote				
Vhen solenoid valve is				
rdered as cartridge only,				57,8
ut is included.				(2.28)
	25 4 (1	.00) hex -		
	20,7 (1			
			0.875" – 14 Thd.	
				61,8
				(2.43) 3
WARNING				
Maintain 5-8 Nm				

Maintain 5-8 Nm (4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

Ø 16,0 (.63) -

Ø 19,2 (.76) -

Ø 17,6 (.70)

1

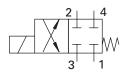
SV2-10-4/4M/4R

4-way, 2-position spool type solenoid valve

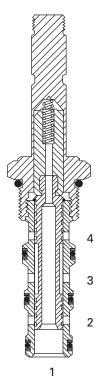
Description

The SV2-10-4 is a 4-way, 2-position, direct acting, spool type screw-in car-tridge solenoid valve.

Functional Symbol



Sectional View



Operation

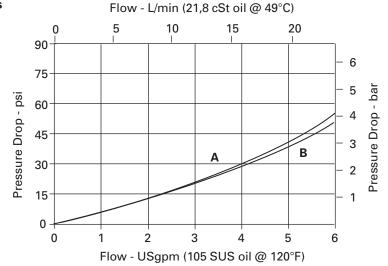
In the de-energized position, all ports are blocked. In the energized position, port 3 is open to port 4 and port 2 is open to port 1.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cS	ST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	164 cm³/min (10 in³/min) max. @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-4
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0,44 kg (0.96 lbs)
Seal kit	889625 (Buna-N), 566080 (Viton®) Viton is a registered trademark of E.I. DuPont

Pressure Drop Curves

Cartridge only



A - Port 3 to port 4 **B** - Port 1 to port 2

SV2 -	• 10 (V) •	- 4 (*) -	- ** -	**** * - 00
		4 5		

SV2 - Solenoid valve

	2	Size
--	---	------

10 - 10 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style

4 - 4-way, 2 position

5 Manual override option

Blank - No manual override M - Knob type R - Cable type For valve dimensions with manual override option installed see page A-153.

6 Port Size

	0.20	
CODE	PORT SIZE	HOUSING NUMBER
0	Cartridge only	
3B	3/8" BSPP	02-179705*
6T	SAE6	566161*
2G	1/4" BSPP	876709
3G	3/8" BSPP	876715
6H	SAE 6	876708
8H	SAE 8 876713	

*Light duty housing. See section J for housings.

7 Voltage rating **00** - No coil 12D - 12VDC 24D - 24VDC

36D - 36VDC

24A - 24VAC 115A - 115VAC 230A - 230VAC **12B** - 12VDC/w diode* **24B** - 24VDC/w diode* *Optional arc suppression diode.

8 Connector types

Blank - No coil G - ISO 4400 DIN 43650

- **Q** Spade terminals
- W Leadwire
- N Deutsch (DC only)
- **Y** Amp JR (DC only)
- D Metripack 150 male
- (DC only)
- J Metripack 280 male (DC only)

For coil dimensions see Section C.

9 Special features

00 - None

(Only required if valve has special features, omitted if "00.")

Note

Use J series, 23 W coils with this solenoid valve.

Dimensions

mm (inch)

Torque cartridge in aluminum housing 47-54 Nm (35-40 ft. lbs)

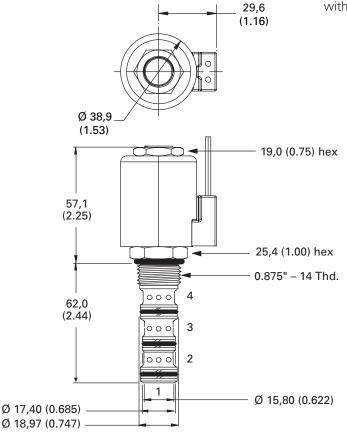
Note

When solenoid valve is ordered as cartridge only, coil nut is included.



Maintain 5-8 Nm (4-6 ft. lbs) maximum torque on valve tube

nut. Over tightening may cause valve failure.



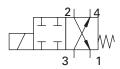
SV3-10-4/4M/4R

4-way, 2-position spool type solenoid valve

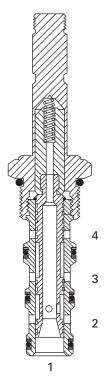
Description

The SV3-10-4 is a 4-way, 2-position, direct acting, spool type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



Operation

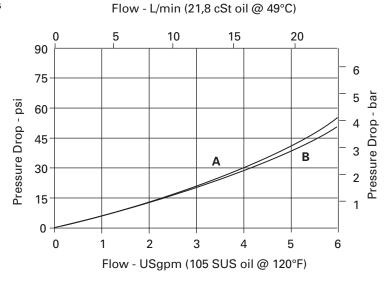
In the de-energized position, port 3 is open to port 4 and port 2 is open to port 1. In the energized position all ports are blocked.

RATINGS AND SPECIFICATIONS

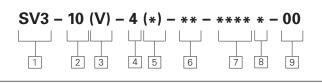
Performance data is typical with fluid at 21,8 cS	CT (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	164 cm³/min (10 in³/min) max. @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-4
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0,44 kg (0.96 lbs)
Seal kit	889625 (Buna-N), 566080 (Viton®) Viton is a registered trademark of E.I. DuPont

Pressure Drop Curves

Cartridge only



A - Port 3 to port 4 **B** - Port 1 to port 2



SV3 - Solenoid valve

	2	Size
--	---	------

10 - 10 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style

4 - 4-way, 2 position

5 Manual override option

Blank - No manual override M - Knob type **R** - Cable type For valve dimensions with manual override option installed see page A-153.

6 Port Size				
CODE	PORT SIZE	HOUSING NUMBER		
0	Cartridge only			
3B	3/8" BSPP	02-179705*		
6T	SAE6	566161*		
2G	1/4" BSPP	876709		
3G	3/8" BSPP	876715		
6H	SAE 6	876708		
8H	SAE 8	876713		

*Light duty housing. See section J for housings.

Voltage rating 00 - No coil

12D - 12VDC 24D - 24VDC 36D - 36VDC

24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.

8 Connector types

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

For coil dimensions see Section C.

9 Special features

00 - None (Only required if valve has special features, omitted if "00.")

Note

Use J series, 23 W coils with this solenoid valve.



mm (inch)

Torque cartridge in aluminum housing 47-54 Nm (35-40 ft. lbs)

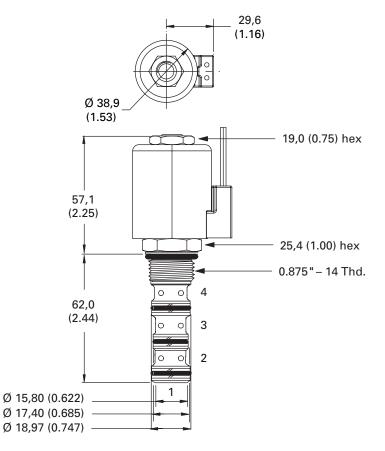
Note

When solenoid valve is ordered as cartridge only, coil nut is included.

N
Ν
$(\Delta$

VARNING /laintain 5-8 Nm (4-6 ft. lbs) maxi-

mum torque on valve tube nut. Over tightening may cause valve failure.



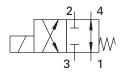
SV4-10-4/4M/4R

4-way, 2-position spool type solenoid valve

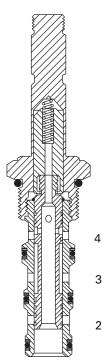
Description

The SV4-10-4 is a 4-way, 2-position, direct acting, spool type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



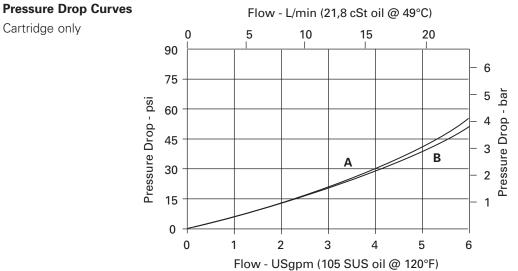
Operation

In the de-energized position, flow is allowed between port 1 and port 4 while port 2 and port 3 are blocked.

In the energized position port 3 is open to port 4 and port 2 is open to port 1.

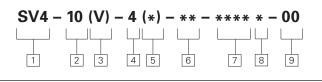
RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cS	ST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	164 cm³/min (10 in³/min) max. @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-4
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0,44 kg (0.96 lbs)
Seal kit	889625 (Buna-N), 566080 (Viton®) Viton is a registered trademark of E.I. DuPont



A - Port 3 to port 4 **B** - Port 1 to port 2

Cartridge only



SV4 - Solenoid valve

2	Size
---	------

10 - 10 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style

4 - 4-way, 2 position

5 Manual override option

Blank - No manual override **M** - Knob type **R** - Cable type For valve dimensions with manual override option installed see page A-153.

