

Solenoid valves

Poppet and Spool type ON/OFF valves



Powering Business Worldwide

Solenoid valves

Section overview

Quality products and innovative solutions

This catalog gives basic specifications for the full line of Eaton's screw-in cartridge solenoid valves. Its purpose is to provide a quick, convenient reference tool when choosing Eaton's Integrated Hydraulics 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.

Eaton's Integrated Hydraulics 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

- 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 except SBV series valves
- All exposed surfaces are zinc dichromate plated to resist corrosion
- All aluminum manifolds are gold anodized to resist corrosion

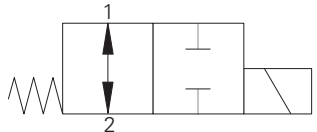
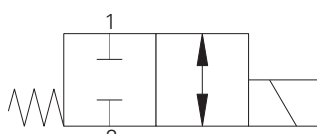
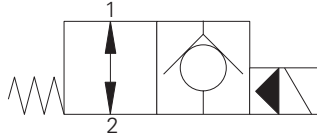
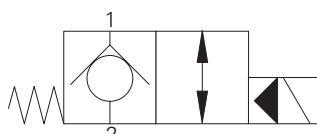
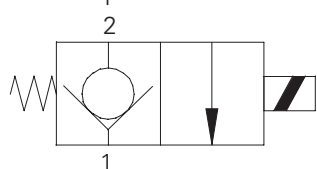
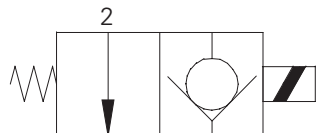
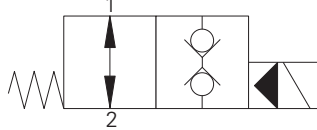
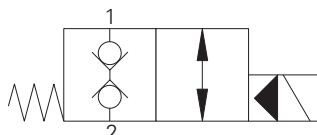
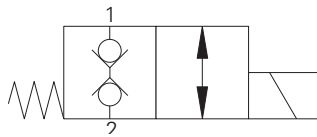
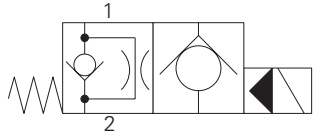
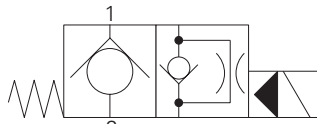
Note: Solenoid valve coil details are shown in section C.

Note: To know endurance/life cycle testing of specific valves please contact our technical product support and we can feedback on an individual basis

S	SV1	SV2	SV3	SV4	SV5	SV7	SV9	SV11
S205	SV1-10-3	SV2-10-4	SV3-10-4	SV4-10-3	SV5-10-4	SV7-10-4	SV9-10-A	SV11-10-3
S206	SV1-10-4	SV2-10-C	SV3-10-C/O	SV4-10-4	SV5-10-0	SV7M-12-4	SV9-10-B	SV11-10-4
S207	SV1-10-C	SV2-20-C	SV3-12-C/O	SV4-10-C/O	SV5-8-C/O		SV9-10-E	SV11-10-C
S222	SV1-16-C	SV2-8-4	SV3-16-0	SV4-8-3	SV5M-12-4		SV9-10-F	SV11-8-3
S229	SV1-8-3	SV2-8-C	SV3-20-0	SV4-8-C/O			SV9-8-A	SV11-8-4
S272	SV1-8-4	SV2M-12-3	SV3-8-C/O	SV4M-12-3			SV9-8-B	SV11M-10-3
S520	SV1-8-C/O	SV2M-12-4	SV3M-12-4				SV9-8-E	SV11M-12-3
S526	SV1M-12-3						SV9-8-F	
S542								

SV12	SV13	SV14	SV15	SV17	SBV1	SBV11	SBV12	SV*E
SV12-10-4	SV13-10-C/O	SV14-10-C/O	SV15-10-0	SV17M-10-4	SBV1-10-C	SBV11-10-C/O	SBV12-8-C	SV1E-10-3
SV12-8-4	SV13-12-C/O	SV14-8-C/O	SV15-8-0	SV17M-12-4	SBV1-12-C	SBV11-12-C/O		SV1E-10-4
SV12M-12-3	SV13-16-C/O	SV14M-12-3	SV15M-12-4		SBV1-8-C	SBV11-8-C/O		SV1E-10-C
SV12M-12-4	SV13-20-C/O							SV1E-16-C
	SV13M-12-4							SV2E-20-C
								SV3E-10-C
								SV3E-10-0
								SV3E-16-0
								SV3E20-0
								SV4E-10-0

Functional symbol



Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 2/2, NC & NO, poppet</i>		L/min (USgpm)	bar (psi)	
SV5-8-C/O	C-8-2	23 (6)	210 (3000)	A-10
SV1-10-C	C-10-2	45 (12)	210 (3000)	A-22
SV11-10-C	C-10-2	45 (12)	350 (5000)	A-24

Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 2/2, NC, bi-directional, poppet</i>		L/min (USgpm)	bar (psi)	
SBV2-8-C	C-8-2	1 (0.25)	210 (3000)	A-12
SBV12-8-C	C-8-2	1 (0.25)	350 (5000)	A-14
S519A	A879	12 (3)	210 (3000)	A-16

Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 2/2, NC & NO, bi-directional, poppet</i>		L/min (USgpm)	bar (psi)	
SBV11-8-C/O	C-8-2	60 (15)	350 (5000)	A-18
SBV1-8-C	C-8-2	60 (15)	210 (3000)	A-20
SBV1-10-C	C-10-2	76 (20)	210 (3000)	A-32
SBV11-10-C/O	C-10-2	76 (20)	350 (5000)	A-34
SBV1-12-C	C-12-2/2U	114 (30)	210 (3000)	A-40
SBV11-12-C/O	C-12-2/2U	114 (30)	350 (5000)	A-42

Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 2/2, NC & NO, poppet</i>		L/min (USgpm)	bar (psi)	
S205	A879	1 (0.25)	210 (3000)	A-44
S206				

Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 2/2, NC & NO, poppet</i>		L/min (USgpm)	bar (psi)	
SV3-8-C/O	C-8-2	23 (6)	210 (3000)	A-26
SV3-10-C/O	C-10-2	45 (12)	210 (3000)	A-28
SV13-10-C/O	C-10-2	45 (12)	350 (5000)	A-30
SV3-12-C/O	C-12-2	114 (30)	210 (3000)	A-36
SV13-12-C/O	C-12-2	114 (30)	350 (5000)	A-38
SV1-16-C	C-16-2	132 (35)	210 (3000)	A-46
SV13-16-C/O	C-16-2	132 (35)	350 (5000)	A-48
SV2-20-C	C-20-2	227 (60)	210 (3000)	A-50
SV13-20-C/O	C-20-2	227 (60)	350 (5000)	A-52

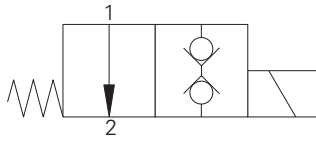
Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 2/2, NC & NO, spool</i>		L/min (USgpm)	bar (psi)	
SV4-8-C/O	C-8-2	11 (3)	210 (3000)	A-54
SV14-8-C/O	C-8-2	11 (3)	350 (5000)	A-55
SV4-10-C/O	C-10-2	23 (6)	210 (3000)	A-58
SV14-10-C/O	C-10-2	23 (6)	350 (5000)	A-60

Solenoid valves

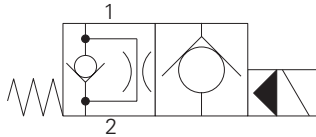
Valve locator

A

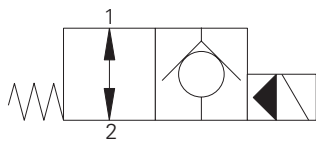
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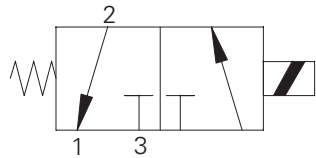
Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 2/2, NO, poppet</i>		L/min (USgpm)	bar (psi)	
S207	A879	1 (.25)	350 (5000)	A-62



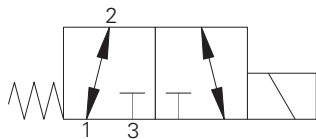
Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 2/2, NO, poppet</i>		L/min (USgpm)	bar (psi)	
SV5-10-0	C-10-2	45 (12)	210 (3000)	A-64
SV15-8-0	C-8-2	37 (10)	350 (5000)	A-66
SV15-10-0	C-10-2	45 (12)	350 (5000)	A-68



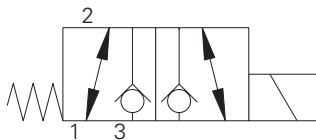
Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 2/2, NO, poppet</i>		L/min (USgpm)	bar (psi)	
SV3-16-0	C-16-2	132 (35)	210 (3000)	A-70
SV3-20-0	C-20-2	227 (60)	210 (3000)	A-72



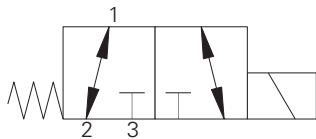
Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 3/2, spool</i>		L/min (USgpm)	bar (psi)	
S222	A18333	20 (5)	100 (1500)	A-75



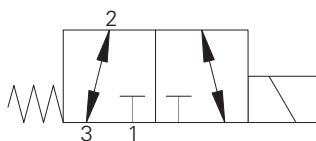
Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 3/2, spool</i>		L/min (USgpm)	bar (psi)	
SV4-8-3	C-8-3	13 (4)	210 (3000)	A-80
SV4-10-3	C-10-3	23 (6)	210 (3000)	A-92
SV4M-12-3	C-12-3	42 (11)	210 (3000)	A-108
SV14M-12-3	C-12-3	42 (11)	350 (5000)	A-110



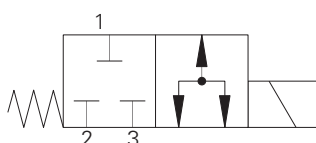
Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 3/2, poppet</i>		L/min (USgpm)	bar (psi)	
S229	A3531	12 (3)	210 (3000)	A-82



Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 3/2, spool</i>		L/min (USgpm)	bar (psi)	
S520H	C-10-3	40 (10)	210 (3000)	A-84

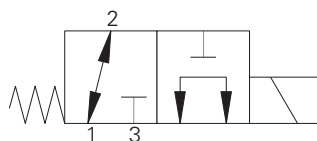


Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 3/2, spool</i>		L/min (USgpm)	bar (psi)	
S525H	C-10-3	30 (8)	210 (3000)	A-88

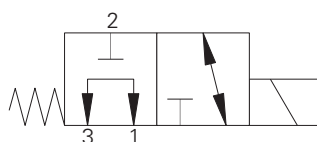


Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 3/2, spool</i>		L/min (USgpm)	bar (psi)	
S526N-2	C-10-3	35 (9)	210 (3000)	A-90

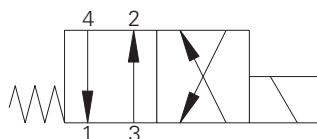
Functional symbol



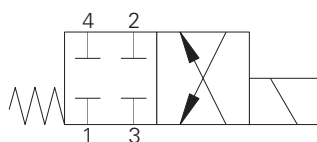
Model	Cavity	Flow rating	Typical pressure	Page
		L/min (USgpm)	bar (psi)	
<i>Solenoid 3/2, spool</i>				
SV1-8-3	C-8-3	11 (3)	210 (3000)	A-76
SV11-8-3	C-8-3	11 (3)	350 (5000)	A-78
SV1-10-3	C-10-3	23 (6)	210 (3000)	A-92
SV11-10-3	C-10-3	23 (6)	350 (5000)	A-94
SV1M-12-3	C-12-3	38-42 (10-11)	210 (3000)	A-100
SV11M-12-3	C-12-3	38 (10)	350 (5000)	A-102



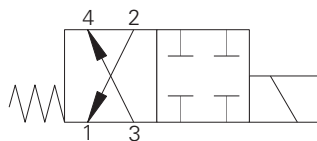
Model	Cavity	Flow rating	Typical pressure	Page
		L/min (USgpm)	bar (psi)	
<i>Solenoid 3/2, spool</i>				
SV2M-12-3	C-12-3	30-38 (8-10)	210 (3000)	A-104
SV12M-12-3	C-12-3	30 (8)	350 (5000)	A-106



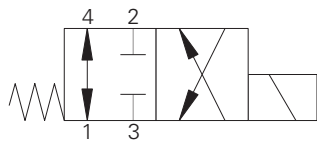
Model	Cavity	Flow rating	Typical pressure	Page
		L/min (USgpm)	bar (psi)	
<i>Solenoid 4/2, spool</i>				
SV1-8-4	C-8-4	11 (3)	210 (3000)	A-112
SV11-8-4	C-8-4	11 (3)	350 (5000)	A-114
SV1-10-4	C-10-4	23 (6)	210 (3000)	A-122
SV11-10-4	C-10-4	23 (6)	350 (5000)	A-126
S542	C-10-4	25 (9)	210 (3000)	A-124



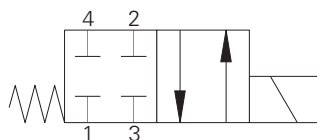
Model	Cavity	Flow rating	Typical pressure	Page
		L/min (USgpm)	bar (psi)	
<i>Solenoid 4/2, spool</i>				
SV2-8-4	C-8-4	13 (4)	210 (3000)	A-116
SV12-8-4	C-8-4	13 (4)	350 (5000)	A-118
SV12-10-4	C-10-4	12 (6)	350 (5000)	A-120
SV2-10-4	C-10-4	23 (6)	210 (3000)	A-130
S541	C-10-4	30 (8)	210 (3000)	A-128



Model	Cavity	Flow rating	Typical pressure	Page
		L/min (USgpm)	bar (psi)	
<i>Solenoid 4/2, spool</i>				
SV3-10-4	C-10-4	23 (6)	210 (3000)	A-134
SV3A/B-12-4	C-12-4	53 (14)	210 (3000)	A-146
SV13A/B-12-4	C-12-4	35 (14)	350 (5000)	A-150



Model	Cavity	Flow rating	Typical pressure	Page
		L/min (USgpm)	bar (psi)	
<i>Solenoid 4/2, spool</i>				
SV4-10-4	C-10-4	23 (6)	210 (3000)	A-136



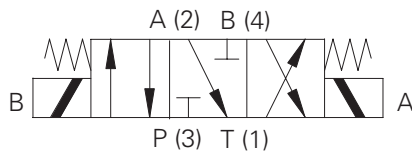
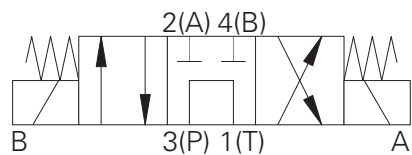
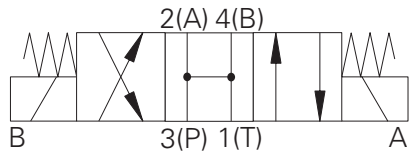
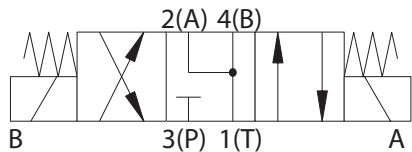
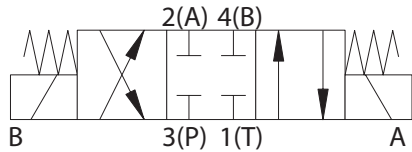
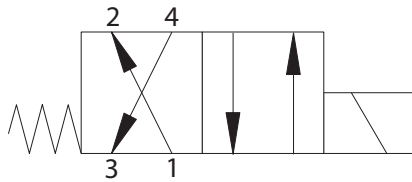
Model	Cavity	Flow rating	Typical pressure	Page
		L/min (USgpm)	bar (psi)	
<i>Solenoid 4/2, spool</i>				
SV5-10-4	C-10-4	23 (6)	210 (3000)	A-138

Solenoid valves

Valve locator

A

Functional symbol



Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 4/2, spool</i>				
SV7-10-4	C-10-4	L/min (USgpm)	bar (psi)	
		17 (5)	210 (3000)	A-140

Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 4/3, spool</i>				
SV9-8-E	C-8-4	L/min (USgpm)	bar (psi)	
SV9-10-E	C-10-4	13 (4)	210 (3000)	A-160
SV9A-10-E	C-10-4	19(5)	210(3000)	A-164
SV9A-10-E	C-10-4	22 (5.8)	210 (3000)	A-168

Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 4/3, spool</i>				
SV9-8-F	C-8-4	L/min (USgpm)	bar (psi)	
SV9-10-F	C-10-4	13 (4)	210 (3000)	A-160
SV9-10-F	C-10-4	23 (6)	210 (3000)	A-164
SV9A-10-F	C-10-4	25 (6.5)	210 (3000)	A-168

Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 4/3, spool</i>				
SV9-8-B	C-8-4	L/min (USgpm)	bar (psi)	
SV9-10-B	C-10-4	13.2 (3.5)	210 (3000)	A-160
SV9-10-B	C-10-4	23 (6)	210 (3000)	A-164
SV9A-10-B	C-10-4	34 (8.9)	210 (3000)	A-168

Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 4/3, spool</i>				
SV9-8-A	C-8-4	L/min (USgpm)	bar (psi)	
SV9-10-A	C-10-4	11.0 (3.0)	210 (3000)	A-160
SV9-10-A	C-10-4	19 (5)	210 (3000)	A-164
SV9A-10-A	C-10-4	25 (6.5)	210 (3000)	A-168

Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 4/3, spool</i>				
S272	A6951	L/min (USgpm)	bar (psi)	
		14 (3.7)	210 (3000)	A-172

Model	Cavity	Flow rating	Typical pressure	Page
<i>Explosion Proof Valves</i>				
SV*E Series	Product specification per base valves			A-174

Read this page before using any of the products/information in this catalog.

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

⚠ Warning

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

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Model	Torque For Cartridge in Body		Torque on valve tube nut (Max.)
	Aluminum Housing	Steel Housing	
SV5-8-C/O	34-41 Nm (25-30 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SBV2-8-C	34-41 Nm (25-30 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SBV12-8-C/CM	34-41 Nm (25-30 ft lbs)	-	5-8 Nm (4-6 ft lbs)
S217A	20 Nm (15 ft lbs)	-	3.4 Nm (2.5 ft lbs)
S519	30 Nm (22 ft lbs)	-	3.4 Nm (2.5 ft lbs)
SBV11-8-C	34-41 Nm (25-30 ft lbs)	34-41 Nm (25-30 ft lbs)	5-8 Nm (4-6 ft lbs)
SV1-10-C	47-54 Nm (35-40 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SV11-10-C/CM	47-54 Nm (35-40 ft lbs)	68-75 Nm (50-55 ft. lbs)	5-8 Nm (4-6 ft lbs)
SV3-8-C / O	34-41 Nm (25-30 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SV3-10-C / O	47-54 Nm (35-40 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SV13-10-C / O	47-54 Nm (35-40 ft lbs)	68-75 Nm (50-55 ft lbs)	5-8 Nm (4-6 ft lbs)
SBV1-10-C	47-54 Nm (35-40 ft lbs)	68-75 Nm (50-55 ft lbs)	5-8 Nm (4-6 ft lbs)
SBV11-10-C	47-54 Nm (35-40 ft lbs)	68-75 Nm (50-55 ft lbs)	5-8 Nm (4-6 ft lbs)
SV3-12-C / O	81-95 Nm (60-70 ft lbs)	102-115 Nm (75-85 ft lbs)	5-8 Nm (4-6 ft lbs)
SV13-12-C / O	81-95 Nm (60-70 ft lbs)	102-115 Nm (75-85 ft lbs)	5-8 Nm (4-6 ft lbs)
SBV1-12-C	81-95 Nm (60-70 ft lbs)	102-115 Nm (75-85 ft lbs)	5-8 Nm (4-6 ft lbs)
SBV11-12-C	81-95 Nm (60-70 ft lbs)	102-115 Nm (75-85 ft lbs)	5-8 Nm (4-6 ft lbs)
SV1-16-C/CM/CR	108-122 Nm (80-90 ft lbs)	136-149 Nm (100-110 ft lbs)	5-8 Nm (4-6 ft lbs)
SV13-16-C / O	108-122 Nm (80-90 ft lbs)	136-149 Nm (100-110 ft lbs)	5-8 Nm (4-6 ft lbs)
SV2-20-C	128-155 Nm (95-115 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SV13-20-C / O	128-155 Nm (95-115 ft lbs)	163-183 Nm (120-135 ft lbs)	5-8 Nm (4-6 ft lbs)
SV4-8-C / O	34-41 Nm (25-30 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SV14-8-C / O	34-41 Nm (25-30 ft lbs)	34-41 Nm (25-30 ft lbs)	5-8 Nm (4-6 ft lbs)
SV4-10-C / O	45-54 Nm (35-40 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SV14-10-C / O	45-54 Nm (35-40 ft lbs)	68-75 Nm (50-55 ft lbs)	5-8 Nm (4-6 ft lbs)
S207	-	60 Nm (44 lbs ft)	-
SV5-10-0	47-54 Nm (35-40 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SV3-16-0/OP/OS	108-122 Nm (80-90 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SV3-20-0	128-155 Nm (95-115 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SV1-8-3/3M	34-41 Nm (25-30 ft lbs)	34-41 Nm (25-30 ft lbs)	5-8 Nm (4-6 ft lbs)
SV11-8-3/3M	34-41 Nm (25-30 ft lbs)	34-41 Nm (25-30 ft lbs)	5-8 Nm (4-6 ft lbs)
SV4-8-3/3P	34-41 Nm (25-30 ft lbs)	34-41 Nm (25-30 ft lbs)	5-8 Nm (4-6 ft lbs)
SV1-10-3/3M/3R	47-54 Nm (35-40 ft lbs)	-	5-8 Nm (4-6 ft lbs)

Application Data

Installation Information

A

Model	Torque For Cartridge in Body		Torque on valve tube nut (Max.)
	Aluminum Housing	Steel Housing	
SV11-10-3/3M	47-54 Nm (35-40 ft. lbs)	68-75 Nm (50-55 ft. lbs)	5-8 Nm (4-6 ft lbs)
SV11M-10-3	47-54 Nm (35-40 ft. lbs)	68-75 Nm (50-55 ft. lbs)	2.5-3 Nm (1.8-2.2 ft. lbs)
SV4-10-3/3P/3S	47-54 Nm (35-40 ft. lbs)	-	5-8 Nm (4-6 ft lbs)
SV1M-12-3	81-95 Nm (60-70 ft lbs)	-	2.5-3 Nm (1.8-2.2 ft. lbs)
SV11M-12-3	81-95 Nm (60-70 ft. lbs)	102-115 Nm (75-85 ft. lbs)	2.5-3 Nm (1.8-2.2 ft. lbs)
SV2M-12-3P	81-95 Nm (60-70 ft. lbs)	-	2.5-3 Nm (1.8-2.2 ft. lbs)
SV12M-12-3	81-95 Nm (60-70 ft. lbs)	102-115 Nm (75-85 ft. lbs)	2.5-3 Nm (1.8-2.2 ft. lbs)
SV4M-12-3P	81-95 Nm (60-70 ft. lbs)	-	2.5-3 Nm (1.8-2.2 ft. lbs)
SV14M-12-3	81-95 Nm (60-70 ft. lbs)	102-115 Nm (75-85 ft. lbs)	2.5-3 Nm (1.8-2.2 ft. lbs)
SV1-8-4/4M	34-41 Nm (25-30 ft lbs)	34-41 Nm (25-30 ft lbs)	5-8 Nm (4-6 ft lbs)
SV11-8-4/4M	34-41 Nm (25-30 ft lbs)	34-41 Nm (25-30 ft lbs)	5-8 Nm (4-6 ft lbs)
SV2-8-4/4M	34-41 Nm (25-30 ft lbs)	34-41 Nm (25-30 ft lbs)	5-8 Nm (4-6 ft lbs)
SV12-8-4/4M	34-41 Nm (25-30 ft lbs)	34-41 Nm (25-30 ft lbs)	5-8 Nm (4-6 ft lbs)
SV1-10-4/4M/4R	47-54 Nm (33-46 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SV11-10-4/4M	47-54 Nm (33-46 ft lbs)	68-75 Nm (50-55 ft lbs)	5-8 Nm (4-6 ft lbs)
SV2-10-4/4M/4R	47-54 Nm (33-46 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SV3-10-4/4M/4R	47-54 Nm (33-46 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SV4-10-4/4M/4R	47-54 Nm (33-46 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SV5-10-4/4M/4R	47-54 Nm (33-46 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SV7-10-4/4P/4S	47-54 Nm (33-46 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SV17M-10-4P	47-54 Nm (35-40 ft. lbs)	68-75 Nm (50-55 ft lbs)	2.5-3 Nm (1.8-2.2 ft. lbs)
SV2M-12-4	81-95 Nm (60-70 ft lbs)	-	2.5-3 Nm (1.8-2.2 ft. lbs)
SV12M-12-4	81-95 Nm (60-70 ft lbs)	-	2.5-3 Nm (1.8-2.2 ft. lbs)
SV3M-12-4	81-95 Nm (60-70 ft lbs)	-	2.5-3 Nm (1.8-2.2 ft. lbs)
SV13M-12-4	81-95 Nm (60-70 ft lbs)	102-115 Nm (75-85 ft. lbs)	2.5-3 Nm (1.8-2.2 ft. lbs)
SV5M-12-4	81-95 Nm (60-75 ft lbs)	-	2.5-3 Nm (1.8-2.2 ft. lbs)
SV15M-12-4	81-95 Nm (60-70 ft lbs)	102-115 Nm (75-85 ft lbs)	2.5-3 Nm (1.8-2.2 ft. lbs)
SV7M-12-4	81-95 Nm (60-70 ft lbs)	-	2.5-3 Nm (1.8-2.2 ft. lbs)
SV17M-12-4	81-95 Nm (60-70 ft lbs)	102-115 Nm (75-85 ft lbs)	2.5-3 Nm (1.8-2.2 ft. lbs)
SV9-8	34-41 Nm (25-30 ft. lbs)	-	5-8 Nm (4-6 ft lbs)
SV9-10	47-54 Nm (33-46 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SV9M-10	47-54 Nm (33-46 ft lbs)	-	5-8 Nm (4-6 ft lbs)

Don't let abrasion stop you from getting the job done.

Get added protection with Weatherhead spring guard and abrasion sleeve from Eaton



Abrasion sleeve part numbers: A3900 & A4900 Series
Spring guard part numbers: A1900 Series



Spring guard and abrasion sleeve details

Features and benefits

- Heavy duty defense against cuts and abrasion
- Sleeve can also be used to bundle two or more hose assemblies for protection and clean routing
- Guard helps prevent kinks and crushing of hose assemblies
- Prevents accidental damage and prolongs hose assembly life

Additional Information

For additional part number information please see the "Protective guards and sleeves" portion of the "Accessories" section of the Eaton Weatherhead Fluid Conveyance Master Catalog, or contact your local Heavy Duty District Sales Manager today.



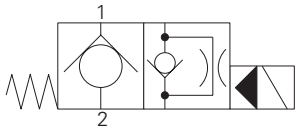
Powering Business Worldwide

SV5-8-C/O

Poppet type, 2 way, 2 position, Normally Open & Normally Closed
23 L/min (6 USgpm) • 210 bar (3000 psi)

A

SV5-8-C Normally Closed

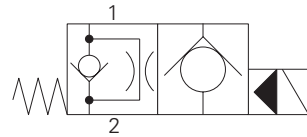


Operation

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

When the solenoid is energized the pilot poppet is pulled off the seat allowing the valve to open from port 2 to 1. in the reverse direction the flow is restricted by the pilot orifice.

SV5-8-O Normally Open



Operation

In the de-energized position the valve allows free flow from port 2 to 1 and a restricted flow through the pilot orifice from port 1 to 2.

When the solenoid is energized the pilot poppet closes the orifice and the valve closes blocking flow from port 2 to 1 while allowing free flow from port 1 to 2.

Performance data

Ratings and specifications

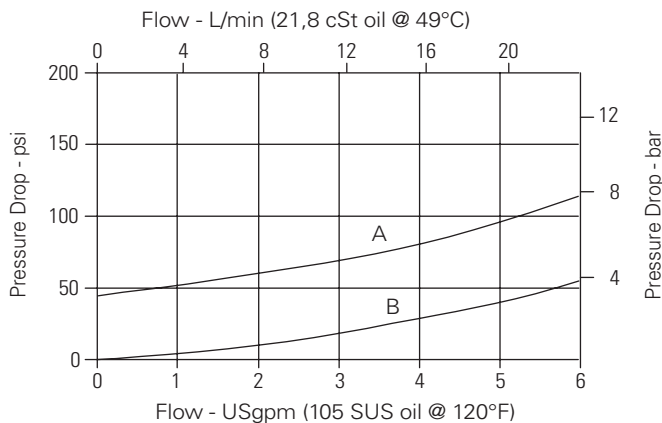
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	less than 5 drops/min @ 210 bar (3000 psi)
Response times for normally closed (100% rated voltage and flow)	Energize: 18 ms De-Energize: 46 ms
Response time for normally open (100% rated voltage and flow)	Energize: 24 ms De-Energize: 25 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
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 Pressure drop

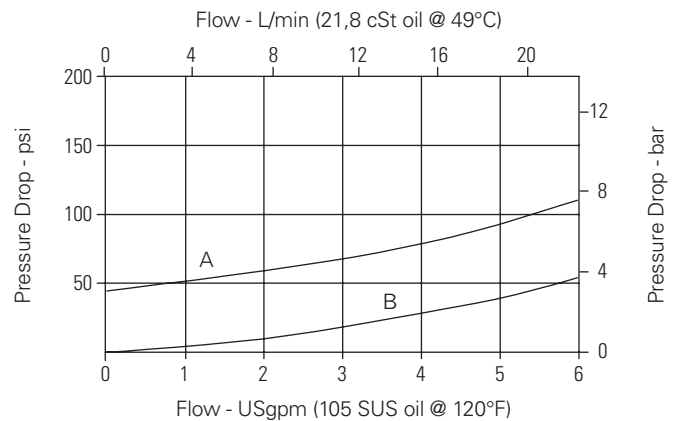
Cartridge only



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

SV5-8-O Pressure drop

Cartridge only

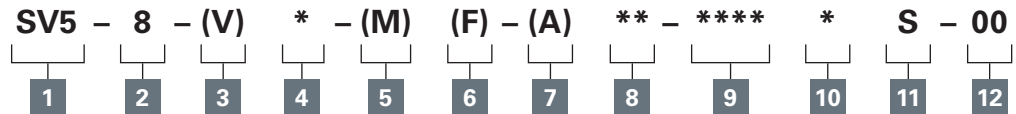


A - Port 1 to port 2 energized
B - Port 2 to port 1 de-energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

Poppet type, 2 way, 2 position, Normally Open & Normally Closed
23 L/min (6 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function
SV5 - Solenoid valve

2 Size
8 - 8 size

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

4 Style
C - Normally closed
O - Normally Open

5 Manual override option
Blank - No manual override
M - Knob type
P - Push type
S - Screw type

6 Filter option
Blank - None
F - Filter screen

8 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.

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

7 Valve housing material
Omit for cartridge only
A - Aluminum
S - Steel

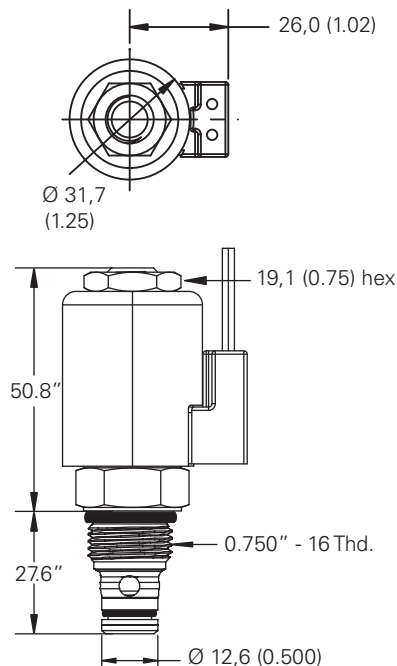
10 Connector types
Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
E - Weather-Pack (Packard) female
F - Weather-Pack (Packard) male

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

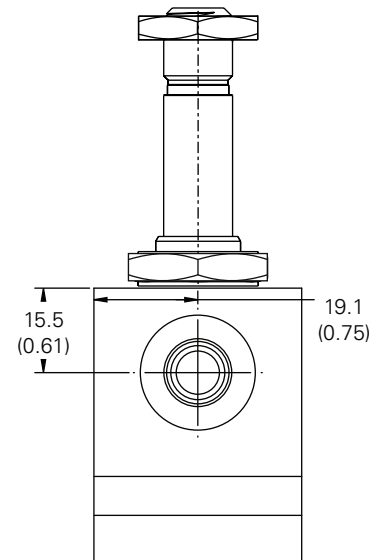
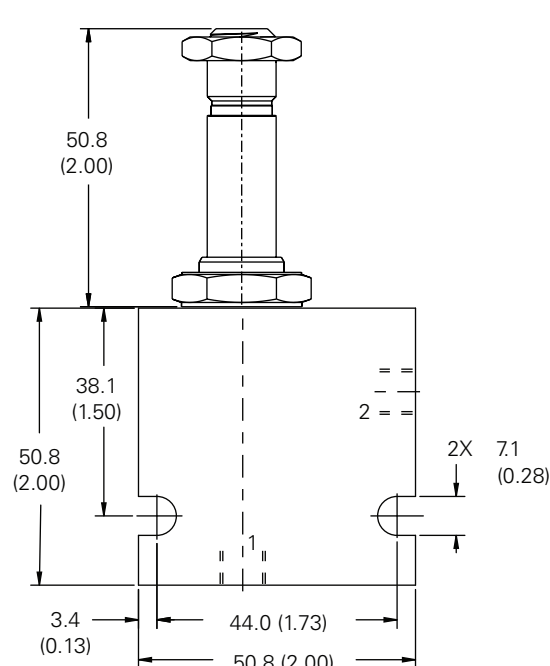
12 Special features
00 - None
(Only required if valve has special features, omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing

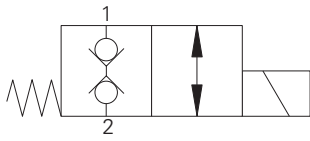


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SBV2-8-C - Solenoid Bi-directional valve

Poppet type, 2 way, 2 position, Bi-directional, normally closed (low flow version)
 1 L/min (0.25 USgpm) • 210 bar (3000 psi)

A



Operation

In the de-energized position the valve is blocked in both directions.

When the solenoid is energized the poppet is released from the seat allowing flow in both directions.

Performance data

Ratings and specifications

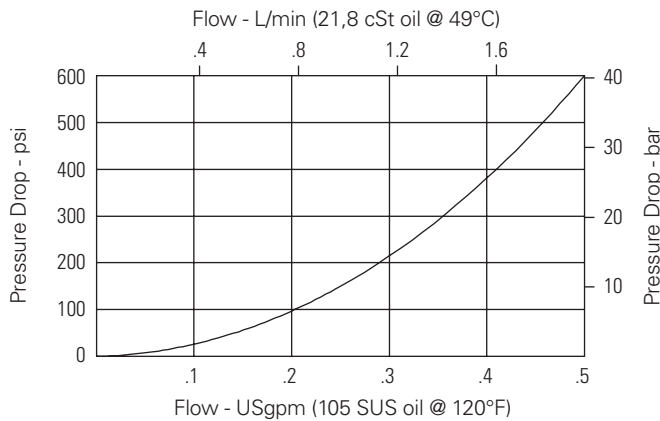
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 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

Cartridge only

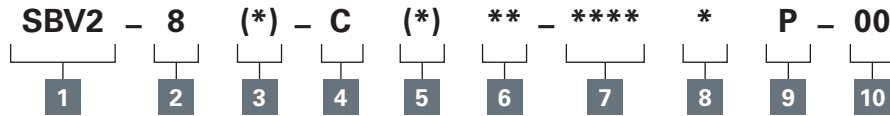


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SBV2-8-C - Solenoid Bi-directional valve

Poppet type, 2-way, 2-position, Bi-directional, normally closed (low flow version)
1 L/min (0.25 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function

SBV2 - Solenoid 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

6 Port size

Code	Port size	Housing number	
		Aluminium	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 housing details.

7 Voltage rating

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

8 Connector types

Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
F - Weather-Pack (Packard) male

9 Coil series

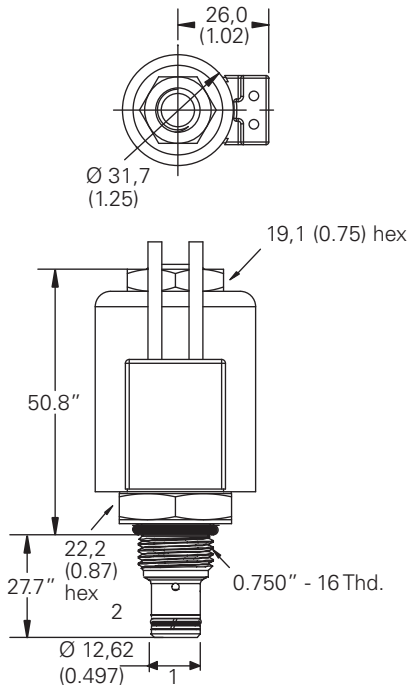
P - 8 series, 23 W
For coil part numbers and dimensions see section C.

10 Special features

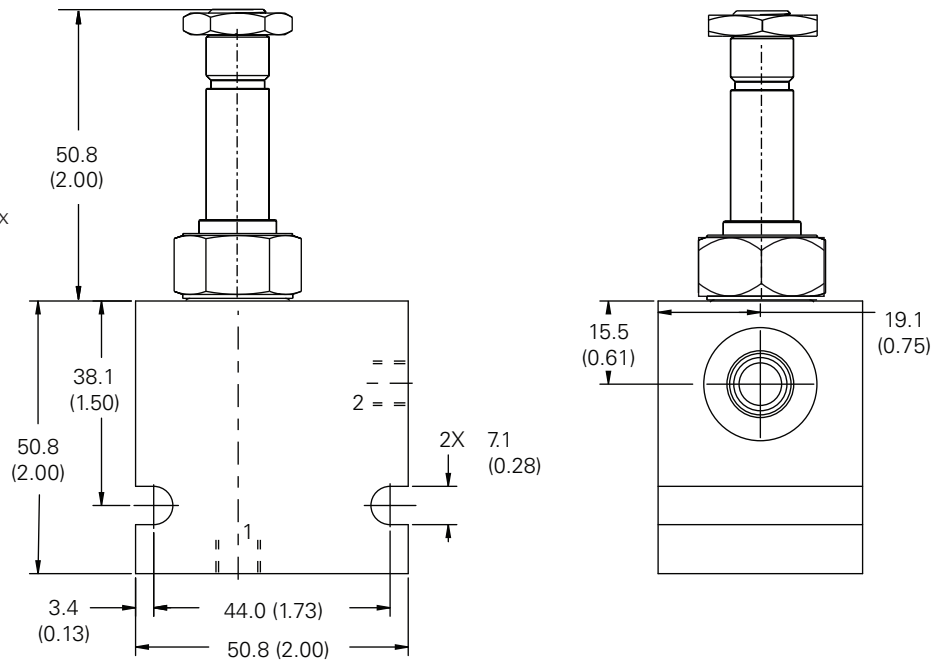
00 - None
(Only required if valve has special features omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing (Aluminum)

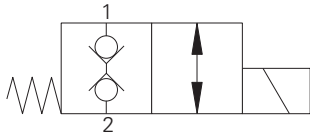


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SBV12-8-C/CM - Solenoid Bi-directional valve

Poppet type, 2-way, 2-position, Bi-directional, normally closed (low flow version)
 1 L/min (0.25 USgpm) • 350 bar (5000 psi)

A



Operation

In the de-energized position the valve is blocked in both directions.

When the solenoid is energized the poppet is released from the seat allowing flow in both directions.

Performance data

Ratings and specifications

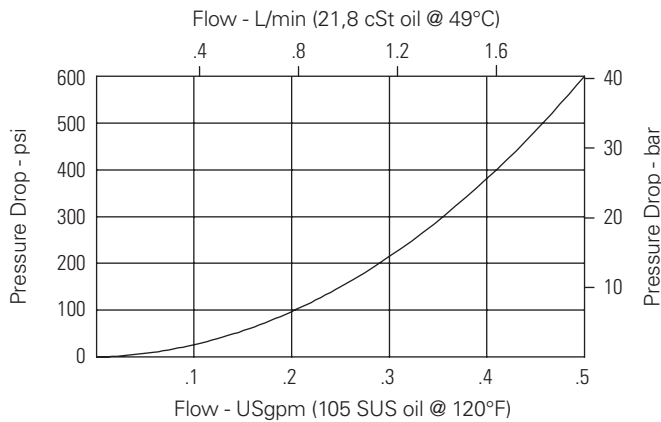
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 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)
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
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

Cartridge only

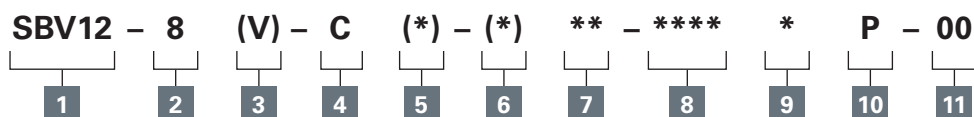


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SBV12-8-C/CM - Solenoid Bi-directional valve

Poppet type, 2-way, 2-position, Bi-directional, normally closed (low flow version)
1 L/min (0.25 USgpm) • 350 bar (5000 psi)

Model code



A

1 Function
SBV12 - 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-980.

6 Valve housing material
Blank - Cartridge only
A - Aluminum
S - Steel

7 Port size

Code	Port size	Housing number	
		Aluminium	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 housing details.

9 Connector types

Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
F - Weather-Pack (Packard) male

10 Coil series

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

11 Special features

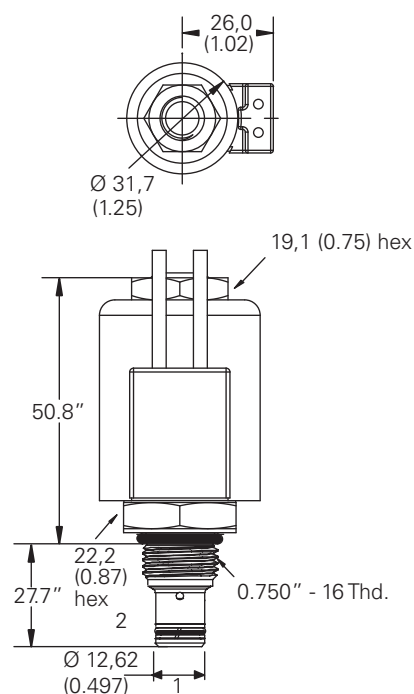
00 - None
(Only required if valve has special features omitted if "00.")

8 Voltage rating

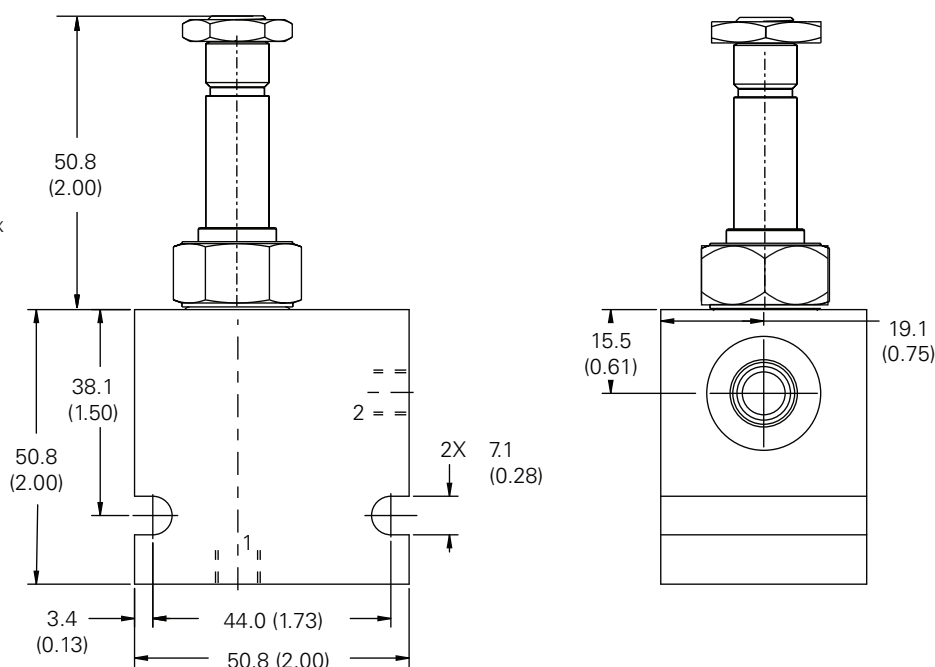
00 - No coil
12D - 12VDC
24D - 24VDC
115A - 115VAC
230A - 230VAC
12B - 12VDC/w diode*
24B - 24VDC/w diode*
*Optional arc suppression diode.

Dimensions - mm (inch)

Cartridge only



Installation drawing (Steel)

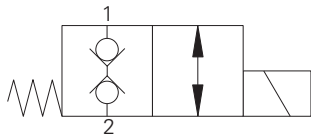


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S519 - Directional control valve

Bi-directional, normally closed poppet solenoid valve
Up to 12 L/min (3 USgpm) • Up to 210 bar (3000 psi)

A



Operation

In the de-energized position the valve is blocked in both directions. When the solenoid is energized the poppet is pushed off the seat allowing flow in both directions.