Dimensions

mm (inch)

Torque cartridge in aluminum housing 47-54 Nm (35-40 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, nut is included.

WARNING Maintain 5-8 Nm

(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

6	Port Size	
---	-----------	--

CODE	PORT SIZE	HOUSING NUMBER	
0	Cartridge only		
3B	3/8" BSPP	02-179705*	
6T	SAE6	566161*	
2G	1/4" BSPP	876709	
3G	3/8" BSPP	876715	
6H	SAE 6	876708	
8H	SAE 8	876713	
			_

*Light duty housing. See section J for housings.

7 Voltage rating00 - No coil

12D - 12VDC **24D** - 24VDC **36D** - 36VDC

24A - 24VAC **115A** - 115VAC **230A** - 230VAC **12B** - 12VDC/w diode* **24B** - 24VDC/w diode* *Optional arc suppression diode.

8 Connector types Blank - No coil

- G ISO 4400 DIN 43650
- **Q** Spade terminals
- W Leadwire
- **N** Deutsch (DC only)
- **Y** Amp JR (DC only)
- **D** Metripack 150 male
- (DC only)
- J Metripack 280 male (DC only)
- For coil dimensions see Section C.

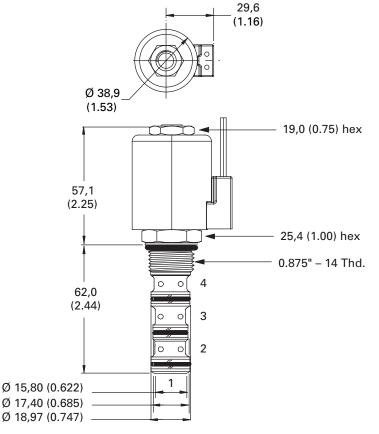
9 Special features

00 - None

(Only required if valve has special features, omitted if "00.")

Note

Use J series, 23 W coils with this solenoid valve.



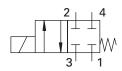
SV5-10-4/4M/4R

4-way, 2-position spool type solenoid valve

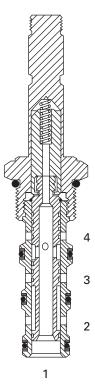
Description

The SV5-10-4 is a 4-way, 2-position, direct acting, spool type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View

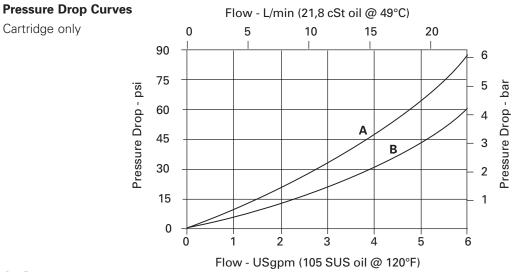


Operation

In the de-energized position, all ports are blocked. In the energized position port 2 is open to port 3 and port 1 is open to port 4.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cS	T (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	164 cm³/min (10 in³/min) max. @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-4
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0,44 kg (0.96 lbs)
Seal kit	889625 (Buna-N), 566080 (Viton [®]) Viton is a registered trademark of E.I. DuPont



A - Port 1 to port 4 **B** - Port 3 to port 2

SV5 -	- 10 (V) -	- 4 (*) -	- ** -	**** * - 00
1		4 5		

SV5 - Solenoid valve

2 Size

10 - 10 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style

4 - 4-way, 2 position

5 Manual override option

Blank - No manual override M - Knob type R - Cable type

For valve dimensions with manual override option installed see page A-153.

Dimensions

mm (inch)

Torque cartridge in aluminum housing 47-54 Nm (35-40 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.



Maintain 5-8 Nm (4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

6 Port Size

CODE	PORT SIZE	HOUSING NUMBER
0	Cartridge only	
3B	3/8" BSPP	02-179705*
6Т	SAE6	566161*
2G	1/4" BSPP	876709
3G	3/8" BSPP	876715
6H	SAE 6	876708
8H	SAE 8	876713

*Light duty housing. See section J for housings.

7 Voltage rating

00 - No coil 12D - 12VDC 24D - 24VDC 36D - 36VDC

24A - 24VAC 115A - 115VAC 230A - 230VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.

8 Connector types Blank - No coil

- G ISO 4400 DIN 43650
- **Q** Spade terminals
- W Leadwire
- N Deutsch (DC only)
- **Y** Amp JR (DC only)
- D Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

For coil dimensions see Section C.

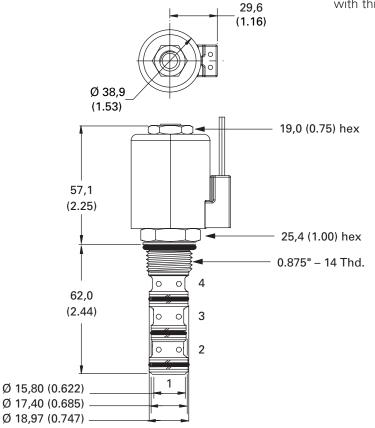
9 Special features

00 - None

(Only required if valve has special features, omitted if "00.")

Note

Use J series, 23 W coils with this solenoid valve.



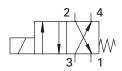
SV7-10-4/4P/4S

4-way, 2-position spool type solenoid valve

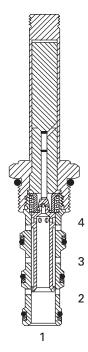
Description

The SV7-10-4 is a 4-way, 2-position, direct acting, spool type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View

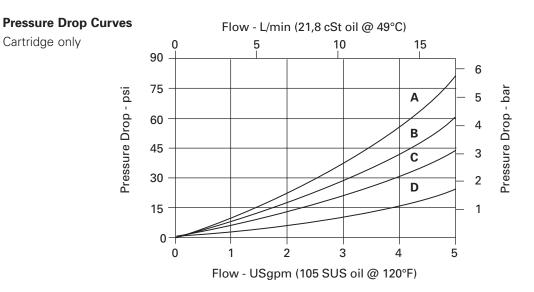


Operation

In the de-energized position, port 3 is open to port 4 and port 2 is open to port 1.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (1	05 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	17 L/min (5 USgpm)
Internal leakage	164 cm³/min (10 in³/min) max. @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-4
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0,44 kg (0.96 lbs)
Seal kit	889625 (Buna-N), 566080 (Viton [®]) Viton is a registered trademark of E.I. DuPont



A - Port 4 to port 1 energized

B - Port 3 to port 2 energized

- C Port 3 to port 4 de-energized
- D Port 2 to port 1 de-energized

SV7 -	- 10 (V) -	- 4 (*) -	- ** -	**** * - 00
	23	4 5	6	7 8 9

SV7 - Solenoid valve

2 Size

10 - 10 size

3 Seal material

Blank - Buna-N **V** - Viton[®]

4 Style

4 - 4-way, 2 position

5 Manual override option

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

For valve dimensions with manual override option installed see page A-152.

Dimensions

mm (inch)

Torque cartridge in housing 47-54 Nm (35-40 ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.

W
N
(/

WARNING Maintain 5-8 Nm

(4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

6 Port Size			
CODE	PORT SIZE	HOUSING NUMBER	
0	Cartridge only		
3B	3/8" BSPP	02-179705*	
6T	SAE6	566161*	
2G	1/4" BSPP	876709	
3G	3/8" BSPP	876715	
6H	SAE 6	876708	
8H	SAE 8	876713	

*Light duty housing. See section J for housings.

7 Voltage rating

00 - No coil 12D - 12VDC 24D - 24VDC 36D - 36VDC

24A - 24VAC **115A** - 115VAC **230A** - 230VAC **12B** - 12VDC/w diode* **24B** - 24VDC/w diode* *0ptional arc suppression diode.

Connector types Blank - No coil G - ISO 4400 DIN 43650

Q - Spade terminals

- **U** Spade term
- W Leadwire
- **N** Deutsch (DC only)
- **Y** Amp JR (DC only) **D** - Metripack 150 male
- D Metripack 150 male (DC only)
- J Metripack 280 male (DC only)

For coil dimensions see Section C.

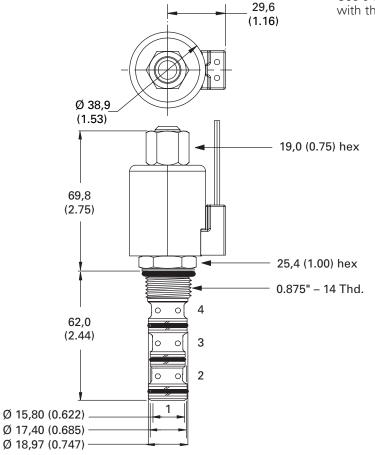
9 Special features

00 - None

(Only required if valve has special features, omitted if "00.")

Note

Use J series, 23 W coils with this solenoid valve.



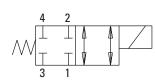
SV2A/B-12-4

4-way, 2-position, spool type solenoid valve

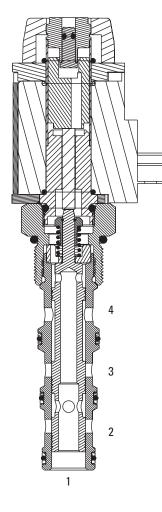
Description

The SV2A/B-12-4 is a 4-way, 2-position, direct acting, spool type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



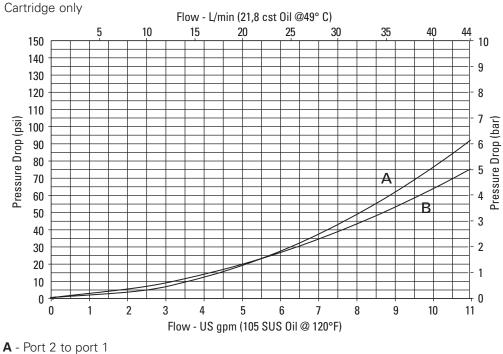
Operation

In the de-energized position, all ports are blocked. In the energized position, port 3 is open to port 4 and port 2 is open to port 1.

RATINGS AND SPECIFICATIONS

Performance data is	typical with fluid at 21,8 c	ST (105 SUS) and 49°C (120°F)		
Typical application p	ressure	210 bar (3000 psi)		
Cartridge fatigue pre	essure (infinite life)	210 bar (3000 psi)		
	/2A-12-4 /2B-12-4	34 L/min (9 USgpm) 42 L/min (11 USgpm)		
Internal leakage		300 cm³/min (21.5 in³/min) max. @ 210 bar (3000 psi)		
Temperature range	-40° to 120°C (-40° to 1			
Coil duty		Continuous from 85% to 110% of nominal voltage		
Cavity		C-12-4		
Fluids		All general purpose hydraulic fluids such as MIL-H-5606, SAE 10, SAE 20 etc.		
Filtration		Cleanliness code 18/ 16/13		
Housing material (sta	andard)	Aluminum		
Weight including coi	l SV2A-12-4 SV2B-12-4	0,68 kg (1.5 lbs) 0,86 kg (1.9 lbs)		
Seal kit	2160979 (Buna-N), 2160980 (Vit Viton is a registered trademark of E.I. D			

Pressure Drop Curves



B - Port 3 to port 4

SV2 * -	12 * -	4P –	**** -	****	* * ** -	- **
		5	6	7	8910	11

2 Max Flow

- A 34 L/min (9 USgpm)
- **B** 42 L/min (11 USgpm)

3 Size

12 - 12 size

4 Seal Material

Blank - Buna-N V - Viton®

5 Style

4P - 4 way, push type manual overide

Dimensions	
mm (inch)	

Torque cartridge in aluminum housing 81-95 Nm (60-70ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.



Maintain 2.5-3 Nm (1.8-2.2 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

6 Port Size

	0	
CODE	PORT SIZE	HOUSING NUMBER
0	Cartridge only	
A6G	3/4" BSPP	5986432-001
A10H	SAE 10	5986434-001
A12H	SAE 12	5986436-001

7 Voltage rating

00 - No coil 12D - 12VDC 24D - 24VDC 24A - 24VAC 110A - 110VAC 115A - 115VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.

8 Connector types Blank - No coil G - ISO 4400 DIN 43650 W - Leadwire N - Deutsch (DC only) For coil dimensions see Section C.

9 Coil types

Blank - No coil

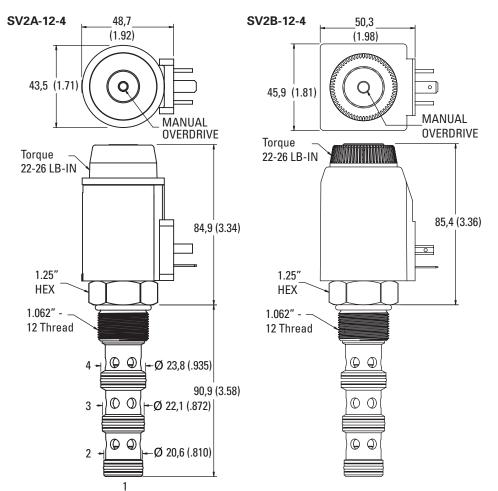
- L L series (30W EN 490) used for SV2A-12
- R R series (30W) used for SV2B-12

10 Coil special features

Blank - No coil 00 - No special feature

11 Special features

00 - None (Only required if valve has special features, omitted if "00.")



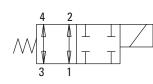
SV3A/B-12-4

4-way, 2-position, spool type solenoid valve

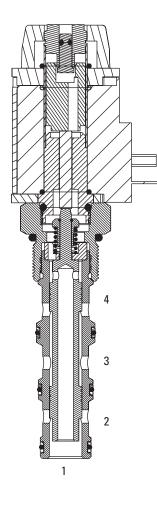
Description

The SV3A/B-12-4 is a 4-way, 2-position, direct acting, spool type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



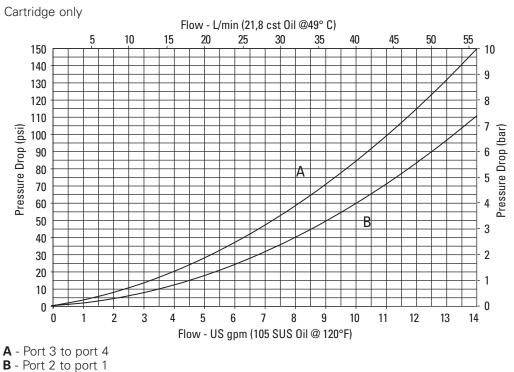
Operation

In the de-energized position, port 3 is open to port 4 and port 2 is open to port 1. In the energized position, all ports are blocked.

RATINGS AND SPECIFICATIONS

Performance data is ty	pical with fluid at 21,8 d	cST (105 SUS) and 49°C (120°F)		
Typical application pres	ssure	210 bar (3000 psi)		
Cartridge fatigue press	ure (infinite life)	210 bar (3000 psi)		
	l-12-4 8-12-4	46 L/min (12 USgpm) 53 L/min (14 USgpm)		
Internal leakage		300 cm³/min (21.5 in³/min) max. @ 210 bar (3000 psi)		
Temperature range		-40° to 120°C (-40° to 248°F)		
Coil duty		Continuous from 85% to 110% of nominal voltage		
Cavity		C-12-4		
Fluids		All general purpose hydraulic fluids such as MIL-H-5606, SAE 10, SAE 20 etc.		
Filtration		Cleanliness code 18/ 16/13		
Housing material (stand	lard)	Aluminum		
Weight including coil	SV3A-12-4 SV3B-12-4	0,68 kg (1.5 lbs 0,86 kg (1.9 lbs		
Seal kit	2160979 (Buna-N), 2160980 (Vito Viton is a registered trademark of E.I. Du			

Pressure Drop Curves



SV3 * -	12 * -	4P –	**** -	****	* * ** -	- **
		5	6	7	8910	11

SV3 - Solenoid valve	ļ
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2 Max Flow

- A 46 L/min (12 USgpm)
- B 53 L/min (14 USgpm)

3 Size

12 - 12 size

4 Seal Material

Blank - Buna-N V - Viton®

5 Style

4P - 4 way, push type manual overide

Dimensions

mm (inch)

Torque cartridge in aluminum housing 81-95 Nm (60-70ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.



Maintain 2.5-3 Nm (1.8-2.2 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

6 Port Size

CODE	PORT SIZE	HOUSING NUMBER
0	Cartridge only	
A6G	3/4" BSPP	5986432-001
A10H	SAE 10	5986434-001
A12H	SAE 12	5986436-001
-		

7 Voltage rating

00 - No coil 12D - 12VDC 24D - 24VDC 24A - 24VAC 110A - 110VAC 115A - 115VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.

8 Connector types Blank - No coil G - ISO 4400 DIN 43650 W - Leadwire N - Deutsch (DC only) For coil dimensions see Section C.

9 Coil types

Blank - No coil

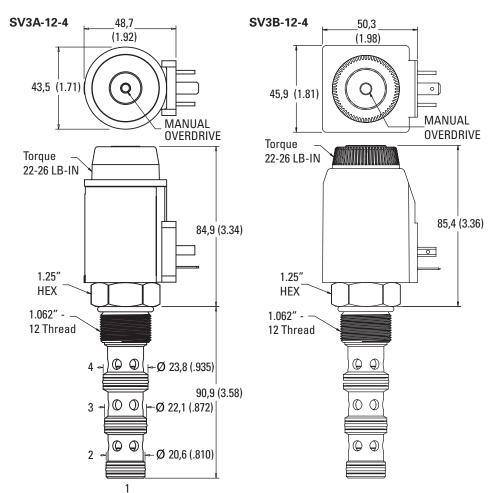
- L L series (30W EN 490) used for SV3A-12
- R R series (30W) used for SV3B-12

10 Coil special features

Blank - No coil 00 - No special feature

11 Special features

00 - None (Only required if valve has special features, omitted if "00")



SV5A/B-12-4

4-way, 2-position, spool type solenoid valve

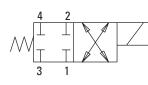
Description

The SV5A/B-12-4 is a 4-way, 2-position, direct acting, spool type, screw-in cartridge solenoid valve.