Performance data

Ratings and specifications

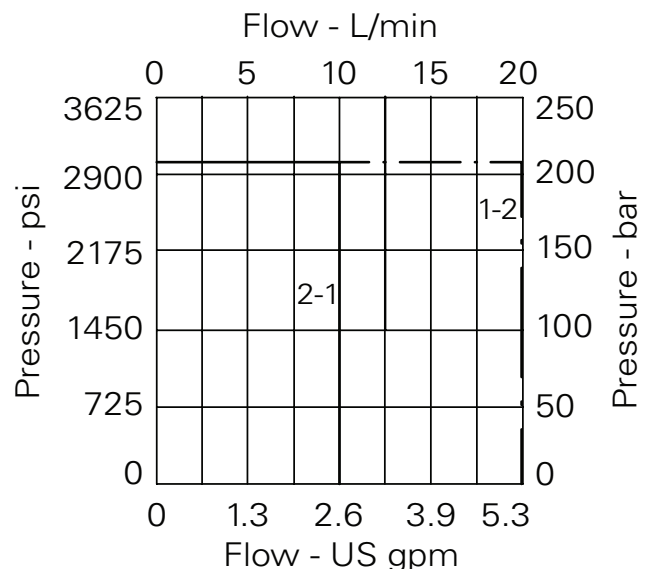
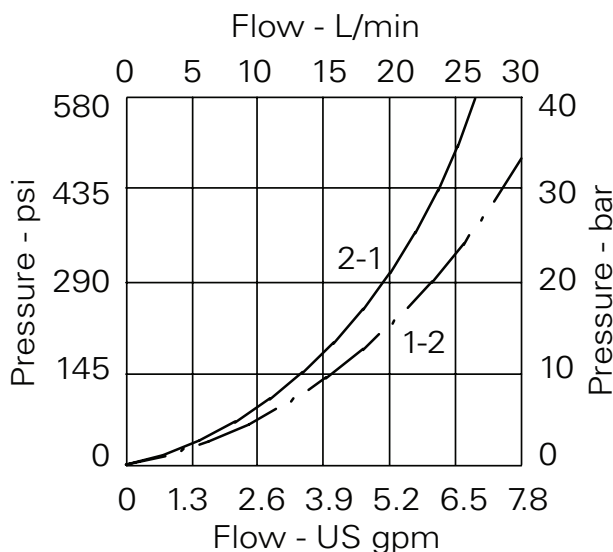
Performance data is typical with fluid at Viscosity 32 cSt (150 SSU)

Typical application pressure	210 bar (3000 psi)
Rated flow	Up to 11 L/Min
Nominal flow	10 L/min (3 USgpm)
Internal leakage	Less than 0.6 ml/min (10 dpm) 210 bar differential at 32 cSt
Temperature range	-30° to +120°C (-22° to +248°F)
Cavity	AXP12370 (see Section M)
Electrical data	See coil data sheet
Torque cartridge into cavity	20 Nm (15 lbs ft)
Mounting position	Unrestricted
Fluids	All general purpose hydraulics fluids such as: MIL-H-5606, SAE 10, SAE 20 etc
Seal material	Standard nitrile with PTFE back up rings
Filtration	BS5540/4 Class 18/13 (25 micron or better)
Nominal viscosity range	15 to 250 cSt
Standard housing materials	Aluminum , Steel
Coil weight	0.2 kg (0.4 lbs)
Cartridge weight	0.2 kg (0.4 lbs)
Seal kit	SK1138 (Nitrile) SK1138V (Viton)
Coil part number	C16*-*/19
Coil voltage available	12, 24 VDC, 110, 230, VAC*

Viton is a registered trademark of E.I. DuPont

*AC coils must be used with a rectifying connector

Pressure drop



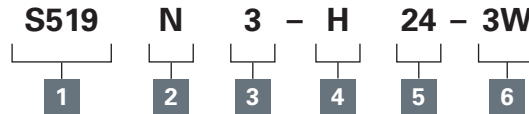
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S519 - Directional control valve

Bi-directional, normally closed poppet solenoid valve
Up to 12 L/min (3 USgpm) • Up to 210 bar (3000 psi)

A

Model code



1 Function

S519 - Normally closed

2 Seal material

N - Nitrile
V - Viton®

3 Manual override

Bank - No Manual Override
3 - Push
(Consult factory for availability)
See page A-980.

4 Voltage

12 - 12 VDC
24 - 24 VDC
110 - 110 VAC
230 - 230 VAC

5 Coil termination

H - ISO 4400 DIN 43650
F - Flying lead
A - Junior AMP
DM - Deutsch moulded
Other terminations available on request.

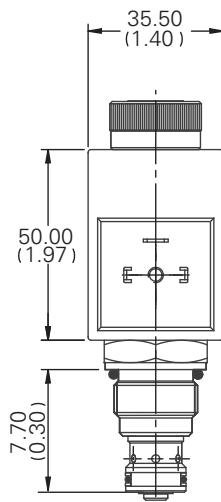
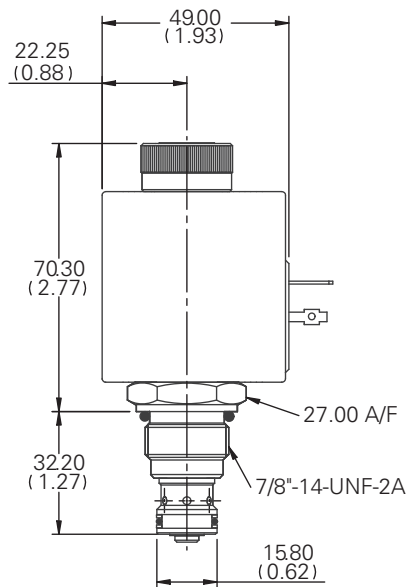
6 Port sizes

Code	Port size	Housing number	
		Aluminium	Steel
3W	8" BSP	BXP19053	BXP20598
4W	2" BSP	BXP19356	BXP20599
6T	3/8" SAE	BXP19401	BXP20601
8T	2" SAE	BXP19402	BXP20601

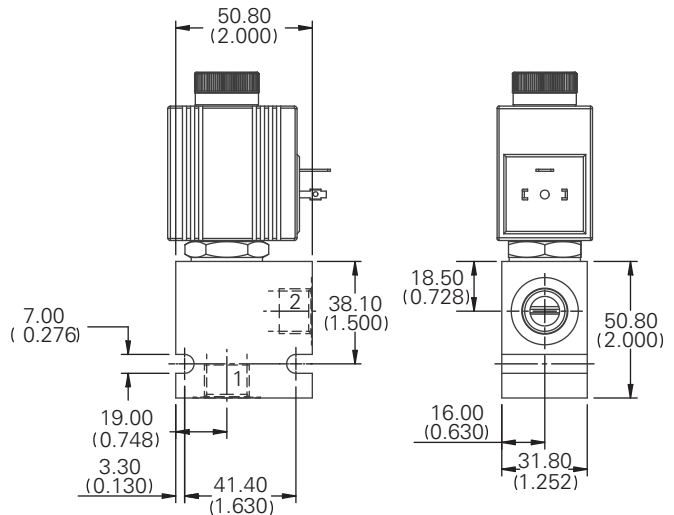
Dimensions - mm (inch)

Cartridge only

Basic code **S217**



Installation drawing



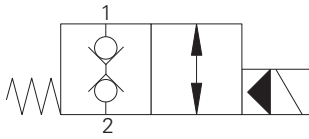
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SBV11-8-C / O - Solenoid Bi-directional valve

Poppet type, Bi-directional, normally closed & normally open
60 L/min (15 USgpm) • 350 bar (5000 psi)

A

SBV11-8-C Normally Closed

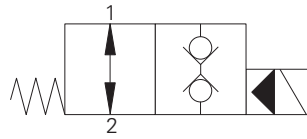


Operation

In the de-energized position the valve is blocked in both directions. When the solenoid is energized the pilot poppet is released from the seat allowing the main poppet to open.

A series of internal check valves allows full flow in both directions.

SBV11-8-O Normally Open



Operation

In the de-energized position the valve is open in both directions. A series of internal check valves allows full flow in both directions.

When the solenoid is energized the pilot poppet closes the pilot orifice causing the main poppet to close.

Performance data

Ratings and specifications

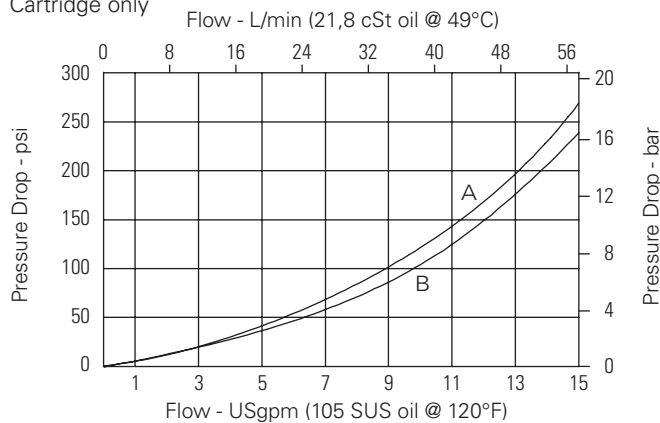
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 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)
Cavity	C-8-2
Weight cartridge only	0,12 kg (0.26 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	02-160777 (Buna-N), 02-160778 (Viton®)

Viton is a registered trademark of E.I. DuPont

SBV11-8-C Pressure drop

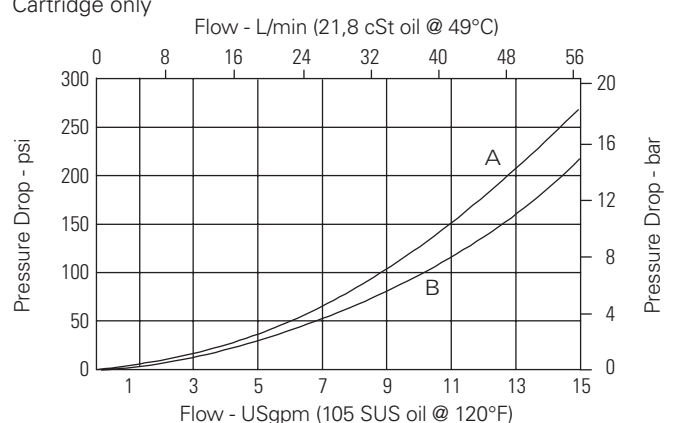
Cartridge only



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

SBV11-8-O Pressure drop

Cartridge only



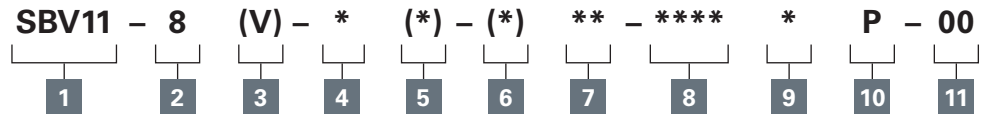
A - Port 1 to port 2
B - Port 2 to port 1

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SBV11-8-C - Solenoid Bi-directional valve

Poppet type, Bi-directional, normally closed & normally open
60 L/min (15 USgpm) • 350 bar (5000 psi)

Model code



A

1 Function

SBV11 - Solenoid valve

2 Size

8 - 8 size

3 Seal material

Blank - Buna-N
V - Viton®

4 Style

C - Normally closed
O - Normally Open

5 Manual override option

Blank - No manual override
M - Manual override
For valve dimensions with manual override option installed see page A-980.

6 Valve housing material

Blank - Cartridge only
A - Aluminum
S - Steel

7 Port size

Code	Port size	Housing number	
		Aluminium	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 housing details.

9 Connector types

Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
F - Weather-Pack (Packard) male on wire leads

10 Coil series

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

11 Special features

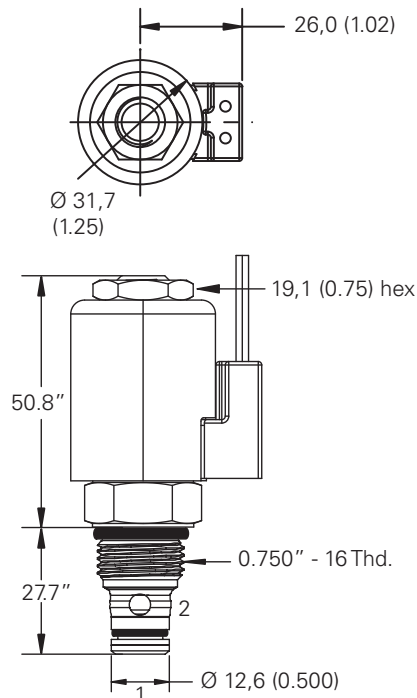
00 - None
(Only required if valve has special features omitted if "00.")

8 Voltage rating

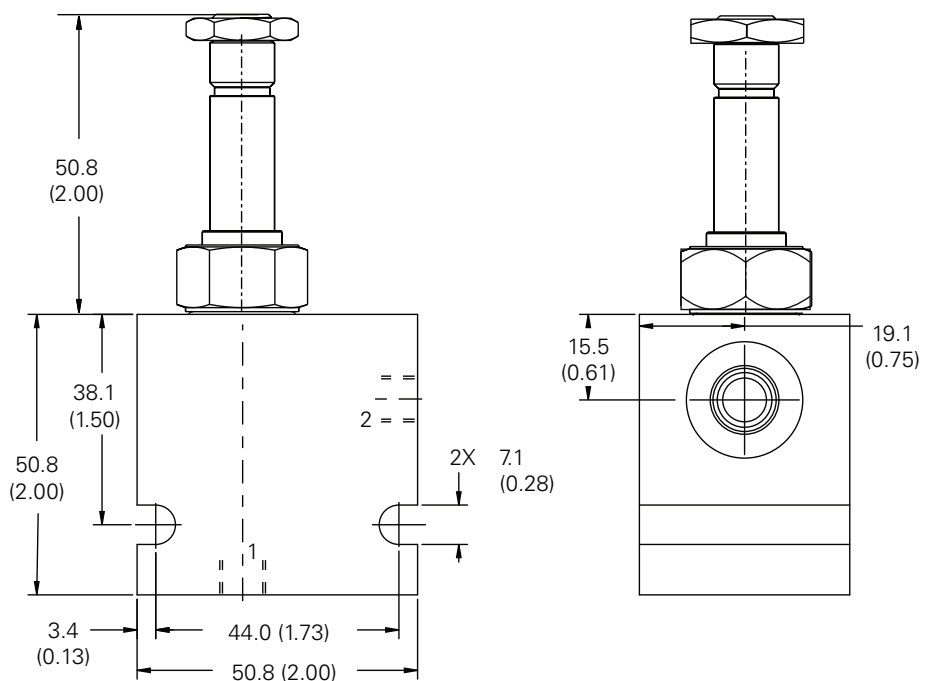
00 - No coil
12D - 12VDC
24D - 24VDC
115A - 115VAC
230A - 230VAC
12B - 12VDC/w diode*
24B - 24VDC/w diode*
*Optional arc suppression diode.

Dimensions - mm (inch)

Cartridge only



Installation drawing (Steel)

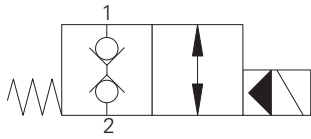


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SBV1-8-C - Solenoid Bi-directional Valve

Bi-directional, normally closed solenoid valve
60 L/min (1.5 USgpm) • 210 bar (3000 psi)

A



Operation

In the de-energized position the valve is blocked in both directions.

When the solenoid is energized the pilot poppet is released from the seat allowing the main poppet to open. A series of internal check valves allows full flow in both directions.

Performance data

Ratings and specifications

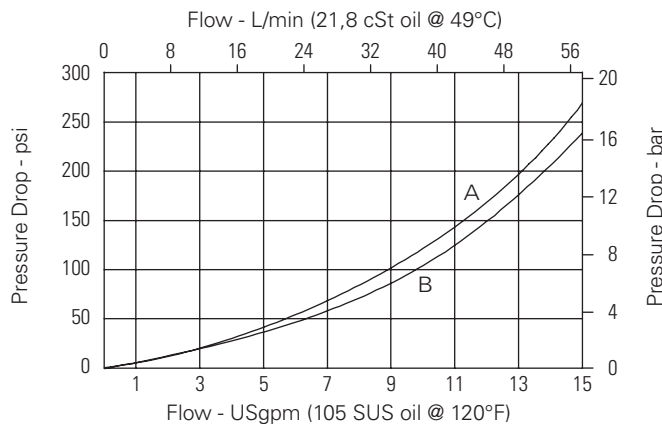
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Cartridge fatigue pressure (infinite life)	210 bar (3000 psi)
Rated flow	60 L/min (1.5 USgpm)
Internal leakage, port 1 to port 2 & 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)	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

Cartridge only



A - Port 1 to port 2

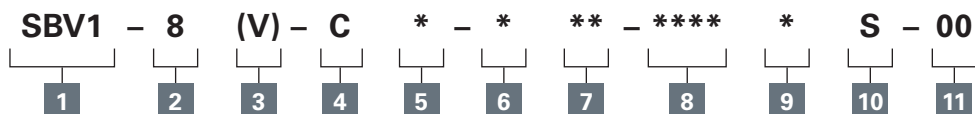
B - Port 2 to port 1

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SBV1-8-C - Solenoid Bi-directional Valve

Bi-directional, normally closed solenoid valve
60 L/min (15 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function

SBV1 - 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-980.

6 Valve housing material

Blank - Cartridge only

A - Aluminum

S - Steel

7 Port size

Code	Port size	Housing number	
		Aluminium	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 housing details.

8 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

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

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack (Packard) female on wire leads

F - Weather-Pack (Packard) male on wire leads

10 Coil series

P - 8 series, 23 W

For coil part numbers and dimensions see section C.

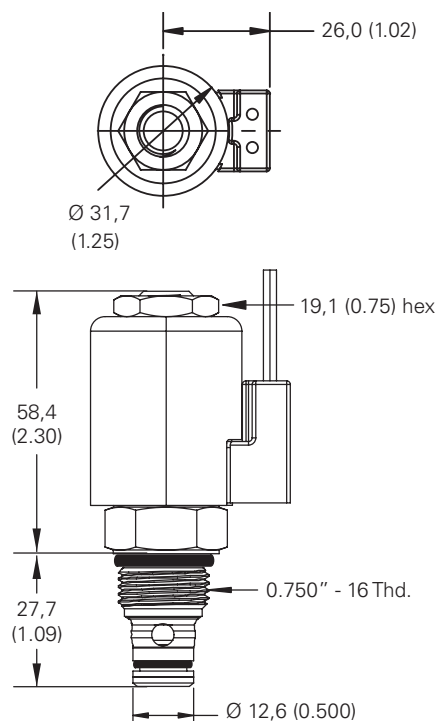
11 Special features

00 - None

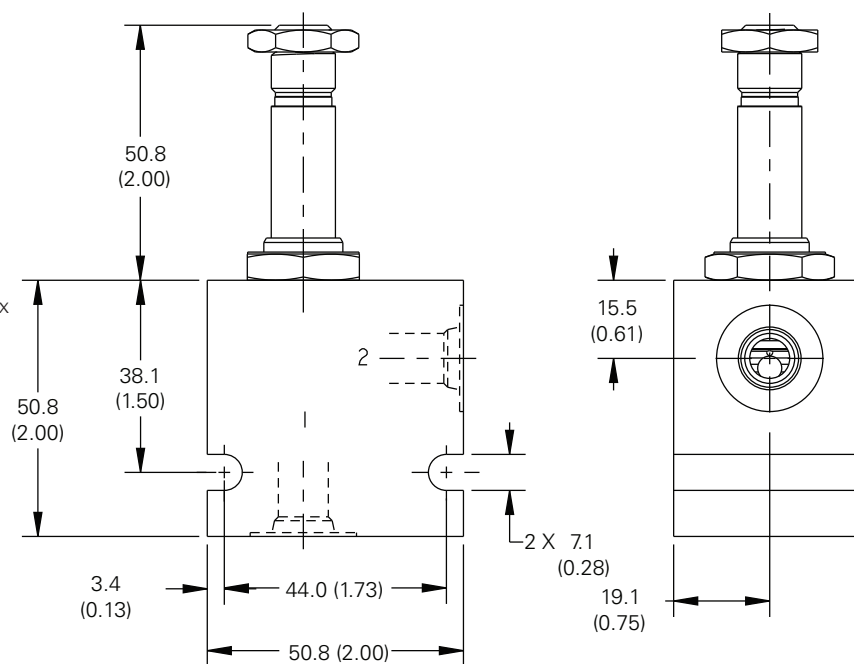
(Only required if valve has special features omitted if "00.")

Dimensions - mm (inch)

Cartridge only



Installation drawing (Steel)

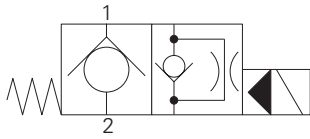


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV1-10-C - Solenoid valve

Poppet type, 2-way, 2-position, normally closed
 45 L/min (12 USgpm) • 210 bar (3000 psi)

A



Operation

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

When the solenoid is energized the pilot poppet is pulled off the seat allowing the valve to open from port 2 to 1. in the reverse direction the flow is restricted by the pilot orifice.

Performance data

Ratings and specifications

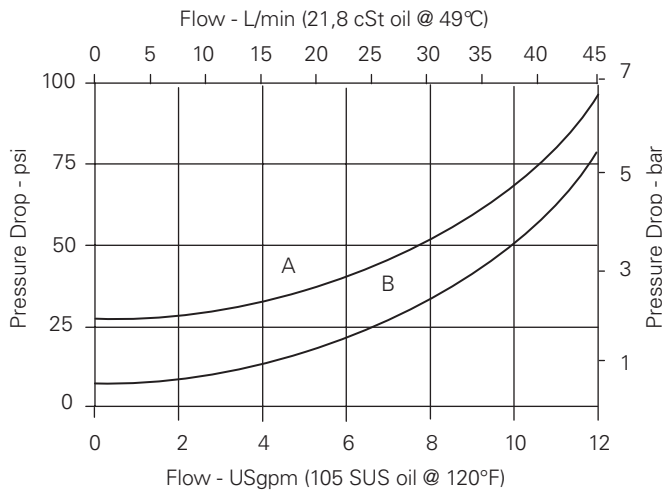
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	45 L/min (12 USgpm)
Internal leakage	Less than 5 drops/min. max @ 210 bar (3000 psi)
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
Weight including coil	0,4 kg (0.087 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	565803 (Buna-N), 566086 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



Pressure drop vs. Flow

A - Port 1 to port 2 de-energized

B - Port 2 to port 1 energized

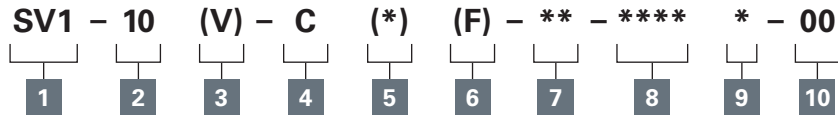
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV1-10-C - Solenoid valve

Poppet type, 2-way, 2-position, normally closed
45 L/min (12 USgpm) • 210 bar (3000 psi)

A

Model code



1 Function

SV1 - 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-980.

6 Filter option

Blank - None

F - Filter screen

7 Port size

Code	Port size	Housing number
0	Cartridge only	
3B	3/8" BSPP	02-175464*
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 housing details.

8 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

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

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack (Packard) female on wire leads

F - Weather-Pack (Packard) male on wire leads

For coil part numbers and dimensions see section C.

10 Special features

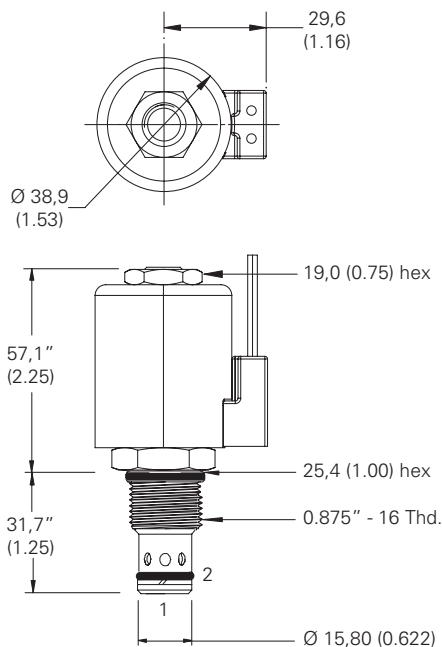
00 - None

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

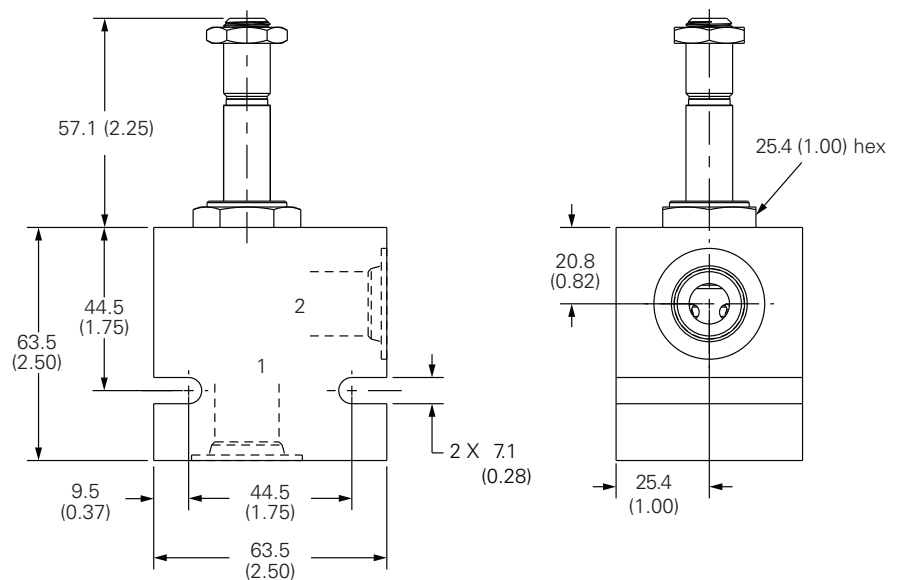
Note: Use J series, 23 W coils with this solenoid valve.

Dimensions - mm (inch)

Cartridge only



Installation drawing

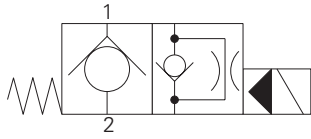


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV1 1-10-C - Solenoid valve

Poppet type, 2-way, 2-position, normally closed
 45 L/min (12 USgpm) • 350 bar (5000 psi)

A



Operation

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

When the solenoid is energized the pilot poppet is pulled off the seat allowing the valve to open from port 2 to 1. in the reverse direction the flow is restricted by the pilot orifice.

Performance data

Ratings and specifications

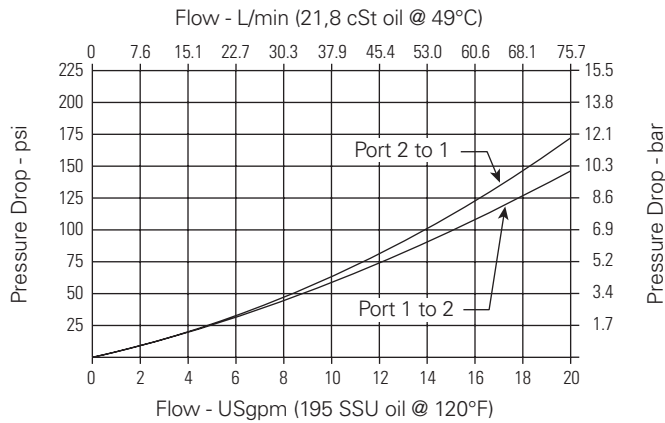
Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 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)
Cavity	C-10-2
Weight cartridge only	0,18 kg (0.39 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	565803 (Buna-N), 566086 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



A - Port 1 to port 2 de-energized

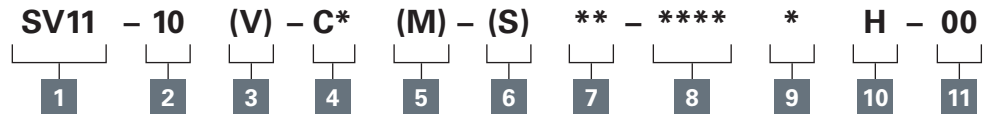
B - Port 2 to port 1 energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV11-10-C/CM - Solenoid valve

Poppet type, 2-way, 2-position, normally closed
45 L/min (12 USgpm) • 350 bar (5000 psi)

Model code



A

1 Function

SV11 - 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-980.

6 Valve housing material

Blank - Cartridge only

S - Steel

7 Port size

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 housing details.

9 Connector types

Blank - No coil

G - ISO 4400 DIN 43650

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack (Packard) female on wire leads

F - Weather-Pack (Packard) male on wire leads

10 Coil series

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

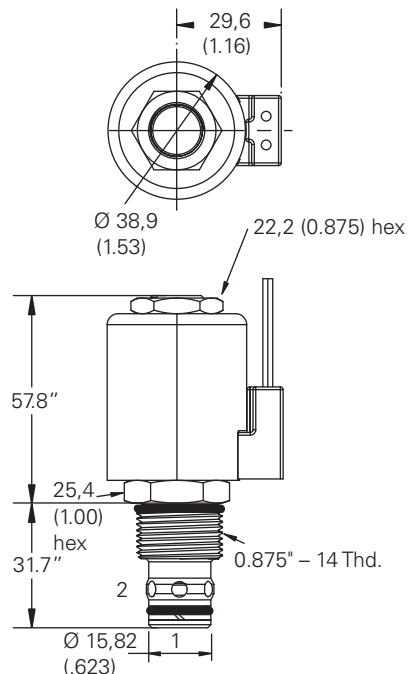
11 Special features

00 - None

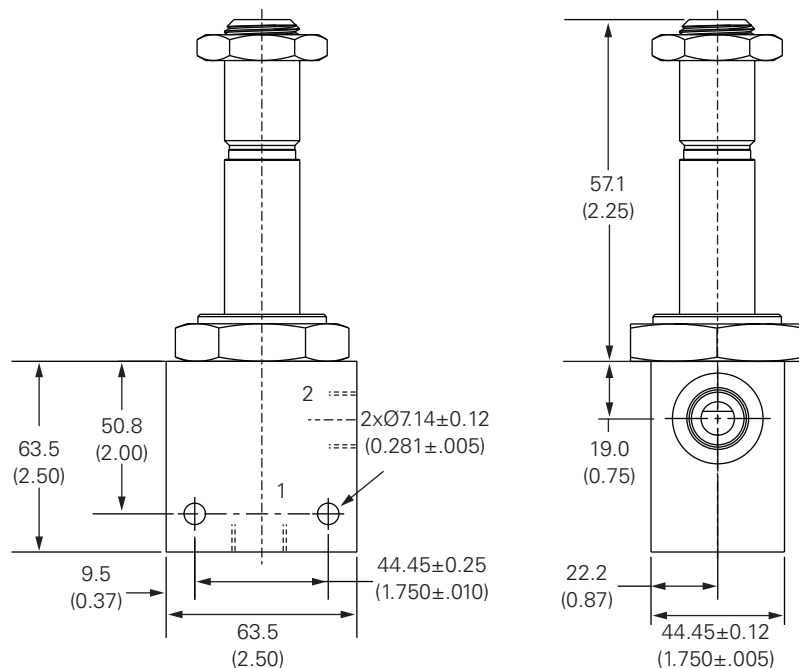
(Only required if valve has special features omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawings (Steel)



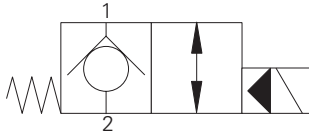
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV3-8-C / O - Solenoid valve

Poppet type, 2-way, 2-position, Normally open & Normally closed
23 L/min (6 USgpm) • 210 bar (3000 psi)

A

SV3-8-C Normally Closed

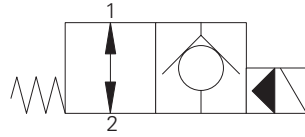


Operation

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

When the solenoid is energized the pilot poppet is pulled off the seat allowing the valve to open in both directions.

SV3-8-O Normally Open



Operation

In the de-energized position the valve allows free flow in both directions.

When the solenoid is energized the pilot poppet closes the orifice and the valve closes blocking flow from port 2 to 1 while allowing free flow from port 1 to 2.

Performance data

Ratings and specifications

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

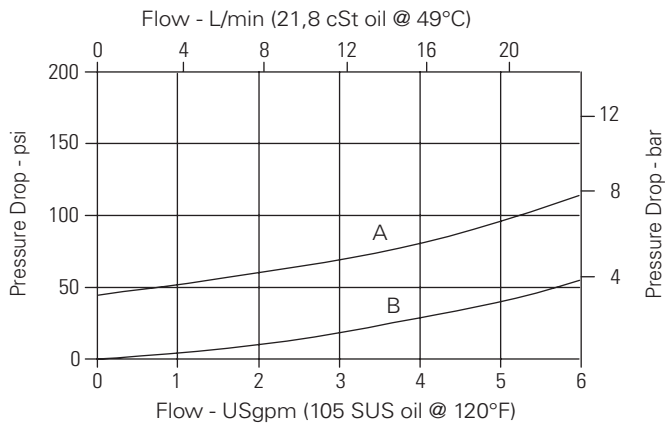
Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	less than 5 drops/min @ 210 bar (3000 psi)
Coil duty	Continuous from 85% to 110% of nominal voltage
Response times for normally close (100% rated voltage and flow)	Energize: 18 ms De-Energize: 46 ms
Response times for normally open (100% rated voltage and flow)	Energize: 24 ms De-Energize: 25 ms
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-8-2
Weight including coil	0,28 kg (0.62 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	02-165875 (Buna-N), 02-165877 (Viton®)

Viton is a registered trademark of E.I. DuPont

SV3-8-O

Pressure drop

Cartridge only



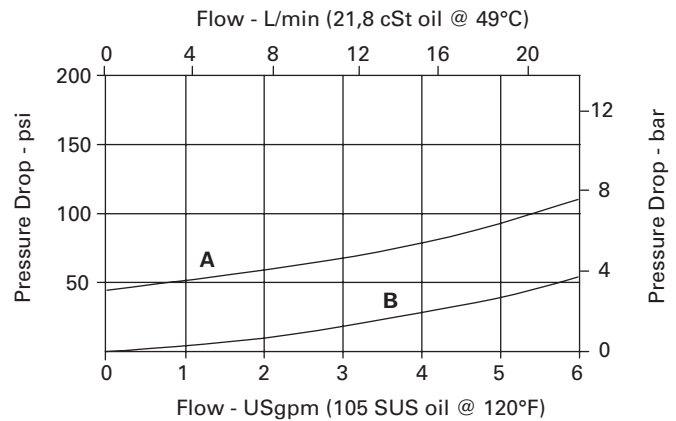
A - Port 1 to port 2 de-energized

B - Port 2 to port 1 energized

SV3-8-C

Pressure drop

Cartridge Only



A - Port 1 to port 2 energized

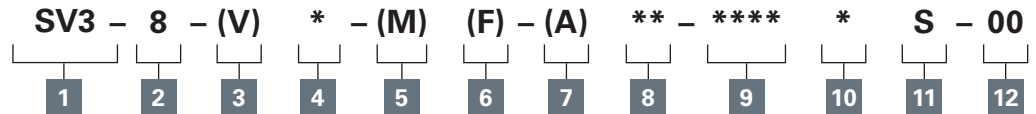
B - Port 2 to port 1 de-energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV3-8-C / O - Solenoid valve

Poppet type, 2-way, 2-position, Normally open & Normally closed
23 L/min (6 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function

SV3 - Solenoid valve

2 Size

8 - 8 size

3 Seal material

Blank - Buna-N

V - Viton®

4 Style

C - Normally closed

O - Normally open

5 Manual override option

Blank - No manual override

M - Knob type

P - Push type

S - Screw type

For valve dimensions with manual override option installed see page A-980.

6 Filter option

Blank - None

F - Filter screen

7 Valve housing material

Omit for cartridge only

A - Aluminum

S - Steel

8 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.

9 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

115A - 115VAC

230A - 230VAC

12B - 12VDC/w diode*

24B - 24VDC/w diode*

*Optional arc suppression diode.

10 Connector types

Blank - No coil

G - ISO 4400 DIN 43650

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack (Packard) female on wire leads

F - Weather-Pack (Packard) male on wire leads

11 Coil series

S - 8 series, 20 W

For coil part numbers and dimensions see section C.

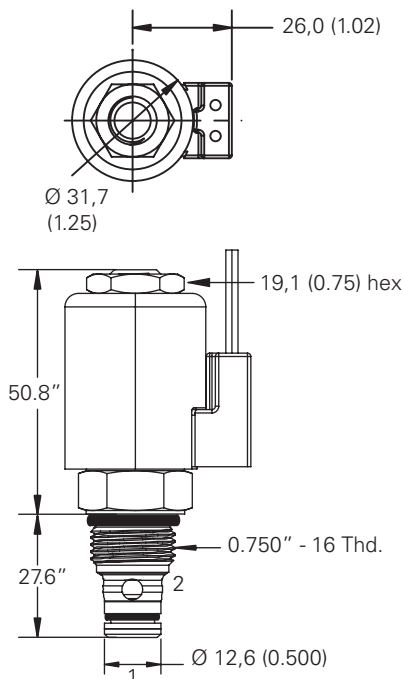
12 Special features

00 - None

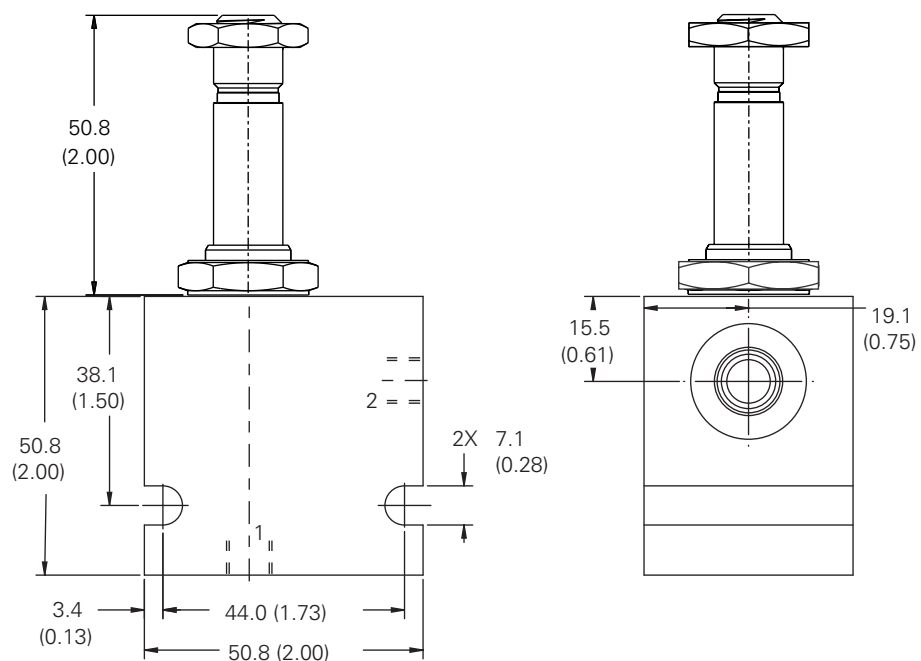
(Only required if valve has special features, omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing



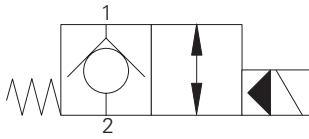
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV3-10-C / O - Solenoid valve

Poppet type, 2-way, 2-position, Normally open & Normally closed
45 L/min (12 USgpm) • 210 bar (3000 psi)

A

SV3-10-C Normally Closed

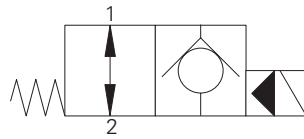


Operation

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

When the solenoid is energized the pilot poppet is pulled off the seat allowing the valve to open in both directions.

SV3-10-O Normally Open



Operation

In the de-energized position the valve allows free flow in both directions.

When the solenoid is energized the pilot poppet closes the orifice and the valve closes blocking flow from port 2 to 1 while allowing free flow from port 1 to 2.

Performance data

Ratings and specifications

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

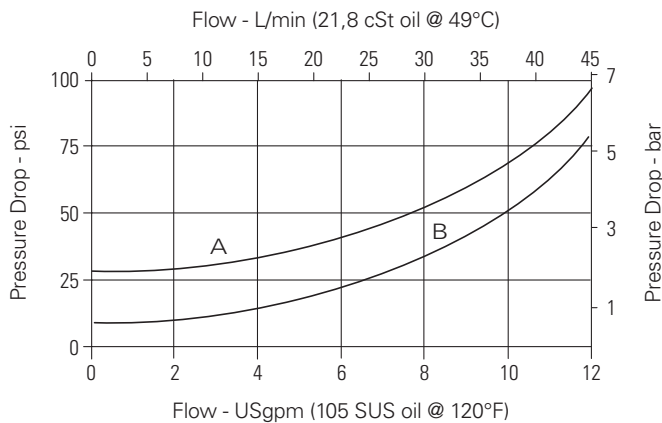
Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	45 L/min (12 USgpm)
Internal leakage	less than 5 drops/min, max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-10-2
Weight cartridge only	0,4 kg (0.87 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	565803 (Buna-N), 566086 (Viton®)

Viton is a registered trademark of E.I. DuPont

SV3-10-O

Pressure drop

Cartridge only

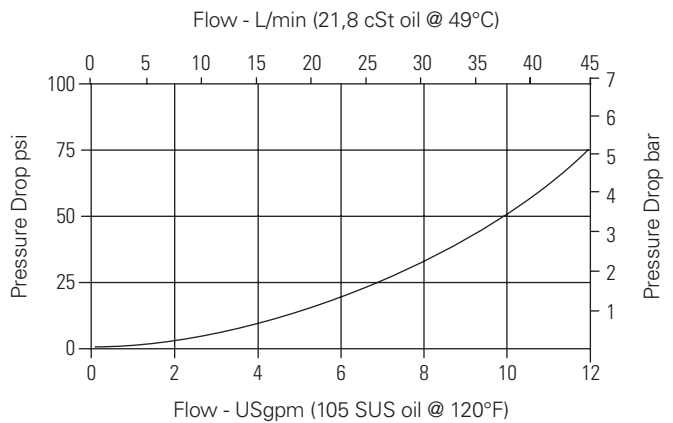


A - Port 1 to port 2 de-energized
B - Port 2 to port 1 energized

SV3-10-C

Pressure drop

Cartridge only



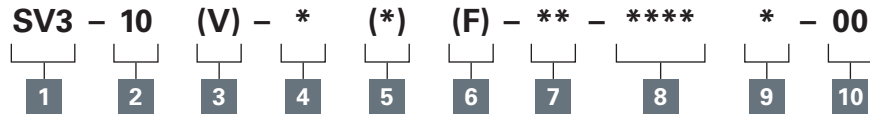
Port 1 to port 2 and port 2 to port 1 de-energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV3-10-C / O - Solenoid valve

Poppet type, 2-way, 2-position, Normally open & Normally closed
45 L/min (12 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function

SV3 - Solenoid valve

2 Size

10 - 10 size

3 Seal material

Blank - Buna-N

V - Viton®

4 Style

C - Normally closed

O - Normally open

5 Manual override option

Blank - No manual override

M - Knob type

R - Cable type

P - Push type

S - Screw type

For valve dimensions with manual override option installed see page A-980.

6 Filter options

Blank - None

F - Filter screen

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

See section J for housing details.

*Light duty housing

8 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

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

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack female

F - Weather-Pack male

For coil part numbers and dimensions see section C.

10 Special features

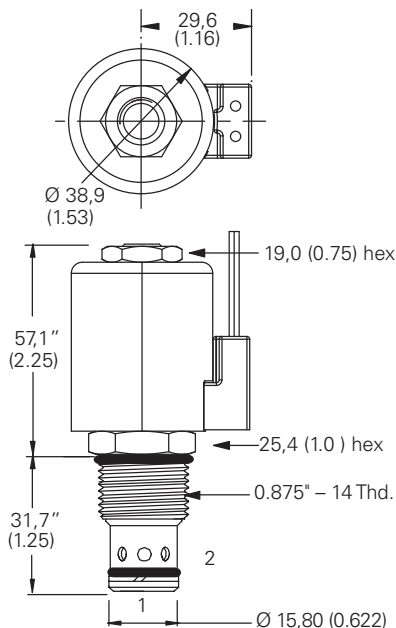
00 - None

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

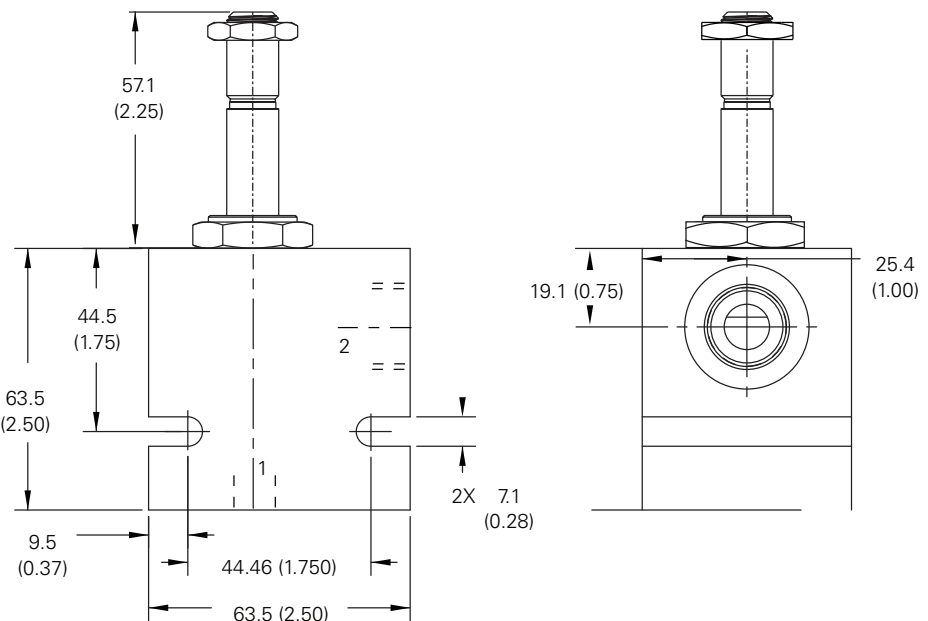
Note: Use J series, 23 W coils with this solenoid valve.

Dimensions - mm (inch)

Cartridge only



Installation drawing



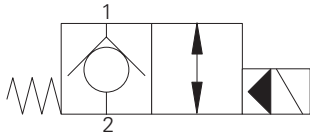
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV13-10-C / O - Solenoid valve

Poppet type, 2-way, 2-position, Normally open & Normally closed (free reverse flow)
45 L/min (12 USgpm) • 350 bar (5000 psi)

A

SV3-13-C Normally Closed

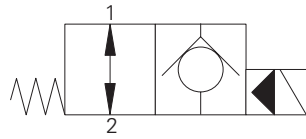


Operation

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

When the solenoid is energized the pilot poppet is pulled off the seat allowing the valve to open in both directions.