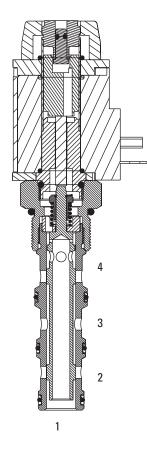
Operation

In the de-energized position, all ports are blocked. In the energized position, port 3 is open to port 2 and port 4 is open to port 1.

Functional Symbol



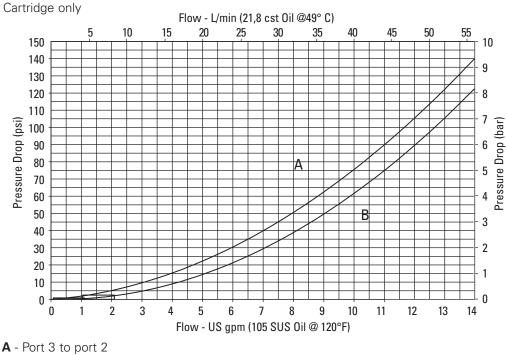
Sectional View



RATINGS AND SPECIFICATIONS

Performance data is ty	pical with fluid at 21,8	cST (105 SUS) and 49°C (120°F)			
Typical application pre	ssure	210 bar (3000 psi)			
Cartridge fatigue press	ure (infinite life)	210 bar (3000 psi)			
	A-12-4 3-12-4	46 L/min (12 USgpm) 53 L/min (14 USgpm)			
Internal leakage		300 cm³/min (21.5 in³/min) max. @ 210 bar (3000 psi)			
Temperature range		-40° to 120°C (-40° to 248°F)			
Coil duty		Continuous from 85% to 110% of nominal voltage			
Cavity		C-12-4			
Fluids		All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.			
Filtration		Cleanliness code 18/ 16/13			
Housing material (stan	dard)	Aluminum			
Weight including coil	SV5A-12-4 SV5B-12-4	0,68 kg (1.5 lbs) 0,86 kg (1.9 lbs)			
Seal kit		2160979 (Buna-N), 2160980 (Viton®) Viton is a registered trademark of E.I. DuPont			

Pressure Drop Curves



B - Port 4 to port 1

SV5 * -	12 * -	4P –	**** -	****	* * ** -	- **
	34	5	6		8910	11

2 Max Flow

- A 46 L/min (12 USgpm)
- B 53 L/min (14 USgpm)

3 Size

12 - 12 size

4 Seal Material

Blank - Buna-N V - Viton®

5 Style

4P - 4 way, push type manual overide

Dimensions

mm (inch)

Torque cartridge in aluminum housing 81-95 Nm (60-70ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.



Maintain 2.5-3 Nm (1.8-2.2 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

6 Port Size

CODE	PORT SIZE	HOUSING NUMBER
0	Cartridge only	
A6G	3/4" BSPP	5986432-001
A10H	SAE 10	5986434-001
A12H	SAE 12	5986436-001

7 Voltage rating

00 - No coil 12D - 12VDC 24D - 24VDC 24A - 24VAC 110A - 110VAC 115A - 115VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.

8 Connector types Blank - No coil G - ISO 4400 DIN 43650 W - Leadwire N - Deutsch (DC only) For coil dimensions see Section C.

9 Coil types

Blank - No coil

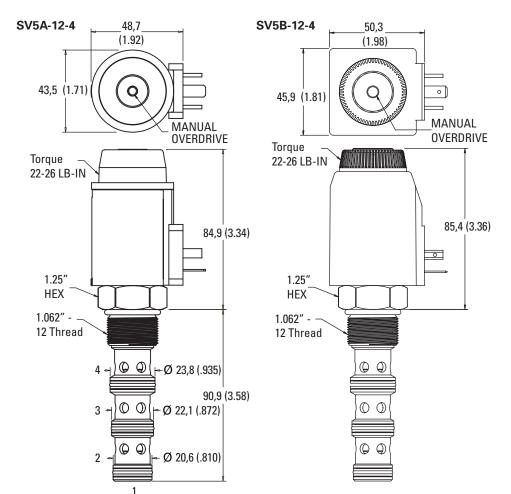
- L L series (30W EN 490) used for SV5A-12
- R R series (30W) used for SV5B-12

10 Coil special features

Blank - No coil 00 - No special feature

11 Special features

00 - None (Only required if valve has special features, omitted if "00")



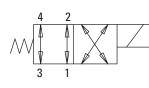
EATON Vickers Screw-In Cartridge Valves V-VLOV-MC001-E3 January 2006

4-way, 2-position, spool type solenoid valve

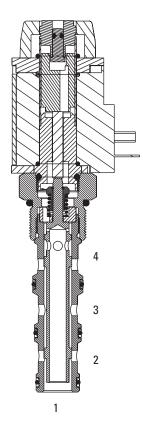
Description

The SV7A/B-12-4 is a 4-way, 2-position, direct acting, spool type, screw-in cartridge solenoid valve.

Functional Symbol



Sectional View



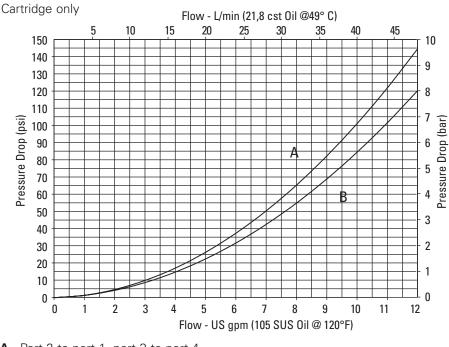
Operation

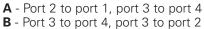
In the energized position, port 3 is open to port 4 and port 2 is open to port 1. In the de-energized position, port 3 is open to port 2 and port 4 is open to port 1.

RATINGS AND SPECIFICATIONS

Performance data is ty	pical with fluid at 21,8 c	cST (105 SUS) and 49°C (120°F)
Typical application pressure		210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)		210 bar (3000 psi)
	A-12-4 B-12-4	38 L/min (10 USgpm) 46 L/min (12 USgpm)
Internal leakage		300 cm³/min (21.5 in³/min) max. @ 210 bar (3000 psi)
Temperature range		-40° to 120°C (-40° to 248°F)
Coil duty		Continuous from 85% to 110% of nominal voltage
Cavity		C-12-4
Fluids		All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration		Cleanliness code 18/ 16/13
Housing material (stan	dard)	Aluminum
Weight including coil	SV2A-12-4 SV2B-12-4	0,68 kg (1.5 lbs) 0,86 kg (1.9 lbs)
Seal kit		2160979 (Buna-N), 2160980 (Viton [®]) Viton is a registered trademark of E.I. DuPont

Pressure Drop Curves





SV7 ∗ – 12 ∗	• – 4P – **	** - ****	* * * ** - *	*
		3 7		1

SV7 - Sc	lenoid	valve
-----------------	--------	-------

2 Max Flow

- **A** 38 L/min (10 USgpm)
- **B** 46 L/min (12 USgpm)

3 Size

12 - 12 size

4 Seal Material

Blank - Buna-N V - Viton®

V - Viton[®]

5 Style

4P - 4 way, push type manual overide

Dimensions

mm (inch)

Torque cartridge in aluminum housing 81-95 Nm (60-70ft. lbs)

Note

When solenoid valve is ordered as cartridge only, coil nut is included.

WARNING Maintain 2.5-3 Nm

(1.8-2.2 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

6 Port Size

	•	
CODE	PORT SIZE	HOUSING NUMBER
0	Cartridge only	
A6G	3/4" BSPP	5986432-001
A10H	SAE 10	5986434-001
A12H	SAE 12	5986436-001

7 Voltage rating

00 - No coil 12D - 12VDC 24D - 24VDC 24A - 24VAC 110A - 110VAC 115A - 115VAC 12B - 12VDC/w diode* 24B - 24VDC/w diode* *0ptional arc suppression diode.

Connector types Blank - No coil G - ISO 4400 DIN 43650 W - Leadwire N - Deutsch (DC only) For coil dimensions see Section C.

9 Coil types

Blank - No coil

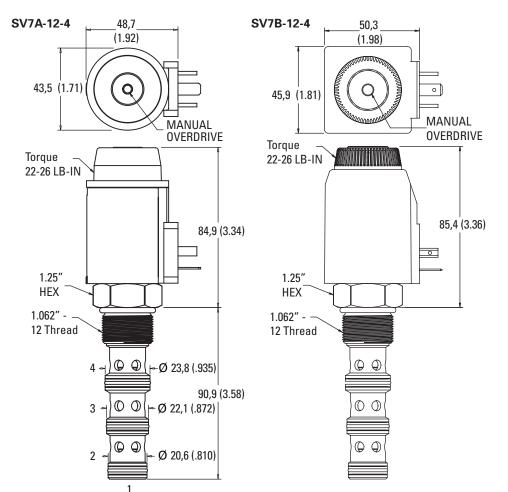
- L L series (30W EN 490) used for SV7A-12
- **R** R series (30W) used for SV7B-12

10 Coil special features

Blank - No coil 00 - No special feature

11 Special features

00 - None (Only required if valve has special features, omitted if "00.")

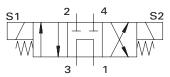


4-Way, 3-position, screw-in cartridge solenoid valve

Description

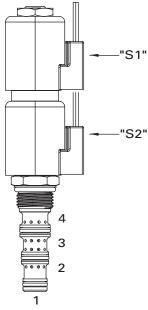
The SV9-8-A is a 4-way, 3-position, direct acting, spool type directional control valve.

Functional Symbol



Profile View

A-136



Operation

In the de-energized position, this valve allows flow from port 3 to port 1 and blocks ports 2 and 4. When solenoid 1 (S1) is energized, flow is directed from port 3 to port 2 and from port 4 to port 1. When solenoid 2 (S2) is energized, flow is directed from port 3 to port 4 and from port 2 to port 1.

RATINGS AND SPECIFICATIONS

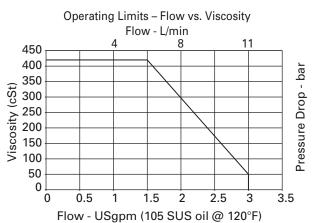
Performance data is typical with fluid at 21,8 c	ST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Fatigue pressure	3,000 psi per NFPA/T2-6-1 R2-2000
Rated burst pressure	11,000 psi per NFPA/T2-6-1 R2-2000
Max flow	See operating limits below
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Coil power	23W
Cavity	C-8-4
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	(1.2 lbs)
Seal kit	02-160757 (Buna-N), 02-160758 (Viton®) Viton is a registered trademark of E.I. DuPont
Internal leakage	164 cm³/min (10 in³/min) max. @ 210 bar (3000 psi)
	•

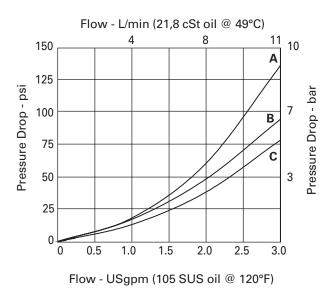
Endurance tested to 1 million cycles at full rated flow and pressure.

Performance Characteristics

Cartridge only

- A Port 3 to port 2 or port 4
- **B** Port 3 to port 1 de-energized
- **C** Port 2 or port 4 to port 1



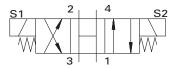


4-Way, 3-position, screw-in cartridge solenoid valve

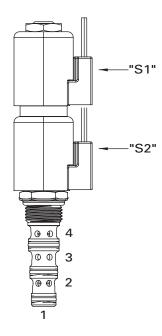
Description

The SV9-8-B is a 4-way, 3-position, direct acting, spool type directional valve.

Functional Symbol



Profile View



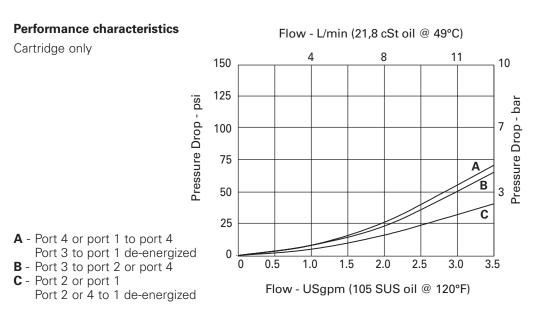
Operation

In the de-energized position, all ports are open to each other. When solenoid 1 (S1) is energized, flow is directed from port 3 to port 4 and from port 2 to port 1. When solenoid 2 (S2) is energized, flow is directed from port 3 to port 2 and from port 4 to port 1.

RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 c	ST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Fatigue pressure	3,000 psi per NFPA/T2-6-1 R2-2000
Rated burst pressure	11,000 psi per NFPA/T2-6-1 R2-2000
Max flow	13.2 L/min (3.5 USgpm)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Coil power	23W
Cavity	C-8-4
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	(1.2 lbs)
Seal kit	02-160757 Buna-N, 02-160758 (Viton®) Viton is a registered trademark of E.I. DuPont
Internal leakage	164 cm³/min (10 in³/min) max. @ 210 bar (3000 psi)
Endurance tested to 1 million cycles at full rate	d flow and pressure

Endurance tested to 1 million cycles at full rated flow and pressure.

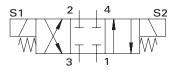


4-Way, 3-position, screw-in cartridge, solenoid valve

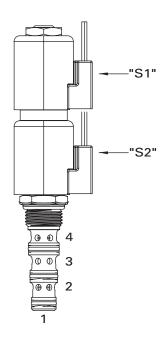
Description

The SV9-8-E is a 4-way, 3-position, direct acting, spool type directional valve.

Functional Symbol



Profile View



Operation

In the de-energized (center) position, all ports are blocked. When solenoid 1 (S1) is energized, flow is directed from port 3 to port 4 and from port 2 to port 1. When solenoid 2 (S2) is energized, flow is directed from port 3 to port 2 and from port 4 to port 1.

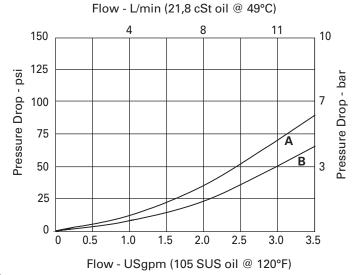
RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)		
Typical application pressure (all ports)	210 bar (3000 psi)	
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)	
Fatigue pressure	3,000 psi per NFPA/T2-6-1 R2-2000	
Rated burst pressure	11,000 psi per NFPA/T2-6-1 R2-2000	
Max flow	13.2 L/min (3.5 USgpm)	
Temperature range	-40° to 120°C (-40° to 248°F)	
Coil duty	Continuous from 85% to 110% of nominal voltage	
Coil power	23W	
Cavity	C-8-4	
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.	
Filtration	Cleanliness code 18/ 16/13	
Housing material (standard)	Aluminum	
Weight including coil	(1.2 lbs)	
Seal kit	02-160757 (Buna-N), 02-160758 (Viton®) ®Viton is a registered trademark of E.I. DuPont	
Internal leakage	164 cm³/min (10 in³/min) max. @ 210 bar (3000 psi)	

Endurance tested to 1 million cycles at full rated flow and pressure.

Pressure Drop Curves

Cartridge only



A - Port 3 to port 2 or port 4 **B** - Port 2 to port 4 or port 1 4-Way, 3-position, screw-in cartridge, solenoid valve

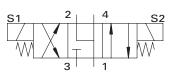
Description

The SV9-8-F is a 4-way, 3-position, direct acting, spool type directional valve.

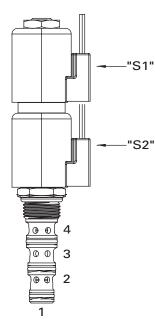
Operation

In the de-energized (center) position, port 1, port 2, and port 4 are open to each other while port 3 is blocked. When solenoid 1 (S1) is energized, flow is directed from port 3 to port 4 and from port 2 to port 1. When solenoid 2 (S2) is energized, flow is directed from port 3 to port 2 and from port 4 to port 1.

Functional Symbol



Profile View

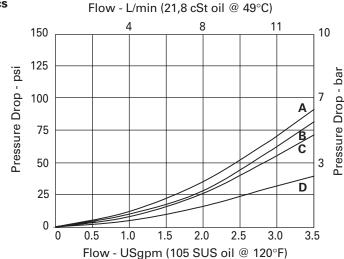


RATINGS AND SPECIFICATIONS	
Performance data is typical with fluid at 21,8 c	ST (105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Fatigue pressure	3,000 psi per NFPA/T2-6-1 R2-2000
Rated burst pressure	11,000 psi per NFPA/T2-6-1 R2-2000
Max flow	13.2 L/min (3.5 USgpm)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Coil power	23W
Cavity	C-8-4
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	(1.2 lbs)
Seal kit	02-160757 (Buna-N), 02-160758 (Viton®) ®Viton is a registered trademark of E.I. DuPont
Internal leakage	164 cm³/min (10 in³/min) max. @ 210 bar (3000 psi)

Endurance tested to 1 million cycles at full rated flow and pressure.