SV3-13-O Normally Open



Operation

In the de-energized position the valve allows free flow in both directions.

When the solenoid is energized the pilot poppet closes the orifice and the valve closes blocking flow from port 2 to 1 while allowing free flow from port 1 to 2.

Performance data

Ratings and specifications

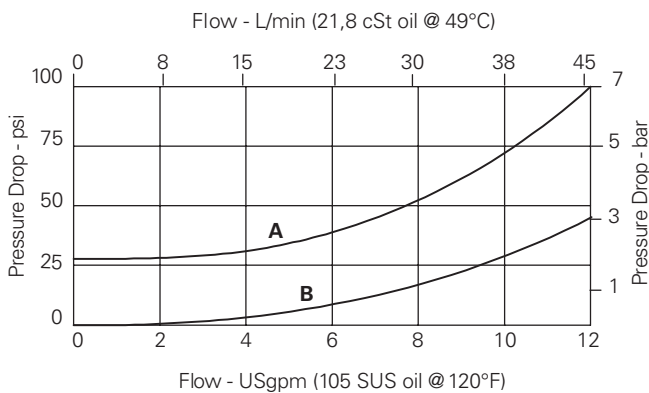
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 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)
Cavity	C-10-2
Filtration	Cleanliness code 18/16/13
Weight cartridge only	0,18 kg (0.39 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	565803 (Buna-N), 566086 (Viton®)

Viton is a registered trademark of E.I. DuPont

SV13-10-O Pressure drop

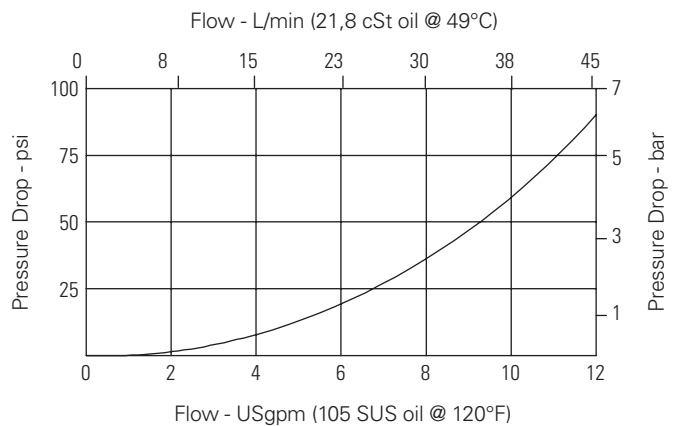
Cartridge only



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

SV13-10-C Pressure drop

Cartridge only



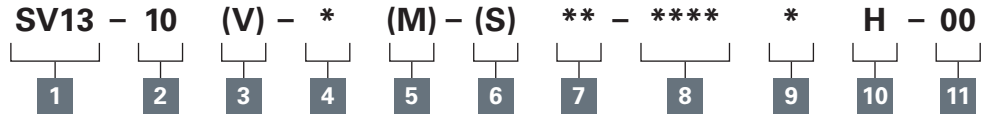
Port 1 to port 2 and port 2
to port 1 de-energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV13-10-C / O - Solenoid valve

Poppet type, 2-way, 2-position, Normally open & Normally closed (free reverse flow)
45 L/min (12 USgpm) • 350 bar (5000 psi)

Model code



A

1 Function

SV13 - Solenoid valve

2 Size

10 - 10 size

3 Seal material

Blank - Buna-N
V - Viton®

4 Style

C - Normally closed
O - Normally open

5 Manual override option

Blank - No manual override
M - Manual override
P - Push type
S - Screw type
For valve dimensions with manual override option installed see page A-980.

6 Valve housing material

Blank - Cartridge only
S - Steel

7 Port size

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 housing details.

8 Voltage rating

00 - No coil
12D - 12VDC
24D - 24VDC
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
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
E - Weather-Pack (Packard) female on wire leads
F - Weather-Pack (Packard) male on wire leads

10 Coil series

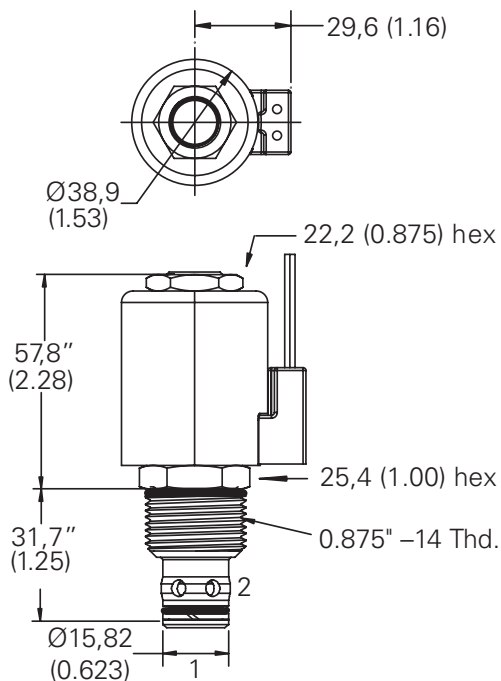
H - 10 Series, 29 W
For coil part numbers and dimensions see section C.

11 Special features

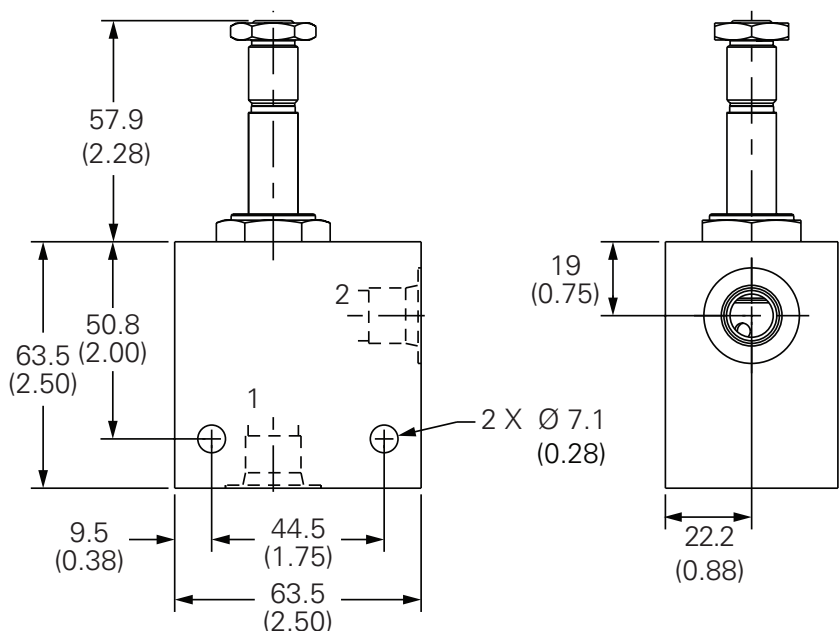
00 - None
(Only required if valve has special features, omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing

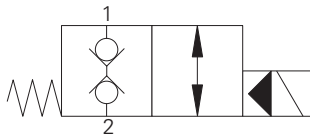


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SBV1-10-C - Solenoid valve

Poppet type, 2-way, 2-position, bi-directional, Normally closed
 76 L/min (20 USgpm) • 210 bar (3000 psi)

A



Operation

In the de-energized position the valve is blocked in both directions.

When the solenoid is energized the pilot poppet is released from the seat allowing the main poppet to open. A series of internal check valves allows full flow in both directions.

Performance data

Ratings and specifications

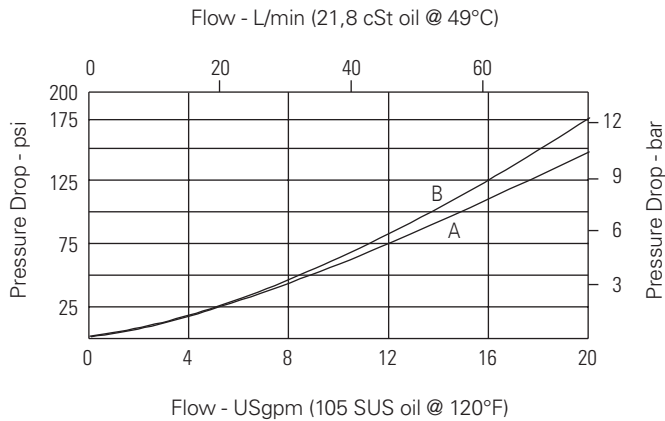
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	76 L/min (20 USgpm)
Internal leakage	5 drops/min, max @ 210 bar (3000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Cavity	C-10-2
Weight cartridge only	0,18 kg (0.39 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	565806 (Buna-N), 889627 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



A - Port 1 to port 2

B - Port 2 to port 1

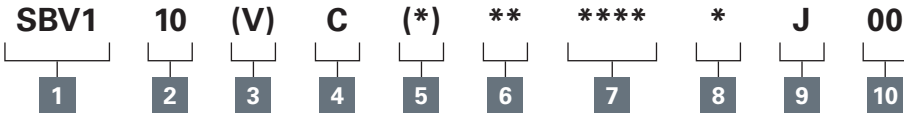
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SBV1-10-C - Solenoid valve

Poppet type, 2-way, 2-position, bi-directional, Normally closed
76 L/min (20 USgpm) • 210 bar (3000 psi)

A

Model code



1 Function

SBV1 - 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

6 Port size

Code	Port size	Housing number	
		Aluminium	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 section J for housing details.

7 Voltage rating

00 - No coil
12D - 12VDC
24D - 24VDC
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
W - Leadwire
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
E - Weather-Pack female
F - Weather-Pack male

9 Coil series

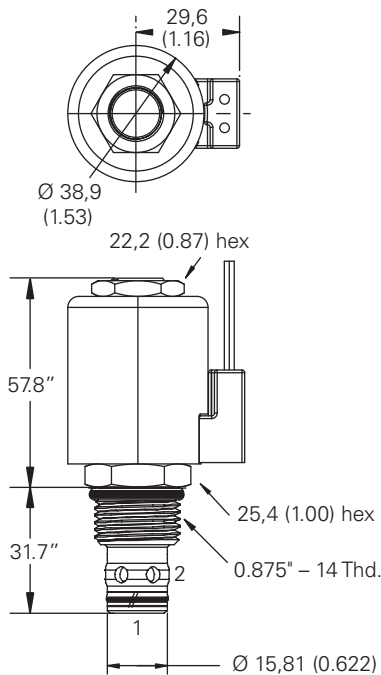
J - 10 series, 23 W
For coil part numbers and dimensions see section C.

10 Special features

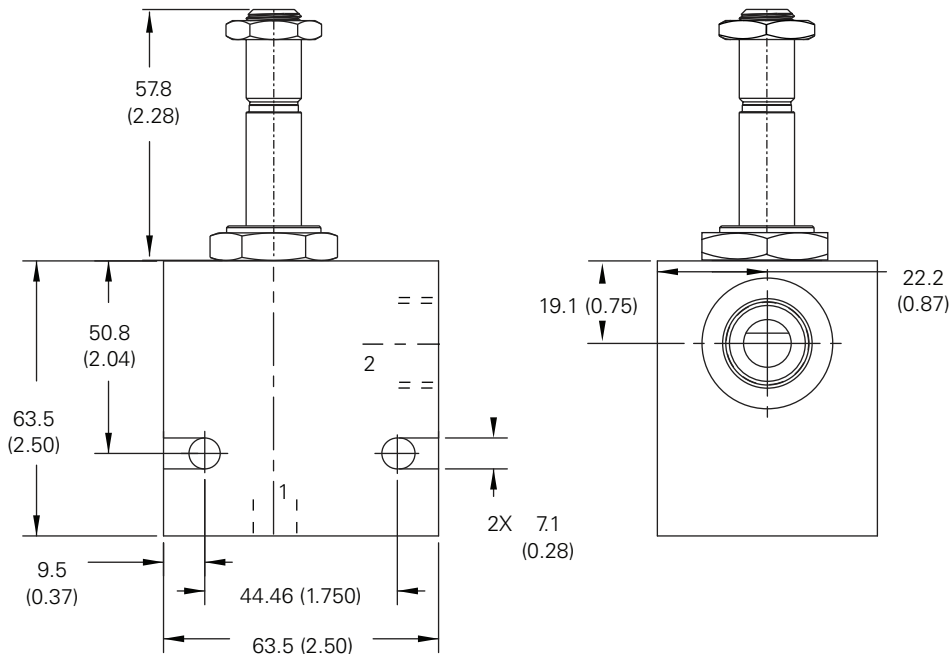
00 - None
(Only required if valve has special features, omitted if "00.")

Dimensions - mm (inch)

Cartridge only



Installation drawing (Aluminum)



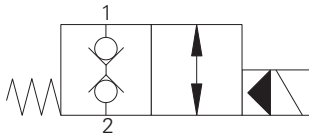
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SBV11-10-C / O - Solenoid valve

Poppet type, 2-way, 2-position, Bi-directional, normally closed & normally open
76 L/min (20 USgpm) • 350 bar (5000 psi)

A

SBV11-10-C Normally Closed

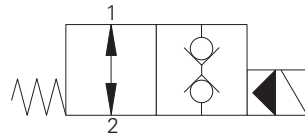


Operation

In the de-energized position the valve is blocked in both directions.

When the solenoid is energized the pilot poppet is released from the seat allowing the main poppet to open. A series of internal check valves allows full flow in both directions.

SBV11-10-O Normally Open



Operation

In the de-energized position the valve is open in both directions. A series of internal check valves allows full flow in both directions.

When the solenoid is energized the pilot poppet closes the pilot orifice causing the main poppet to close.

Performance data

Ratings and specifications

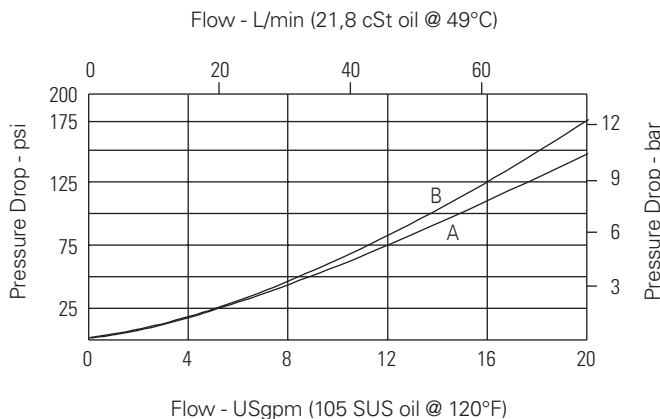
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 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)
Cavity	C-10-2
Weight cartridge only	0,18 kg (0.39 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	565806 (Buna-N), 889627 (Viton®)

Viton is a registered trademark of E.I. DuPont

SBV11-10-C Pressure drop

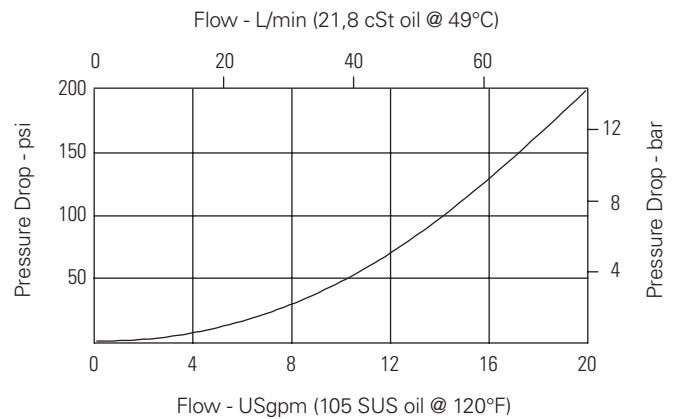
Cartridge only



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

SBV11-10-O Pressure drop

Cartridge only



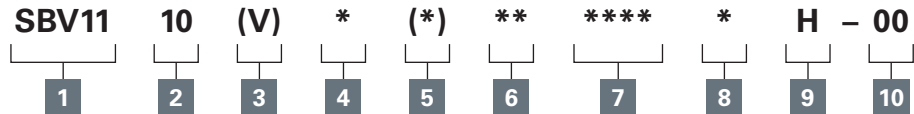
Port 1 to port 2 or port 2 to port 1 de-energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SBV11-10-C - Solenoid valve

Poppet type, 2-way, 2-position, Bi-directional, normally closed & normally open
76 L/min (20 USgpm) • 350 bar (5000 psi)

Model code



A

1 Function

SBV11 - Solenoid bi-directional valve

2 Size

10 - 10 size

3 Seal material

Blank - Buna-N
V - Viton®

4 Style

C - Normally closed
O - Normally open

5 Valve housing material

Blank - Cartridge only
A - Aluminum
S - Steel

6 Port size

Code	Port size	Housing number	
		Aluminium	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 section J for housing details.

8 Connector types

Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
E - Weather-Pack (Packard) female on wire leads
F - Weather-Pack (Packard) male on wire leads

9 Coil series

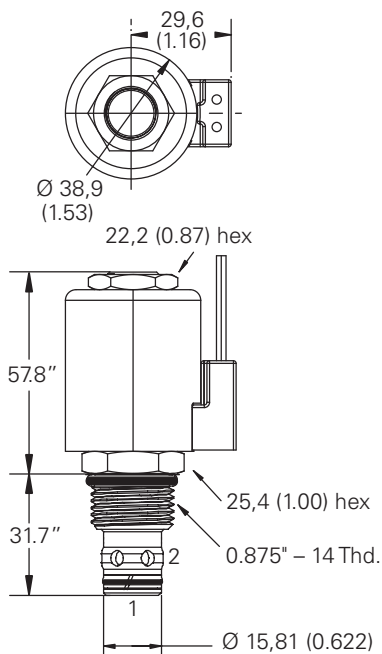
H - 10 series, 29 W
For coil part numbers and dimensions see section C.

10 Special features

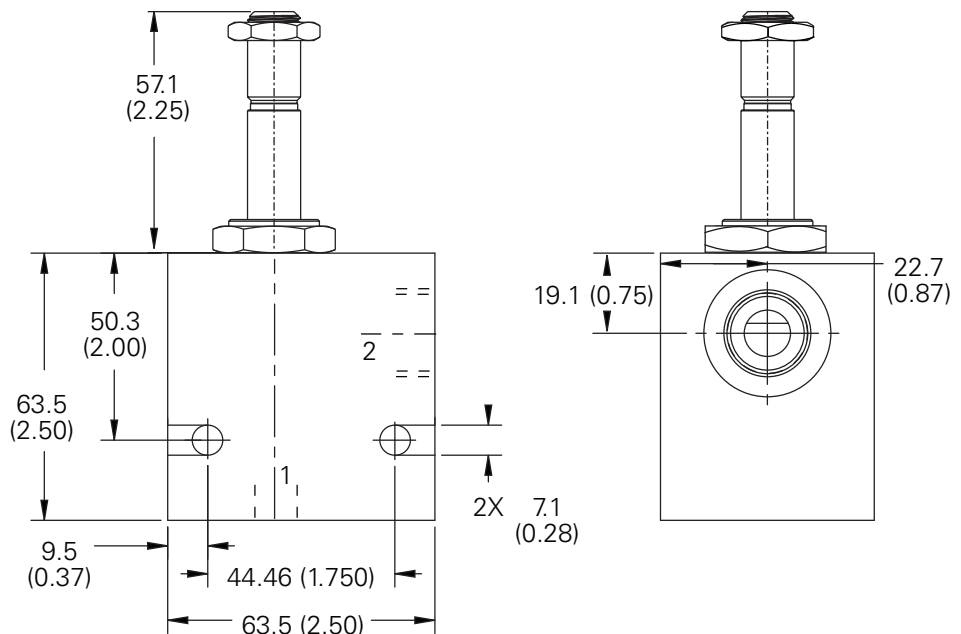
00 - None
(Only required if valve has special features, omitted if "00.")

Dimensions - mm (inch)

Cartridge only



Installation drawing (Steel)



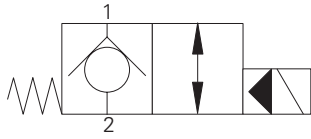
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV3-12-C / O - Solenoid valve

Poppet type, 2-way, 2-position, Normally open & Normally closed
 114 L/min (30 USgpm) • 210 bar (3000 psi)

A

SV3-12-C Normally Closed

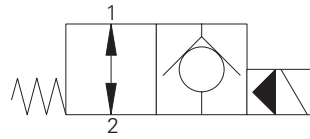


Operation

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

When the solenoid is energized the pilot poppet is pulled off the seat allowing the valve to open in both directions.

SV3-12-O Normally Open



Operation

In the de-energized position the valve allows free flow in both directions.

When the solenoid is energized the pilot poppet closes the orifice and the valve closes blocking flow from port 2 to 1 while allowing free flow from port 1 to 2.

Performance data

Ratings and specifications

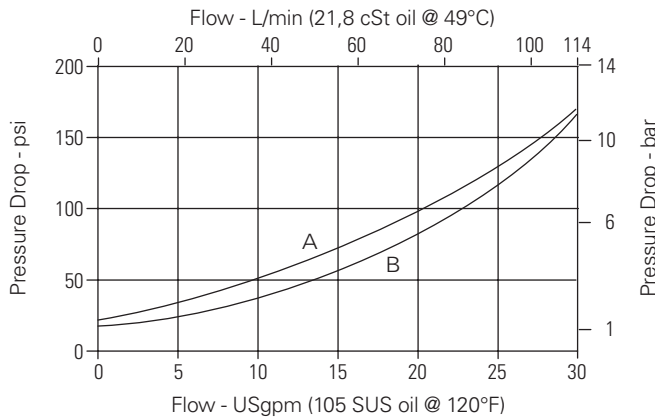
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	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)
Response times for normally close (100% rated voltage and flow)	Energize: 75 ms De-Energize: 150 ms
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.
Weight including coil	0,336 kg (0.74 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	02-165889 (Buna-N), 02-165888 (Viton®)

Viton is a registered trademark of E.I. DuPont

SV3-12-C Pressure drop

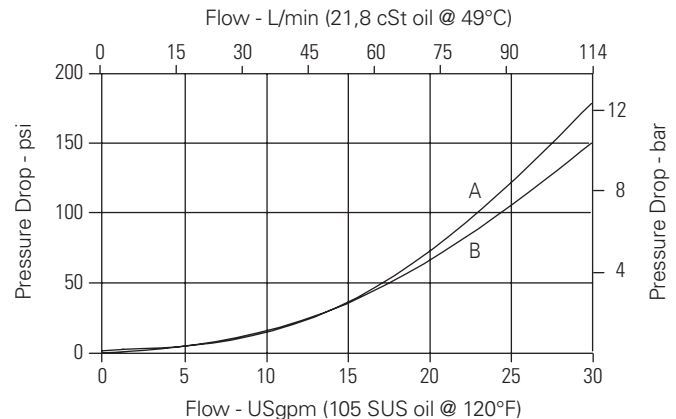
Cartridge only



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

SV3-12-O Pressure drop

Cartridge only



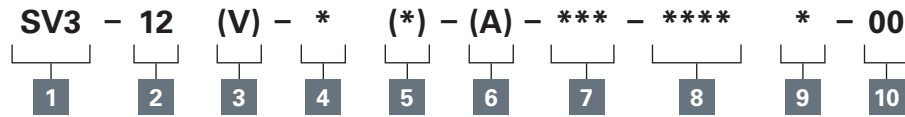
A - Port 2 to port 1 de-energized
B - Port 1 to port 2 energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV3-12-C / O - Solenoid valve

Poppet type, 2-way, 2-position, Normally open & Normally closed
114 L/min (30 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function

SV3 - Solenoid valve

2 Size

12 - 12 size

3 Seal material

Blank - Buna-N
V - Viton®

4 Style

C - Normally closed
O - Normally open

5 Manual override option

Blank - No manual override

M - Knob type
R - Cable type
P - Push type
S - Screw type

For valve dimensions with manual override option installed see page A-980.

6 Valve housing material

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

7 Port size

Code	Port size	Housing number	
		Aluminium	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.

9 Connector types

Blank - No coil

G - ISO 4400 DIN 43650

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack female

F - Weather-Pack male

10 Special features

00 - None

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

8 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

115A - 115VAC

230A - 230VAC

12B - 12VDC/w diode*

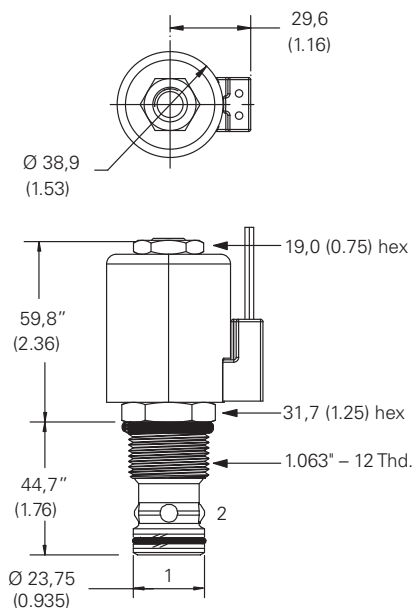
24B - 24VDC/w diode*

*Optional arc suppression diode.

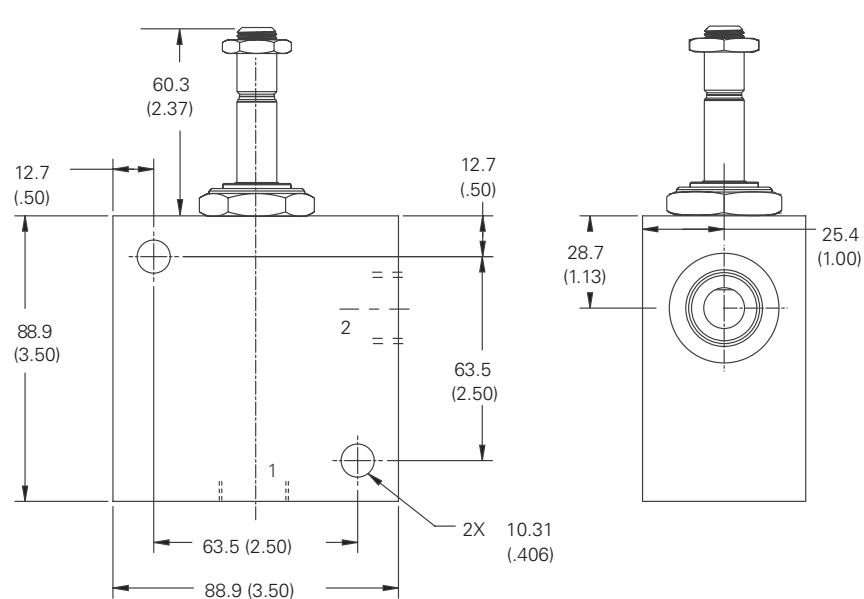
Note: Use J series, 23 W coils with this solenoid valve.

Dimensions - mm (inch)

Cartridge only



Installation drawing (Aluminum)



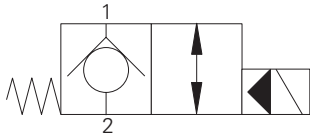
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV13-12-C / O - Solenoid valve

Poppet type, 2-way, 2-position, Normally open & Normally closed
114 L/min (30 USgpm) • 350 bar (5000 psi)

A

SV13-12-C Normally Closed

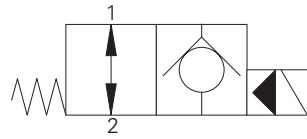


Operation

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

When the solenoid is energized the pilot poppet is pulled off the seat allowing the valve to open in both directions.

SV13-12-O Normally Open



Operation

In the de-energized position the valve allows free flow in both directions.

When the solenoid is energized the pilot poppet closes the orifice and the valve closes blocking flow from port 2 to 1 while allowing free flow from port 1 to 2.

Performance data

Ratings and specifications

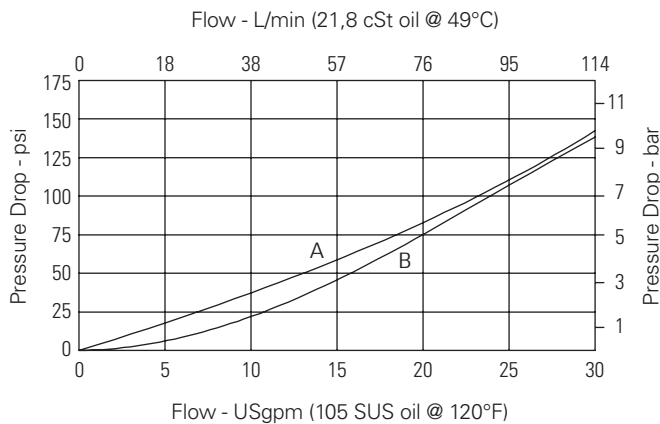
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 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)
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.
Weight cartridge only	0,27 kg (0.59 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	02-165889 (Buna-N), 02-165888 (Viton®)

Viton is a registered trademark of E.I. DuPont

SV13-12-C Pressure drop

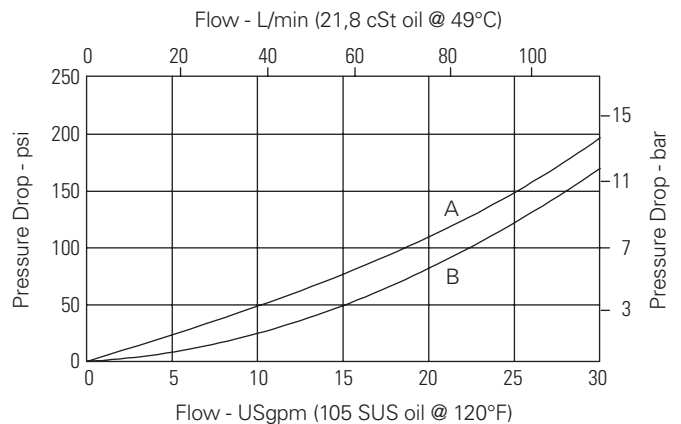
Cartridge only



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

SV13-12-O Pressure drop

Cartridge only



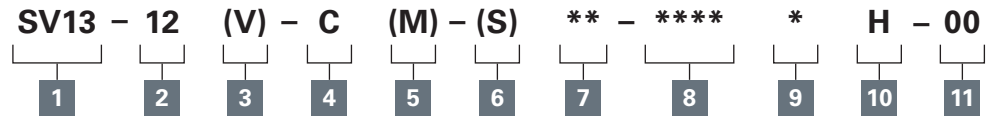
A - Port 1 to port 2 de-energized
B - Port 2 to port 1 de-energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV13-12-C / O - Solenoid valve

Poppet type, 2-way, 2-position, Normally open & Normally closed
114 L/min (30 USgpm) • 350 bar (5000 psi)

Model code



A

1 Function

SV13 - Solenoid valve

2 Size

12 - 12 size

3 Seal material

Blank - Buna-N
V - Viton®

4 Style

C - Normally closed
O - Normally open

5 Manual override option

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

For valve dimensions with manual override option installed see page A-980.

6 Valve housing material

Blank - Cartridge only
A - Aluminum
S - Steel (standard)

7 Port size

Code	Port size	Housing number	
		Aluminium	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.

9 Connector types

Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
E - Weather-Pack (Packard) female on wire leads
F - Weather-Pack (Packard) male on wire leads

10 Coil series

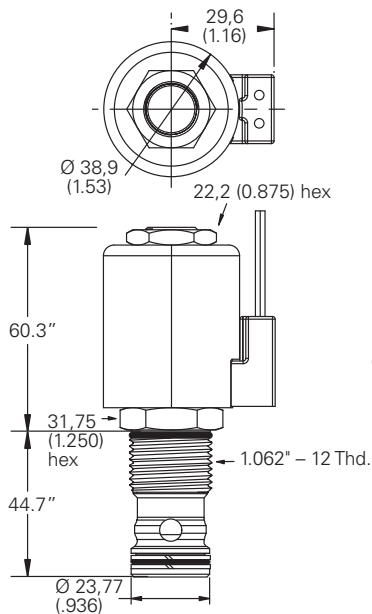
H - 10 series, 29 W
For coil part numbers and dimensions see section C.

11 Special features

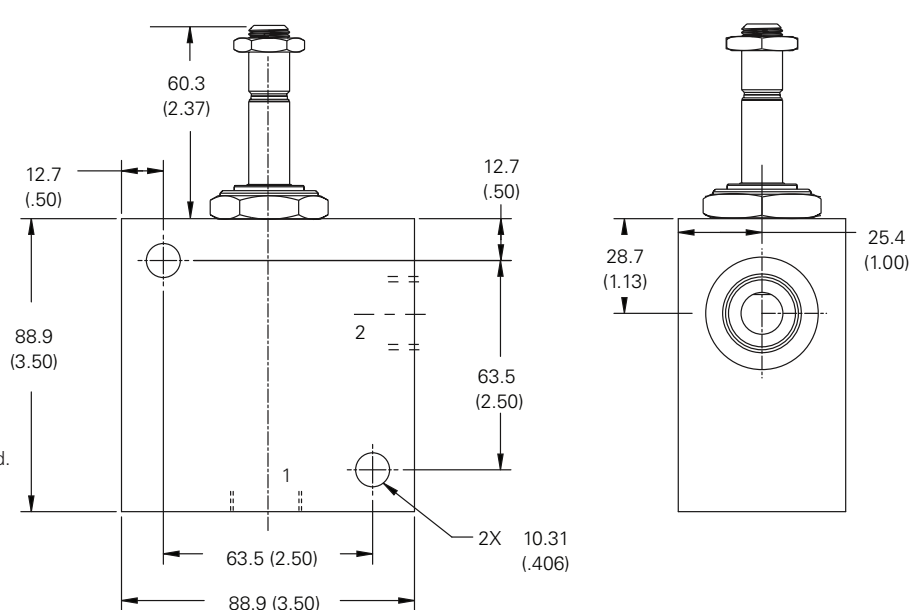
00 - None
(Only required if valve has special features, omitted if "00.")

Dimensions - mm (inch)

Cartridge only



Installation drawing (Steel)

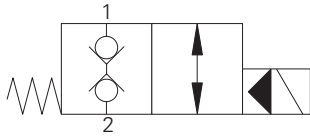


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SBV1-12-C - Solenoid valve

Poppet type, 2-way, 2-position, bi-directional, Normally closed
 114 L/min (30 USgpm) • 210 bar (3000 psi)

A



Operation

In the de-energized position the valve is blocked in both directions.

When the solenoid is energized the pilot poppet is released from the seat allowing the main poppet to open. A series of internal check valves allows full flow in both directions.

Performance data

Ratings and specifications

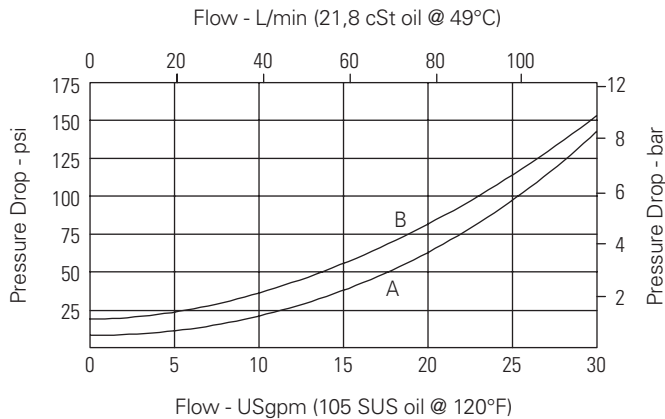
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 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 @ 210 bar (3000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
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.
Weight cartridge only	0,27 kg (0.59 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	02-165889 (Buna-N), 02-165888 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



A - Port 1 to port 2

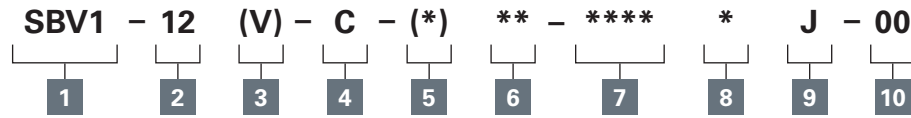
B - Port 2 to port 1

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SBV1-12-C - Solenoid valve

Poppet type, 2-way, 2-position, bi-directional, Normally closed
114 L/min (30 USgpm) • 210 bar (3000 psi)

Model code



1 Function

SBV1 - 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 (standard)

S - Steel

6 Port size

Code	Port size	Housing number	
		Aluminium	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.

7 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

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

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack female

F - Weather-Pack male

9 Coil series

J - 10 series, 23 W

For coil part numbers and dimensions see section C.

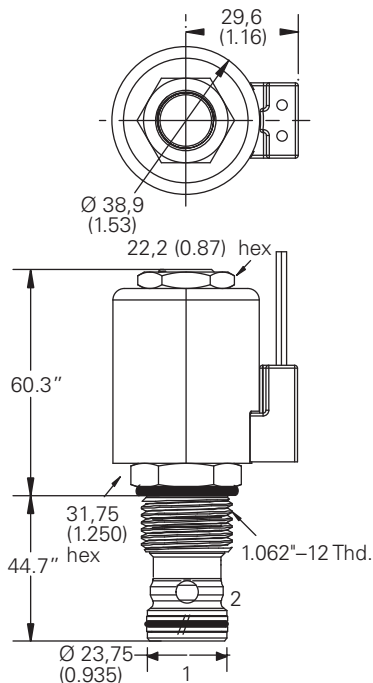
10 Special features

00 - None

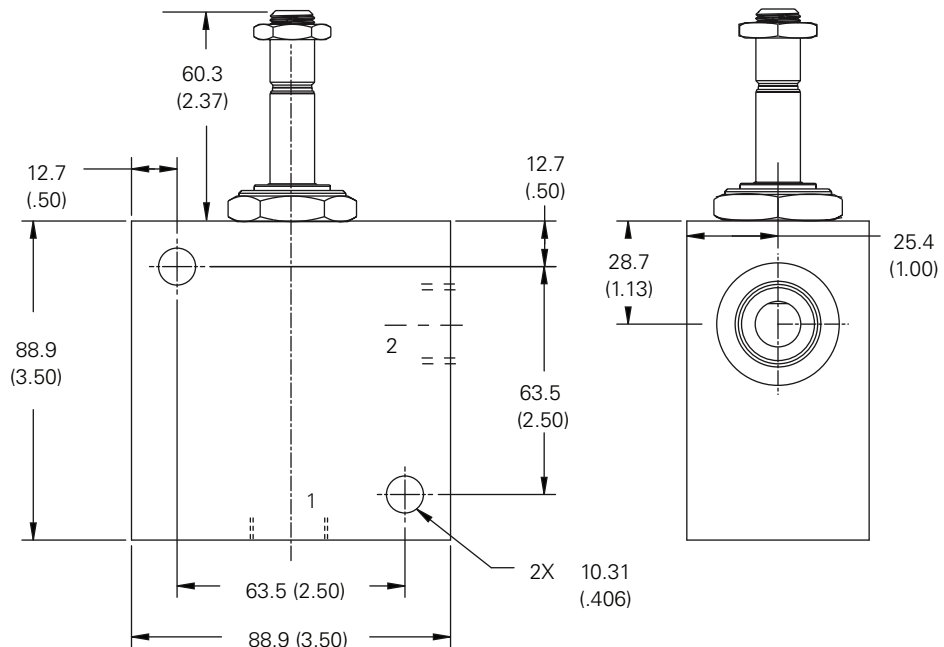
(Only required if valve has special features, omitted if "00.")

Dimensions - mm (inch)

Cartridge only



Installation drawing (Aluminum)



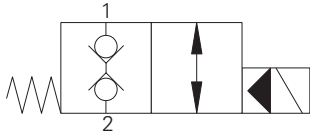
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SBV11-12-C / O - Solenoid valve

Poppet type, 2-way, 2- position Bi-directional, normally closed & normally open
 114 L/min (30 USgpm) • 350 bar (5000 psi)

A

SBV11-12-C Normally Closed

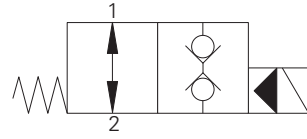


Operation

In the de-energized position the valve is blocked in both directions.

When the solenoid is energized the pilot poppet is released from the seat allowing the main poppet to open. A series of internal check valves allows full flow in both directions.

SBV11-12-O Normally Open



Operation

In the de-energized position the valve is open in both directions. A series of internal check valves allows full flow in both directions.

When the solenoid is energized the pilot poppet closes the pilot orifice causing the main poppet to close.

Performance data

Ratings and specifications

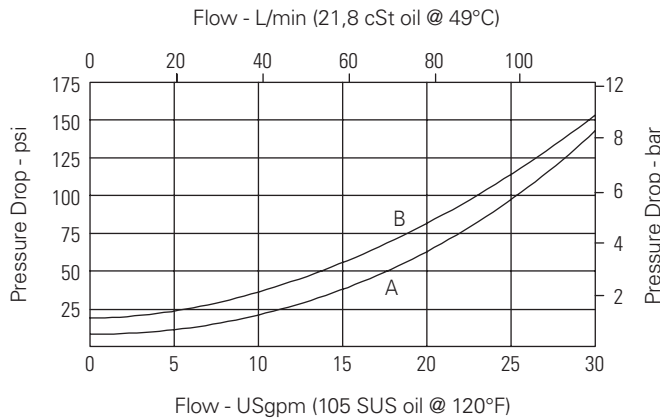
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 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)
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.
Weight cartridge only	0,27 kg (0.59 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	02-165889 (Buna-N), 02-165888 (Viton®)

Viton is a registered trademark of E.I. DuPont

SBV11-12-C Pressure drop

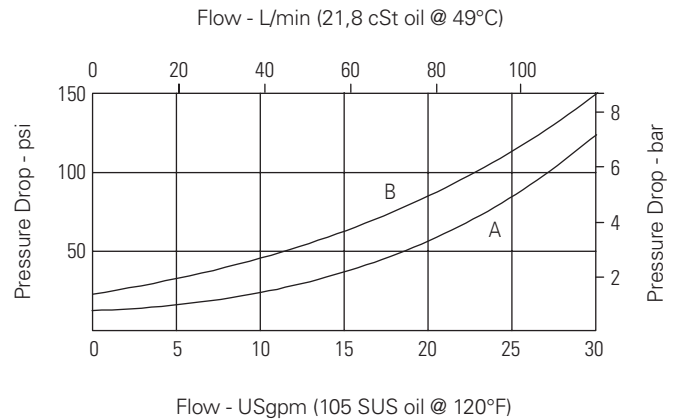
Cartridge only



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

SBV11-12-O Pressure drop

Cartridge only



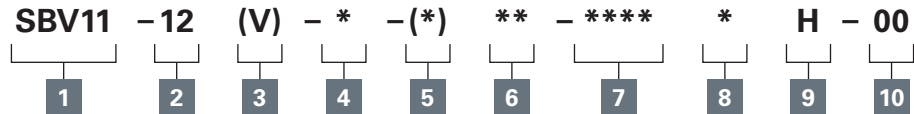
A - Port 1 to port 2
B - Port 2 to port 1

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SBV11-12-C - Solenoid valve

Poppet type, 2-way, 2-position Bi-directional, normally closed & normally open
114 L/min (30 USgpm) • 350 bar (5000 psi)

Model code



A

1 Function

SBV11 - Solenoid bi-directional valve

2 Size

12 - 12 size

3 Seal material

Blank - Buna-N

V - Viton®

4 Style

C - Normally closed

O - Normally open

5 Valve housing material

Blank - Cartridge only

A - Aluminum

S - Steel

6 Port size

Code	Port size	Housing number	
		Aluminium	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.

7 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

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

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack (Packard) female on wire leads

F - Weather-Pack (Packard) male on wire leads

9 Coil series

H - 10 series, 29 W

For coil part numbers and dimensions see section C.

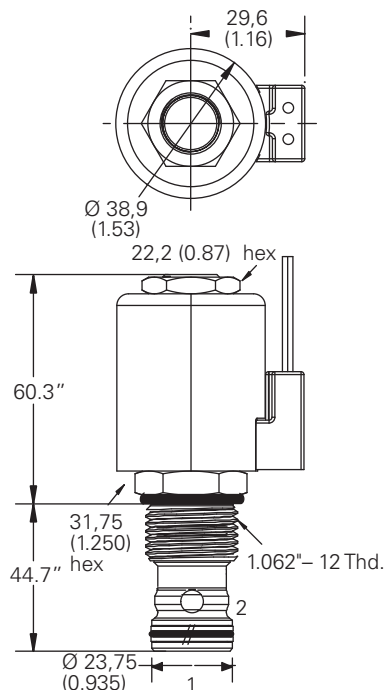
10 Special features

00 - None

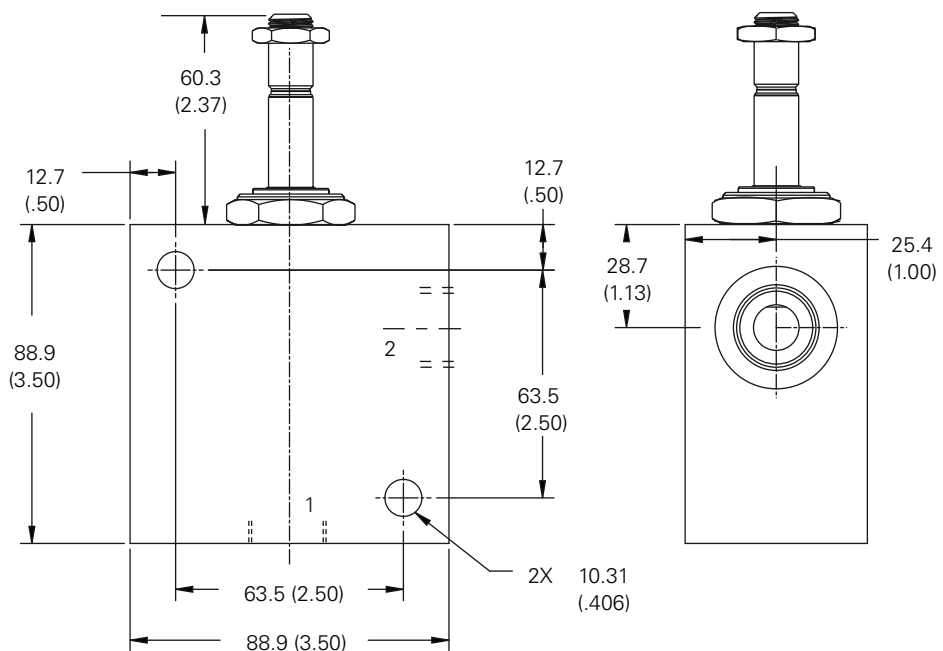
(Only required if valve has special features, omitted if "00.")

Dimensions - mm (inch)

Cartridge only



Installation drawing (Steel)



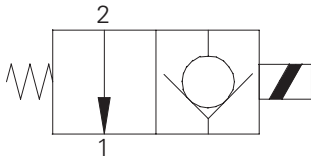
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S205 / S206 Solenoid valves

Poppet type, 2 way, 2 position, Normally Open & Normally Closed
 1 L/min (0.25 US GPM) 210 bar (3000 PSI)

A

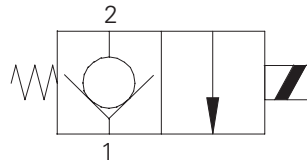
S205 Normally Open



Operation

In the de-energized position, the valve allows flow from 2 to 1, while flow from 1 to 2 is restricted. When energized, the valve closes, blocking flow from 2 to 1.

S206 Normally Closed



Operation

In the de-energized position, the valve allows flow from 1 to 2, while blocking flow from 2 to 1. When energized, the cartridges poppet lifts to open the 2 to 1 flow path. In this mode, flow from 1 to 2 is severely restricted.

Performance data

Ratings and specifications

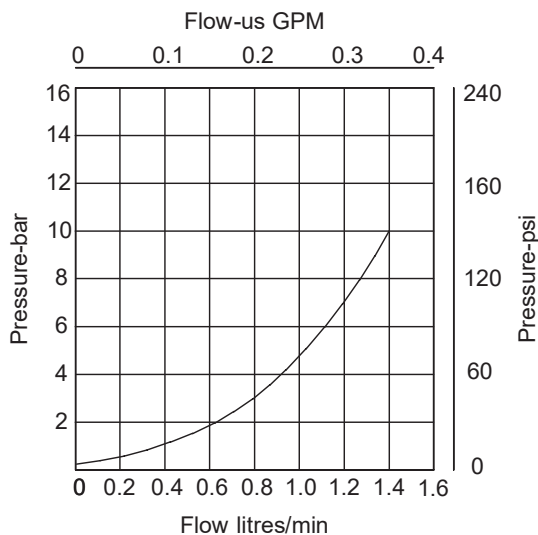
Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	1 litre/min (0.25 US GPM)
Internal leakage	"0.3 ml/min (5 dpm) when closed 210 bar differential at 32 centistokes"
Temperature range	-20 to +120°C (-4 to +248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	A879
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)	Aluminium Alloy
Weight cartridge only	0.1 kg (0.2 lbs)
Seal kit	SK1043 (Nitrile) SK1043V (Viton)

S205 & S206

Pressure drop

Cartridge only

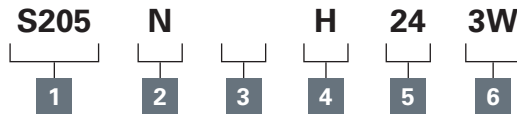


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S205 / S206 Solenoid valves

Poppet type, 2 way, 2 position, Normally Open & Normally Closed
1 L/min (0.25 US GPM) 210 bar (3000 PSI)

Model code



1 Basic Code

S205 - Normally open

S206 - Normally closed

2 Seals

N - Nitrile

V - Viton®

3 Manual Override (consult factory for availability)

1 - Push and twist (S206 Only)

2 - Screw (S205 & S206)

4 Port Sizes

2W - 1/4" BSP

3W - 3/8" BSP

6T - 3/8" SAE

5 Voltage

12 - 12 VDC

24 - 24 VDC

110 - 110 VAC

220 - 220 VAC

6 Coil Termination

H - DIN43650

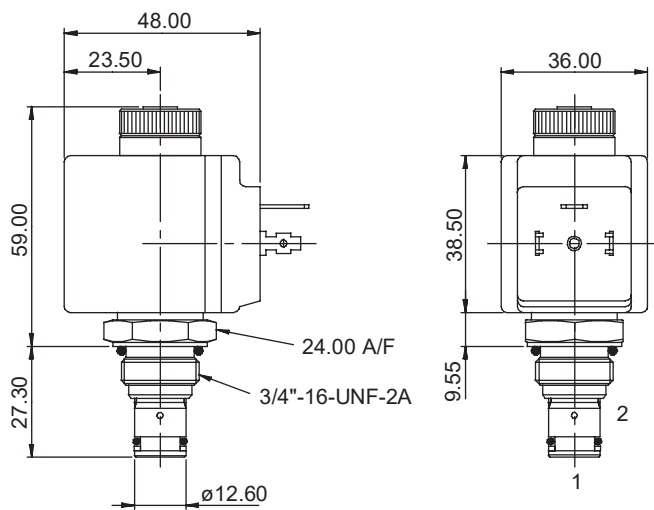
F - Flying Leads

DM - Deutsch Moulded

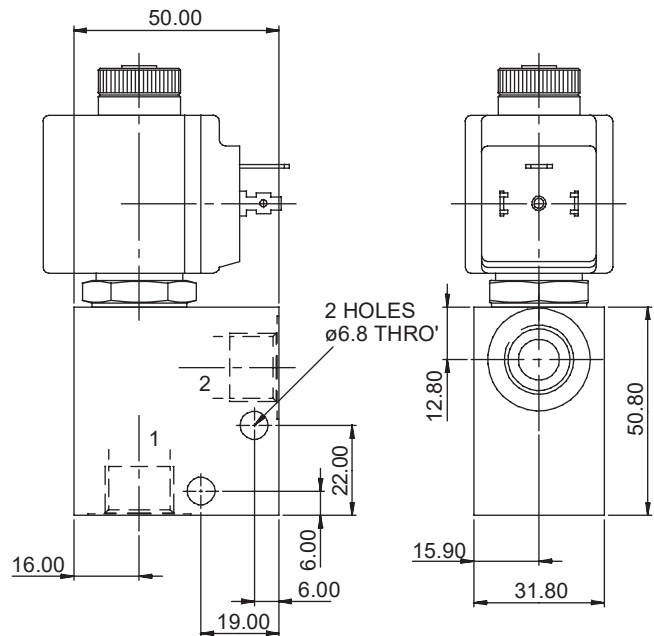
Other terminations available on request

Dimensions - mm (inch)

Cartridge only



Installation drawing

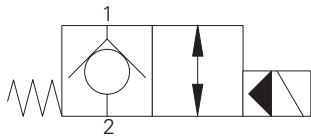


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV1-16-C - Solenoid valve

Poppet type, 2-way, 2-position, normally closed
 132 L/min (35 USgpm) • 210 bar (3000 psi)

A



Operation

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

When the solenoid is energized the pilot poppet is pulled off the seat allowing the valve to open in both directions.

Performance data

Ratings and specifications

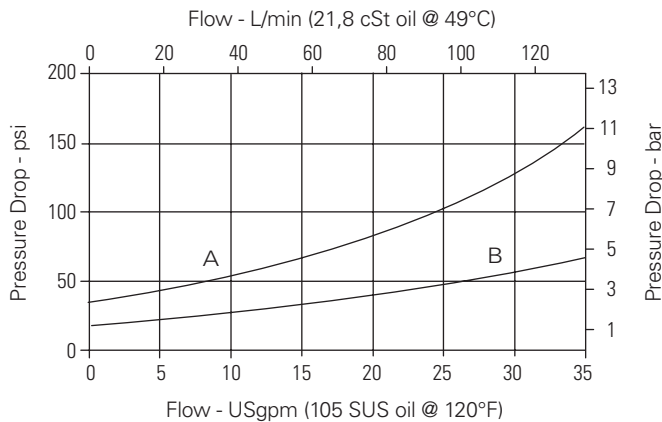
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	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)
Cavity	C-16-2
Weight including coil	1,15 kg (2.53 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	565810 (Buna-N), 02-889609 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



A - Port 2 to port 1 energized

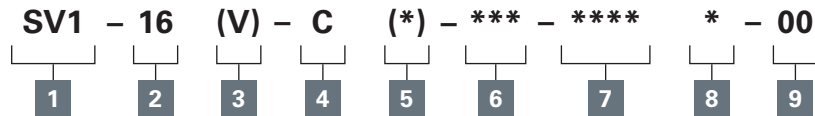
B - Port 1 to port 2 de-energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV1-16-C/CM/CR - Solenoid valve

Poppet type, 2-way, 2-position, normally closed
132 L/min (35 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function

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-980.

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	876718
10H	SAE 10	876717
12H	SAE 12	566113

See section J for housing details.
*Light duty housing

8 Connector types

Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
E - Weather-Pack female
F - Weather-Pack male
For coil part numbers and dimensions see section C.

7 Voltage rating

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

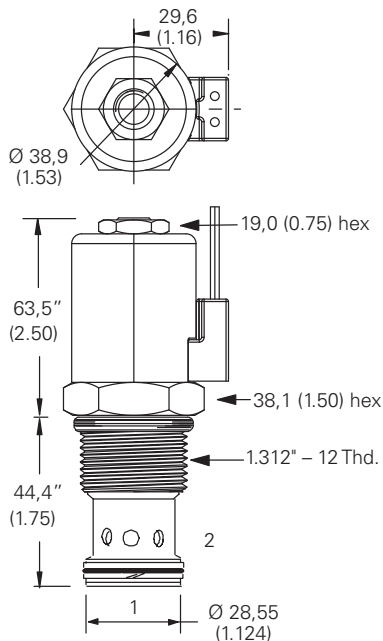
9 Special features

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

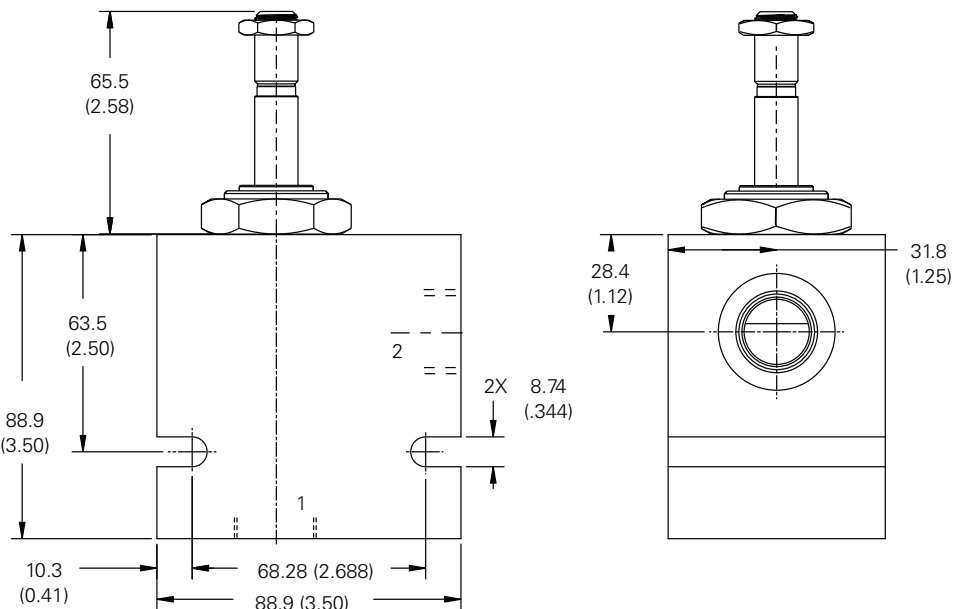
Notes: Use J series, 23 W coils with this solenoid valve.

Dimensions - mm (inch)

Cartridge only



Installation drawings



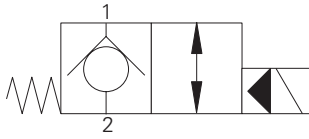
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV13-16-C / O - Solenoid valve

Poppet type, 2-way, 2-position, Normally open & Normally closed (free reverse flow)
 132 L/min (35 USgpm) • 350 bar (5000 psi)

A

SV13-16-C Normally Closed

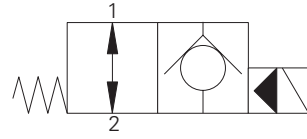


Operation

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

When the solenoid is energized the pilot poppet is pulled off the seat allowing the valve to open in both directions.

SV13-16-O Normally Open



Operation

In the de-energized position the valve allows free flow in both directions.

When the solenoid is energized the pilot poppet closes the orifice and the valve closes blocking flow from port 2 to 1 while allowing free flow from port 1 to 2.

Performance data

Ratings and specifications

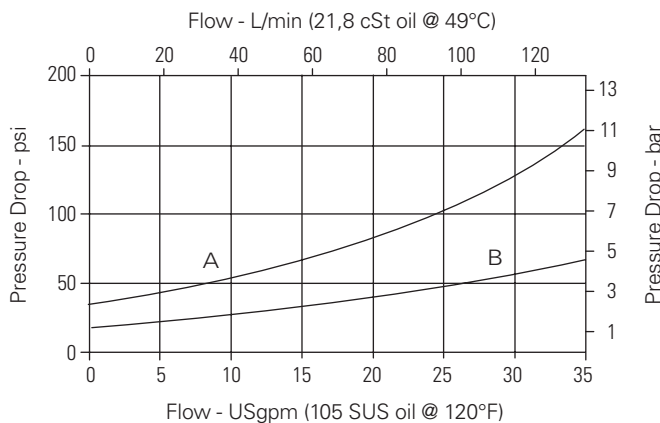
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 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)
Cavity	C-16-2
Weight cartridge only	0,39 kg (0.85 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	565810 (Buna-N), 02-889609 (Viton®)

Viton is a registered trademark of E.I. DuPont

SV13-16-C Pressure drop

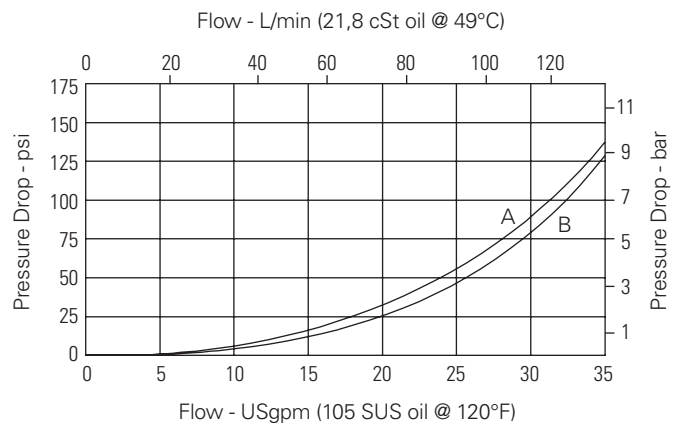
Cartridge only



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

SV13-16-O Pressure drop

Cartridge only



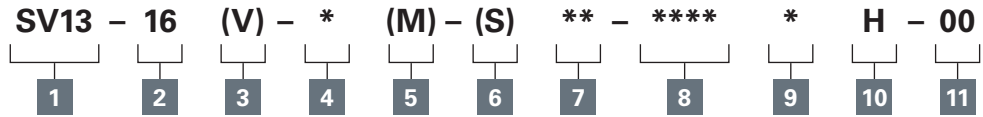
- A** - Port 2 to port 1 de-energized
- B** - Port 1 to port 2

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV13-16-C / O - Solenoid valve

Poppet type, 2-way, 2-position, Normally open & Normally closed (free reverse flow)
132 L/min (35 USgpm) • 350 bar (5000 psi)

Model code



A

1 Function

SV13 - Solenoid valve

2 Size

16 - 16 size

3 Seal material

Blank - Buna-N
V - Viton®

4 Style

C - Normally closed
O - Normally open

5 Manual override option

Blank - No manual override
M - Manual override
P - Push type
S - Screw type
For valve dimensions with manual override option installed see page A-980.

6 Valve housing material

Blank - Cartridge only
S - Steel

7 Port size

Code	Port size	Housing number
0	Cartridge only	
4G	1/2" BSPP	02-175106
6G	3/4" BSPP	02-175107
10T	SAE 10	02-175104
12T	SAE 12	02-175105

See section J for housing details.

8 Voltage rating

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

9 Connector types

Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
E - Weather-Pack (Packard) female on wire leads
F - Weather-Pack (Packard) male on wire leads

10 Coil series

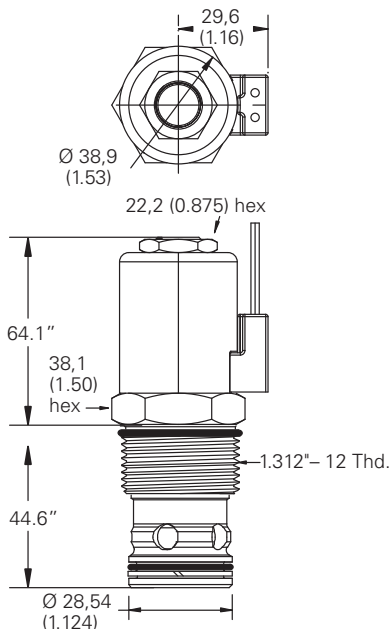
H - 10 Series, 29 W
For coil part numbers and dimensions see section C.

11 Special features

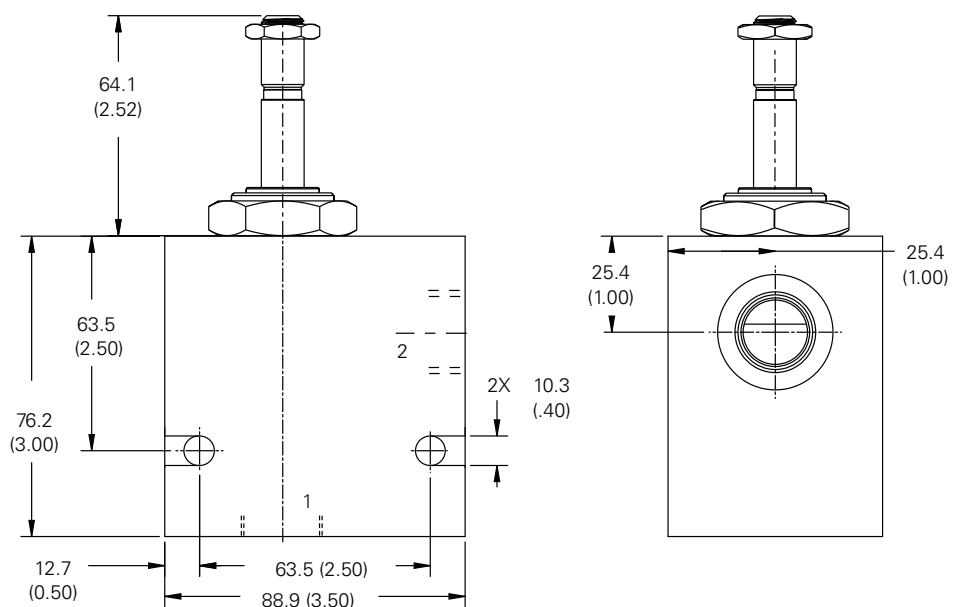
00 - None
(Only required if valve has special features, omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing

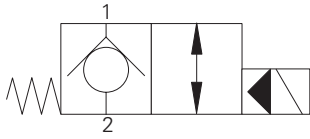


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV2-20-C - Solenoid valve

Poppet type, 2-way, 2- position Bi-directional, normally closed (free reverse flow)
 227 L/min (60 USgpm) • 210 bar (3000 psi)

A



Operation

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

When the solenoid is energized the pilot poppet is pulled off the seat allowing the valve to open in both directions.

Performance data

Ratings and specifications

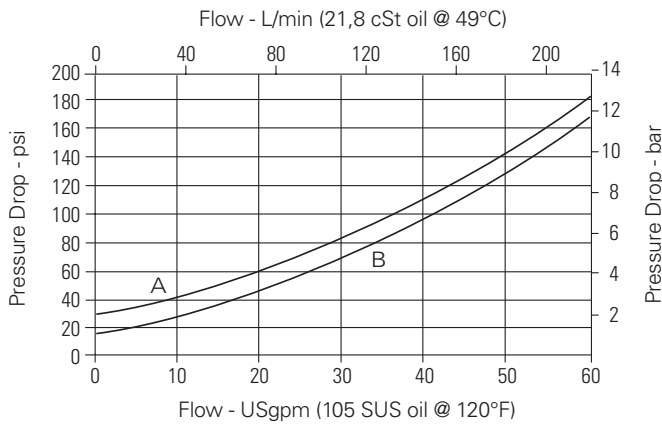
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	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)
Cavity	C-20-2
Weight including coil	1,2 kg (2.70 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	889615 (Buna-N), 889619 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



A - Port 1 to port 2 de-energized

B - Port 2 to port 1 energized

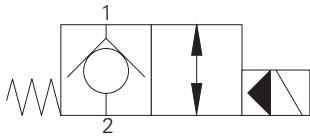
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV13-20-C / O - Solenoid valve

Poppet type, 2-way, 2-position, Normally open & Normally closed
227 L/min (60 USgpm) • 350 bar (5000 psi)

A

SV13-20-C Normally Closed

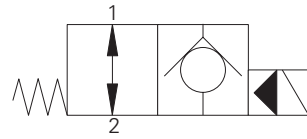


Operation

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

When the solenoid is energized the pilot poppet is pulled off the seat allowing the valve to open in both directions.

SV13-20-O Normally Open



Operation

In the de-energized position the valve allows free flow in both directions.

When the solenoid is energized the pilot poppet closes the orifice and the valve closes blocking flow from port 2 to 1 while allowing free flow from port 1 to 2.

Performance data

Ratings and specifications

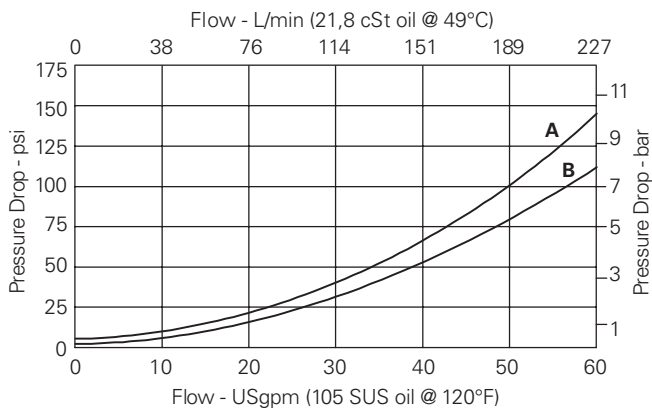
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 psi)
Rated flow	227 L/min (60 USgpm)
Internal leakage	less than 5 drops/min, max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Cavity	C-20-2
Weight cartridge only	0,62 kg (1.37 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	889615 (Buna-N), 889619 (Viton®)

Viton is a registered trademark of E.I. DuPont

SV13-20-C Pressure drop

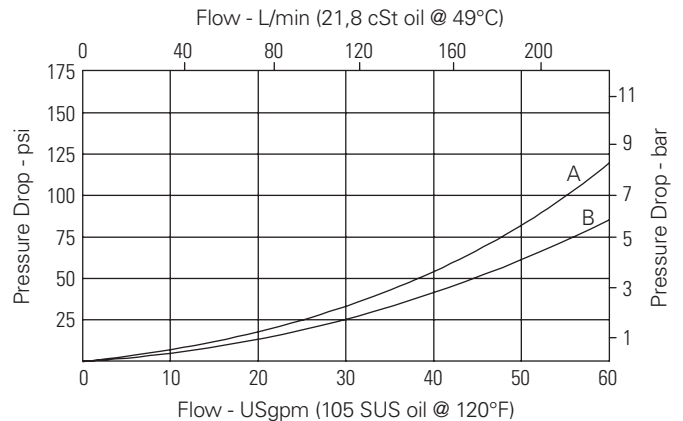
Cartridge only



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

SV13-20-O Pressure drop

Cartridge only



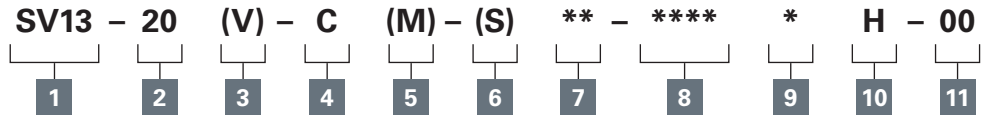
- A - Port 2 to port 1 de-energized
- B - Port 1 to port 2

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV13-20-C / O - Solenoid valve

Poppet type, 2-way, 2-position, Normally open & Normally closed
227 L/min (60 USgpm) • 350 bar (5000 psi)

Model code



A

1 Function

SV13 - Solenoid valve

2 Size

20 - 20 size

3 Seal material

Blank - Buna-N
V - Viton®

4 Style

C - Normally closed
O - Normally open

5 Manual override option

Blank - No manual override
M - Manual override
P - Push type
S - Screw type
For valve dimensions with manual override option installed see page A-980.

6 Valve housing material

Blank - Cartridge only
S - Steel

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.

8 Voltage rating

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

9 Connector types

Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
E - Weather-Pack (Packard) female on wire leads
F - Weather-Pack (Packard) male on wire leads

10 Coil series

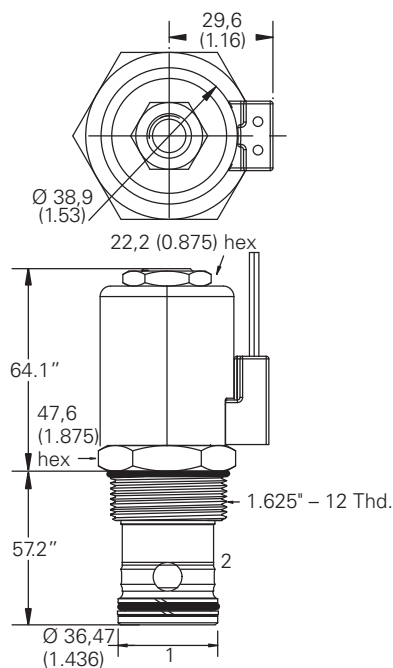
H - 10 Series, 29 W
For coil part numbers and dimensions see section C.

11 Special features

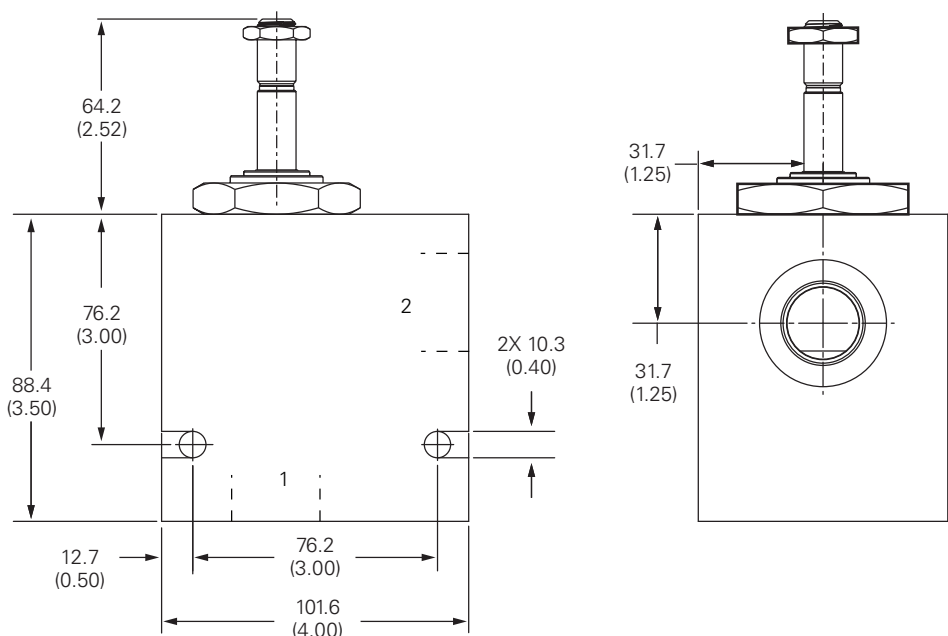
00 - None
(Only required if valve has special features, omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing



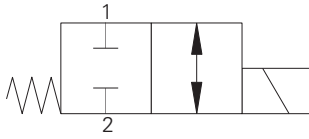
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV4-8-C / O - Solenoid valve

Spool type, 2-way, 2-position, Normally open & Normally closed
 11 L/min (3 USgpm) • 210 bar (3000 psi)

A

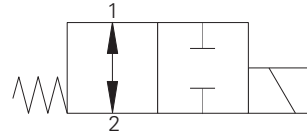
SV4-8-C Normally Closed



Operation

In the de-energized position the valve blocks flow in both directions.
 When the solenoid is energized the spool moves allowing the valve to open in both directions.

SV4-8-O Normally Open



Operation

In the de-energized position the valve is open in both directions.
 When the solenoid is energized the spool moves causing the valve to close in both directions.

Performance data

Ratings and specifications

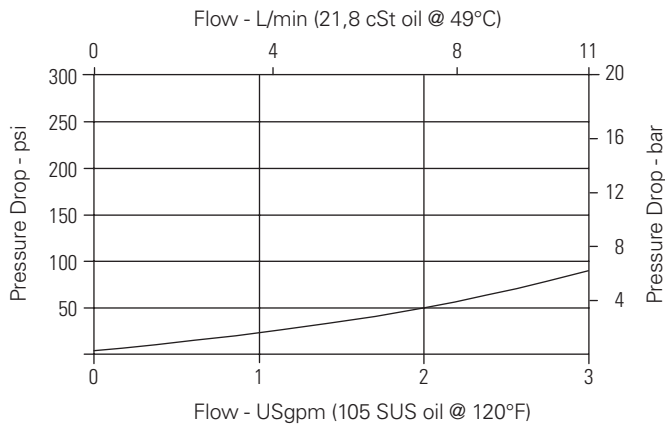
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	11 L/min (3 USgpm)
Internal leakage	82 cm ³ /min (5 in ³ /min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Response times for normally close version (100% rated voltage and flow)	Energize: 27 ms. De-Energize: 24 ms
Response times for normally open version (100% rated voltage and flow)	Energize: 21 ms. De-Energize: 38 ms
Cavity	C-8-2
Weight including coil	0,27 kg (0.60 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	02-160777 (Buna-N), 02-160778 (Viton®)

Viton is a registered trademark of E.I. DuPont

SV4-8-C Pressure drop

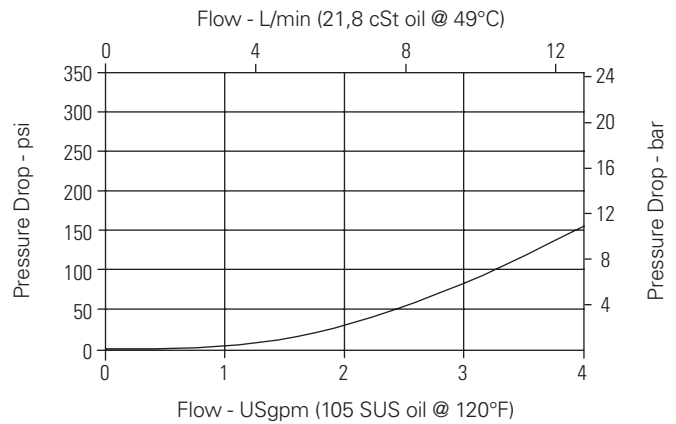
Cartridge only



Port 1 to port 2 or port 2 to port 1 energized

SV4-8-O Pressure drop

Cartridge only



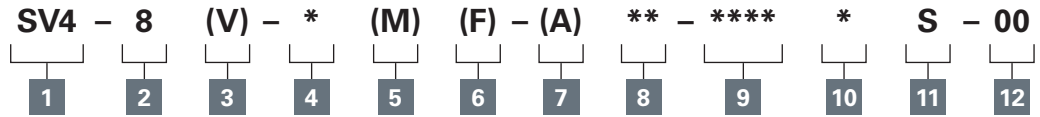
Port 2 to port 1 de-energized
 Port 1 to port 2 de-energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV4-8-C / O - Solenoid valve

Spool type, 2-way, 2-position, Normally open & Normally closed
11 L/min (3 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function

SV4 - Solenoid valve

2 Size

8 - 8 size

3 Seal material

Blank - Buna-N
V - Viton®

4 Style

C - Normally closed
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-980.

6 Filter option

Blank - None
F - Filter screen

8 Port size

Code	Port size	Housing number
0	Cartridge only	
2G	1/4" BSP	02-160727
3G	3/8" BSP	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

00 - No coil
12D - 12VDC
24D - 24VDC
115A - 115VAC

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

10 Connector types

Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
E - Weather-Pack (Packard) female on wire leads
F - Weather-Pack (Packard) male on wire leads

11 Coil series

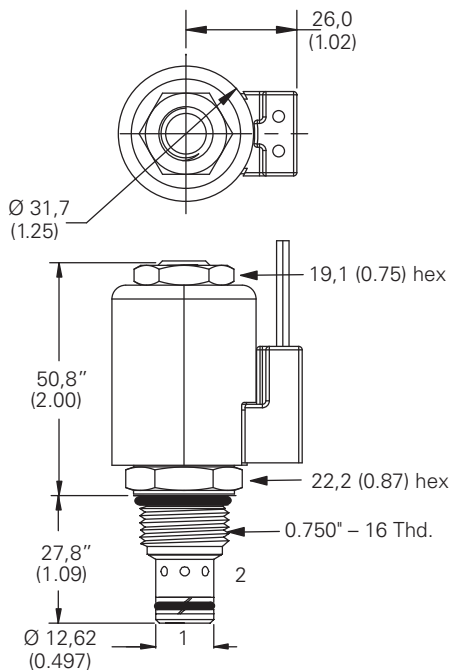
S - 8 series, 20 W
For coil part numbers and dimensions see section C.

12 Special features

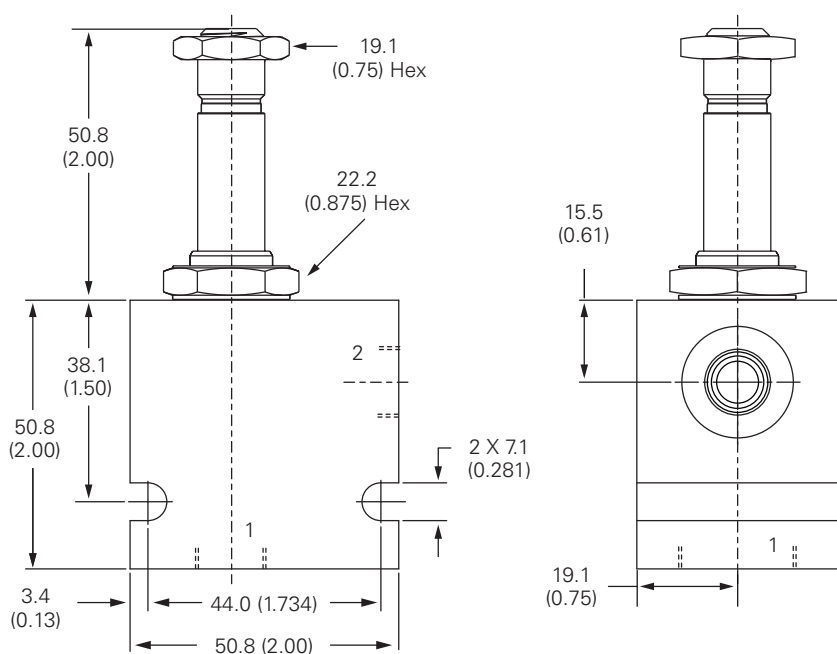
00 - None
(Only required if valve has special features, omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing



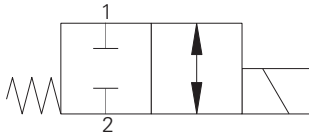
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV14-8-C / O - Solenoid valve

Spool type, 2-way, 2-position, Normally open & Normally closed
 11 L/min (3 USgpm) • 350 bar (5000 psi)

A

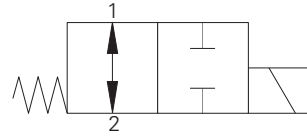
SV14-8-C Normally Closed



Operation

In the de-energized position the valve blocks flow in both directions.
 When the solenoid is energized the spool moves allowing the valve to open in both directions.

SV14-8-O Normally Open



Operation

In the de-energized position the valve is open in both directions.
 When the solenoid is energized the spool moves causing the valve to close in both directions.

Performance data

Ratings and specifications

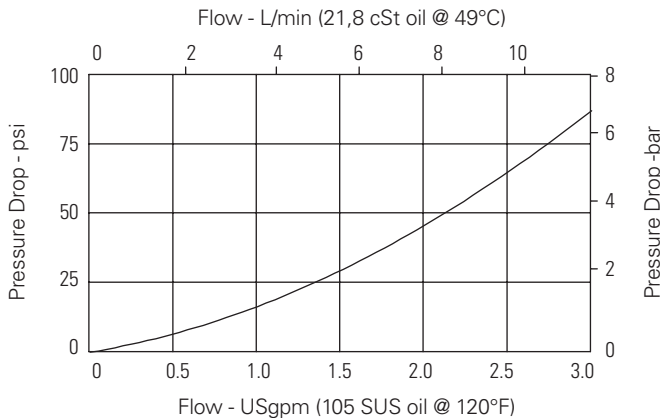
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 psi)
Rated flow	11 L/min (3 USgpm)
Internal leakage, port 2 to port 1	140cm ³ (8.5in ³ /min) max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Cavity	C-8-2
Weight cartridge only	0,11 kg (.25 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	02-165875 (Buna-N), 02-165877 (Viton®)

Viton is a registered trademark of E.I. DuPont

SV14-8-C Pressure drop

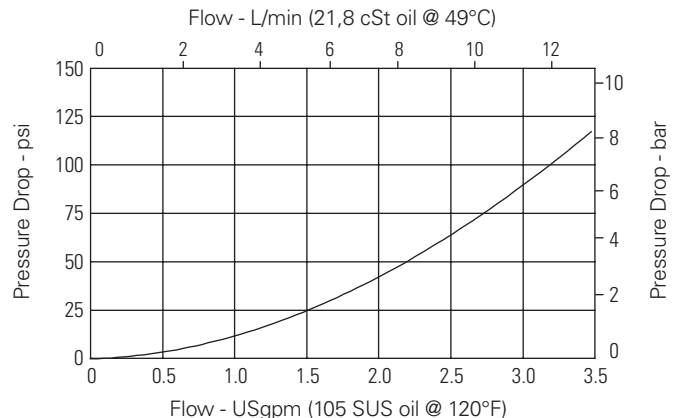
Cartridge only



Port 1 to port 2 or port 2 to port 1 energized

SV14-8-O Pressure drop

Cartridge only



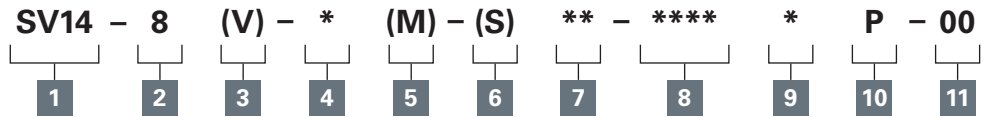
Port 2 to port 1 de-energized
 Port 1 to port 2 de-energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV14-8-C / O - Solenoid valve

Spool type, 2-way, 2-position, Normally open & Normally closed
11 L/min (3 USgpm) • 350 bar (5000 psi)

Model code



A

1 Function

SV14 - Solenoid valve

2 Size

8 - 8 size

3 Seal material

Blank - Buna-N
V - Viton®

4 Style

C - Normally closed
O - Normally open

5 Manual override option

Blank - No manual override
M - Manual override
For valve dimensions with manual override option installed see page A-980.

6 Valve housing material

Blank - Cartridge only
S - Steel

7 Port size

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.

9 Connector types

Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
F - Weather-Pack (Packard) male on wire leads

10 Coil series

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

11 Special features

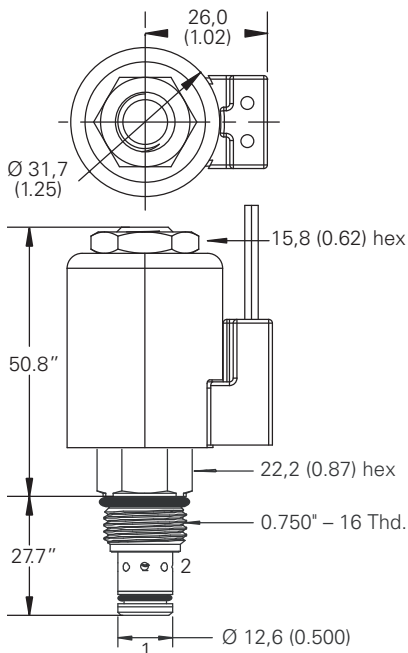
00 - None
(Only required if valve has special features, omitted if "00".)

8 Voltage rating

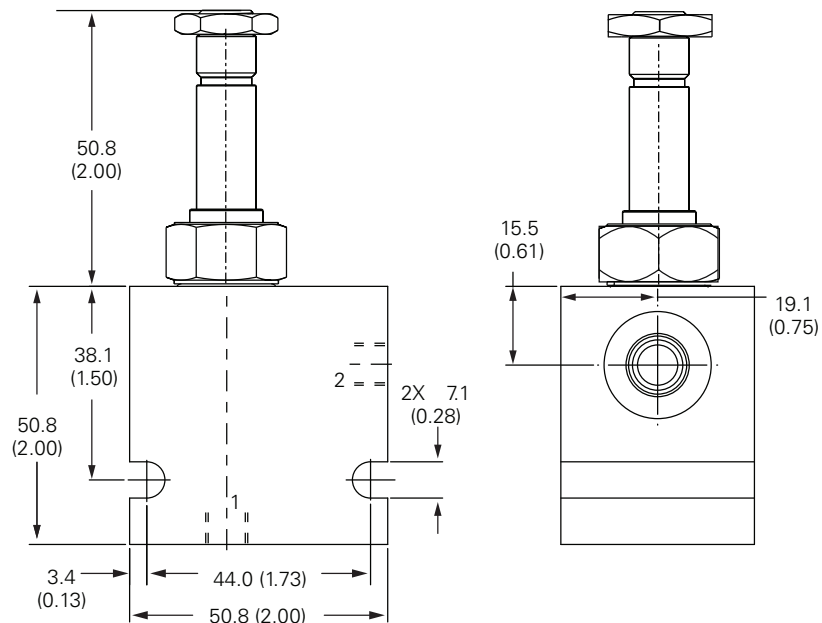
00 - No coil
12D - 12VDC
24D - 24VDC
115A - 115VAC
230A - 230VAC
12B - 12VDC/w diode*
24B - 24VDC/w diode*
*Optional arc suppression diode.

Dimensions - mm (inch)

Cartridge only



Installation drawing



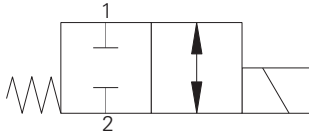
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV4-10-C / O - Solenoid valve

Spool type, 2-way, 2-position, Normally open & Normally closed
 23 L/min (6 USgpm) • 210 bar (3000 psi)

A

SV4-10-C Normally Closed

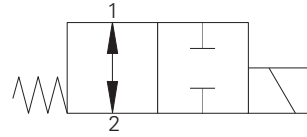


Operation

In the de-energized position the valve blocks flow in both directions.

When the solenoid is energized the spool moves allowing the valve to open in both directions.

SV4-10-O Normally Open



Operation

In the de-energized position the valve is open in both directions.

When the solenoid is energized the spool moves causing the valve to close in both directions.

Performance data

Ratings and specifications

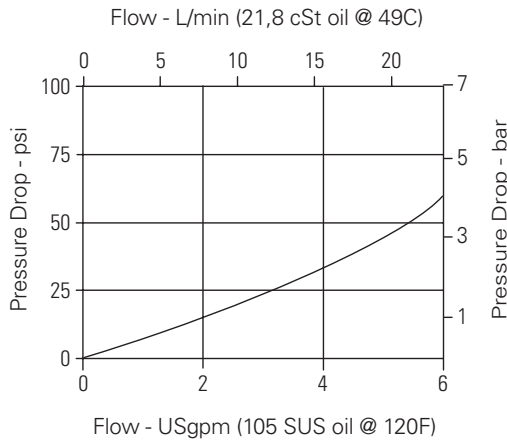
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	82 cm ³ /min (5 in ³ /min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-10-2
Weight including coil	0,4 kg (0.087 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	565806 (Buna-N), 889627 (Viton®)

Viton is a registered trademark of E.I. DuPont

SV4-10-C Pressure drop

Cartridge only

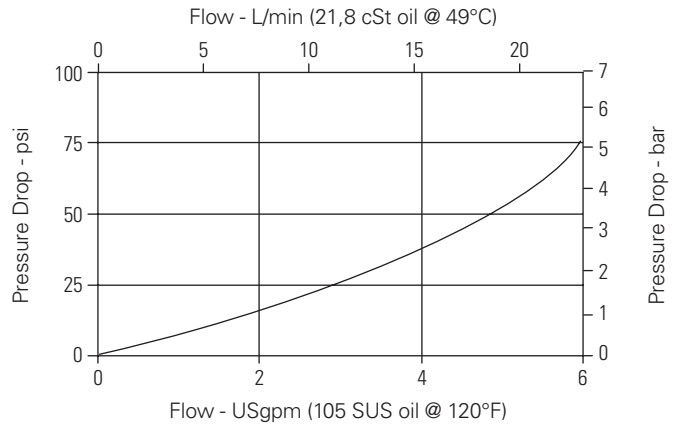


Pressure drop vs. Flow

Port 1 to port 2 or
 port 2 to port 1 energized

SV4-10-O Pressure drop

Cartridge only



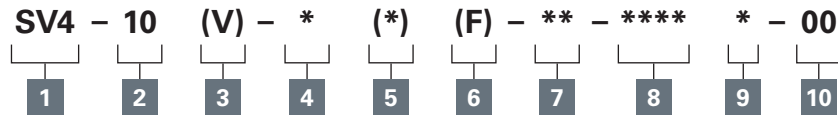
Port 2 to port 1 or
 Port 1 to port 2 de-energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV4-10-C / O - Solenoid valve

Spool type, 2-way, 2-position, Normally open & Normally closed
23 L/min (6 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function

SV4 - Solenoid valve

2 Size

10 - 10 size

3 Seal material

Blank - Buna-N
V - Viton®

4 Style

C - Normally closed
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-980.

6 Filter option

Blank - None
F - Filter screen

7 Port size

Code	Port size	Housing number
0	Cartridge only	
3B	3/8" BSPP	02-175464*
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 housing details.