Performance Characteristics

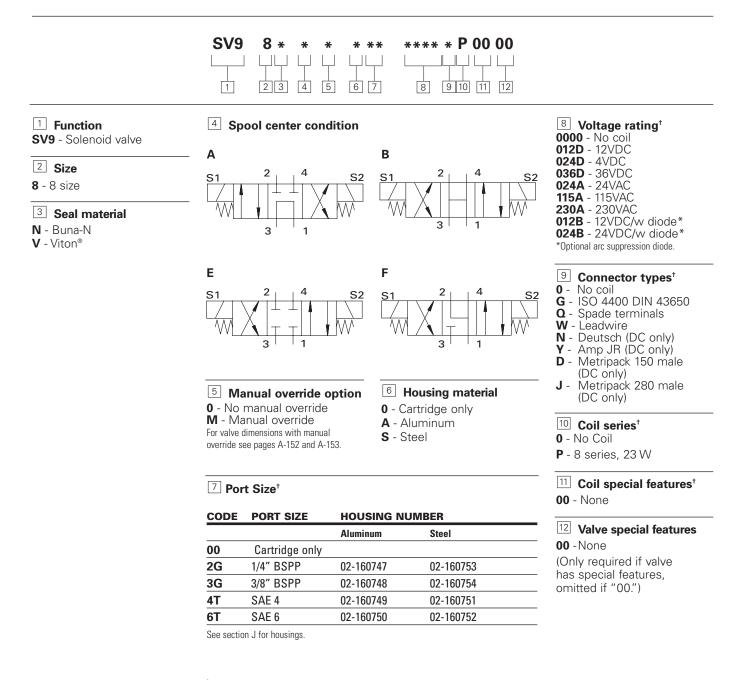
Cartridge only



de-energized **B** - Port 3 to port 2 or port 4 to port 1

A - Port 4 or port 1

- C Port 2 or port 1 de-energized
- **D** Port 2 or 1



[†]These model digits are not stamped on the valve.

Dimensions

mm (inch)

Torque cartridge in aluminum or steel housing 34-41 Nm (25-30 ft. lbs).

Valve is shown with "W" coil. See other coils in Section C.

Ø 31,7

Note

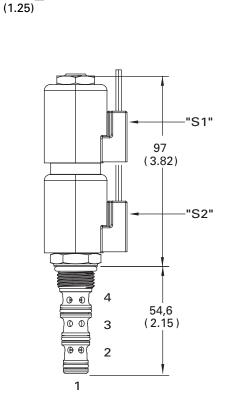
When solenoid valve is ordered as cartridge only, coil nut is included.

When solenoid valve is ordered without coils, it will be supplied with only the nut. The spacer must be ordered separately.

This valve uses the P series, 8 size, 23 W coil.

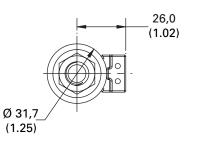
SPARE PARTS

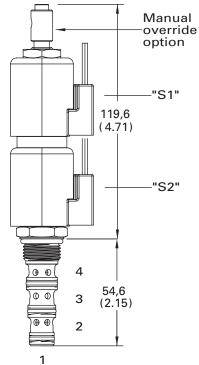
Coil nut	565558
Coil spacer	02-186730



26,0

(1.02)







WARNING

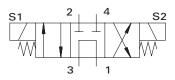
Maintain 5-8 Nm (4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

4-Way, 3-position, screw-in cartridge solenoid valve

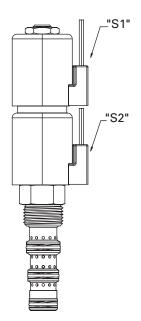
Description

The SV9-10-A is a 4-way, 3-position, direct acting, spool type directional control valve.

Functional Symbol



Profile View



Operation

In the de-energized position, this valve allows flow from port 3 to port 1 and blocks ports 2 and 4. When solenoid 1 (S1) is energized, flow is directed from port 3 to port 2 and from port 4 to port 1. When solenoid 2 (S2) is energized, flow is directed from port 3 to port 4 and from port 2 to port 1.

RATINGS AND SPECIFICATIONS

210 bar (3000 psi) 210 bar (3000 psi) 3,000 psi per NFPA/T2-6-1 R2-2000 (626 bar) 9090 psi per NFPA/T2-6-1 R2-2000 5 USgpm
3,000 psi per NFPA/T2-6-1 R2-2000 (626 bar) 9090 psi per NFPA/T2-6-1 R2-2000
(626 bar) 9090 psi per NFPA/T2-6-1 R2-2000
· ·
5 USgpm
-40° to 120°C (-40° to 248°F)
Continuous from 85% to 110% of nominal voltage
26W
C-10-4
All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Cleanliness code 18/ 16/13
Aluminum
0.95Kg (2.1 lbs)
889625 (Buna-N), 566080 (Viton [®]) Viton is a registered trademark of E.I. DuPont
246 cm³/min (15 in³/min) max. @ 210 bar (3000 psi)

Endurance tested to 1 million cycles at full rated flow and pressure.

Performance Characteristics

Cartridge only

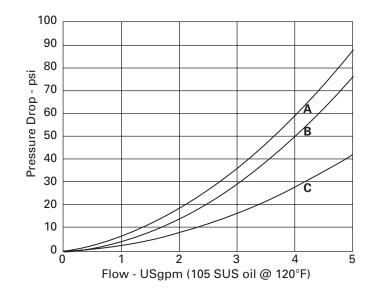
A - Port 3 to port 1,

de-energized **B** - Port 3 to port 2,

C - Port 2 to port 1,

port 3 to port 4

port 4 to port 1

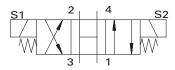


4-Way, 3-position, screw-in cartridge solenoid valve

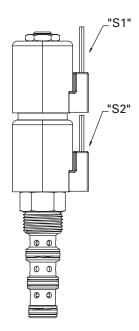
Description

The SV9-10-B is a 4-way, 3-position, direct acting, spool type directional valve.

Functional Symbol



Profile View



Operation

In the de-energized position, all ports are open to each other. When solenoid 1 (S1) is energized, flow is directed from port 3 to port 4 and from port 2 to port 1. When solenoid 2 (S2) is energized, flow is directed from port 3 to port 2 and from port 4 to port 1.

RATINGS AND SPECIFICATIONS

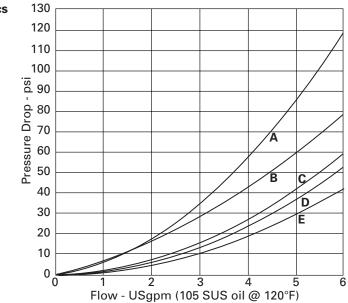
T (105 SUS) and 49°C (120°F)
210 bar (3000 psi)
210 bar (3000 psi)
3,000 psi per NFPA/T2-6-1 R2-2000
(626 bar) 9090 psi per NFPA/T2-6-1 R2-2000
6 USgpm
-40° to 120°C (-40° to 248°F)
Continuous from 85% to 110% of nominal voltage
26W
C-10-4
All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Cleanliness code 18/ 16/13
Aluminum
0.95 Kg (2.1 lbs)
889625 Buna-N, 566080 (Viton®) Viton is a registered trademark of E.I. DuPont
246 cm³/min (15 in³/min) max. @ 210 bar (3000 psi)

Endurance tested to 1 million cycles at full rated flow and pressure.

Performance characteristics

Cartridge only

- A Port 3 to port 1, de-energized
- **B** Port 3 to port 2, port 3 to port 4
- C Port 4 to port 1, port 2 to port 1, de-energized
- **D** Port 2 to port 1
- E Port 4 to port 1

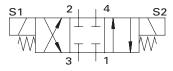


4-Way, 3-position, screw-in cartridge, solenoid valve

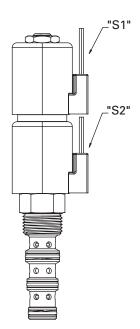
Description

The SV9-10-E is a 4-way, 3-position, direct acting, spool type directional valve.

Functional Symbol



Profile View



Operation

In the de-energized (center) position, all ports are blocked. When solenoid 1 (S1) is energized, flow is directed from port 3 to port 4 and from port 2 to port 1. When solenoid 2 (S2) is energized, flow is directed from port 3 to port 2 and from port 4 to port 1.

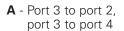
RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST (10	95 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Fatigue pressure	3,000 psi per NFPA/T2-6-1 R2-2000
Rated burst pressure	(626 bar) 9090 psi per NFPA/T2-6-1 R2-2000
Max flow	6 USsgpm
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Coil power	26W
Cavity	C-10-4
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0.95 Kg (2.1 lbs)
Seal kit	889625 (Buna-N), 566080 (Viton®) ®Viton is a registered trademark of E.I. DuPont
Internal leakage	246 cm³/min (15 in³/min) max. @ 210 bar (3000 psi)

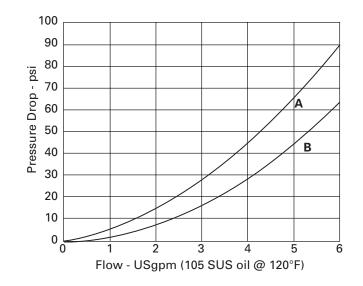
Endurance tested to 1 million cycles at full rated flow and pressure.