9 Connector types

Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
E - Weather-Pack female
F - Weather-Pack male

For coil part numbers and dimensions see section C.

10 Special features

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

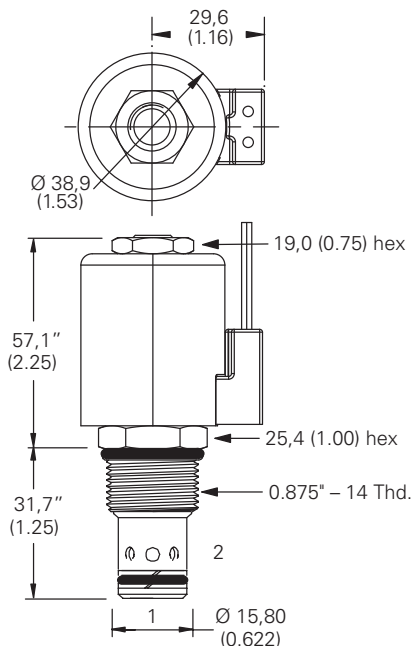
Note: Use J series, 23 W coils with this solenoid valve.

8 Voltage rating

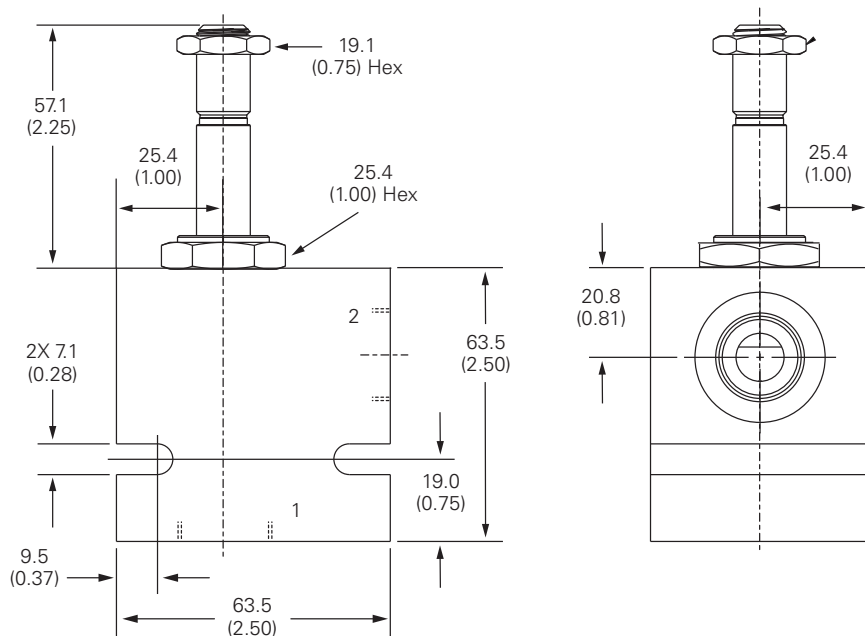
00 - No coil
12D - 12VDC
24D - 24VDC
115A - 115VAC
230A - 230VAC
12B - 12VDC/w diode*
24B - 24VDC/w diode*
*Optional arc suppression diode.

Dimensions - mm (inch)

Cartridge only



Installation drawing



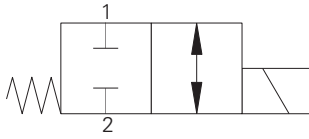
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV14-10-C / O - Solenoid valve

Spool type, 2-way, 2-position, Normally open & Normally closed
 23 L/min (6 USgpm) • 350 bar (5000 psi)

A

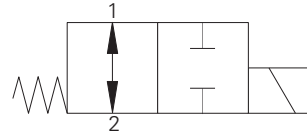
SV14-10-C Normally Closed



Operation

In the de-energized position the valve blocks flow in both directions.
 When the solenoid is energized the spool moves allowing the valve to open in both directions.

SV14-10-O Normally Open



Operation

In the de-energized position the valve is open in both directions.
 When the solenoid is energized the spool moves causing the valve to close in both directions.

Performance data

Ratings and specifications

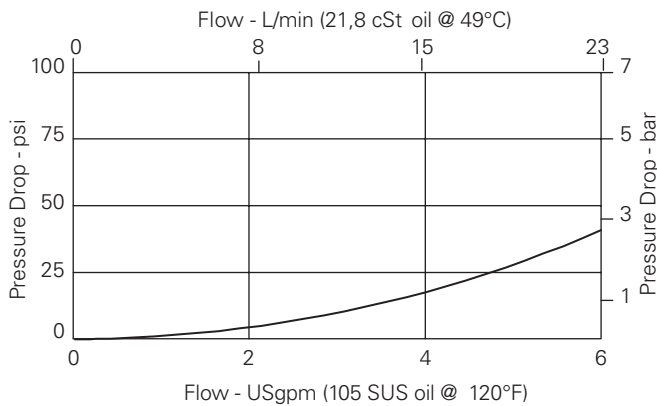
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	140 cm ³ /min (8.5 in ³ /min) max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Cavity	C-10-2
Weight cartridge only	0,18 kg (0.39 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	565806 (Buna-N), 889627 (Viton®)

Viton is a registered trademark of E.I. DuPont

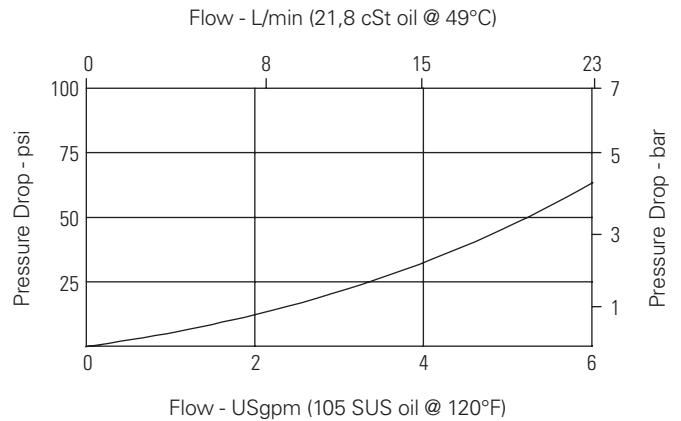
SV14-10-C Pressure drop

Cartridge only



SV14-10-O Pressure drop

Cartridge only



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

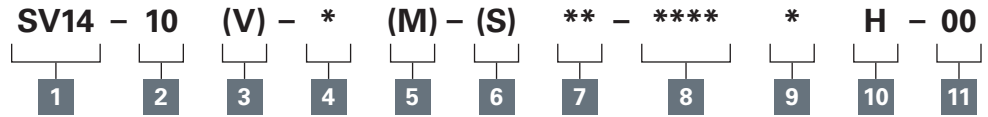
Port 2 to port 1 or
 Port 1 to port 2 de-energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV14-10-C / O - Solenoid valve

Spool type, 2-way, 2-position, Normally open & Normally closed
23 L/min (6 USgpm) • 350 bar (5000 psi)

Model code



A

1 Function

SV14 - Solenoid valve

2 Size

10 - 10 size

3 Seal material

Blank - Buna-N
V - Viton®

4 Style

C - Normally closed
O - Normally open

5 Manual override option

Blank - No manual override
M - Manual override
For valve dimensions with manual override option installed see page A-980.

6 Valve housing material

Blank - Cartridge only
S - Steel

7 Port size

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 housing details.

8 Voltage rating

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

9 Connector types

Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
E - Weather-Pack (Packard) female on wire leads
F - Weather-Pack (Packard) male on wire leads

10 Coil series

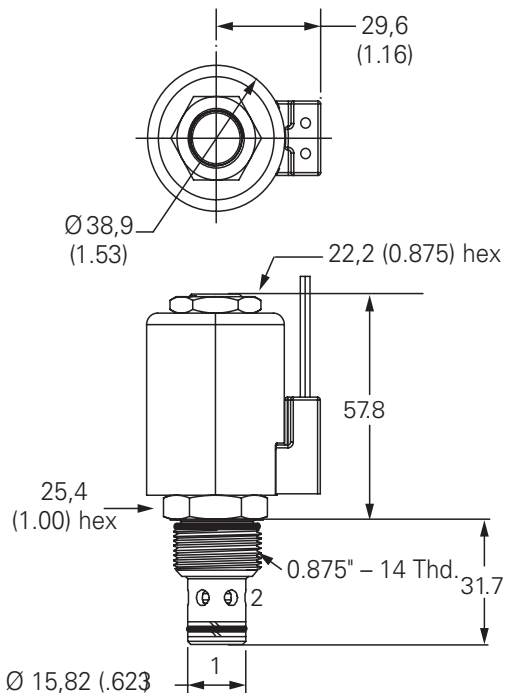
H - 10 Series, 29 W
For coil part numbers and dimensions see section C.

11 Special features

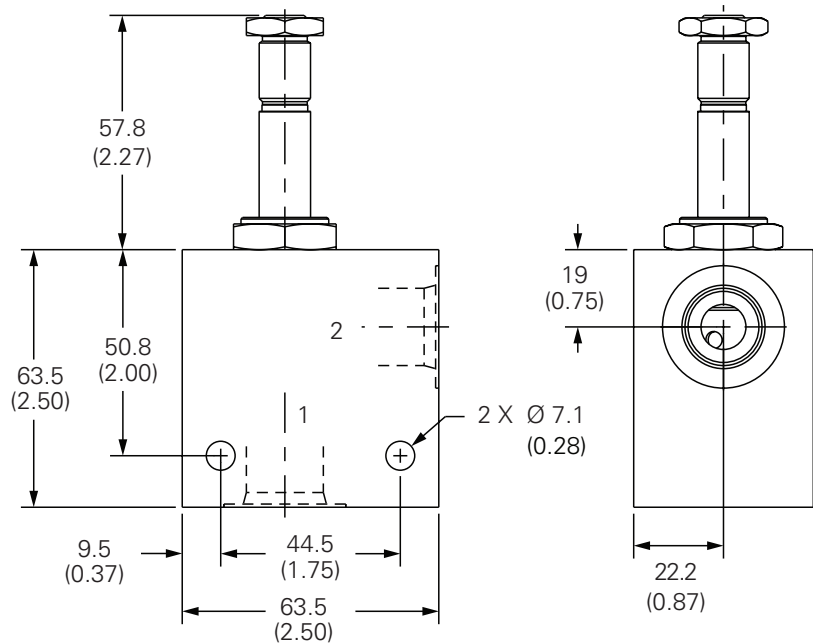
00 - None
(Only required if valve has special features, omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing

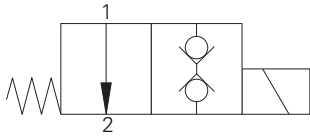


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S207 - Solenoid valve

Poppet type, normally open solenoid valve
 Port 1 - 1 L/min (0.25 USgpm) • 350 bar (5000 psi)
 Port 2 - 1 L/min (0.25 USgpm) • 210 bar (3000 psi)

A



Operation

In the de-energized position the valve allows free flow from port 1 to 2. When the solenoid is energized the poppet closes the valve blocking flow from port 1 to 2 and 2 to 1.

Performance data

Ratings and specifications

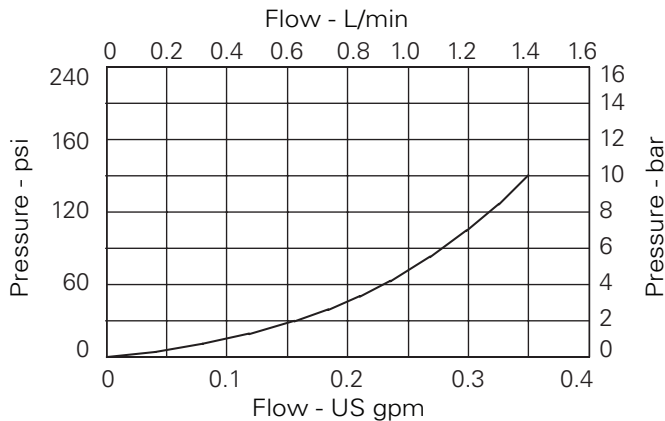
Performance data is typical with viscosity at 32 cST (150 SSU)

Max working pressure	Port 2 210 bar (3000 psi) Port 1 350 bar (5000 psi)
Rated flow	1 L/min (0.25 USgpm)
Internal leakage	0.3 ml/min (5 dpm) when energized 210 bar differential at 32 est.
Temperature range	-30° to 120°C (-22° to +248°F)
Cavity	A879 (see Section M)
Torque cartridge into cavity	20 Nm (15 lbs ft)
Mounting position	Unrestricted
Fluids	All general purpose hydraulics fluids such as MIL-H-5606, SAE 10, SAE 20, etc
Seal material	Standard Viton with PTFE back up rings
Filtration	BS5540/4 Class 18/13 (25 micron or better)
Nominal viscosity range	15 to 250 cSt
Standard housing materials	Aluminium
Cartridge material	Working parts hardened and ground steel. External surfaces zinc plated.
Coil Weight	0.2 kg (0.4 lbs)
Weight	0.1 kg (0.2 lbs)
Seal kit	SK1043V (Viton)
Coil part number	C13-*/*/22
Coil voltage available	12, 24 VDC, 110, 220, VAC*

Viton is a registered trademark of E.I. DuPont

*AC coils must be used with a rectifying connector

Pressure drop

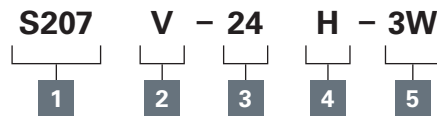


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S207 - Solenoid valve

Poppet type, normally open solenoid valve
 Port 1 - 1 L/min (0.25 USgpm) • 350 bar (5000 psi)
 Port 2 - 1 L/min (0.25 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function
S207 - Normally open

2 Seal material
V - Viton®

3 Voltage
12 - 12 VDC
24 - 24 VDC
110 - 110 VAC
220 - 220 VAC

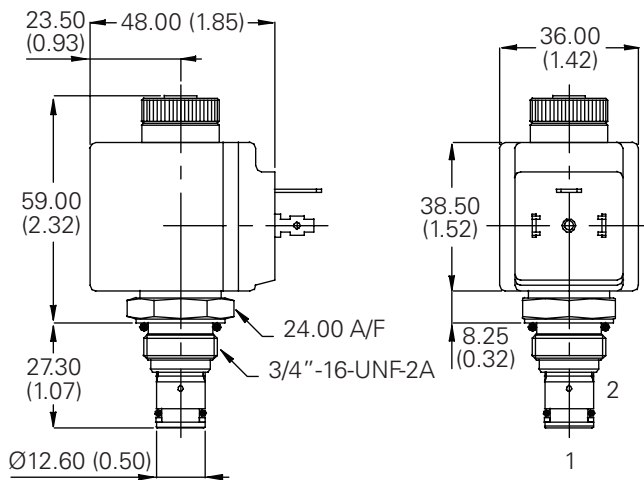
4 Coil Termination
H - DIN43650
F - Flying lead
DM - Deutsch moulded
 Other terminations available on request.

5 Port sizes

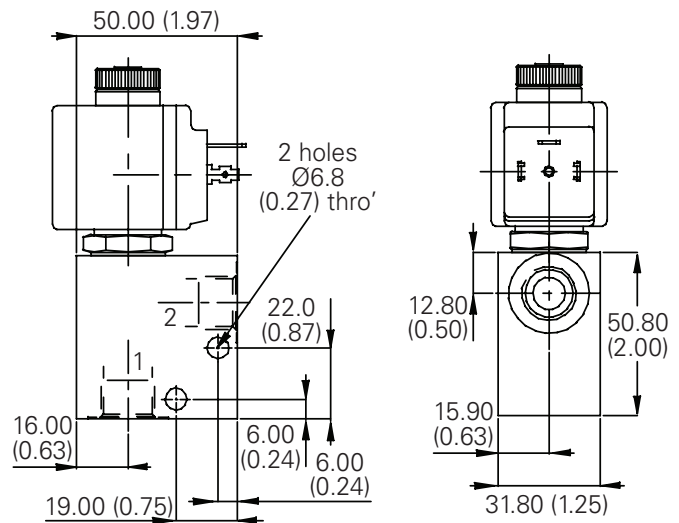
Code	Port size	Housing number - Body only	
		Aluminium	Steel
2W	1/4" BSP	A1485	
3W	3/8" BSP	A1043	A14175
6T	3/8" SAE	A15676	A14843

Dimensions - mm (inch)

Cartridge only



Installation drawing (Aluminum, steel)

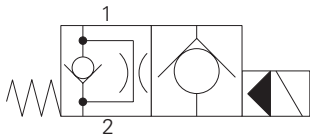


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV5-10-O - Solenoid valve

Poppet type, 2-way, 2-position, normally open
 45 L/min (12 USgpm) • 210 bar (3000 psi)

A



Operation

In the de-energized position the valve allows free flow from port 2 to 1 and a restricted flow through the pilot orifice from port 1 to 2.

When the solenoid is energized the pilot poppet closes the orifice and the valve closes blocking flow from port 2 to 1 while allowing free flow from port 1 to 2.

Performance data

Ratings and specifications

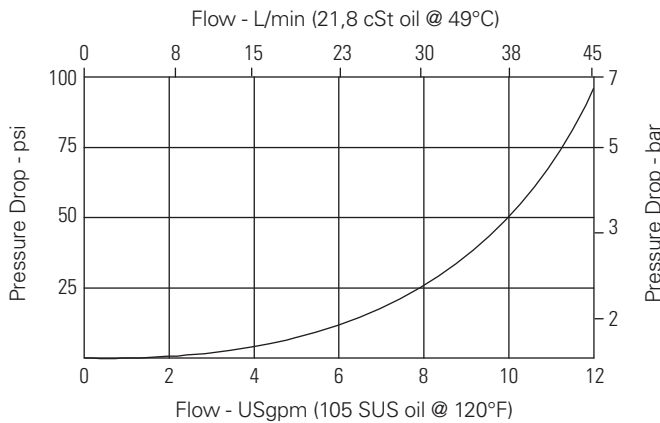
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	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)
Cavity	C-10-2
Weight including coil	0,4 kg (0.087 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	565806 (Buna-N), 566086 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



Port 2 to port 1 de-energized

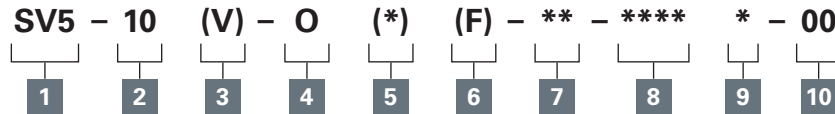
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV5-10-O - Solenoid valve

Poppet type, 2-way, 2-position, normally open
45 L/min (12 USgpm) • 210 bar (3000 psi)

A

Model code



1 Function

SV5 - 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

P - Push type

S - Screw type

For valve dimensions with manual override option installed see page A-980.

6 Filter option

Blank - None

F - Filter screen

7 Port size

Code	Port size	Housing number
0	Cartridge only	
3B	3/8" BSPP	02-175464*
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 housing details.

8 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

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

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack female

F - Weather-Pack male

For coil part numbers and dimensions see section C.

10 Special features

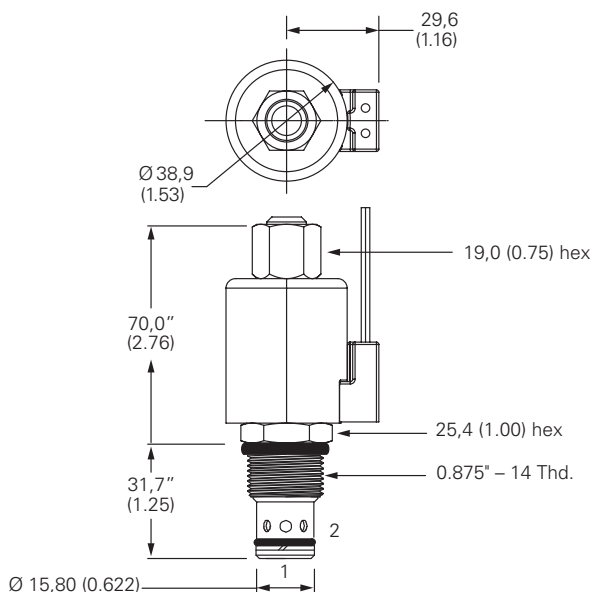
00 - None

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

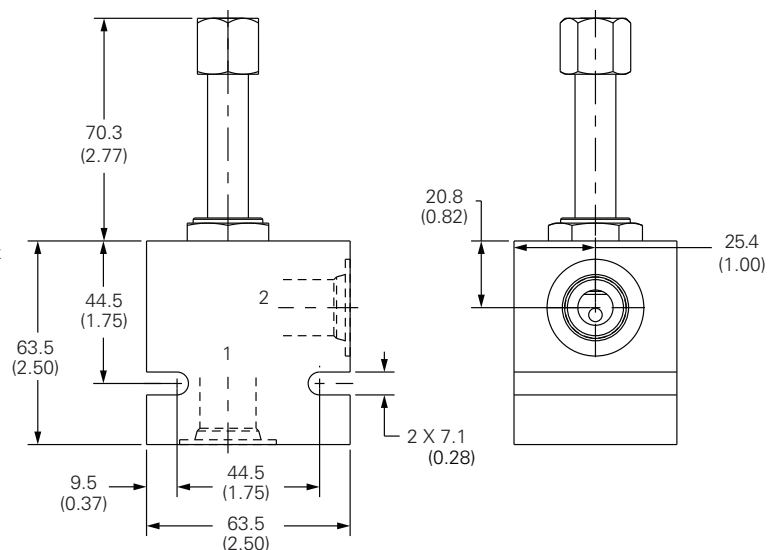
Note: Use J series, 23 W coils with this solenoid valve.

Dimensions - mm (inch)

Cartridge only



Installation drawing

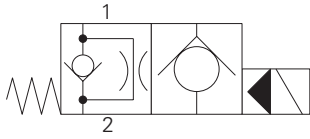


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV15-8-O/OP/OS - Solenoid valve

Poppet type, normally open solenoid valve
 37 L/min (10 USgpm) • 350 bar (5000 psi)

A



Operation

In the de-energized position the valve allows free flow from port 2 to 1 and a restricted flow through the pilot orifice from port 1 to 2.

When the solenoid is energized the pilot poppet closes the orifice and the valve closes blocking flow from port 2 to 1 while allowing free flow from port 1 to 2.

Performance data

Ratings and specifications

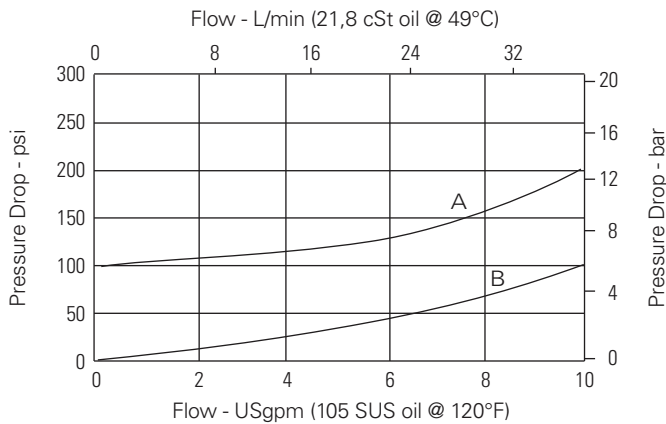
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	310 bar (4500 psi)
Rated flow	37 L/min (10 USgpm)
Internal leakage	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

Pressure drop

Cartridge only



A - Port 1 to port 2 energized

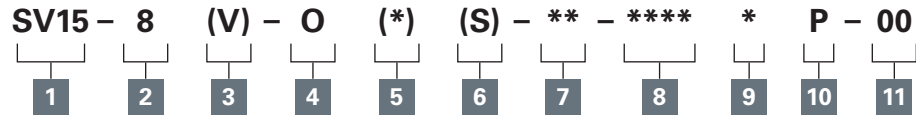
B - Port 2 to port 1 de-energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV15-8-O/OP/OS - Solenoid valve

Poppet type, normally open solenoid valve
37 L/min (10 USgpm) • 350 bar (5000 psi)

Model code



A

1 Function

SV15 - 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

P - Push type

S - Screw type

For valve dimensions with manual override option installed see page A-980.

6 Valve housing material

Blank - Cartridge only

S - Steel

7 Port size

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.

8 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

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

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

F - Weather-Pack (Packard) male on wire leads

For coil part numbers and dimensions see section C.

10 Coil series

P - 8 series, 23 W

For coil part numbers and dimensions see section C.

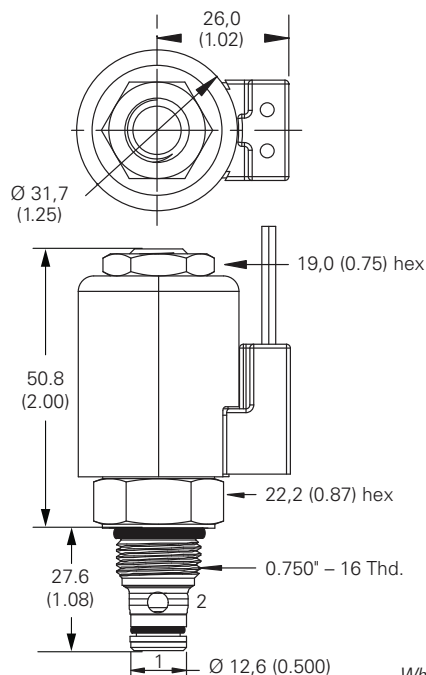
11 Special features

00 - None

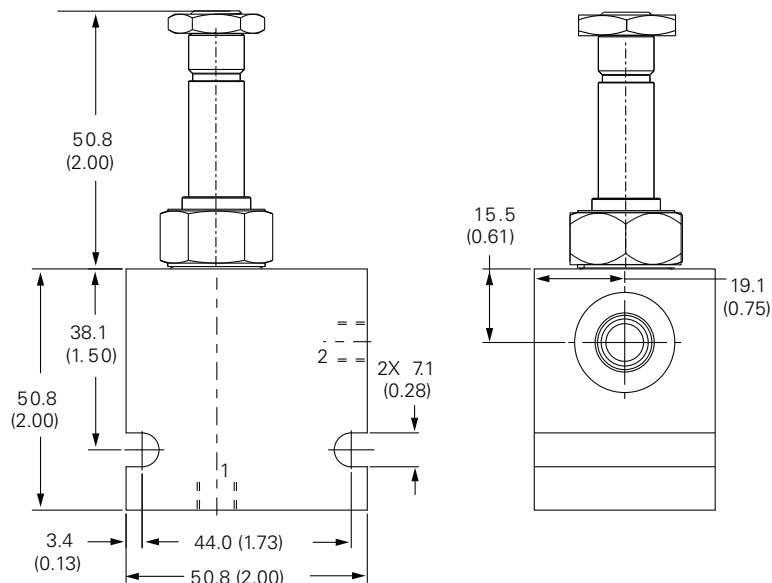
(Only required if valve has special features, omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing

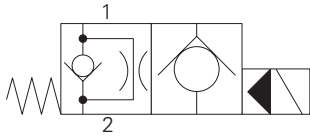


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV15-10-O/OP/OS - Solenoid valve

Poppet type, normally open solenoid valve
45 L/min (12 USgpm) • 350 bar (5000 psi)

A



Operation

In the de-energized position the valve allows free flow from port 2 to 1 and a restricted flow through the pilot orifice from port 1 to 2.

When the solenoid is energized the pilot poppet closes the orifice and the valve closes blocking flow from port 2 to 1 while allowing free flow from port 1 to 2.

Performance data

Ratings and specifications

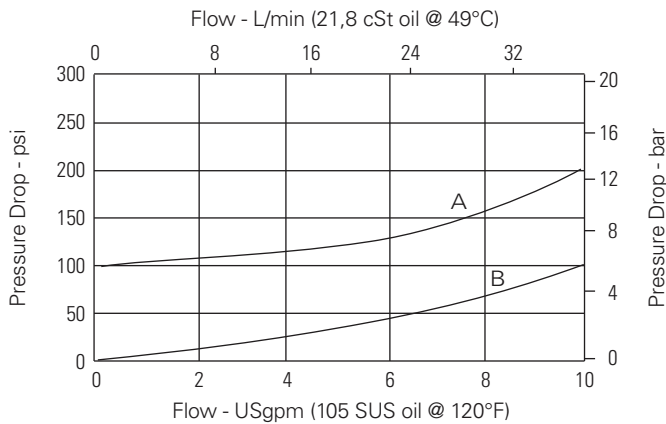
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (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 hydraulics 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

Cartridge only



Port 2 to port 1 de-energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV15-10-O/OP/OS - Solenoid valve

Poppet type, normally open solenoid valve
45 L/min (12 USgpm) • 350 bar (5000 psi)

Model code

SV15 - 10 (V) - O (*) - (S) ** - **** * H - 00

1 2 3 4 5 6 7 8 9 10 11

A

1 Function

SV15 - 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

P - Push type

S - Screw type

For valve dimensions with manual override option installed see page A-980.

6 Valve housing material

Blank - Cartridge only

S - Steel

7 Port size

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 housing details.

8 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

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

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack (Packard) female on wire leads

F - Weather-Pack (Packard) male on wire leads

For coil part numbers and dimensions see section C.

10 Coil series

H - 10 series, 29 W

For coil part numbers and dimensions see section C.

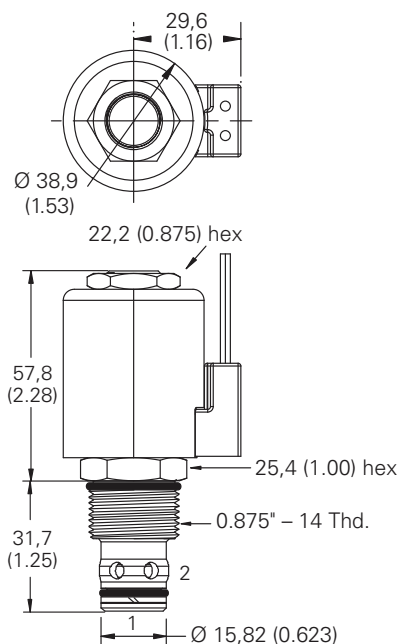
11 Special features

00 - None

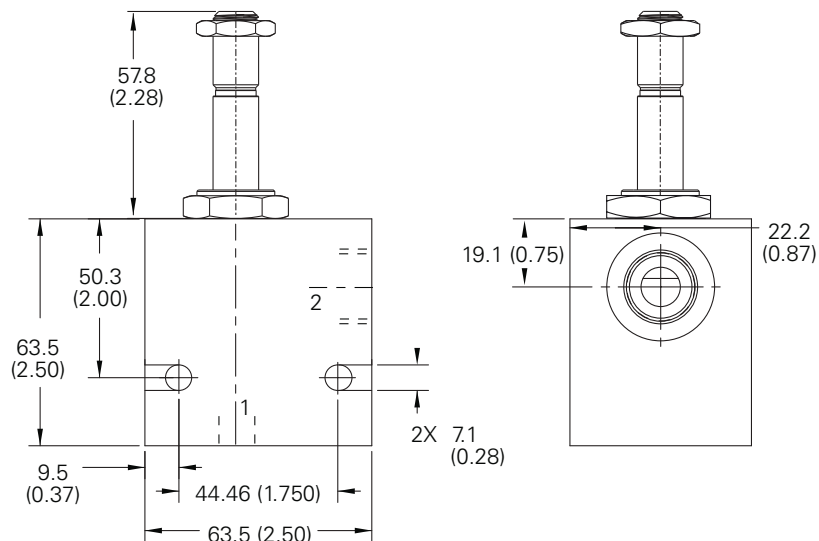
(Only required if valve has special features, omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing

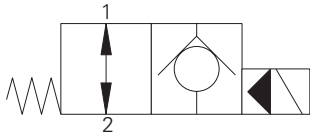


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV3-16-O - Solenoid valve

Poppet type, 2-way, 2-position, bi-directional, normally open
 132 L/min (35 USgpm) • 210 bar (3000 psi)

A



Operation

In the de-energized position the valve allows free flow in both directions.

When the solenoid is energized the pilot poppet closes the orifice and the valve closes blocking flow from port 2 to 1 while allowing free flow from port 1 to 2.

Performance data

Ratings and specifications

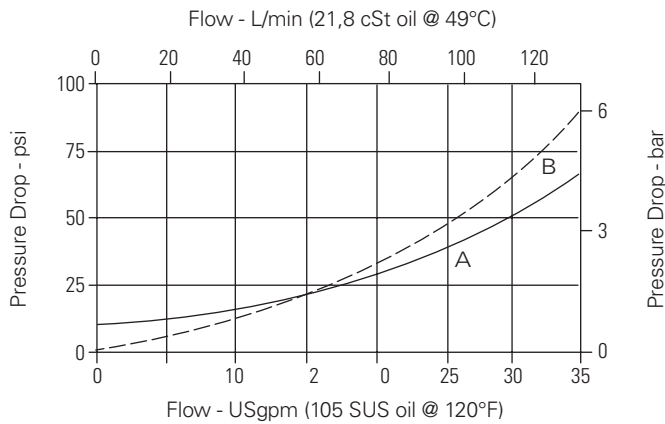
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

Typical application pressure (all ports)	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)
Cavity	C-16-2
Weight including coil	0,9 kg (1.98 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	565810 (Buna-N), 889609 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



A - Port 1 to port 2 energized

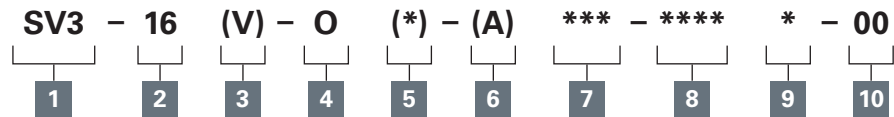
B - Port 2 to port 1 de-energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV3-16-O/OP/OS - Solenoid valve

Poppet type, 2-way, 2-position, bi-directional, normally open
132 L/min (35 USgpm) • 210 bar (3000 psi)

Model code



A

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-980.

6 Valve housing material

Omit for cartridge only

A - Aluminum

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

*Light duty housing
See section J for housings.

8 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

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

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack female

F - Weather-Pack male

For coil dimensions see section C.

10 Special features

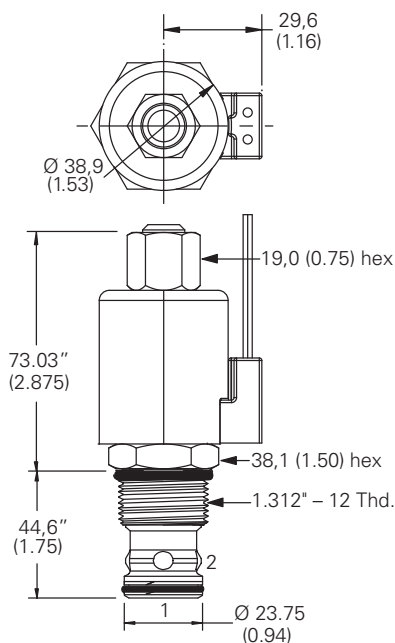
00 - None

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

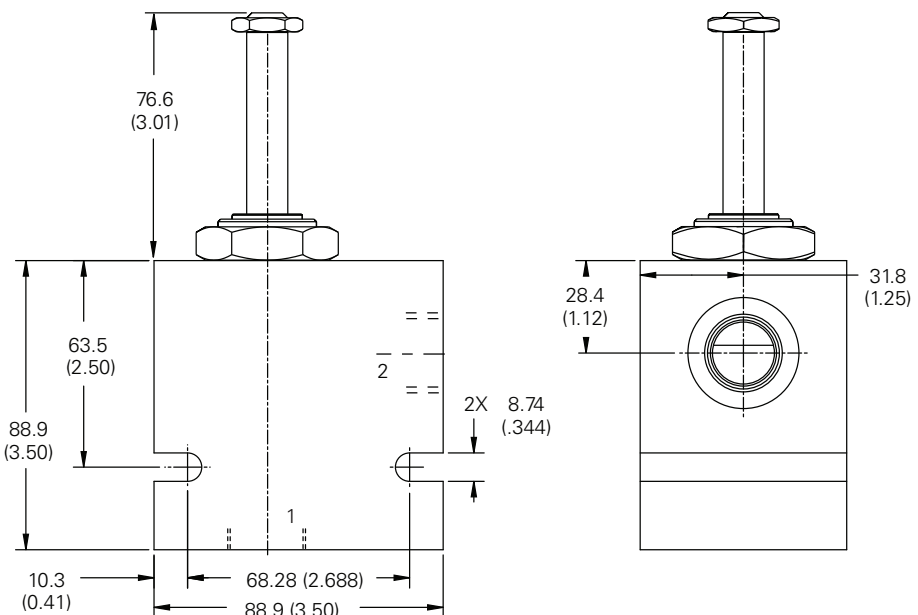
Note: When J series, 23 W coils with this solenoid valve.

Dimensions - mm (inch)

Cartridge only



Installation drawing

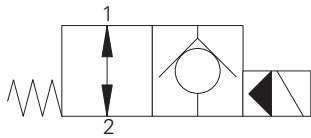


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV3-20-O - Solenoid valve

Poppet type, 2-way, 2-position, bi-directional, normally open
 227 L/min (60 USgpm) • 210 bar (3000 psi)

A



Operation

In the de-energized position the valve allows free flow in both directions.

When the solenoid is energized the pilot poppet closes the orifice and the valve closes blocking flow from port 2 to 1 while allowing free flow from port 1 to 2.

Performance data

Ratings and specifications

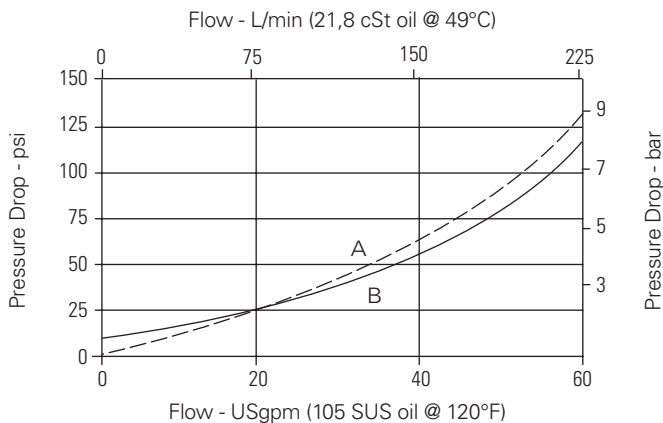
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	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
Weight including coil	1,2 kg (2.70 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	889615 (Buna-N), 889619 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



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

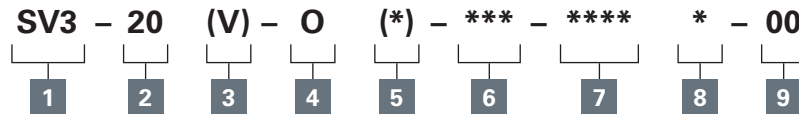
B - Port 1 to port 2 energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV3-20-O - Solenoid valve

Poppet type, 2-way, 2-position, bi-directional, normally open
227 L/min (60 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function
SV3 - Solenoid valve

2 Size
20 - 20 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-980

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.
See section J for housing details.

7 Voltage rating

00 - No coil	230A - 230VAC
12D - 12VDC	12B - 12VDC/w diode*
24D - 24VDC	24B - 24VDC/w diode*
115A - 115VAC	

*Optional arc suppression diode.

8 Connector types

Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
E - Weather-Pack female
F - Weather-Pack male

For coil dimensions see section C.

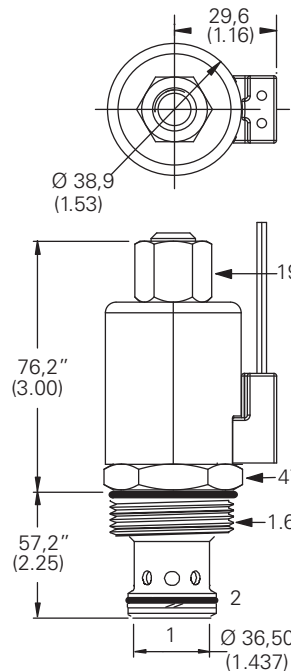
9 Special features

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

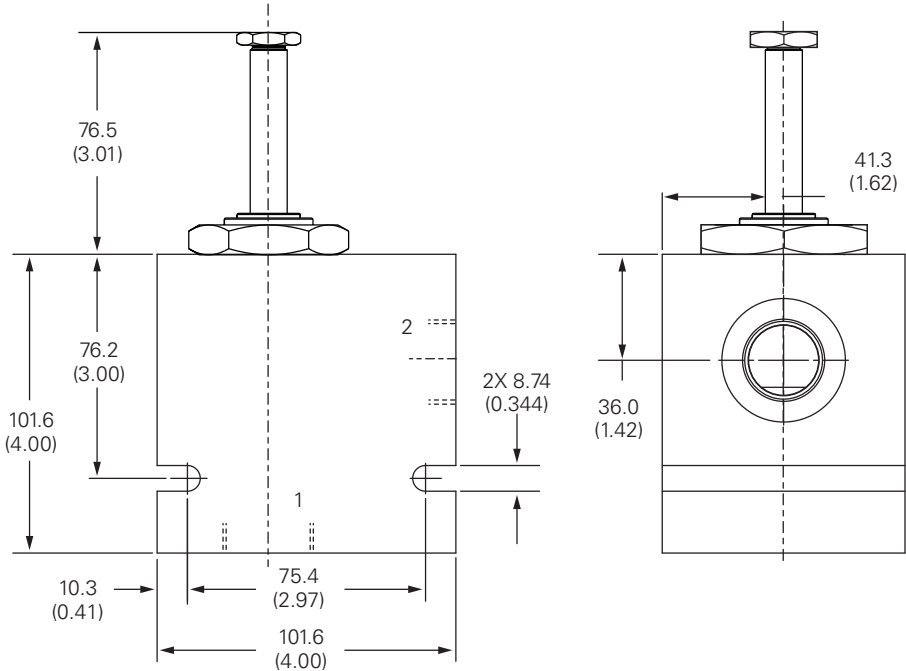
Note: Use J series, 23 W coils with this solenoid valve.

Dimensions - mm (inch)

Cartridge only



Installation drawings

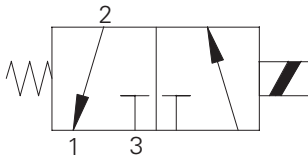


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S222 - Solenoid valves

3-Way, 2-Position Spool
20 L/min (5 US GPM) Up to 100 bar (1500 PSI)

A



Operation

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

Performance data

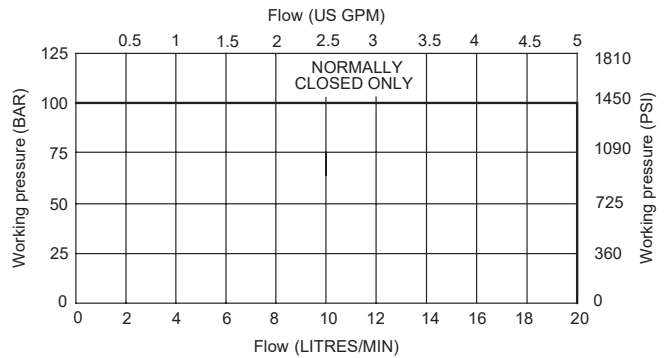
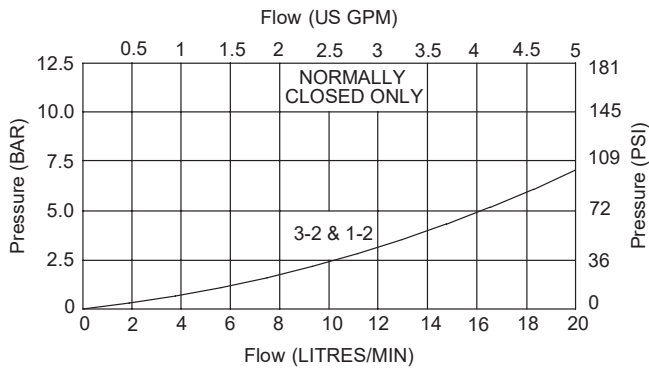
Ratings and specifications

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

Max. Working Pressure	100 bar (1500 psi)
Flow Rating	20 litres/min (5 US GPM)
"Nominal Flow (at Delta P = 5 bar (70 psi))"	17 litres/min (4.5 US GPM)
Internal leakage	"Less than 40 ml/min 100 bar differential at 32 centistokes"
Temperature range	-20 to +120°C (-4 to +248°F)
Nominal Viscosity Range	15 to 250 centistokes
Cavity	A18333
Fluids	Most general purpose hydraulics fluids such as: MIL-H-5606, SAE 10, SAE 20 etc
Filtration	BS5540/4 Class 18/13 (25 micron or better)
Housing material (standard)	Aluminium Alloy
Weight cartridge only	0.13 kg (0.3 lbs)
Seal kit	SK975 (Nitrile) SK975V (Viton)

Pressure drop

Cartridge only

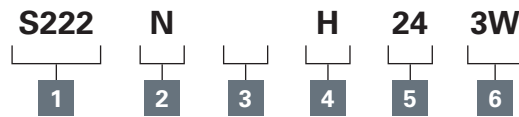


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S222 - Solenoid valves

3-Way, 2-Position Spool
20 L/min (5 US GPM) Up to 100 bar (1500 PSI)

Model code



A

1 Basic Code

S222

2 Seals

N - Nitrile

V - Viton®

3 Manual Override (consult factory for availability)

- 1 - Push and twist
- 2 - Screw

4 Port Sizes

- 2W** - 1/4" BSP
- 3W** - 3/8" BSP
- 6T** - 3/8" SAE

5 Voltage

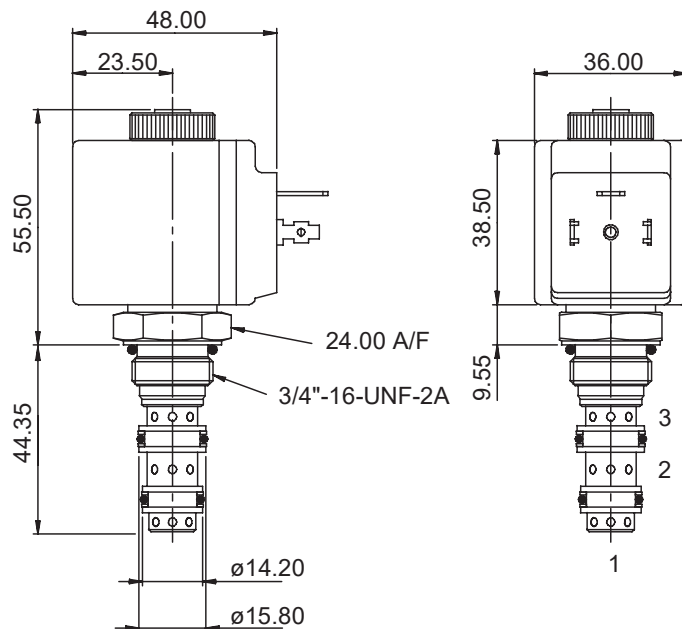
- 12** - 12 VDC
- 24** - 24 VDC
- 110** - 110 VAC
- 220** - 220 VAC

6 Coil Termination

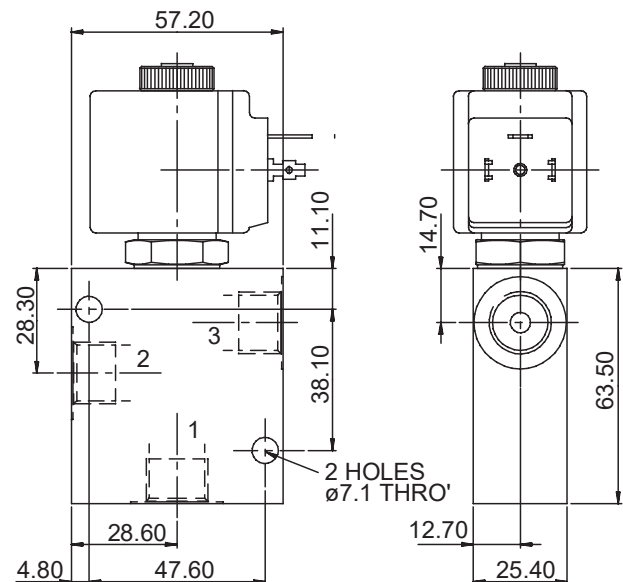
- H** - DIN43650
 - F** - Flying Leads
 - DM** - Deutsch Moulded
- Other terminations available on request

Dimensions - mm (inch)

Cartridge only



Installation drawing

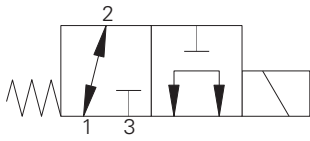


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV1-8-3/3M - Solenoid valve

Spool type, 3-way, 2-position
 11 L/min (3 USgpm) • 210 bar (3000 psi)

A



Operation

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

Performance data

Ratings and specifications

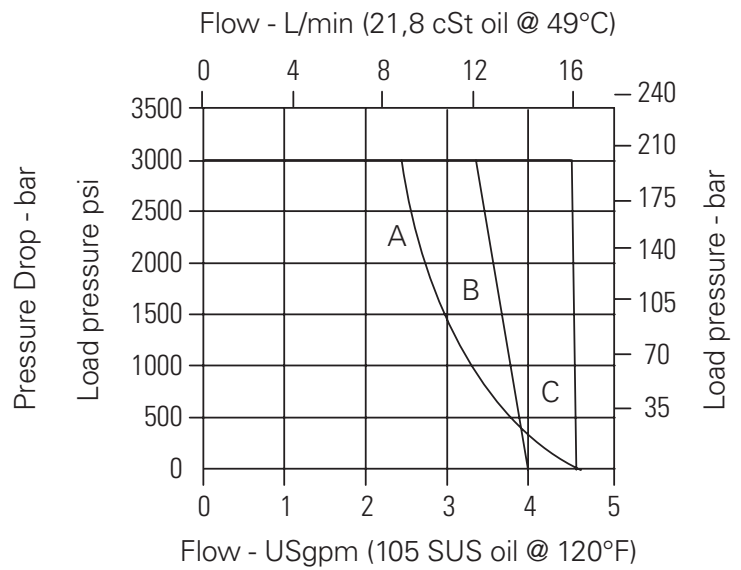
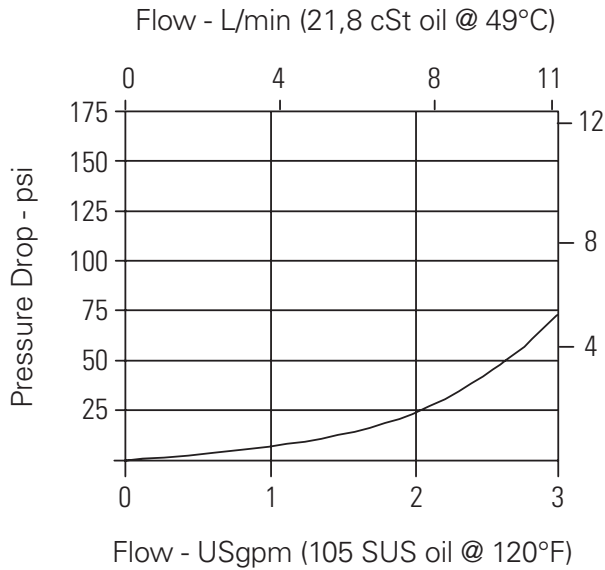
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	11 L/min (3 USgpm)
Internal leakage (per land)	82 cm ³ /min (5 in ³ /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
Weight including coil	0,30 kg (0.66 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	02-160755 (Buna-N), 02-160756 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



Pressure drop vs. Flow

Operating Limits

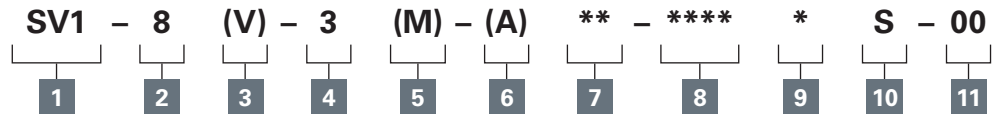
- A** - Selector 1 to 3
- B** - Normally Open
- C** - Normally closed and Selector 1 to 2

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV1-8-3/3M - Solenoid valve

Spool type, 3-way, 2-position
11 L/min (3 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function

SV1 - Solenoid valve

2 Size

8 - 8 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

For valve dimensions with manual override option installed see page A-980.

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 housing details.

8 Voltage rating

Blank - No coil

12D - 12VDC

24D - 24VDC

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

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack (Packard) female on wire leads

F - Weather-Pack (Packard) male on wire leads

10 Coil series

S - 8 series, 20 W

For coil part numbers and dimensions see section C.

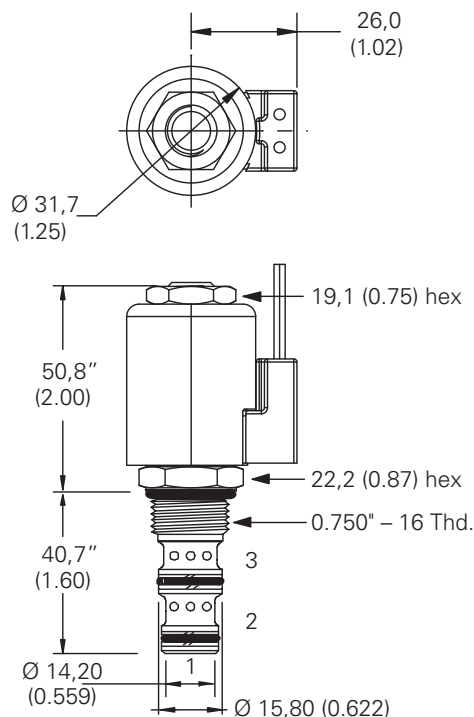
11 Special features

00 - None

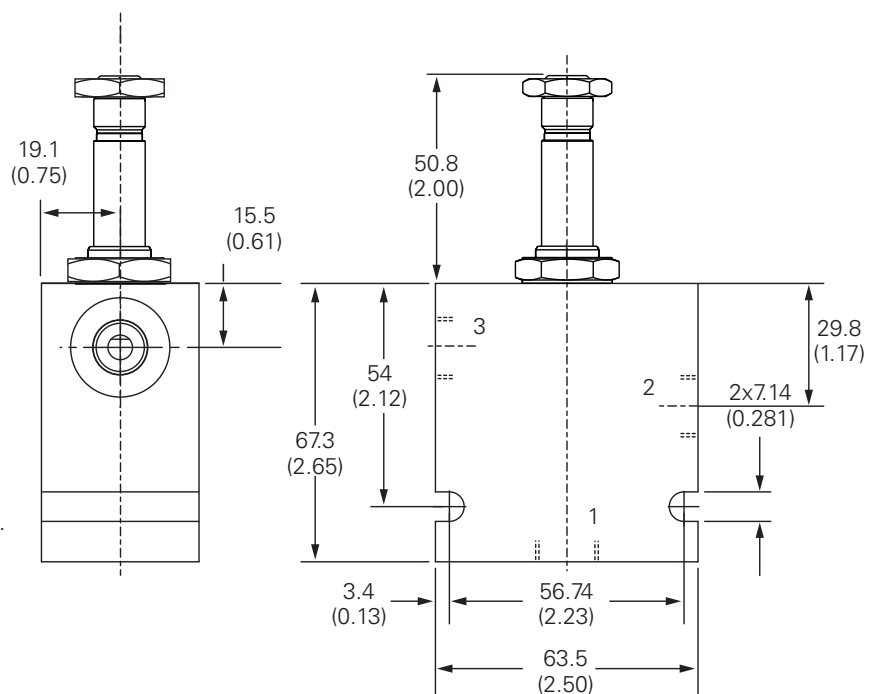
(Only required if valve has special features, omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing

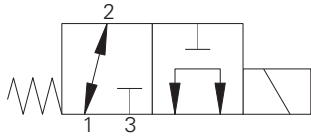


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV1 1-8-3/3M - Solenoid valve

Spool type 3-way, 2-position
 11 L/min (3 USgpm) • 350 bar (5000 psi)

A



Operation

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

Performance data

Ratings and specifications

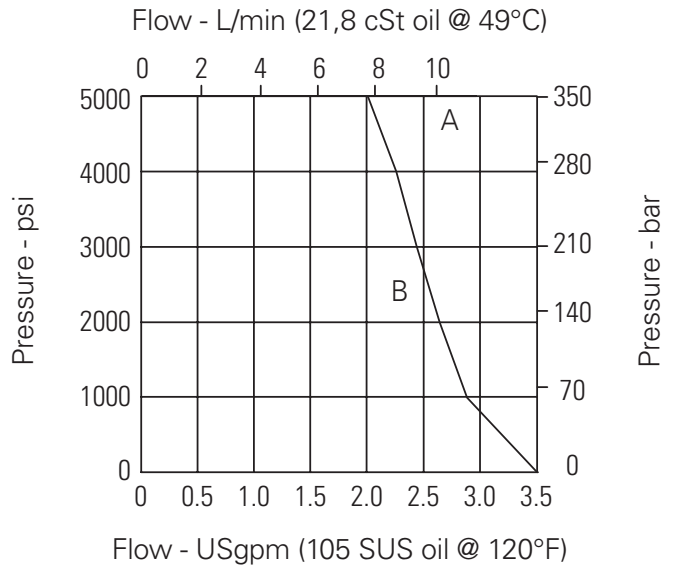
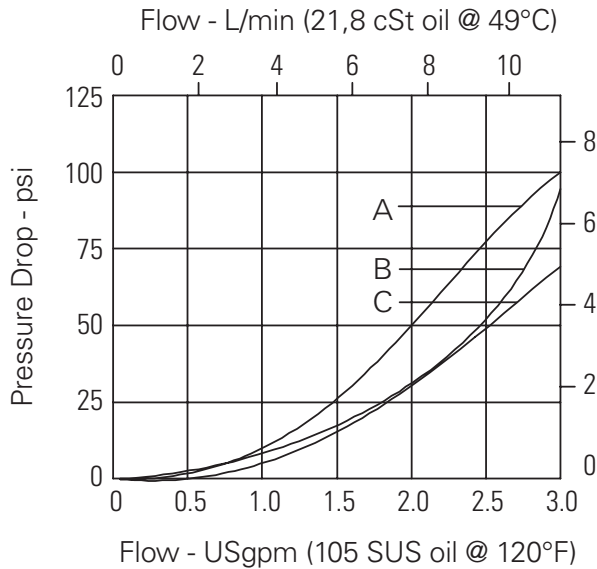
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 psi)
Rated flow	11 L/min (3 USgpm)
Internal leakage, combined port 2 and port 1	140 cm ³ /min (8.5 in ³ /min) max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Cavity	C-8-3
Weight Cartridge only	0,13 kg (0.28 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	02-160755 (Buna-N), 02-160756 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

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

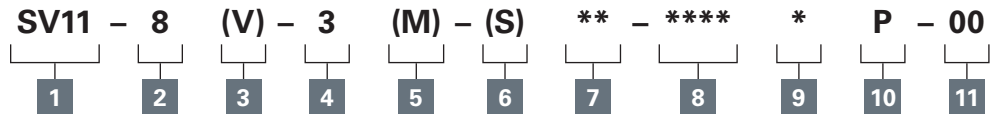
- A - Normally open & closed
- B - Selector 1 to 2 and 1 to 3

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV11-8-3/3M - Solenoid valve

Spool type 3-way, 2-position
11 L/min (3 USgpm) • 350 bar (5000 psi)

Model code



A

1 Function

SV11 - Solenoid valve

2 Size

8 - 8 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 - Manual override
For valve dimensions with manual override option installed see page A-980.

6 Valve housing material

Blank - Cartridge only
S - Steel

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 housing details.

8 Voltage rating

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

9 Connector types

Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
F - Weather-Pack (Packard) male on wire leads

10 Coil series

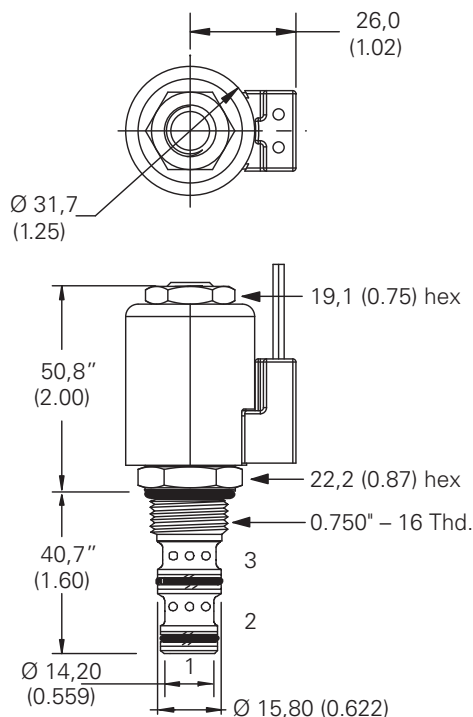
P - 8 series, 23 W
For coil part numbers and dimensions see section C.

11 Special features

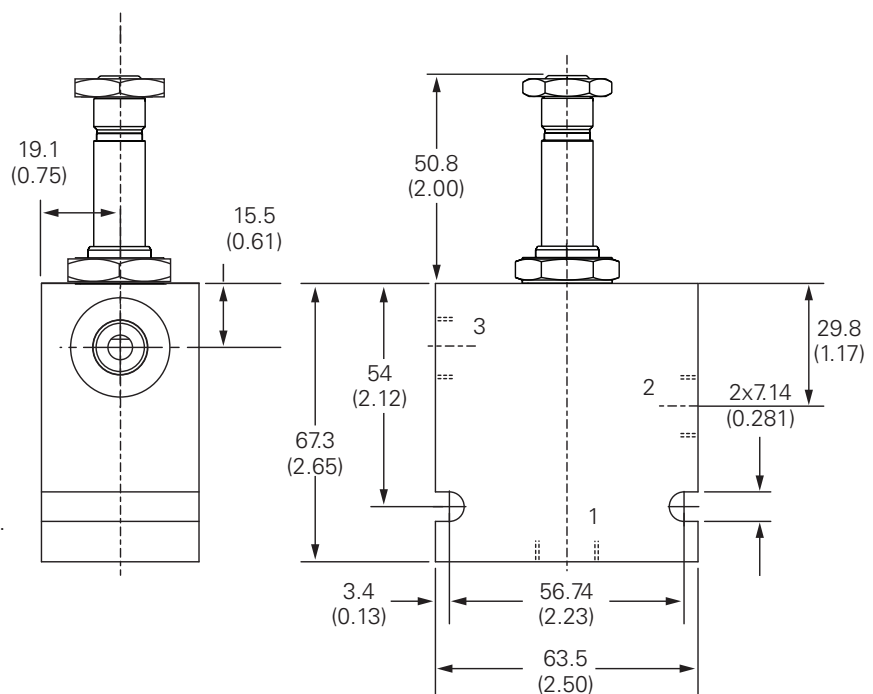
00 - None
(Only required if valve has special features, omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing

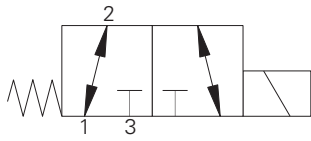


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV4-8-3/3P - Solenoid valve

Spool type 3-way, 2-position
13 L/min (4 USgpm) • 210 bar (3000 psi)

A



Operation

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

Performance data

Ratings and specifications

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

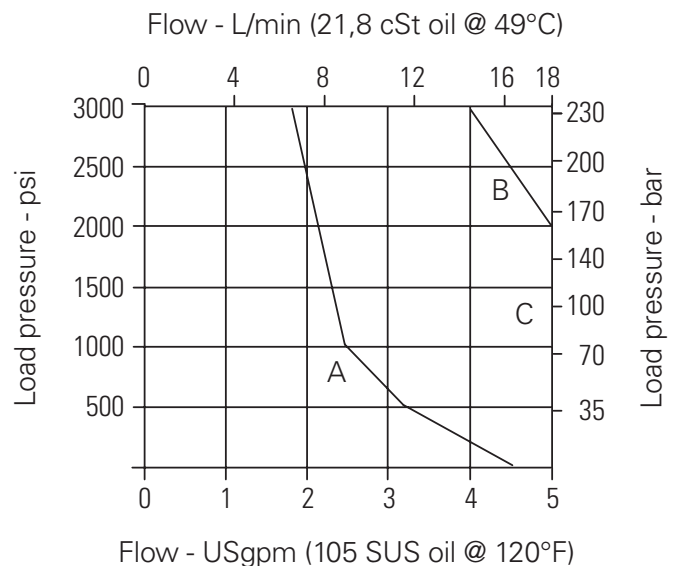
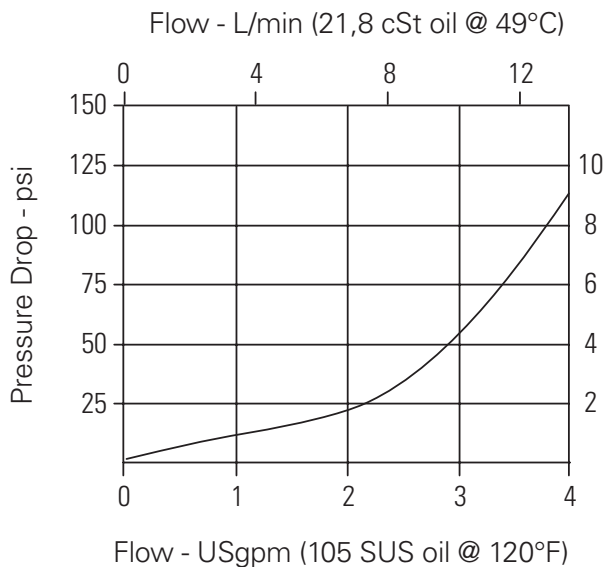
Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	13 L/min (4 USgpm)
Internal leakage	82 cm ³ /min (5 in ³ /min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Response times (100% rated voltage and flow)	Energize: 22 ms De-Energize: 27 ms
Cavity	C-8-3
Weight including coil	0,29 kg (0.64 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	02-160755 (Buna-N), 02-160756 (Viton®)

Viton is a registered trademark of E.I. DuPont

Note: Pressure on port 1 should not exceed 20 bar (300 psi).

Pressure drop

Cartridge only



Pressure drop vs. Flow

Port 2 to 1 and
port 2 to port 3

Operating Limits

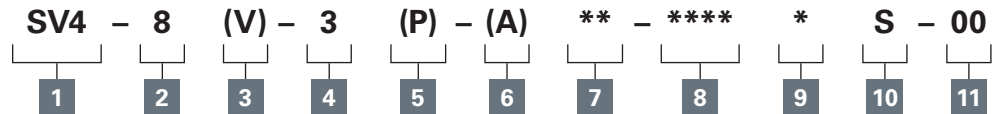
- A** - Normally open port 1 to port 2
- B** - Normally closed port 3 to port 1
- C** - Selector 2 to 1 and 2 to 3

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV4-8-3/3P - Solenoid valve

Spool type 3-way, 2-position
13 L/min (4 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function

SV4 - Solenoid valve

2 Size

8 - 8 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
For valve dimensions with manual override option installed see page A-980.

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 housing details.

8 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

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

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack (Packard) female on wire leads

F - Weather-Pack (Packard) male on wire leads

10 Coil series

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

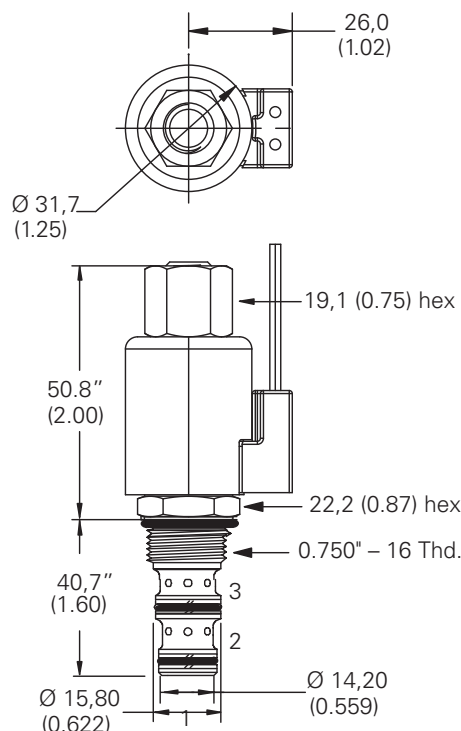
11 Special features

00 - None

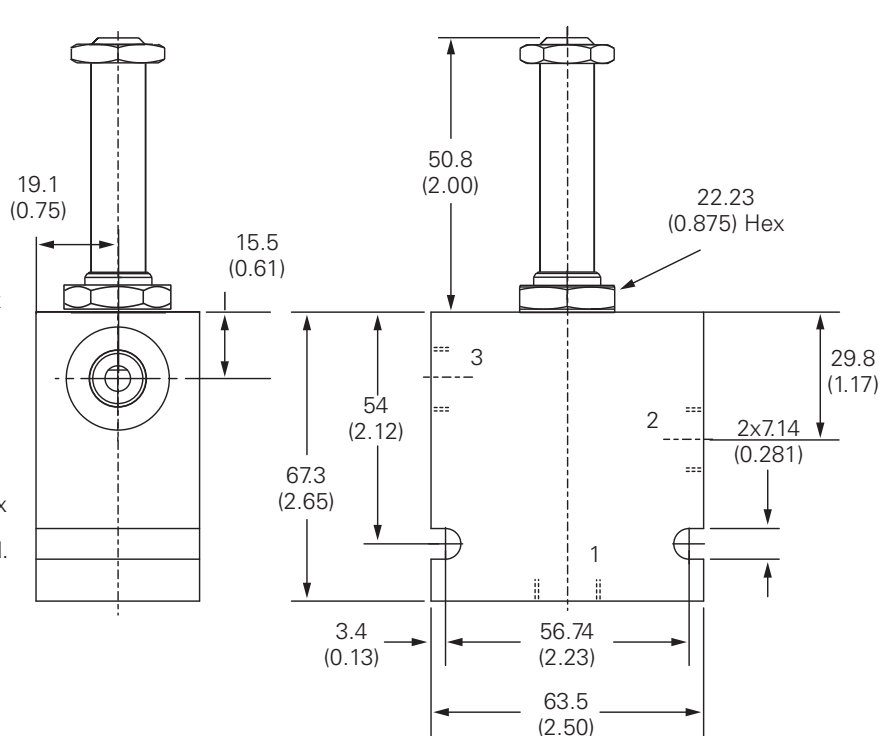
(Only required if valve has special features, omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing

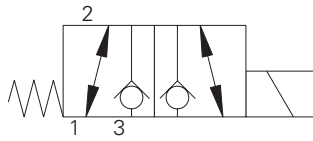


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S229 - Solenoid valve

Poppet type, 3-way, 2-position
Up to 12L/min (3.2 USgpm) • 210 bar (3000 psi)

A



Operation

In the de-energized condition port 3 is blocked and port 2 is open to port 1. When energized port 3 is open to port 2 and port 1 is blocked.

Performance data

Ratings and specifications

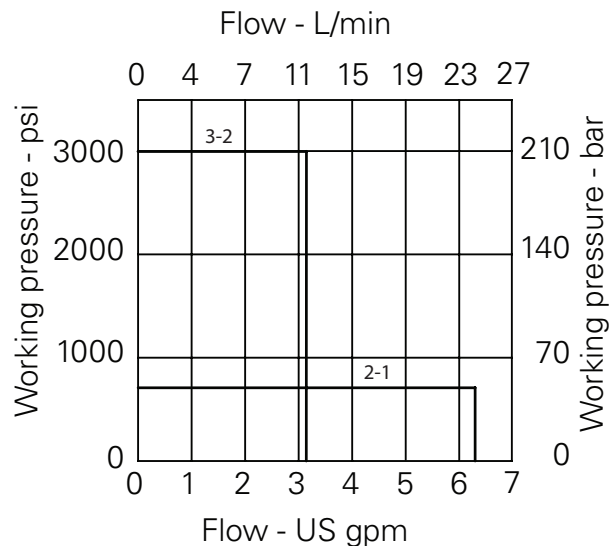
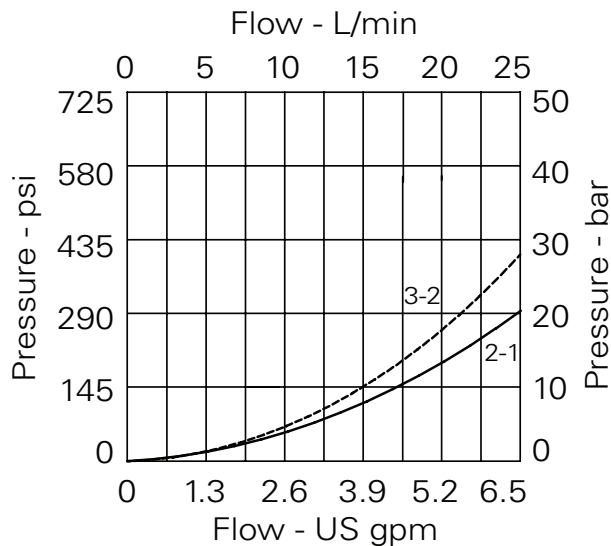
Figures based on Viscosity 32 cST (150 SSU)

Actuator port location	Port 2
Max working pressure	210 bar (3000 psi)
Rated flow	See performance graphs
Nominal flow at $\Delta P = 5$ bar (70 psi)	10 L/min (2.6 USgpm)
Internal leakage	Less than .6 ml/min (10 dpm)
Temperature range	-30° to 120°C (-22° to 248°F)
Cavity	A3531 (see Section M)
Electrical data	See coil data sheet
Torque cartridge into cavity	30 Nm (22 lbs ft)
Mounting position	Unrestricted
Fluids	All general purpose hydraulics fluids such as: MIL-H-5606, SAE 10, SAE 20, etc
Seal material	Standard nitrile with PTFE back up rings
Filtration	BS5540/4 Class 18/13 (25 micron or better)
Nominal viscosity range	15 to 250 cSt
Standard housing materials	Aluminium Alloy
Coil weight	0.3 kg (0.6 lbs)
Cartridge weight	0.13 kg (0.3 lbs)
Seal kit	SK119 (Nitrile) SK119V (Viton®)
Coil part number	C16-*/29
Coil voltage available	12, 24 VDC, 110, 220, VAC*

Viton is a registered trademark of E.I. DuPont

*AC coils must be used with a rectifying connector

Pressure drop

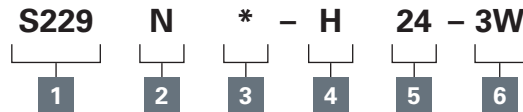


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S229 - Solenoid valve

3-way, 2-position poppet type solenoid valve
Up to 12L/min (3.2 USgpm) • 210 bar (3000 psi)

Model code



1 Function S229

2 Seal material

N - Nitrile

V - Viton®

3 Manual Override

2 - Screw

3 - Push

(Consult factory for availability).
See page A-960.

4 Coil Termination

H - DIN43650

F - Flying lead

DM - Deutsch moulded

Other terminations available
on request.

5 Voltage

12 - 12 VDC

24 - 24 VDC

110 - 110 VAC

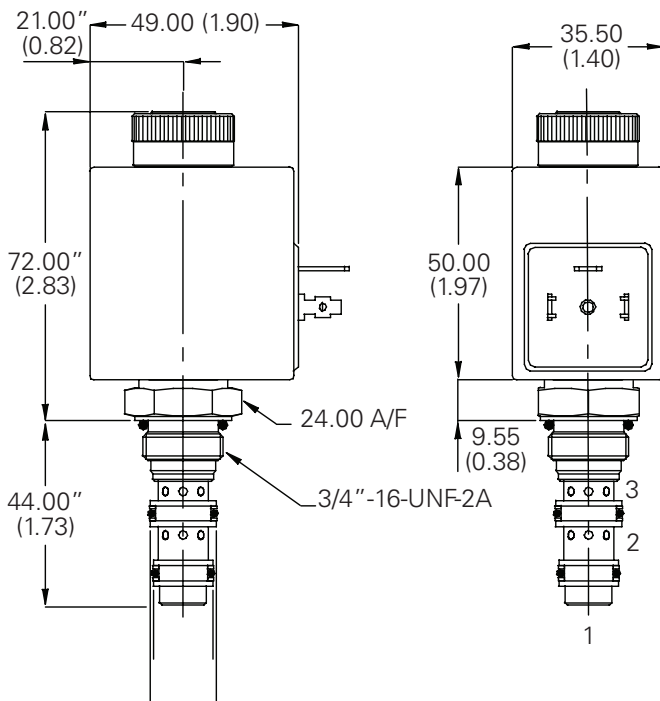
220 - 220 VAC

6 Port size

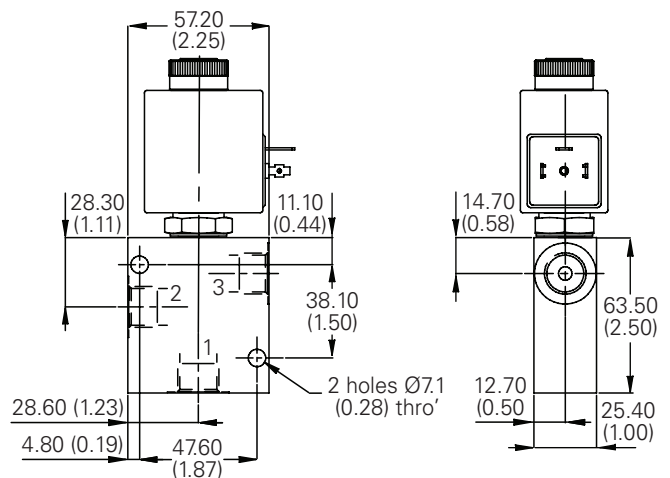
Code	Port size	Housing number - body only
Aluminium		
2W	1/4" BSP	B7724
3W	3/8" BSP	B6684
6T	3/8" SAE	B6516

Dimensions - mm (inch)

Cartridge only Basic Code S229



Installation drawing

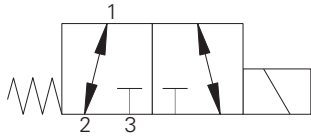


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S520(H) - Solenoid valve

spool type, 3-way, 2-position
Up to 40L/min (10 USgpm) • 210 bar (3000 psi)

A



Operation

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

Performance data

Ratings and specifications

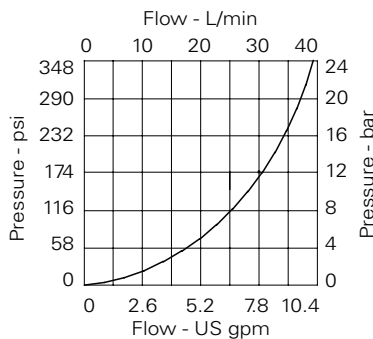
Figures based on Viscosity 32 cST (150 SSU)

Actuator port location	Port 1
Max working pressure	210 bar (3000 psi)
Rated flow at $\Delta P = 5$ bar (70 psi)	Up to 40 L/min (10 USgpm)
Nominal flow	22 L/min (6 USgpm)
Internal leakage	Less than 120 ml/min past each land 210 bar differential at 32 centistokes
Temperature range	-30° to +120°C (-22° to +248°F)
Cavity	C-10-3 (see Section M)
Electrical data	See coil data sheet
Torque cartridge into cavity	30 Nm (22 lbs ft)
Mounting position	Unrestricted
Fluids	Most general purpose hydraulics fluids such as: MIL-H-5606, SAE 10, SAE 20 etc
Seal material	Standard nitrile with PTFE back up rings
Filtration	BS5540/4 Class 18/13 (25 micron or better)
Nominal viscosity range	15 to 250 cSt
Standard housing materials	Aluminium alloy
Coil weight	0.3 kg (0.6 lbs)
Cartridge weight	0.2 kg (0.4 lbs)
Seal kit	SK1030 (Nitrile) SK1030V (Viton®)
Coil part number	S520: C16-*/19 S520(H): C16-*/29
Coil voltage available	12, 24 VDC, 110, 220, VAC*

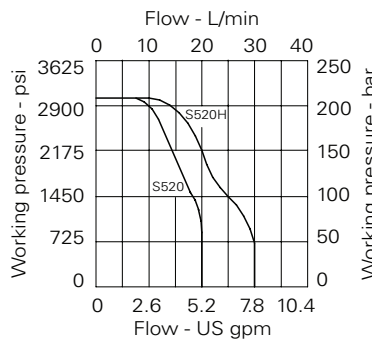
Viton is a registered trademark of E.I. DuPont

*AC coils must be used with a rectifying connector

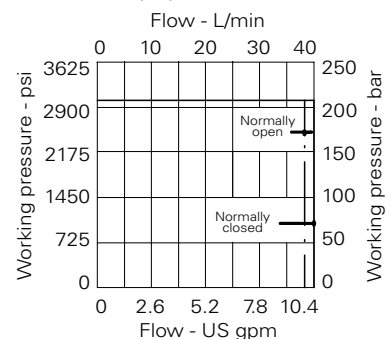
Pressure drop



Selector Mode



Normally closed and Normally open modes

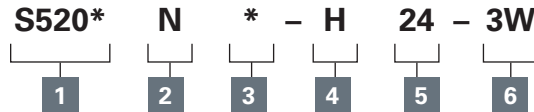


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S520(H) - Solenoid valve

Spool type, 3-way, 2-position
Up to 40L/min (10 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function

S520 - Standard valve
S520(H) - Heavy duty valve

2 Seal material

N - Nitrile
V - Viton*

3 Manual Override

2 - Screw
(Consult factory for availability).
See page A-960.

4 Coil Termination

H - DIN43650
F - Flying leads
DM - Deutsch moulded
Other terminations available on request.

5 Voltage

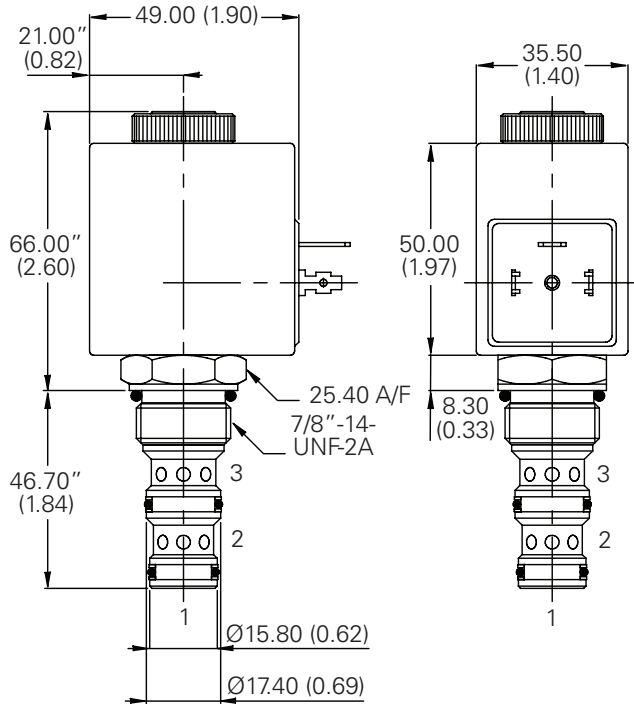
12 - 12 VDC
24 - 24 VDC
110 - 110 VAC
220 - 220 VAC

6 Port size

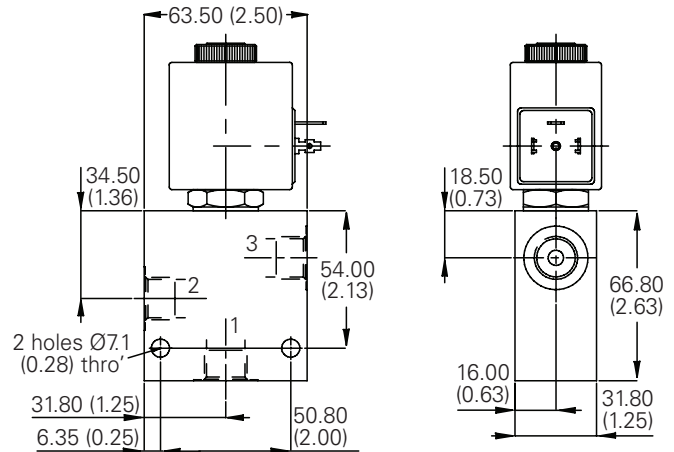
Code	Port size	Housing number - body only
		Aluminium
3W	3/8" BSP	B18982
4W	1/2" BSP	B19358
8T	1/2" SAE	B19360

Dimensions - mm (inch)

Cartridge only



Installation drawing

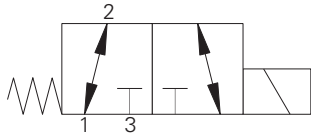


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S521(H) - Solenoid valve

Spool type, 3-way, 2-position
Up to 44 L/min (11.5 USgpm) • Up to 210 bar (3000 psi)

A



Operation

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

Performance data

Ratings and specifications

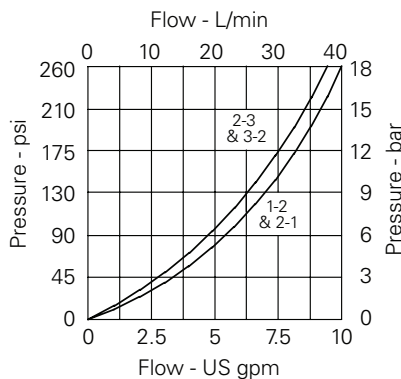
Figures based on Viscosity 32 cST (150 SSU)

Actuator port location	Port 2
Max working pressure	210 bar (3000 psi)
Rated flow	See performance graphs
Nominal flow at $\Delta P = 5$ bar (70 psi)	17 L/min
Internal leakage	Less than 120 ml/min past each land 210 bar differential
Temperature range	-30° to +120°C (-22° to +248°F)
Cavity	C-10-3 (see Section M)
Electrical data	See coil data sheet
Torque cartridge into cavity	30 Nm (22 lbs ft)
Mounting position	Unrestricted
Fluids	All general purpose hydraulics fluids such as: MIL-H-5606, SAE 10, SAE 20 etc
Seal material	Standard nitrile with PTFE back up rings
Filtration	BS5540/4 Class 18/13 (25 micron or better)
Nominal viscosity range	15 to 250 cSt
Standard housing materials	Aluminium alloy
Coil Weight	0.3 kg (0.6 lbs)
Weight	0.2 kg (0.4 lbs)
Seal kit	SK1030 (Nitrile) SK1030V (Viton®)
Coil part number	C16-*/19 (S521) C16-*/29 (S521H)
Coil voltage available	12, 24 VDC, 110, 220, VAC*

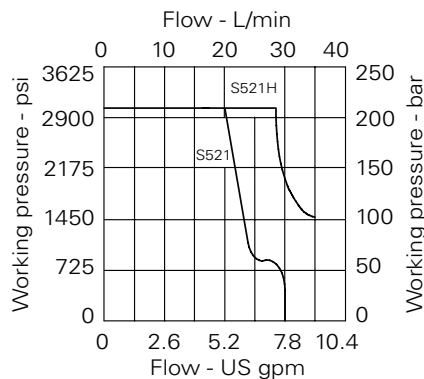
Viton is a registered trademark of E.I. DuPont

*AC coils must be used with a rectifying connector

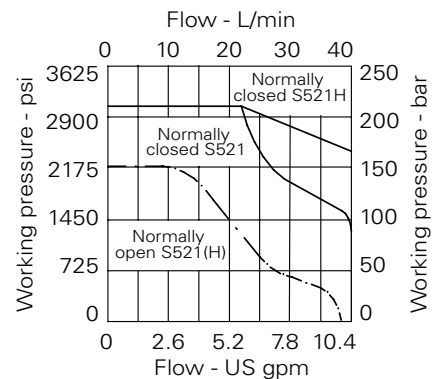
Pressure drop



Performance Selector Mode



Performance Normally closed and Normally open modes

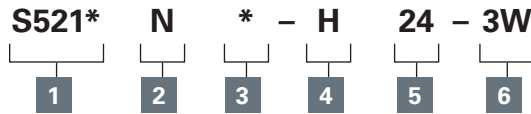


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S521(H) - Solenoid valve

Spool type, 3-way, 2-position
Up to 44 L/min (11.5 USgpm) • Up to 210 bar (3000 psi)

Model code



A

1 Function

S521 - Standard valve
S521(H) - Heavy duty valve

2 Seal material

N - Nitrile
V - Viton®

3 Manual Override

2 - Screw
(Consult factory for availability).
See page A-960.

4 Coil Termination

H - DIN43650
F - Flying leads
DM - Deutsch moulded

Other terminations available on request.

5 Voltage

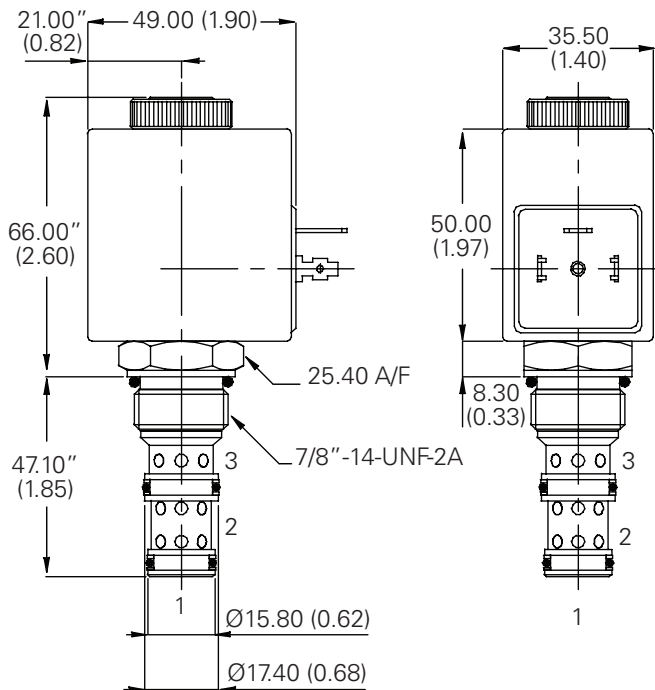
12 - 12 VDC
24 - 24 VDC
110 - 110 VAC
220 - 220 VAC

6 Port size

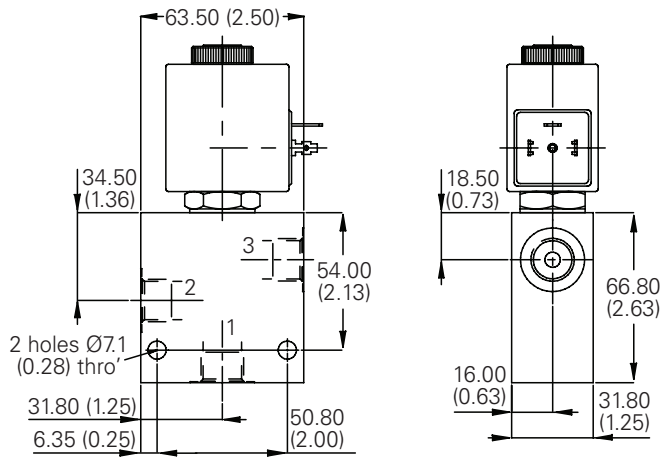
Code	Port size	Housing number - body only
Aluminium		
3W	3/8" BSP	B18982
4W	1/2" BSP	B19358
8T	1/2" SAE	B19360

Dimensions - mm (inch)

Cartridge only



Installation drawing

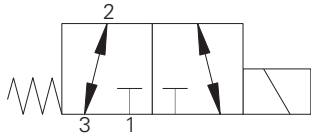


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S525(H) - Solenoid valve

Spool type, 3-way, 2-position
Up to 30 L/min (8 USgpm) • 210 bar (3000 psi)

A



Operation

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

Performance data

Ratings and specifications

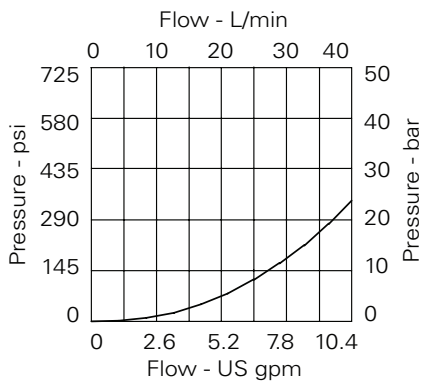
Performance data is typical based on Viscosity 32 cST (150 SSU)

Actuator port location	Port 2
Max working pressure	210 bar (3000 psi)
Rated flow	See performance graphs
Nominal flow at $\Delta P = 5$ bar (70 psi)	25 L/min (6.5 USgpm)
Internal leakage	Less than 120 ml/min 210 bar differential
Temperature range	-30° to 120°C (-22° to 248°F)
Cavity	C-10-3 (See Section M)
Electrical data	See coil data sheet
Torque cartridge into cavity	30 Nm (22 lbs ft)
Mounting position	Unrestricted
Fluids	Most general purpose hydraulics fluids such as: MIL-H-5606, SAE 10, SAE 20 etc
Seal material	Standard nitrile with PTFE back up rings
Filtration	BS5540/4 Class 18/13 (25 micron or better)
Nominal viscosity range	15 to 250 cSt
Standard housing materials	Aluminium alloy
Coil weight	0.3 kg (0.6 lbs)
Cartridge weight	0.2 kg (0.4 lbs)
Seal kit	SK1030 (Nitrile) SK1030V (Viton®)
Coil part number	C16*-*/19 (3525) C16*-*/29 (5525H)
Coil voltage available	12, 24 VDC, 110, 220, VAC*

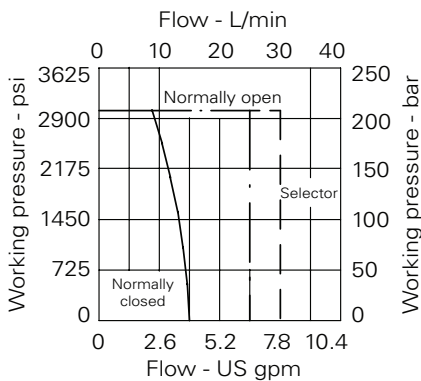
Viton is a registered trademark of E.I. DuPont

*AC coils must be used with a rectifying connector

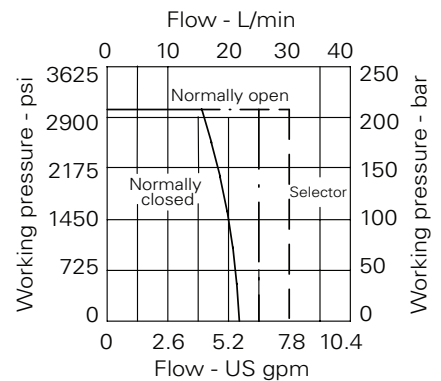
Pressure drop



Performance
S525



Performance
S525H



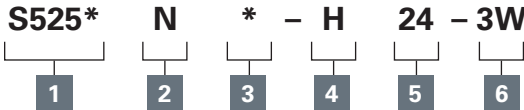
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S525(H) - Solenoid valve

Spool type, 3-way, 2-position
Up to 30 L/min (8 USgpm) • 210 bar (3000 psi)

A

Model code



- 1 Function**
S525 - Standard valve
S525H - Heavy duty valve

- 2 Seal material**
N - Nitrile
V - Viton®

- 3 Manual override**
2 - Screw
(Consult factory for availability).
See page A-960.