Pressure Drop Curves

Cartridge only



B - Port 2 to port 1, port 4 to port 1



4-Way, 3-position, screw-in cartridge, solenoid valve

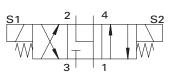
Description

The SV9-10-F is a 4-way, 3-position, direct acting, spool type directional valve.

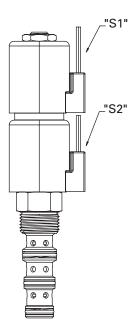
Operation

In the de-energized (center) position, port 1, port 2, and port 4 are open to each other while port 3 is blocked. When solenoid 1 (S1) is energized, flow is directed from port 3 to port 4 and from port 2 to port 1. When solenoid 2 (S2) is energized, flow is directed from port 3 to port 2 and from port 4 to port 1.

Functional Symbol



Profile View



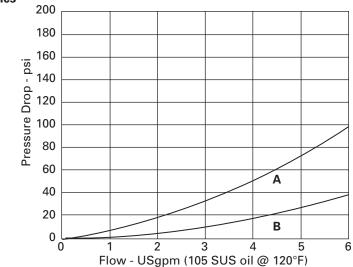
RATINGS AND SPECIFICATIONS	
Performance data is typical with fluid at 21,8 cST	(105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Fatigue pressure	3,000 psi per NFPA/T2-6-1 R2-2000
Rated burst pressure	(626 bar) 9090 psi per NFPA/T2-6-1 R2-2000
Max flow	6 USgpm
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Coil power	26W
Cavity	C-10-4
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Housing material (standard)	Aluminum
Weight including coil	0.95 Kg (2.1 lbs)
Seal kit	889625 (Buna-N), 566080 (Viton®) ®Viton is a registered trademark of E.I. DuPont
Internal leakage	246 cm³/min (15 in³/min) max. @ 210 bar (3000 psi)

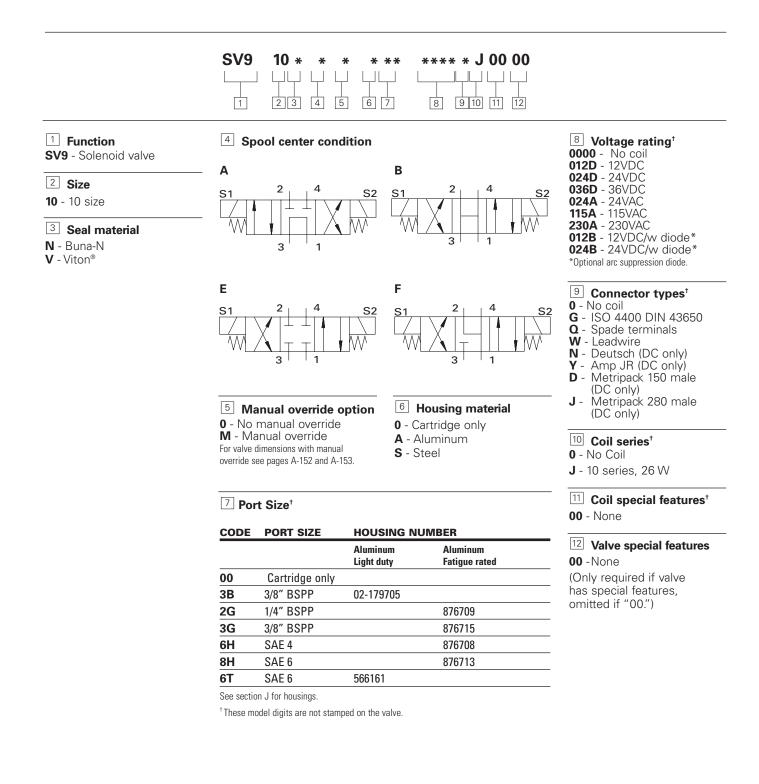
Endurance tested to 1 million cycles at full rated flow and pressure.

Performance Characteristics



- A Port 3 to port 2, port 3 to port 4
- **B** Port 2 to port 1, port 4 to port 1





Dimensions

mm (inch)

Torque cartridge in aluminum or steel housing 34-41 Nm (25-30 ft. lbs).

Valve is shown with "W" coil. See other coils in Section C.

Note

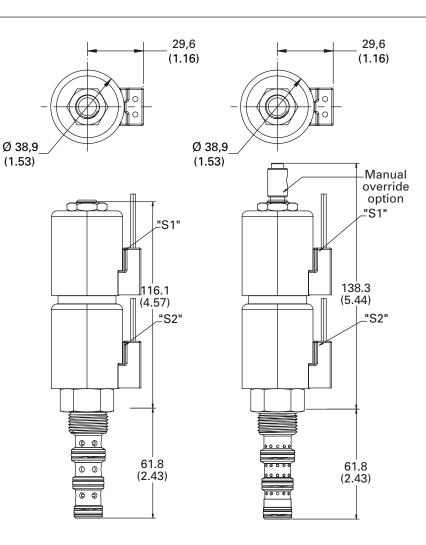
When solenoid valve is ordered as cartridge only, coil nut is included.

When solenoid valve is ordered without coils, it will be supplied with only the nut. The spacer must be ordered separately.

This valve uses the J series, 23 W coil.

SPARE PARTS

Coil nut	565558
Coil spacer	02-179226





WARNING

Maintain 5-8 Nm (4-6 ft. lbs) maximum torque on valve tube nut. Over tightening may cause valve failure.

SRV4-12

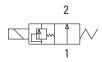
Solenoid operated relief valve.

Description

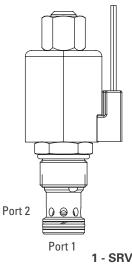
Operation

The SRV4-12 is a pilot operated, solenoid relief valve. In its de-energized state, the valve allows flow from port 1 to port 2. In the energized state the valve allows flow from 1 to 2 only when the set pressure is reached.

Functional Symbol



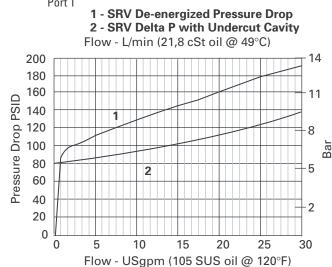
Profile View



RATINGS AND SPECIFICATIONS Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F) Typical application pressure 250 bar (3600 psi) 250 bar (3600 psi) Cartridge fatigue pressure (infinite life) Rated flow 114 L/min (30 USgpm) **Reseat Pressure** More than 80% of cracking pressure Hysteresis Less than 3 bar (45 psi) Less than 20% of max. press. range with flow step of Overshoot 30 USgpm at pressure rise rate of 100,000 psi/sec. Repeatability +/- 1% maximum pressure range Cavity C-12-2 Standard housing materials Aluminum or steel Temperature range -40° to 120°C (-40° to 248°F) All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc. Fluids Filtration Cleanliness code 18/16/13 Weight cartridge only 0.4kg (0.89 lbs) 02-180095 Buna-N Seal Kits 02-165887 Viton®

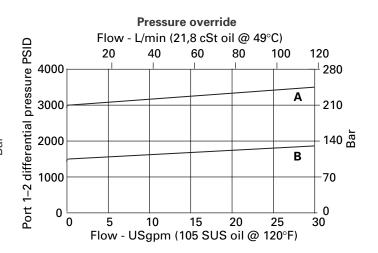
Performance characteristics

Cartridge only



A - typical pressure override @ 3000 psi setting **B** - typical pressure override @ 1500 psi setting

Viton is a registered trademark of E.I. DuPont



SI	RV4 – 1		** — **** 56	- ****	- * - *	- 00 -	- 00 – B		
Function SRV4 - Solenoid valve Size	5 Port size 000 - Cartidge only M - Knob type			 8 Connector ty 0 - No coil G - ISO 4400 DIN W - Loodwire 					
12 - 12 size	CODE	PORT SIZE	HOUSING	NUMBER			W - Leadwire N - Deutsch (DC		
3 Seals N - Buna-N V - Viton [®]	0	Cartridge only	00.100010				 Y - Amp JR (DC D - Metripack 15 (DC only) 		
	<u>10T</u>	SAE 10	02-160640						
	12T	SAE 12	02-160644				J - Metripack 28 (DC only)		
	04G	1/2" BSPP	02-161118						
A Value housing motorial	06G	3/4" BSPP	02-161117						
 Valve housing material O - Cartidge only A - Aluminum 	See section	on J for housing details	S.				9 Coil series		
	50-360 setting steps, followi	tting Pressure 0 psi. User req s in 3,45 bar (5 coded as in the ng examples: 70 bar (1000 ps	0 psi) 01 0 02 03	Voltage I 00 - No co 2D - 12VD 4D - 24VD 6D - 36VD 4A - 24VA	il C C C		 0 - No coil J - 26 W, 10 serie For coil dimensions see Sa 10 Coil special fe 00 - None 		

1500 - 103 bar (1500 psi)

2000 - 138 bar (2000 psi)

Dimensions

mm (inch)

A - 81-95 Nm (60-70 ft. lbs)

29,6 (1.16) ÿ 38,9 (1.53)19.0 [0.75] HEX 75.2 [2.96]

000

23.88

[.940]

45.7 [1.80] 115A - 115VAC

230A - 230VAC

012B - 12VDC/w diode

024B - 24VDC/w diode

ypes

- IN 43650
- only)
- only)
- 50 male
- 80 male

ries coil

Section C.