- 4 Coil Termination**
H - DIN43650
F - Flying leads
DM - Deutsch moulded
Other terminations available on request.

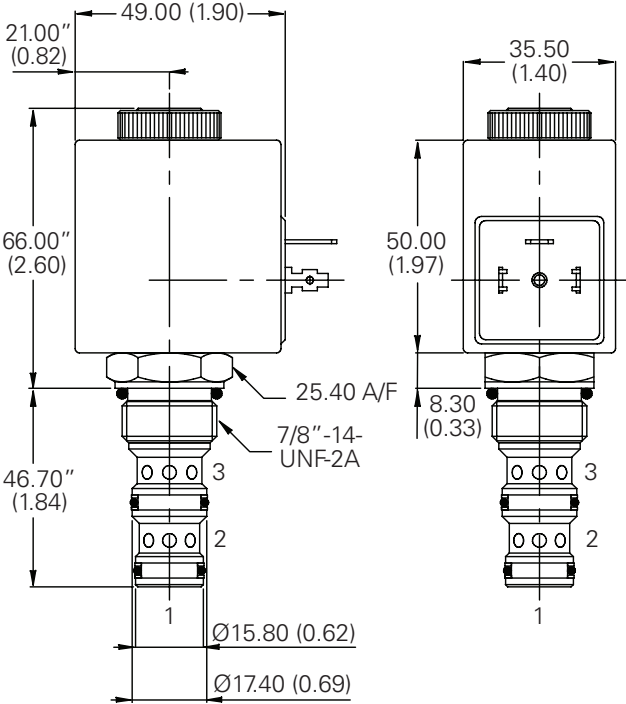
- 5 Voltage**
12 - 2 VDC
24 - 24 VDC
110 - 110 VAC
220 - 220 VAC

6 Port size

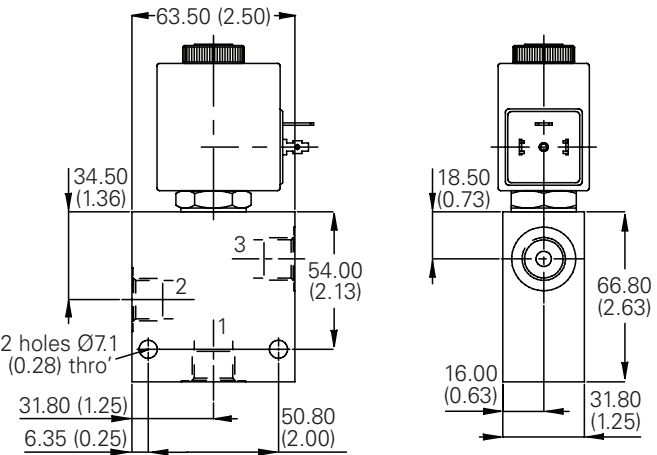
Code	Port size	Housing number - body only
		Aluminium
3W	3/8" BSP	B18982
4W	1/2" BSP	B19358
8T	1/2" SAE	B19360

Dimensions - mm (inch)

Cartridge only



Installation drawing

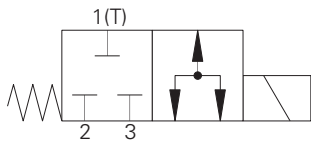


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S526 - Solenoid valve

Spool type, 3-way, 2-position
Up to 35 L/min (9 USgpm) • 210 bar (3000 psi)

A



Operation

In the de-energized condition all ports are closed. When energized all ports are open to each other.

Performance data

Ratings and specifications

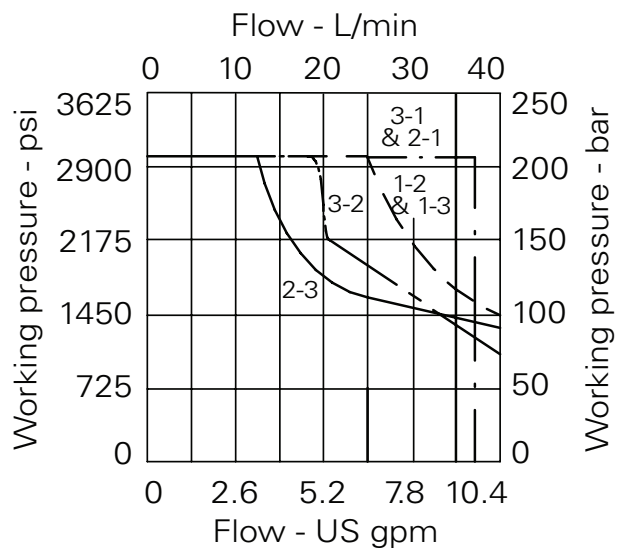
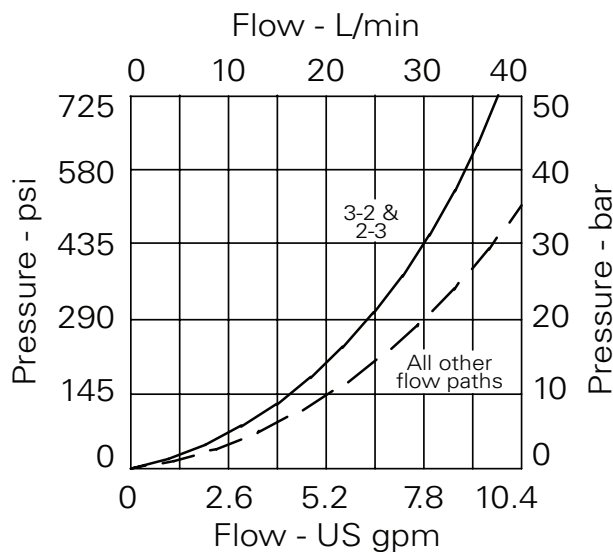
Performance data is typical with Viscosity 32 cST (150 SSU)

Max working pressure	210 bar (3000 psi)
Rated flow	See performance graphs
Nominal flow at $\Delta P = 5$ bar (70 psi)	11 L/min (3 USgpm)
Internal leakage	Less than 120 ml/min past each land 210 bar differential
Temperature range	-30° to +120°C (-22° to +248°F)
Cavity	C-10-3 (see Section M)
Electrical data	See coil data sheet
Torque cartridge into cavity	30 Nm (22 lbs ft)
Mounting position	Unrestricted
Fluids	All general purpose hydraulics fluids such as MIL-H-5606, SAE 10, SAE 20 etc
Seal material	Standard nitrile with PTFE back up rings
Filtration	BS5540/4 Class 18/13 (25 micron or better)
Nominal viscosity range	15 to 250 cSt
Standard housing materials	Aluminium alloy
Coil weight	0.3 kg (0.6 lbs)
Cartridge weight	0.2 kg (0.4 lbs)
Seal kit	SK1030 (Nitrile) SK1030V (Viton®)
Coil part number	C16-*/*/19
Coil voltage available	12, 24 VDC, 110, 220, VAC*

Viton is a registered trademark of E.I. DuPont

*AC coils must be used with a rectifying connector

Pressure drop

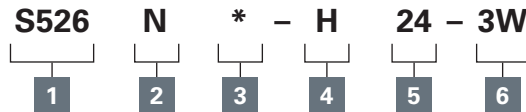


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S526 - Solenoid valve

Spool type, 3-way, 2-position
Up to 35 L/min (9 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function

S526

2 Seal material

N - Nitrile

V - Viton®

3 Manual override

2 - Screw

(Consult factory for availability).
See page A-960

4 Coil Termination

H - DIN43650

F - Flying leads

DM - Deutsch moulded

Other terminations available
on request.

5 Voltage

12 - 12 VDC

24 - 24 VDC

110 - 110 VAC

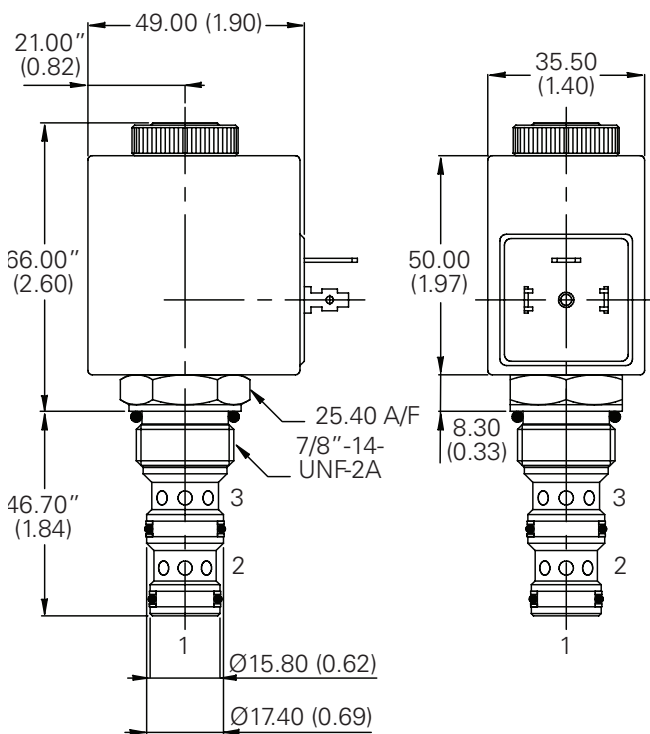
220 - 220 VAC

6 Port size

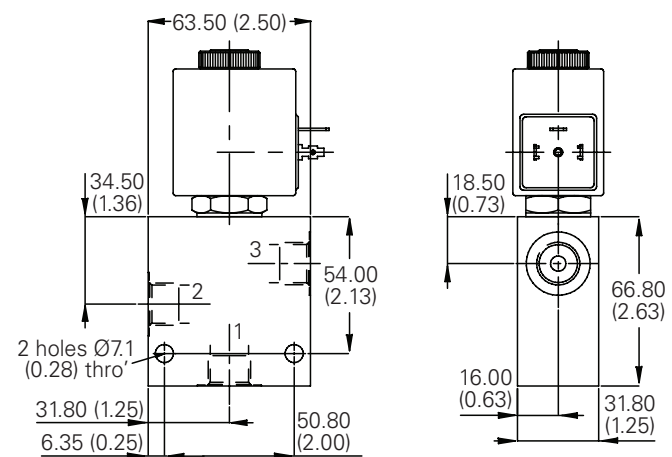
Code	Port size	Housing number - body only
Aluminium		
3W	3/8" BSP	B18982
4W	1/2" BSP	B19358
8T	1/2" SAE	B19360

Dimensions - mm (inch)

Cartridge only



Installation drawing

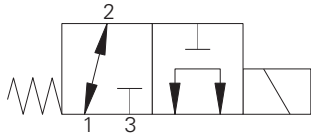


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV1-10-3/3M/3R - Solenoid valve

Spool type, 3-way, 2-position
Up to 23 L/min (6 USgpm) • 210 bar (3000 psi)

A



Operation

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

Performance data

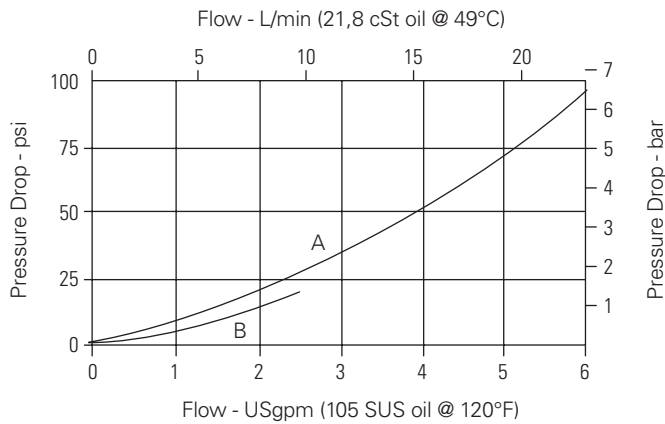
Ratings and specifications

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

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	23L/min (6 USgpm) Max. flow port 1 to 2-10L/min (2.5 USgpm)
Internal leakage	164 cm ³ /min (10 in ³ /min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120° C (-40° to 248° F)
Cavity	C-10-3
Weight including coil	0,42 kg (0.93 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	889624 (Buna-N), 889628 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

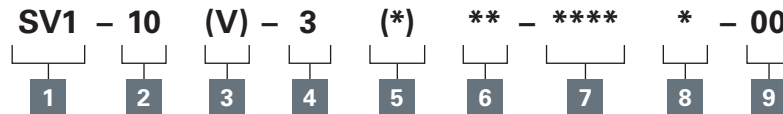


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV1-10-3/3M/3R - Solenoid valve

Spool type, 3-way, 2-position
Up to 23 L/min (6 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function

SV1 - 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

M - Knob type

R - Cable type

For valve dimensions with Manual override option installed see page A-980.

6 Port size

Code	Port size	Housing number
0	Cartridge only	
3B	3/8" BSPP	02-173358*
6T	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.

8 Connector types

Blank - No coil

G - ISO 440 DIN 43650

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack female

F - Weather-Pack male

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, 23W coils with this solenoid valve.

7 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

115A - 115VAC

230A - 230VAC

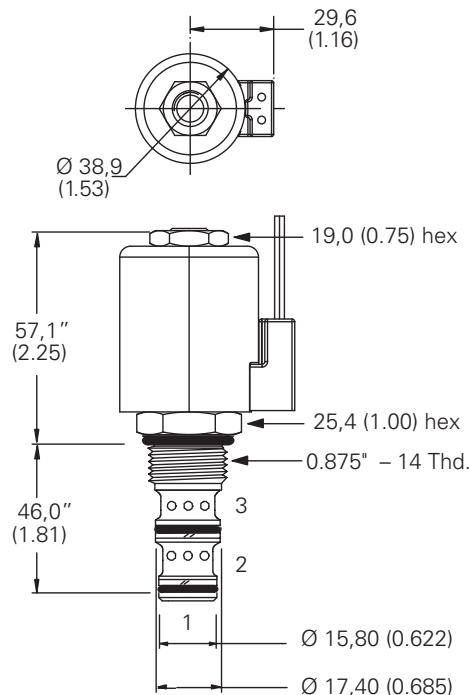
12B - 12VDC/w diode*

24B - 24VDC/w diode*

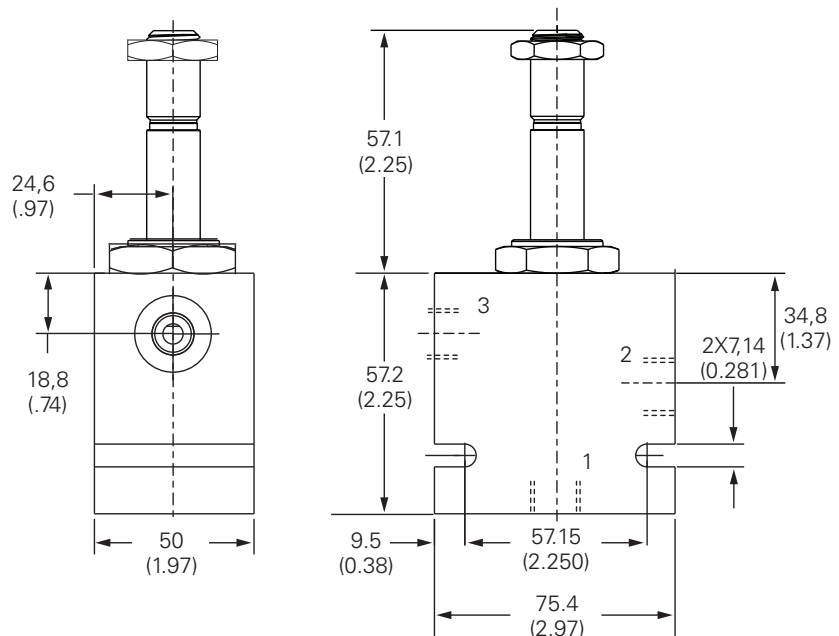
*Optional arc suppression diode

Dimensions - mm (inch)

Cartridge only



Installation drawing (Aluminum)

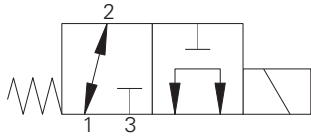


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV1 1-10-3/3M - Solenoid valve

Spool type, 3-way, 2-position
Up to 23 L/min (6 USgpm) • 350 bar (5000 psi)

A



Operation

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

Performance data

Ratings and specifications

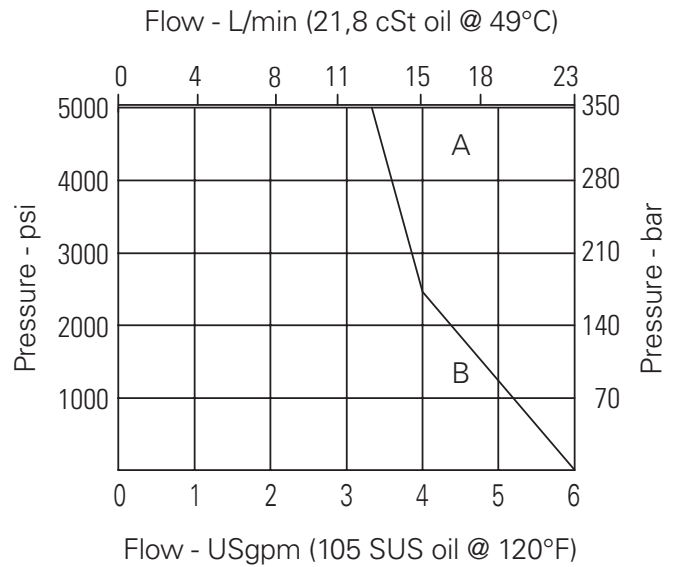
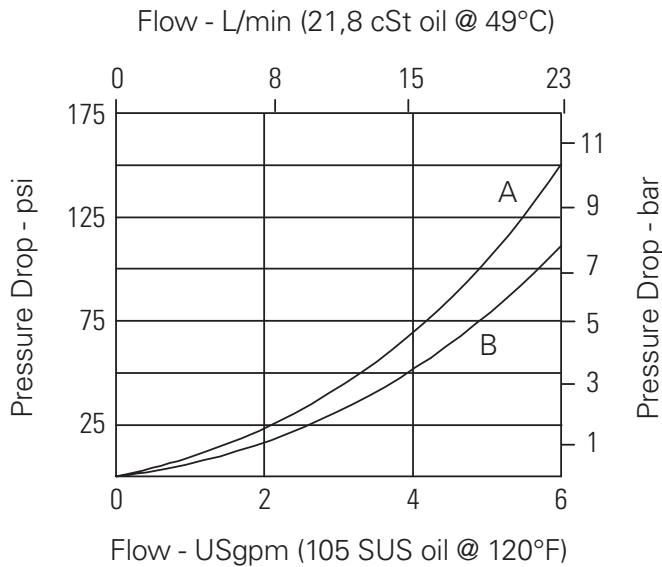
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

Typical Application pressure (all ports)	350 bar (5000 psi)
Rated Flow	23L/min (6 USgpm)
Internal leakage, port 2 to port 1	164 cm ³ /min (10 in ³ /min) max at 350 bar (5000 psi)
Temperature range	-40° to 100° C (-40° to 212° F)
Cavity	C-10-3
Weight Cartridge only	0,19 kg (0.42 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	889624 (Buna-N), 889628 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



Pressure drop vs. Flow

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

Operating limits

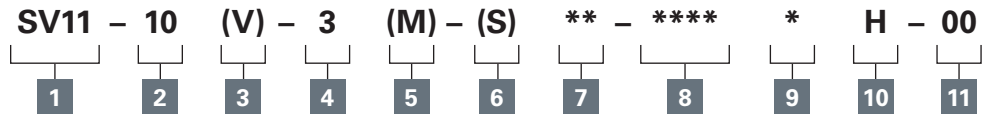
- A - Normally open, normally closed
- B - Selector 1 to 2

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV11-10-3/3M - Solenoid valve

Spool type, 3-way, 2-position
Up to 23 L/min (6 USgpm) • 350 bar (5000 psi)

Model code



A

1 Function

SV11 - 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

M - Manual override

For valve dimensions with Manual override option installed see page A-980.

6 Valve housing material

Blank - Cartridge only

S - Steel

7 Port size

Code	Port size	Housing number
0	Cartridge only	
2G	1/4" BSPP	02-175127
3G	3/8" BSPP	02-175128
6T	SAE 6	02-175124
8T	SAE 8	02-175125

See section J for housing details.

9 Connector types

Blank - No coil

G - ISO 440 DIN 43650

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack (Packard) female on wire leads

F - Weather-Pack (Packard) male on wire leads

10 Coil series

H - 10 series, 29 W

For coil dimensions see section C.

11 Special features

00 - None

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

8 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

115A - 115VAC

230A - 230VAC

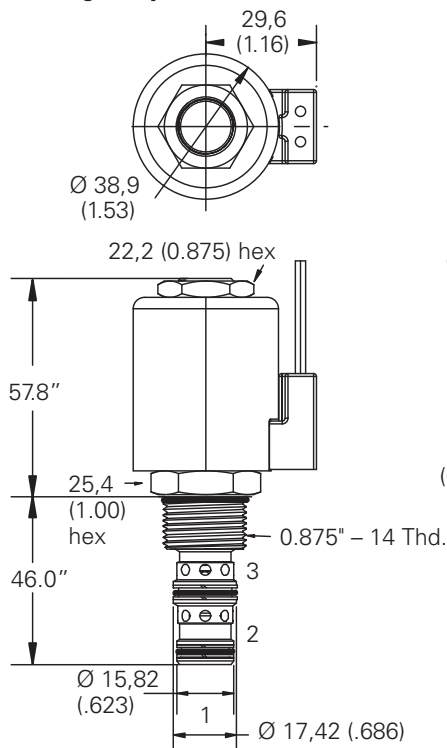
12B - 12VDC/w diode*

24B - 24VDC/w diode*

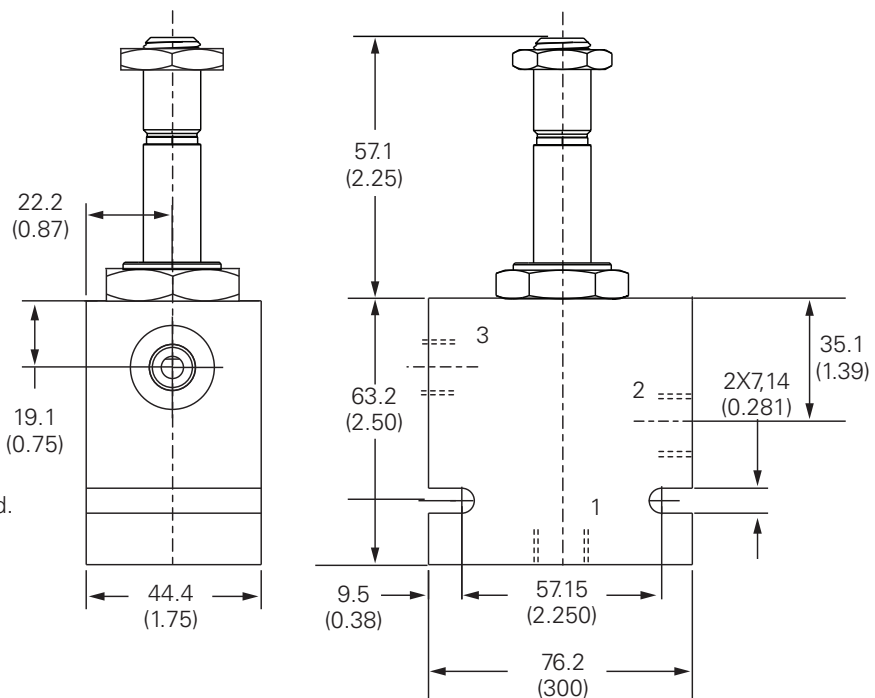
*Optional arc suppression diode

Dimensions - mm (inch)

Cartridge only



Installation drawing

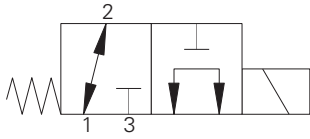


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV11M-10-3

Spool type, 3-way, 2-position
Up to 23 L/min (6 USgpm) • 350 bar (5000 psi)

A



Operation

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

Performance data

Ratings and specifications

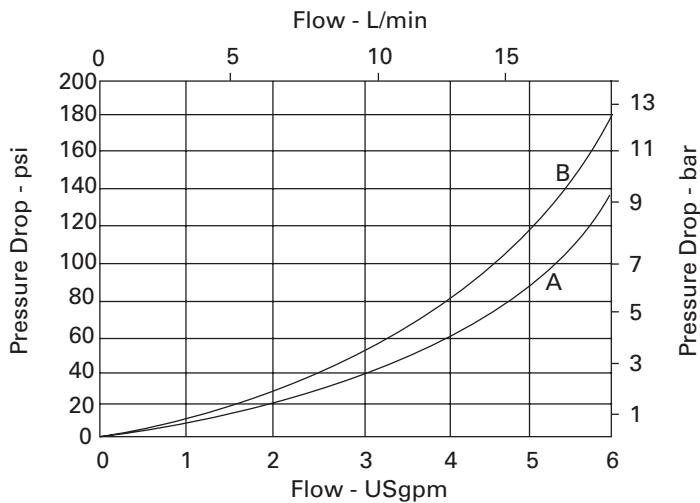
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports except port 1)	350 bar (5000 psi)
Typical application pressure at port 1	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	350 cc/min (21 in ³ /min) @ 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	MIL-H-5606, SAE 10, SAE 20, etc.
Filtration Cleanliness code	18/16/13
Standard housing materials	Steel
Weight including coil	0.42 kg (0.92 lbs)
Seal kit	Buna-N), (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



Pressure drop vs. Flow

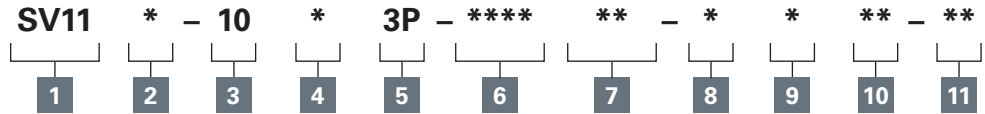
A - Port 1 to port 2

B - Port 3 to port 1

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

Spool type, 3-way, 2-position
Up to 23 L/min (6 USgpm) • 350 bar (5000 psi)

Model code



A

1 Function

SV11 - Solenoid valve

2 Max flow

M - 23 L/min (6 USgpm)

3 Size

10 - 10 Size

4 Seal material

Blank - Buna-N

V - Viton®

5 Syle

3P - 3 way push type manual override

For valve dimensions with Manual override option installed see page A-980.

6 Port size

Code	Port size	Housing number	
		Aluminium	Steel
0	Cartridge only		
A2G	1/4" BSPP	876705	
A3G	3/8" BSPP	876710	
A6H	SAE 6	876704	
A8H	SAE 8	876711	
S2G	1/4" BSPP		02-175127
S3G	1/3" BSPP		02-175128
S6T	SAE 6		02-175124
S8T	SAE 8		02-175125

See section J for housing details.

7 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

12B - 12VDC/w diode*

24B - 24VDC/w diode*

*Optional arc suppression diode

8 Connector types

Blank - No coil

G0 - ISO 4400 DIN 43650

N0 - Deutsch male, DT04-2P, integrated

Y0 - Integrated Amp DC

D0 - MetriPack® 150 Male, Integrated (DC Only)
Mating connector : Delphi 12052641.

9 Coil types

Blank - No coil

R - R series, (30W) used for SV11B-10

10 Coil special features

Blank - No coil

00 - No special feature

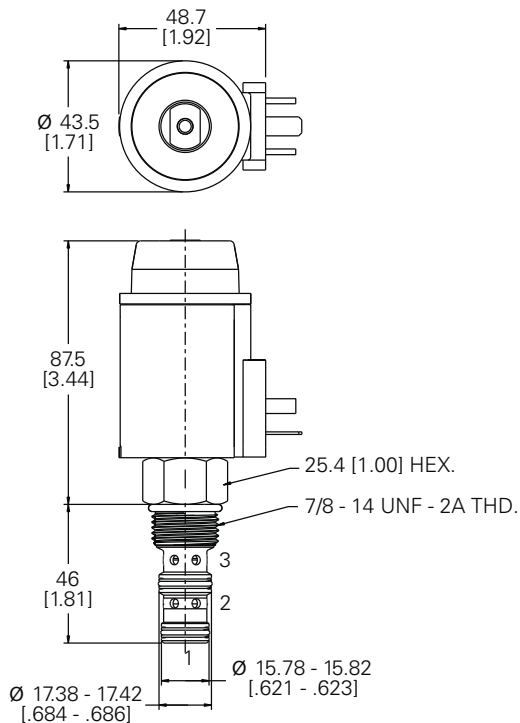
11 Special features

00 - None

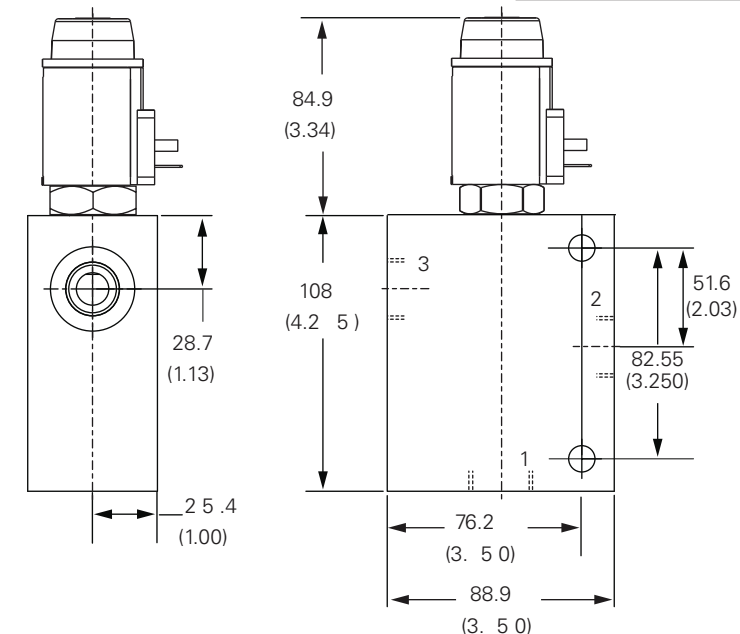
(Only required if valve has Special features, omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing

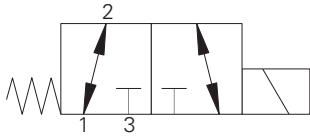


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV4-10-3/3P/3S - Solenoid valve

Spool type, 3-way, 2-position
Up to 23 L/min (6 USgpm) • 210 bar (3000 psi)

A



Operation

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

Performance data

Ratings and specifications

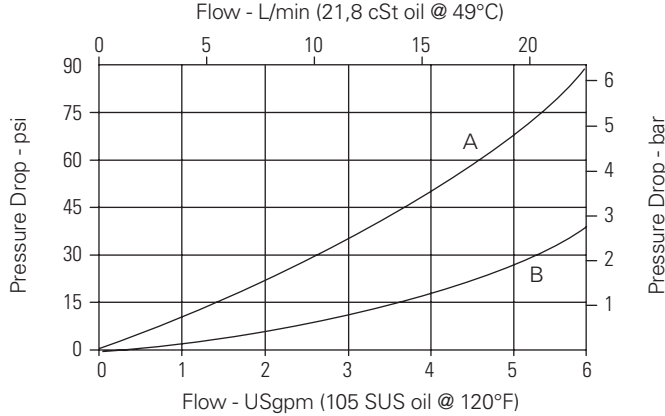
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure	210 bar (3000 psi)* *Flow from P1 to P2 must be less than 7,6 L/min (2 USgpm)
Rated flow	23 L/min (6 USgpm) Max. flow port 1 to port 2-10 L/min (2.5 USgpm)
Internal leakage	164 cm ³ /min (10 in ³ /min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-10-3
Weight including coil	0,42 kg (0.93 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	889624 (Buna-N), 889628 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



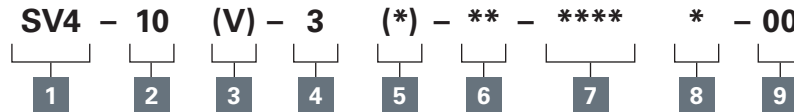
- A** - Port 3 to port 2 energized
- B** - Port 2 to port 1 de-energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV4-10-3/3P/3S - Solenoid valve

Spool type, 3-way, 2-position
Up to 23 L/min (6 USgpm) • 210 bar (3000 psi)

Model code



A

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

M - Manual override

P - Push type

S - Screw type

For valve dimensions with Manual override option installed see page A-980.

6 Port size

Code	Port size	Housing number
0	Cartridge only	
3B	3/8" BSPP	02-173358*
6T	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.

8 Connector types

Blank - No coil

G - ISO 4400 DIN 43650

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack female

F - Weather-Pack male

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.

7 Voltage rating

00 - No coil

230A - 230VAC

12D - 12VDC

12B - 12VDC/w diode*

24D - 24VDC

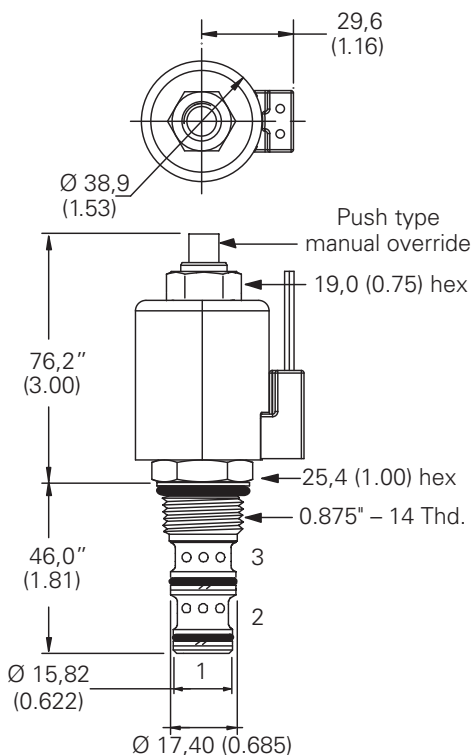
24B - 24VDC/w diode*

115A - 115VAC

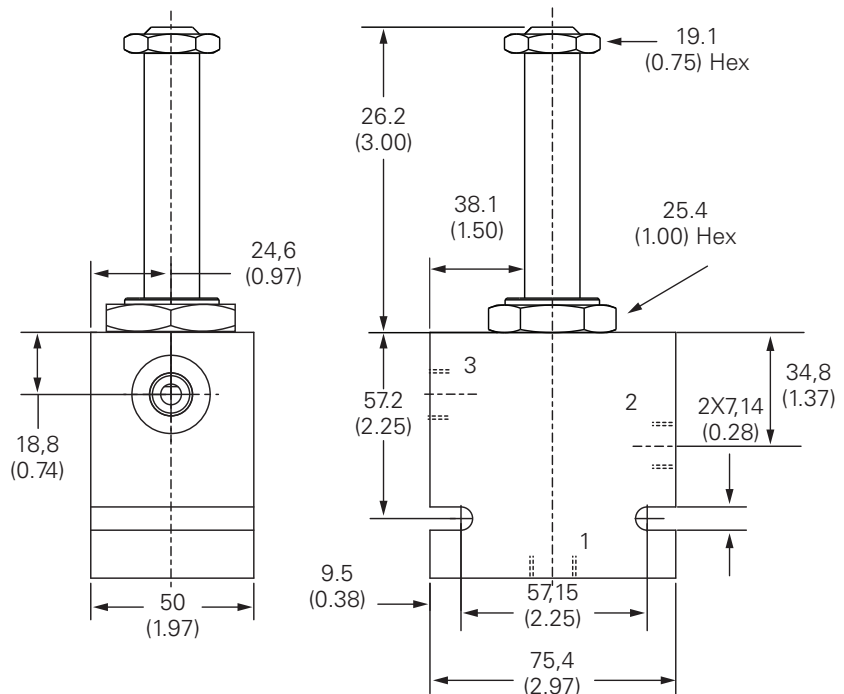
*Optional arc suppression diode.

Dimensions - mm (inch)

Cartridge only



Installation drawing

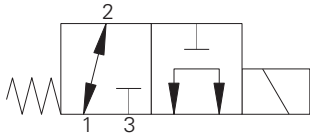


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV1M-12-3 - Solenoid valve

Spool type, 3-way, 2-position
Up to 34 L/min (9 USgpm) • 210 bar (3000 psi)

A



Operation

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

Performance data

Ratings and specifications

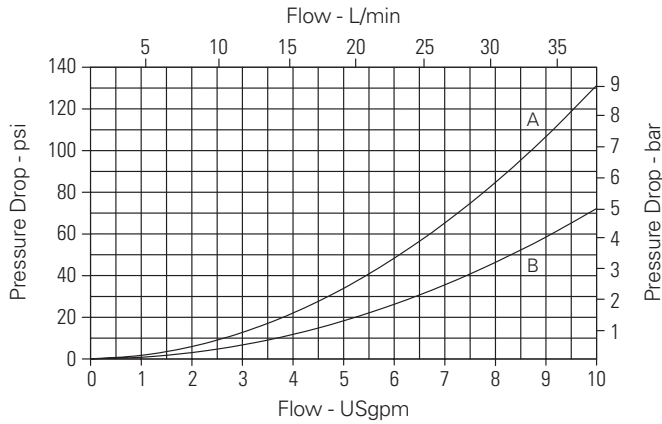
Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)

Typical application pressure	210 bar (3000 psi)
Rated flow	42 L/min (11 USgpm) Max flow port 1 to port 2-34 L/min (9 USgpm)
Internal leakage	300 cm ³ /min (21.5 in ³ /min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-12-3
Weight including coil	0,86 kg (1.9 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	9900171-000 (Buna-N), 9900172-000 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



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

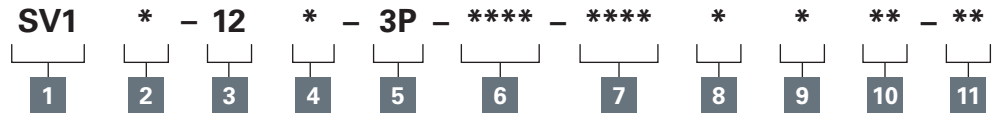
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV1M-12-3 - Solenoid valve

Spool type, 3-way, 2-position
Up to 34 L/min (9 USgpm) • 210 bar (3000 psi)

A

Model code



- 1 Function**
SV1 - Solenoid valve

- 2 Max flow**
M - 42 L/min (11 USgpm)

- 3 Size**
12 - 12 size

- 4 Seal material**
Blank - Buna-N
V - Viton®

- 5 Style**
3P - 3 way, push type manual override

Code	Port size	Housing number
0	Cartridge only	
A6G	3/4" BSPP	02-161816
A12H	SAE 12	02-160646

- 6 Port size**

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

- 8 Connector types**
Blank - No coil
G0 - ISO 4400 DIN 43650
N0 - Deutsch male, DT04-2P, integrated
Y0 - Integrated Amp DC
D0 - MetriPack® 150 Male, Integrated (DC Only)
Mating connector : Delphi 12052641.

- For coil dimensions see section C.

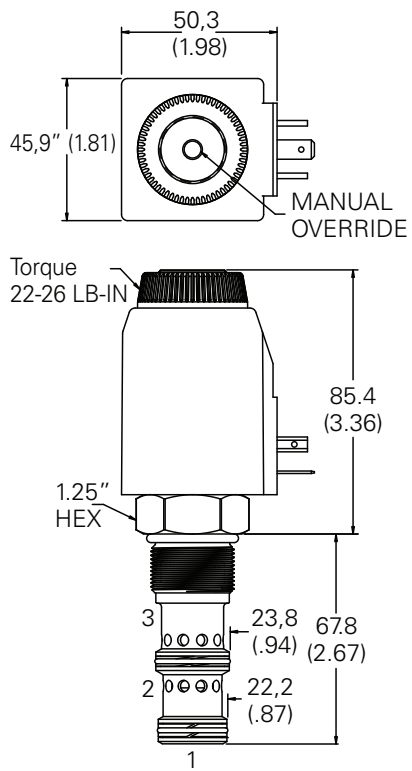
- 9 Coil types**
Blank - No coil
R - R series (30W) Large ToughCoil

- 10 Coil special features**
Blank - No coil
00 - No special feature

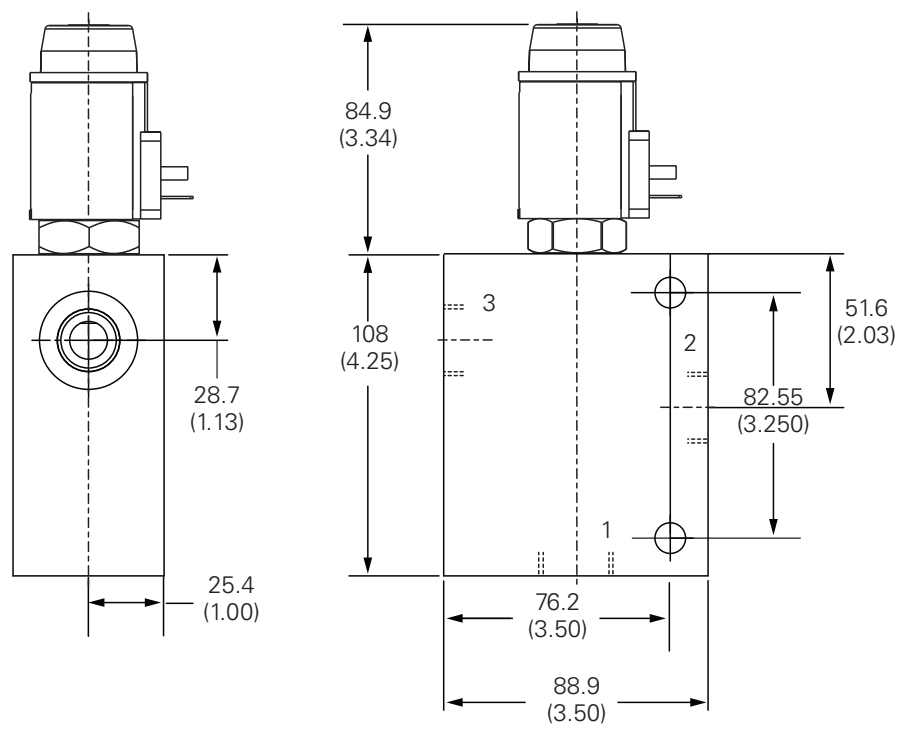
- 11 Special features**
00 - None
(Only required if valve has Special features, omitted if "00".)
SF - Soft shift

Dimensions - mm (inch)

Cartridge only



Installation drawing

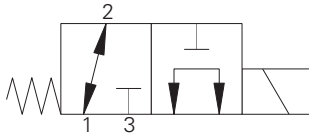


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV11M-12-3 - Solenoid valve

Spool type, 3-way, 2-position
Up to 42 L/min (11 USgpm) • 350 bar (5000 psi)

A



Operation

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

Performance data

Ratings and specifications

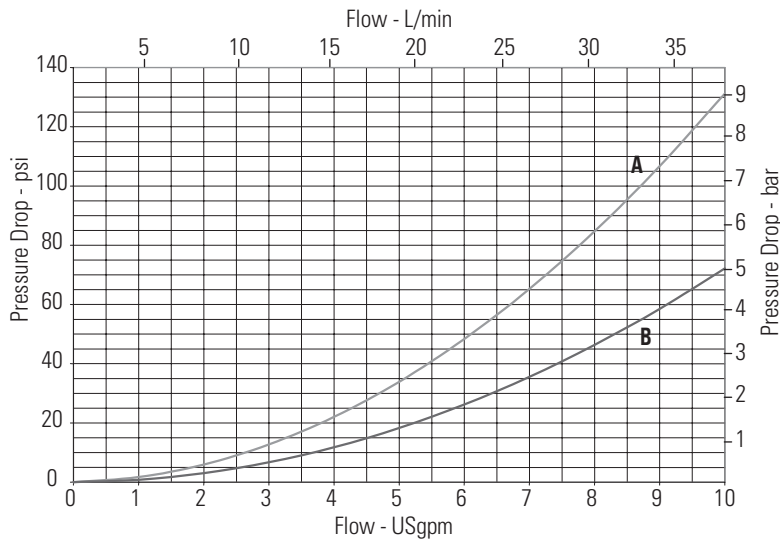
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports except port 1)	350 bar (5000 psi)
Typical application pressure at port 1	210 bar (3000 psi)
Rated flow	42 L/min (11 USgpm) Max. flow port 1 to port 2 - 34 L/min (9 USgpm)
Internal leakage	350 cc/min (21.5 in ³ /min) @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-12-3
Weight including coil	0.86 kg (1.9 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration Cleanliness code	18/16/13
Seal kit	9900171-000 Buna-N), 9900172-000 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



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

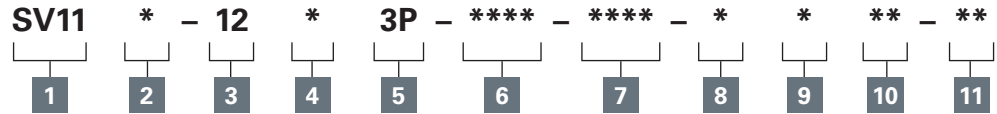
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV11M-12-3 - Solenoid valve

Spool type, 3-way, 2-position
Up to 42 L/min (11 USgpm) • 350 bar (5000 psi)

A

Model code



1 Function

SV11 - Solenoid valve

2 Max flow

M - 42 L/min (11 USgpm)

3 Size

12 - 12 size

4 Seal material

Blank - Buna-N

V - Viton®

5 Style

3P - 3 way, push type manual override

6 Port size

0 - Cartridge only

Code	Port size	Housing number	
		Aluminium	Steel
A6G	3/4" BSPP	02-161816	
A12H	SAE 12	02-160646	
S4G	1/2" BSPP		02-169815
S6G	3/4" BSPP		02-169814
S10T	SAE 10		02-161070
S12T	SAE 12		02-169816

7 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

12B - 12VDC/w diode*

24B - 24VDC/w diode*

8 Connector types

Blank - No coil

G0 - ISO 4400 DIN 43650

N0 - Deutsch male, DT04-2P, integrated

Y0 - Integrated Amp DC

D0 - MetriPack® 150 Male, Integrated (DC Only)
Mating connector : Delphi 12052641.