Coil special features

11 Special features

00 - None (Only required if valve has special features, omitted if "00.")

12 Design code

B - Current design

Torque cartridge in housing

S - 102-115 Nm (75-85 ft. lbs)



WARNING

Aluminum housings can be used for pressures up to 210 bar (3000psi). Steel housings must be used for operating pressures above 210 bar (3000 psi).

31.75 [1.250] HEX

–1.062" – 12 Thread

782 Series Solenoid Valve

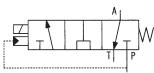
3-way, 2-position spool type solenoid pilot valve,

Description

The 782 Series Solenoid Valve is a 3-way, 2-position, direct acting, spool type solenoid valve.

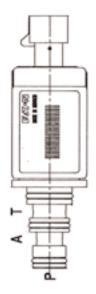
This valve can be used in low flow pilot control applications.

Functional Symbol



Transition position shown.

Profile View



T port must be vented to tank.

Operation

In the de-energized position, the valve allows flow from port A to port T, while port P is blocked. In the energized position, flow is allowed from port P to port A, while port T is blocked. In the valve transition all ports are open

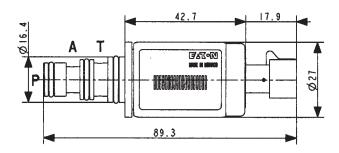
RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cST ((105 SUS) and 49°C (120°F)
Typical application pressure (all ports)	100 bar (1450 psi)
Shift Pressure	780 bar
Cartridge fatigue pressure (infinite life)	100 bar (1450 psi)
Rated flow (Δ P = 10 bar (145 psi))	1.8 L/min (.5 USgpm)
Temperature range	-30° to 125°C
Cavity	38014_0
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/ 16/13
Weight including coil	0.133kg (0.292 lbs)
Coil Resistance (ohms)	5.1Ω
Switching Voltage	ON 9 V to +120°C OFF 1.5 V to +23°C
Response Time	ON < 20 ms OFF < 20 ms
Part Number	5986804-001



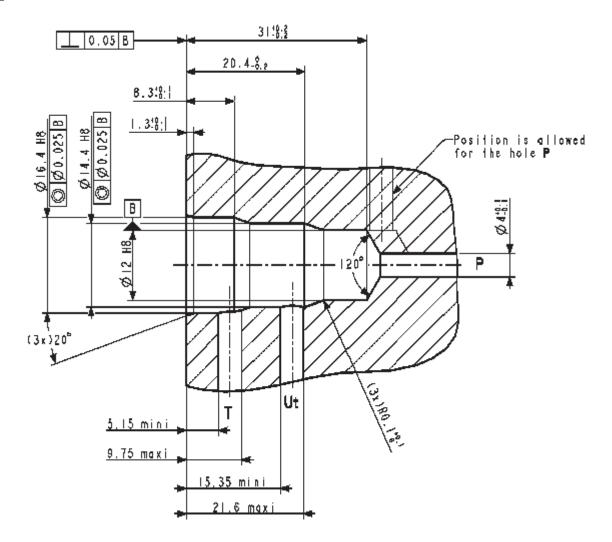
3-way, 2-position spool type solenoid pilot valve,

Dimensions



Cavity Details

Cav. Ref: 38014_0



Manual Override Options

Push type overrides (type P and S)

Note

Manual override is available on all solenoid cartridge valves, except SBV series valves.

2. The override button will

remain activated until

the override button is

turned counterclockwise.

To release:

stops.

57,9

(2.28)

WARNING

The manual override option is intended for emergency use, not for continuous duty operation.

1. Turn the override button

24,3 (.096)

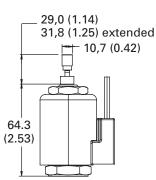
10, 12, 16, 20-Series -

350 bar valves

- 10,7 (0.42)

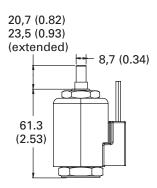
counterclockwise until it

Manual override "S" screw type



8-Series – 210 bar valves

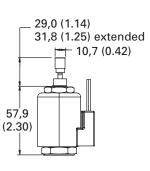
Manual override "P" push type



8-Series – 210 bar bar valves



1. Turn the override button clockwise until it stops.



8-Series – 350 bar valves

1. Push the override button

8,7 (0.34)

to stop and hold.

To override:

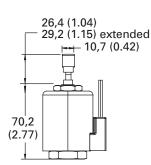
20,7 (0.82)

23,5 (0.93) (extended)

58,4

(2.30)

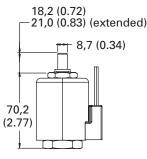
valves



10, 12, 16, 20-Series – 210 bar valves

To release:

1. Remove pressure from the override button.



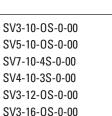
10, 12, 16, 20-Series – 210 bar valves

57,8 (2.28)

10, 12, 16, 20-Series – 350 bar valves

Manual override "P" & "S" options are available on the following models:

A-152



8-Series - 350 bar

SV3-20-0S-0-00 SV5-8-0S-0-00 SV3-10-0P-0-00 SV5-10-0P-0-00 SV7-10-4P-0-00 SV4-10-3P-0-00 SV3-12-0P-0-00 SV3-16-0P-0-00 SV3-20-0P-0-00 SV5-8-0P-0-00 SV15-8-0P/0S-0-00 SV13-10-0P/0S-0-00 SV15-10-0P/0S-0-00 SV13-12-0P/0S-0-00 SV13-16-0P/0S-0-00 SV13-20-0P/0S-0-00

Manual Override Options

Pull type overrides (type M and R)

Note

Manual override is available on all solenoid cartridge valves, except SBV series valves.

WARNING The manual over-

ride option is intended for emergency use, not for continuous duty operation.

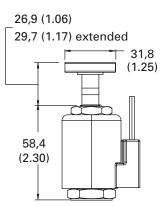
Manual override "M" pull type

To override:

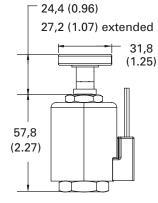
- 1. Pull up knob until the override tooth is completely out of the detent base.
- 2. Turn the knob clockwise until the override tooth is resting securely on top of the detent base slot.

To release:

- **1.** Pull up knob slightly from surface.
- **2.** Turn the knob clockwise until the override tooth is securely engaged in slot of the detent base.

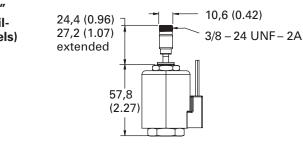


8-Series – 210 bar and 350 bar values



10, 12,16, 20-Series – 210 bar and 350 bar values

Manual override "R" cable type (not available on size 8 models)



Manual override "M" options are available on the following models:	SV1-10-3M-0-00 SV1-10-4M-0-00 SV1-10-CM-0-00 SV2-10-4M-0-00	SV4-10-CM-0-00 SV4-10-0M-0-00 SV5-10-4M-0-00 SV5-8-CM-0-00	SV4-8-0M-0-00 SV1-8-3M-0-00 SV4-8-3M-0-00 SV1-8-4M-0-00	SV11-8-3M-0-00 SV11-8-4M-0-00 SV12-8-4M-0-00 SV11-10-CM-0-00	SV11-10-3M-0-00 SV11-10-4M-0-00 SV13-12-CM-0-00 SV13-16-CM-0-00
	SV2-10-CM-0-00 SV3-10-4M-0-00 SV3-10-CM-0-00 SV4-10-4M-0-00	SV4-8-CM-0-00 SV3-12-CM-0-00 SV1-16-CM-0-00 SV2-20-CM-0-00	SV2-8-4M-0-00 SV15-8-CM-0-00 SV14-8-CM-0-00 SV14-8-OM-0-00	SV12-10-CM-0-00 SV13-10-CM-0-00 SV14-10-CM-0-00 SV14-10-0M-0-00	SV13-20-CM-0-00
Manual override "R″ options are available on the following models:	SV1-10-3R-0-00 SV1-10-4R-0-00 SV1-10-CR-0-00	SV2-10-4R-0-00 SV2-10-CR-0-00 SV3-10-4R-0-00	SV3-10-CR-0-00 SV4-10-4R-0-00 SV4-10-CR-0-00	SV4-10-OR-0-00 SV5-10-4R-0-00 SV3-12-CR-0-00	SV1-16-CR-0-00 SV2-20-CR-0-00