For coil dimensions see section C.

9 Coil types

Blank - No coil

R - R series (30W) Large ToughCoil

10 Coil special features

Blank - No coil

00 - No special feature

11 Special features

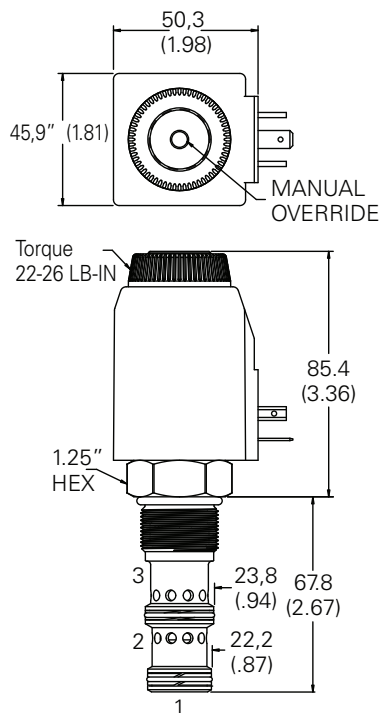
00 - None

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

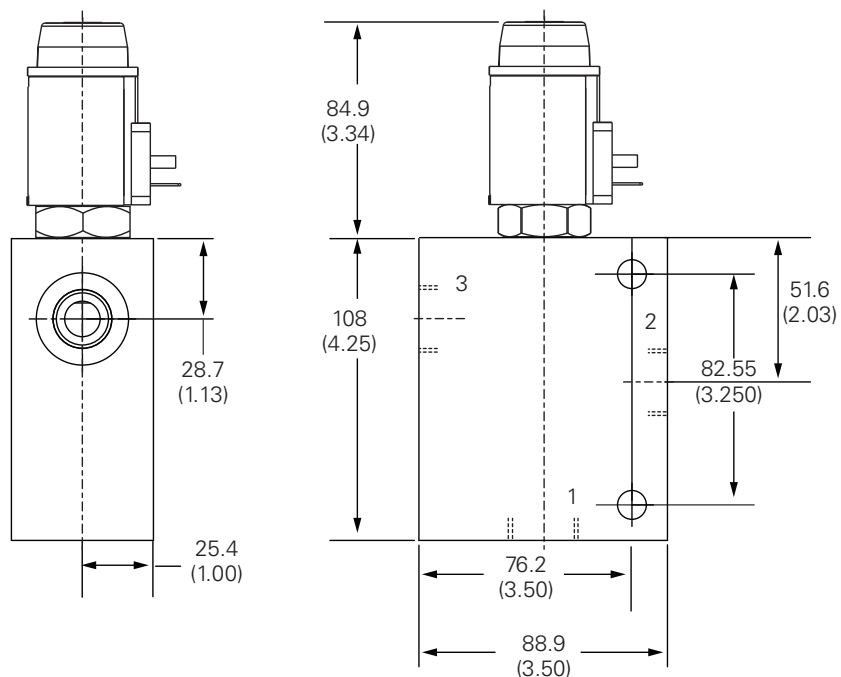
SF - Soft shift

Dimensions - mm (inch)

Cartridge only



Installation drawing (Steel)

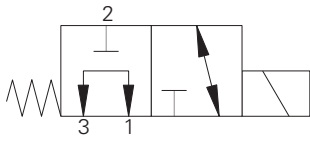


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV2M-12-3P - Solenoid valve

Spool type, 3-way, 2-position
Up to 34 L/min (9 USgpm) • 210 bar (3000 psi)

A



Operation

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

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

Performance data

Ratings and specifications

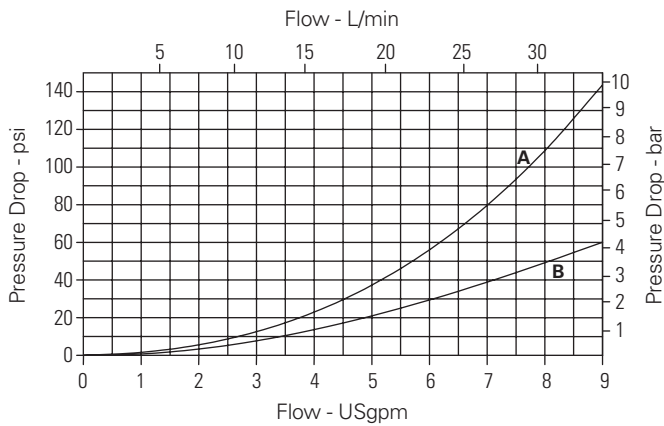
Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)

Typical application pressure	210 bar (3000 psi)
Rated flow	38 L/min (10 USgpm) Max flow port 1 to port 3-34 L/min (9 USgpm)
Internal leakage	300 cm ³ /min (21.5 in ³ /min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-12-3
Weight including coil	0,86 kg (1.9 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Seal kit	9900171-000 (Buna-N), 9900172-000 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



A - Port 2 to port 1 energized

B - Port 1 to port 3 de-energized

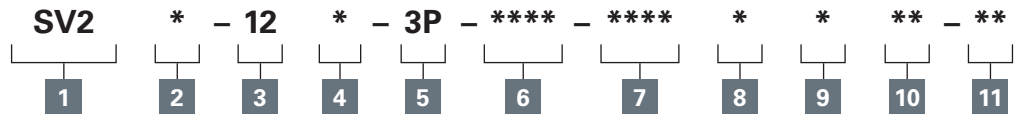
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV2M-12-3P - Solenoid valve

Spool type, 3-way, 2-position
Up to 34 L/min (9 USgpm) • 210 bar (3000 psi)

A

Model code



1 Function

SV2 - Solenoid valve

2 Max flow

M - 38 L/min (10 USgpm)

3 Size

12 - 12 size

4 Seal material

Blank - Buna-N

V - Viton®

5 Style

3P - 3 way, push type manual override

6 Port size

Code	Port size	Housing number
0	Cartridge only	
A6G	3/4" BSPP	02-161816
A12H	SAE 12	02-160646

7 Voltage rating

00 - No coil
12D - 12VDC
24D - 24VDC
12B - 12VDC/w diode*
24B - 24VDC/w diode*

*Optional arc suppression diode.

8 Connector types

Blank - No coil
G0 - ISO 4400 DIN 43650
N0 - Deutsch male, DT04-2P, integrated
Y0 - Integrated Amp DC
D0 - MetriPack® 150 Male, Integrated (DC Only)
Mating connector : Delphi 12052641.

For coil dimensions see section C.

9 Coil types

Blank - No coil
R - R series (30W) Large ToughCoil

10 Coil special features

Blank - No coil
00 - No special feature

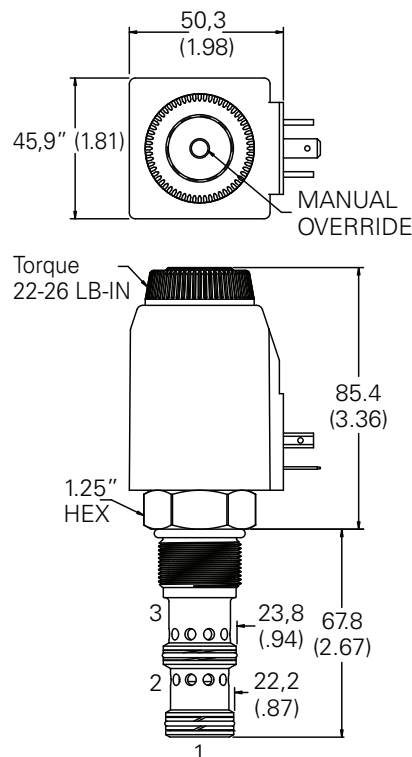
11 Special features

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

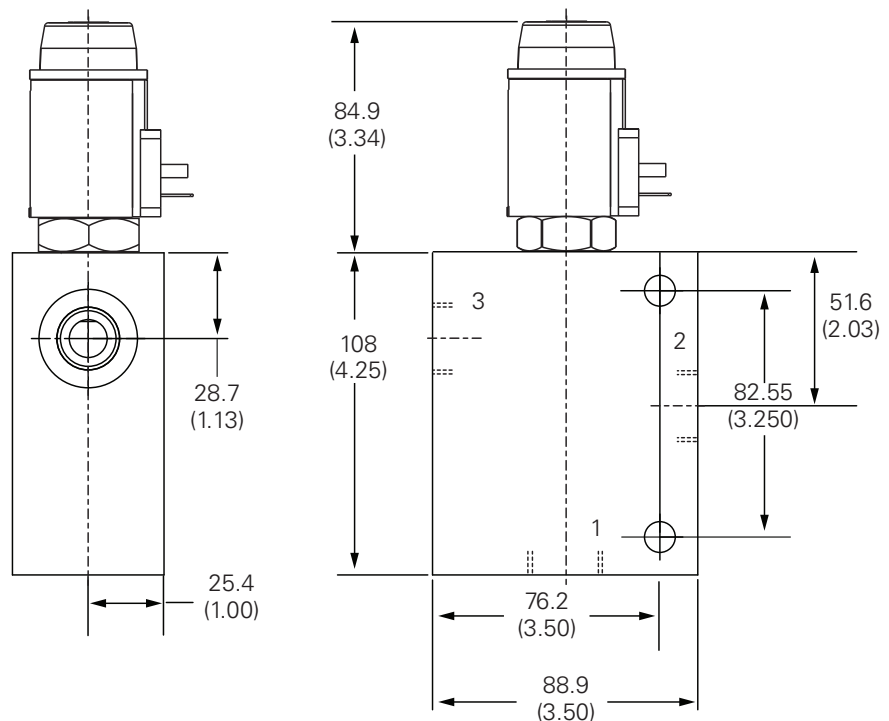
SF - Soft shift

Dimensions - mm (inch)

Cartridge only



Installation drawing

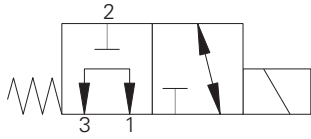


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV12M-12-3 - Solenoid valve

Spool type, 3-way, 2-position
Up to 34 L/min (9 USgpm) • 350 bar (5000 psi)

A



Operation

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

Performance data

Ratings and specifications

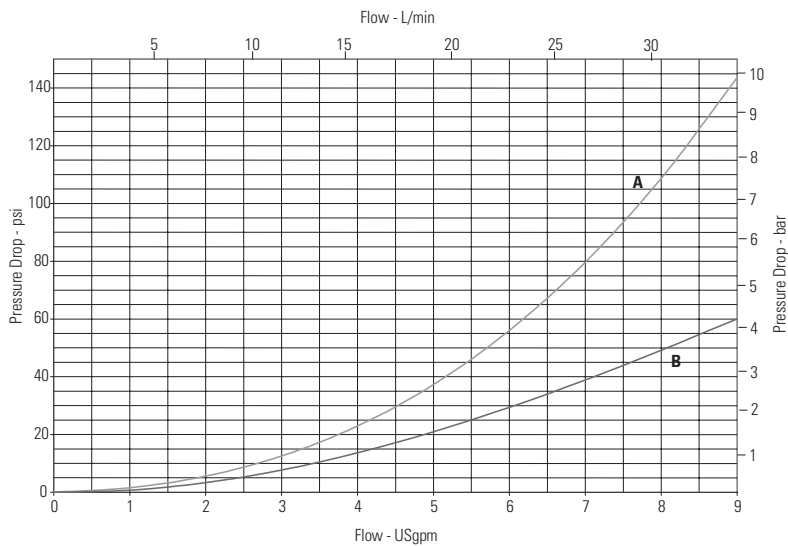
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports except port 1)	350 bar (5000 psi)
Typical application pressure at port 1	210 bar (3000 psi)
Rated flow	38 L/min (10 USgpm) Max. flow port 1 to port 3 - 34 L/min (9 USgpm)
Internal leakage	350 cc/min (21.5 in ³ /min) @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-12-3
Weight including coil	0.86 kg (1.9 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration Cleanliness code	18/16/13
Seal kit	9900171-000 Buna-N), 9900172-000 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



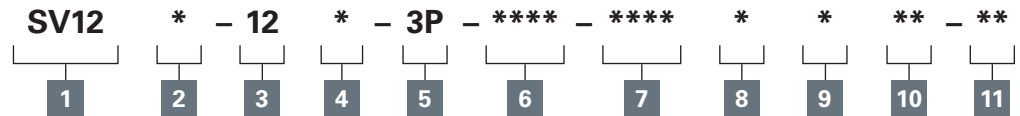
- A** - Port 2 to port 1 energized
- B** - Port 1 to port 3 de-energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV12M-12-3 - Solenoid valve

Spool type, 3-way, 2-position
Up to 34 L/min (9 USgpm) • 350 bar (5000 psi)

Model code



A

1 Function

SV12 - Solenoid valve

2 Max flow

M - 38 L/min (10 USgpm)

3 Size

12 - 12 size

4 Seal material

Blank - Buna-N

V - Viton®

5 Style

3P - 3 way, push type manual override

6 Port size

0 - Cartridge only

Code	Port size	Housing number	
		Aluminium	Steel
A6G	3/4" BSPP	02-161816	
A12H	SAE 12	02-160646	
S4G	1/2" BSPP		02-169815
S6G	3/4" BSPP		02-169814
S10T	SAE 10		02-161070
S12T	SAE 12		02-169816

7 Voltage rating

00 - No coil
12D - 12VDC
24D - 24VDC
12B - 12VDC/w diode*
24B - 24VDC/w diode*

*Optional arc suppression diode.

8 Connector types

Blank - No coil
G0 - ISO 4400 DIN 43650
N0 - Deutsch male, DT04-2P, integrated
Y0 - Integrated Amp DC
D0 - MetriPack® 150 Male, Integrated (DC Only)
Mating connector : Delphi 12052641.

For coil dimensions see section C.

9 Coil types

Blank - No coil

R - R series (30W) Large ToughCoil

10 Coil special features

Blank - No coil

00 - No special feature

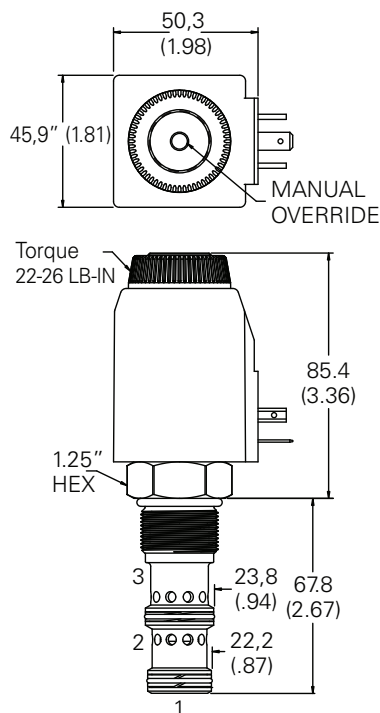
11 Special features

00 - None

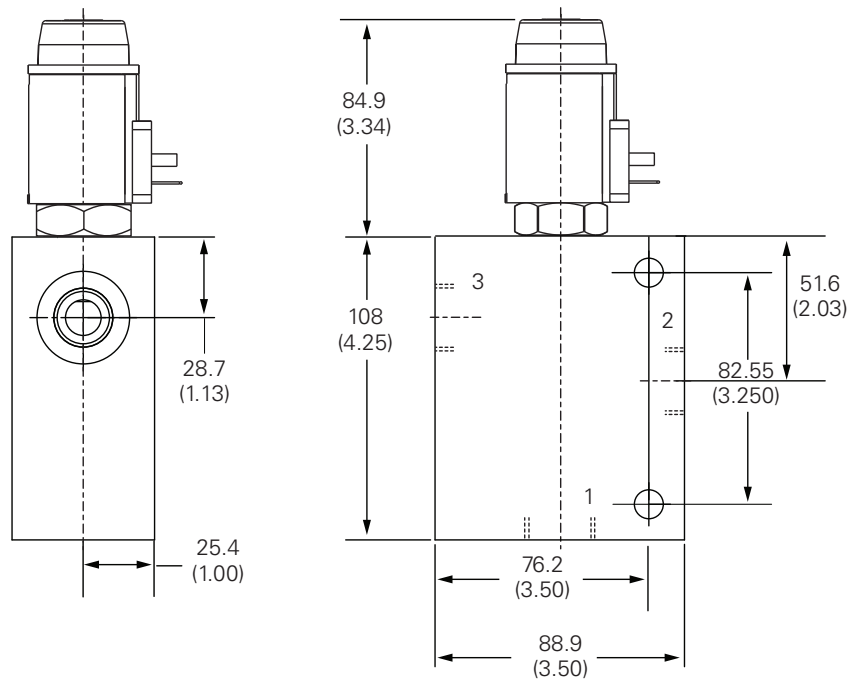
(Only required if valve has Special features, omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing (Steel)

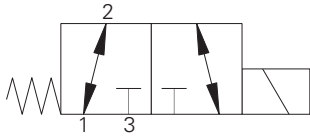


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV4M-12-3P - Solenoid valve

Spool type, 3-way, 2-position
Up to 42 L/min (11 USgpm) • 210 bar (3000 psi)

A



Operation

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

Performance data

Ratings and specifications

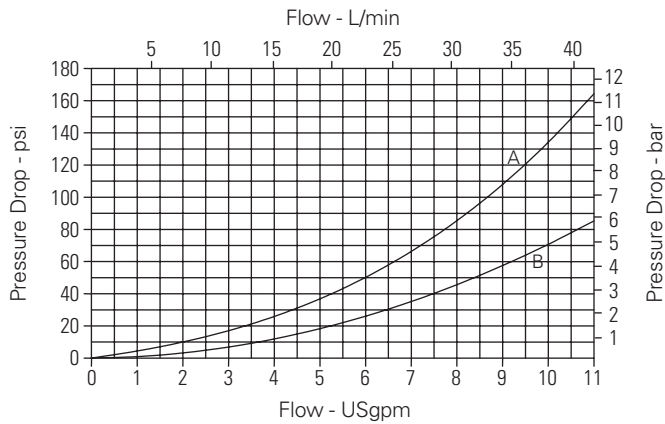
Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)

Typical application pressure	210 bar (3000 psi)
Rated flow	42 L/min (11 USgpm)
Internal leakage	300 cm ³ /min (21.5 in ³ /min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-12-3
Weight including coil	0,86 kg (1.9 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Seal kit	9900171-000 (Buna-N), 9900172-000 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



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

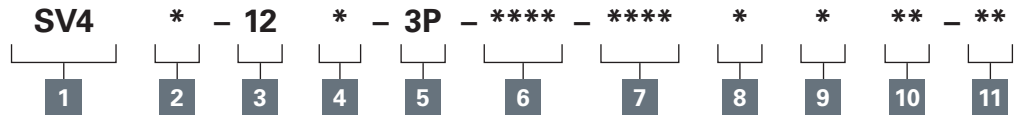
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV4M-12-3P - Solenoid valve

Spool type, 3-way, 2-position
Up to 42 L/min (11 USgpm) • 210 bar (3000 psi)

A

Model code



- 1 Function**
SV4 - Solenoid valve

- 2 Max flow**
M - 42 L/min (11 USgpm)

- 3 Size**
12 - 12 size

- 4 Seal material**
Blank - Buna-N
V - Viton®

- 5 Style**
3P - 3 way, push type manual override

6 Port size	Code	Port size	Housing number
	0	Cartridge only	
	A6G	3/4" BSPP	02-161816
	A12H	SAE 12	02-160646

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

- 8 Connector types**
Blank - No coil
G0 - ISO 4400 DIN 43650
N0 - Deutsch male, DT04-2P, integrated
Y0 - Integrated Amp DC
D0 - MetriPack® 150 Male, Integrated (DC Only)
Mating connector : Delphi 12052641.
For coil dimensions see section C.

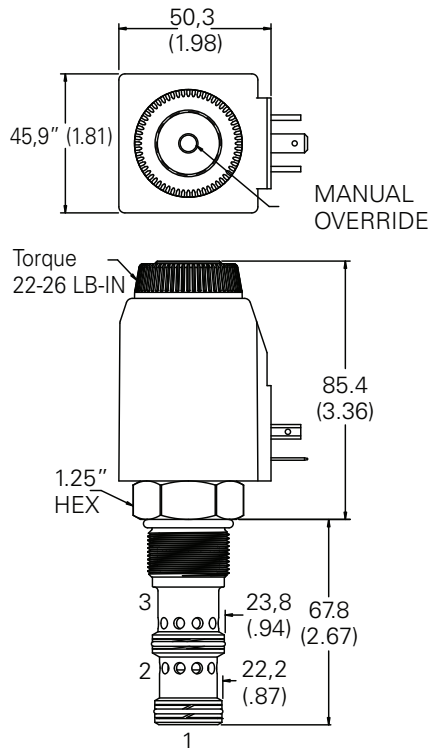
- 9 Coil types**
Blank - No coil
R - R series (30W) Large ToughCoil

- 10 Coil special features**
Blank - No coil
00 - No special feature

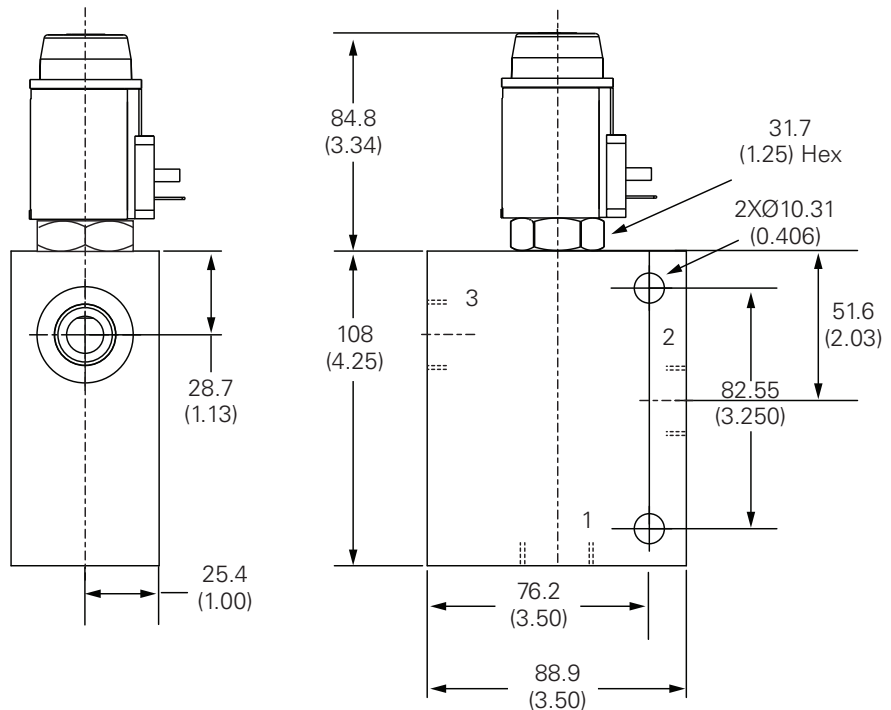
- 11 Special features**
00 - None
(Only required if valve has Special features, omitted if "00".)
SF - Soft shift

Dimensions - mm (inch)

Cartridge only



Installation drawing

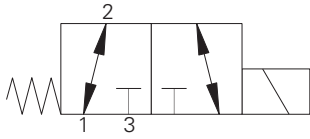


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV14M-12-3 - Solenoid valve

Spool type, 3-way, 2-position
Up to 42 L/min (11 USgpm) • 350 bar (5000 psi)

A



Operation

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

Performance data

Ratings and specifications

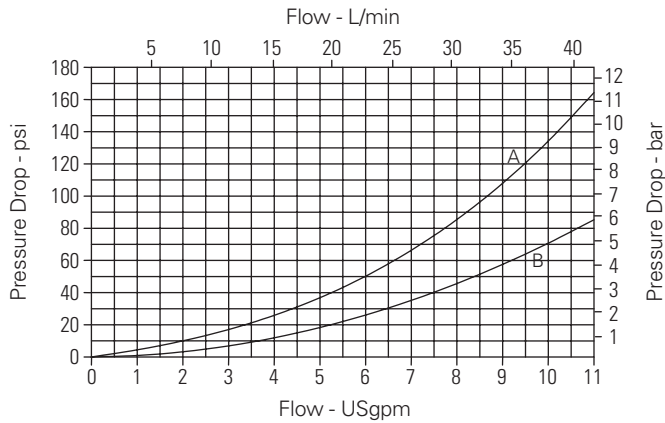
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports except port 1)	350 bar (5000 psi)
Typical application pressure at port 1	210 bar (3000 psi)
Rated flow	42 L/min (11 USgpm)
Internal leakage	350 cc/min (21.5 in3/min) @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-12-3
Weight including coil	0.86 kg (1.9 lbs)
Fluids	All general purpose hydraulic fluids such as MIL-H-5606, SAE 10, SAE 20, etc.
Filtration Cleanliness code	18/16/13
Seal kit	9900171-000 Buna-N), 9900172-000 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



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

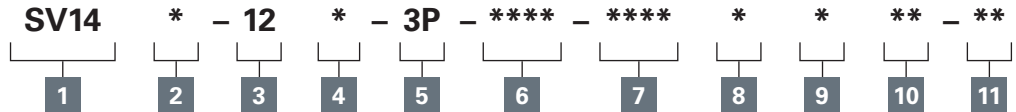
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV14M-12-3 - Solenoid valve

Spool type, 3-way, 2-position
Up to 42 L/min (11 USgpm) • 350 bar (5000 psi)

A

Model code



1 Function

SV14 - Solenoid valve

2 Max flow

M - 42 L/min (11 USgpm)

3 Size

12 - 12 size

4 Seal material

Blank - Buna-N

V - Viton®

5 Style

3P - 3 way, push type manual override

6 Port size

0 - Cartridge only

Code	Port size	Housing number	
		Aluminium	Steel
A6G	3/4" BSPP	02-161816	
A12H	SAE 12	02-160646	
S4G	1/2" BSPP		02-169815
S6G	3/4" BSPP		02-169814
S10T	SAE 10		02-161070
S12T	SAE 12		02-169816

7 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

12B - 12VDC/w diode*

24B - 24VDC/w diode*

*Optional arc suppression diode.

8 Connector types

Blank - No coil

G0 - ISO 4400 DIN 43650

N0 - Deutsch male, DT04-2P, integrated

Y0 - Integrated Amp DC

D0 - MetriPack® 150 Male, Integrated (DC Only)
Mating connector : Delphi 12052641.

For coil dimensions see section C.

9 Coil types

Blank - No coil

R - R series (30W) Large ToughCoil

10 Coil special features

Blank - No coil

00 - No special feature

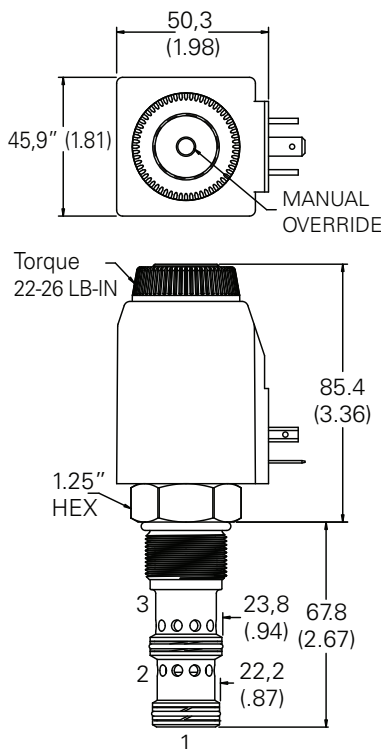
11 Special features

00 - None

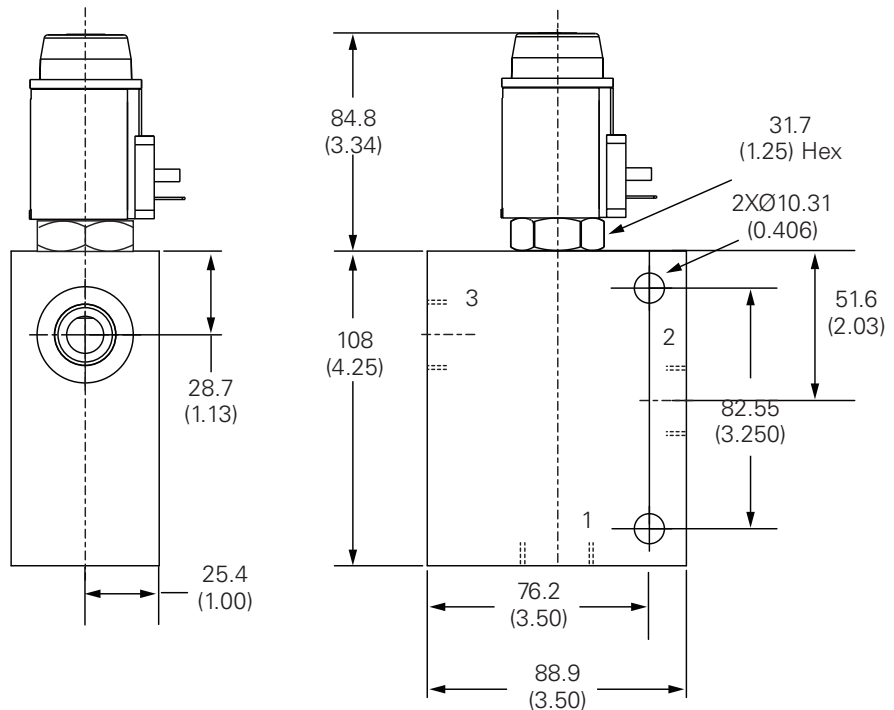
(Only required if valve has Special features, omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing (Steel)

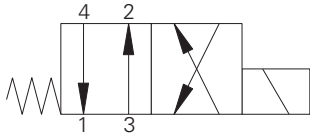


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV1-8-4/4M - Solenoid valve

Spool type, 4-way, 2-position
Up to 11 L/min (3 USgpm) • 210 bar (3000 psi)

A



Operation

In the de-energized position this valve 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.

Performance data

Ratings and specifications

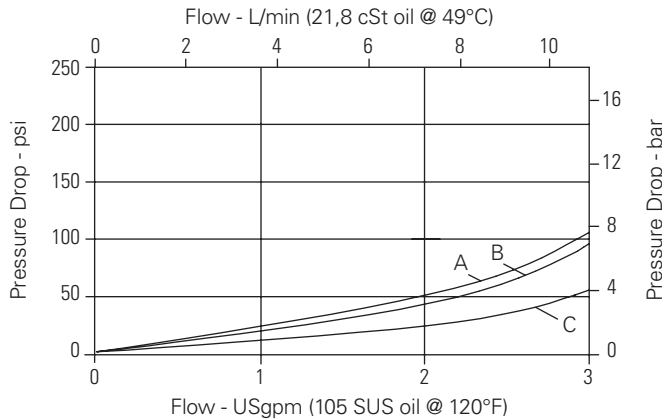
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	11 L/min (3 USgpm)
Internal leakage (per land)	82 cm ³ /min (5 in ³ /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
Weight including coil	0,31 kg (0.69 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Seal kit	02-160757 (Buna-N), 02-160758 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



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

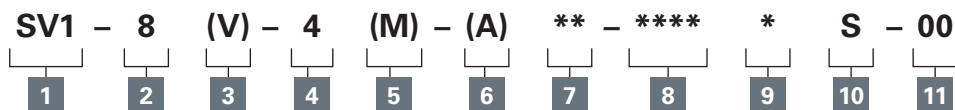
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV1-8-4/4M - Solenoid valve

Spool type, 4-way, 2-position
Up to 11 L/min (3 USgpm) • 210 bar (3000 psi)

A

Model code



1 Function

SV1 - 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-980.

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	02-160747
3G	3/8" BSPP	02-160748
4T	SAE 4	02-160749
6T	SAE 6	02-160750

See section J for housing details.

8 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

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

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack (Packard) female on wire leads

F - Weather-Pack (Packard) male on wire leads

10 Coil series

S - 8 series, 20 W

For coil part numbers and dimensions see section C.

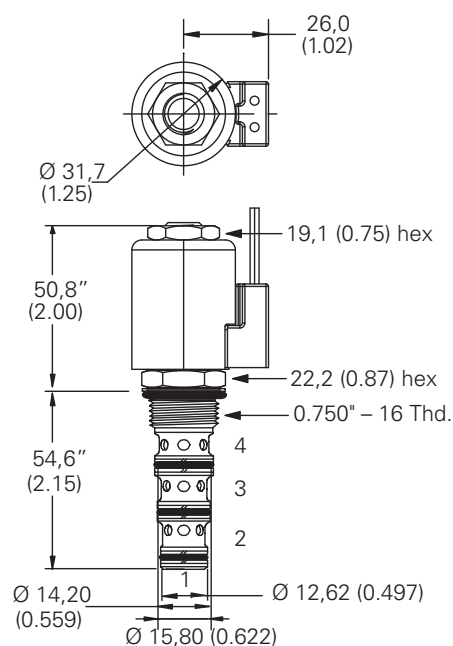
11 Special features

00 - None

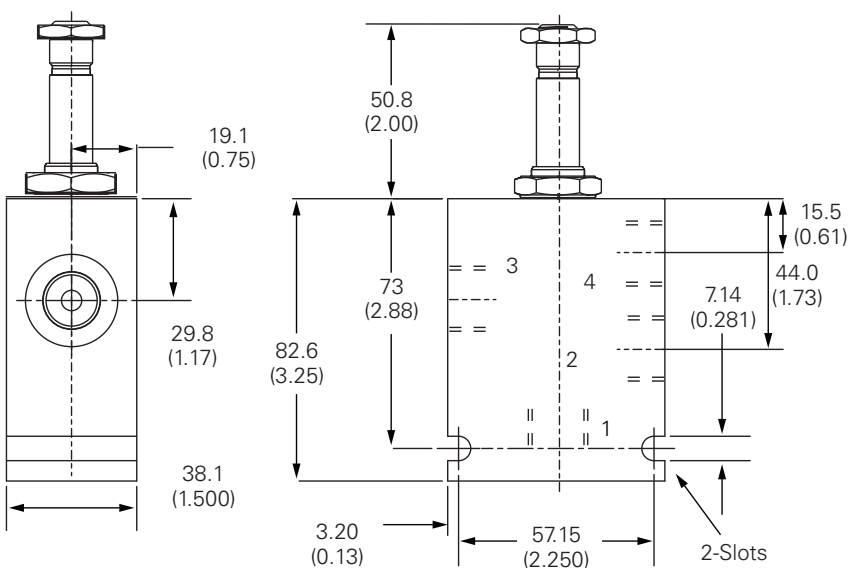
(Only required if valve has Special features omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing

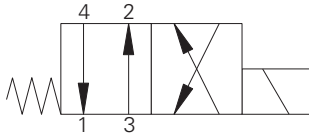


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV11-8-4/4M - Solenoid valve

Spool type, 4-way, 2-position
Up to 11 L/min (3 USgpm) • 350 bar (5000 psi)

A



Operation

In the de-energized position this valve 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

Performance data

Ratings and specifications

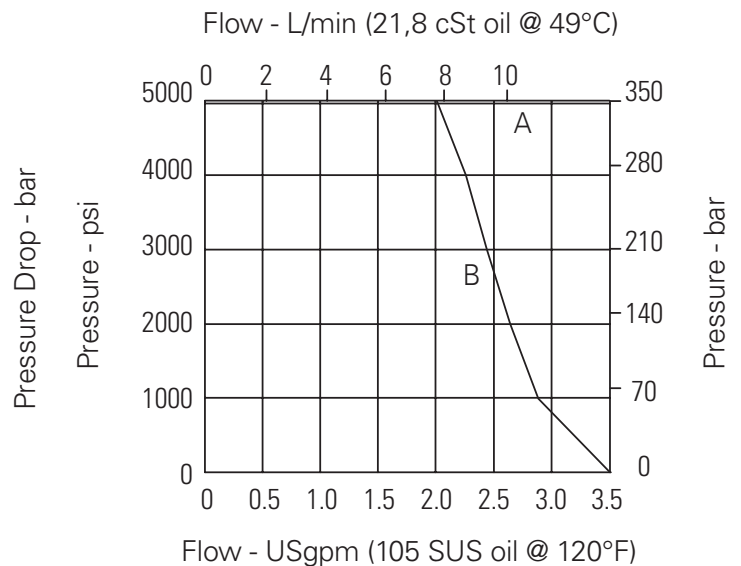
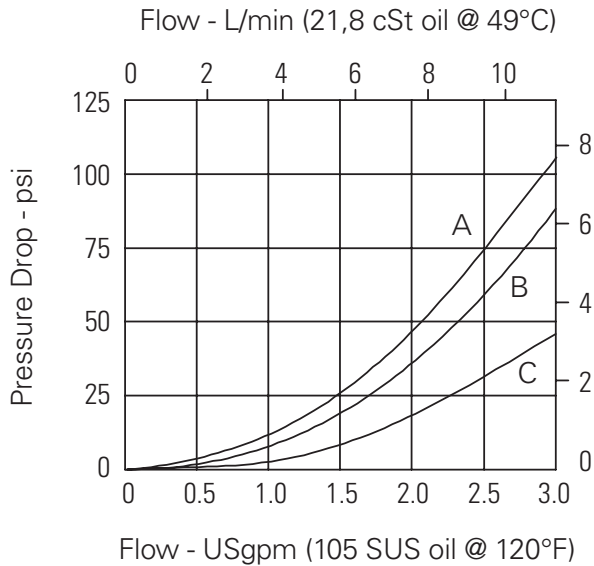
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 psi)
Rated flow	11 L/min (3 USgpm)
Internal leakage (per land)	82 cm ³ /min (5 in ³ /min) max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Cavity	C-8-4
Weight including coil	0,14 kg (0.30 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Seal kit	02-160757 (Buna-N), 02-160758 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



Pressure drop vs. Flow

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

Operating Limits

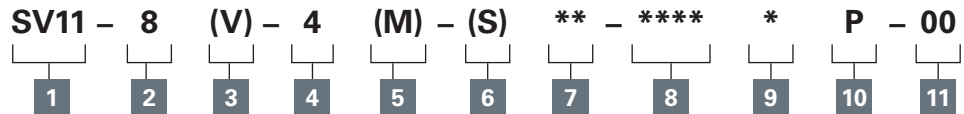
- A** - Port 2 to port 1, 4 to 1, and 3 to 2
- B** - Port 3 to port 4

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV11-8-4/4M - Solenoid valve

Spool type, 4-way, 2-position
Up to 11 L/min (3 USgpm) • 350 bar (5000 psi)

Model code



A

1 Function

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-980.

6 Valve housing material

Blank - Cartridge only

A - Aluminum

7 Port size

Code	Port size	Housing number
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 housing details.

8 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

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

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

F - Weather-Pack (Packard) male on wire leads

For coil part numbers and dimensions see section C.

10 Coil series

P - 8 series, 23 W

For coil part numbers and dimensions see section C.

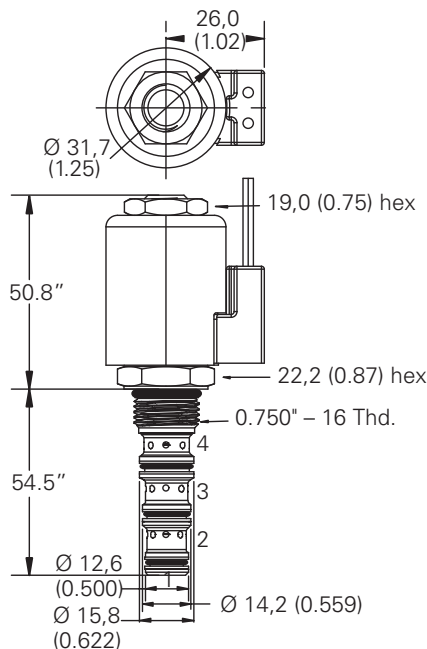
11 Special features

00 - None

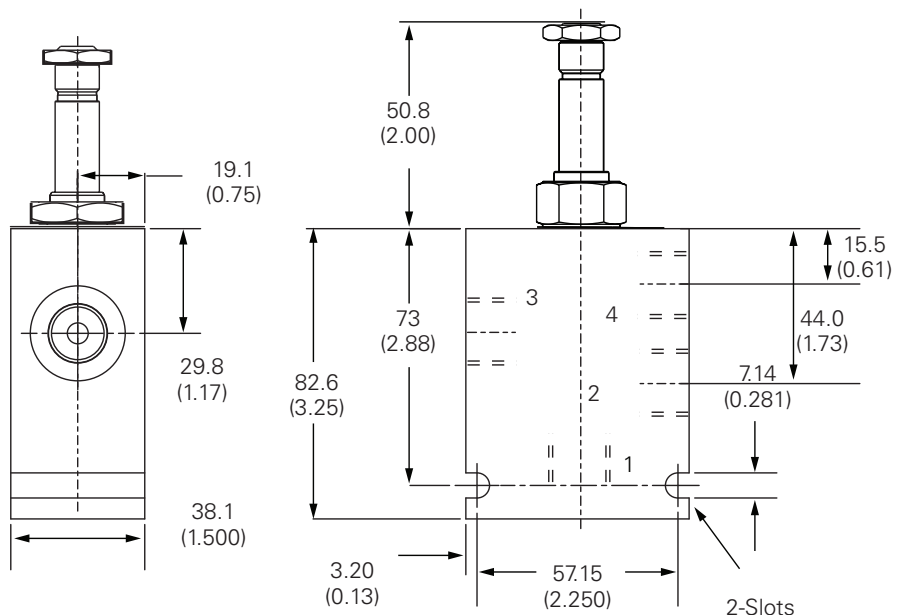
(Only required if valve has Special features omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing

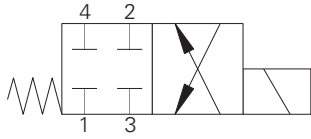


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV2-8-4/4M - Solenoid valve

Spool type, 4-way, 2-position
Up to 13 L/min (4 USgpm) • 210 bar (3000 psi)

A



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

Performance data

Ratings and specifications

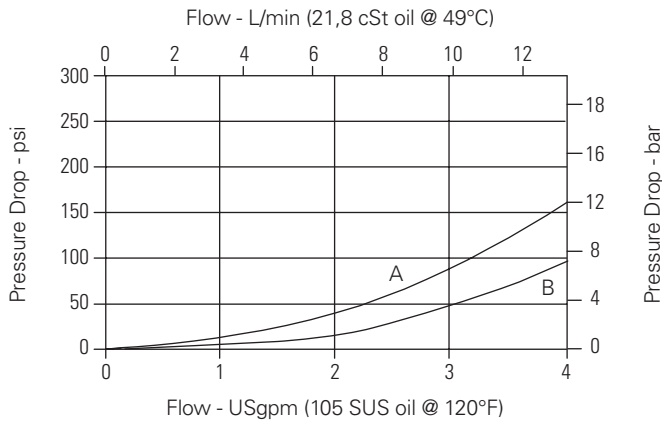
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	13 L/min (4 USgpm)
Internal leakage	82 cm ³ /min (5 in ³ /min) max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Response times (100% rated voltage and flow)	Energize: 21 ms De-Energize: 42 ms
Cavity	C-8-4
Weight including coil	0,30 kg (0.66 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Seal kit	02-160757 (Buna-N), 02-160758 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



A - Port 3 to port 4

B - Port 2 to 1

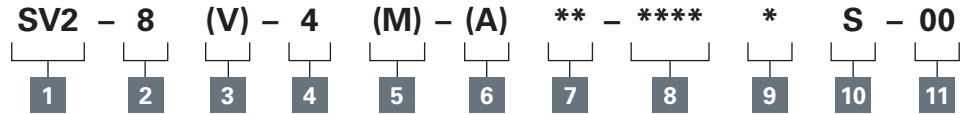
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV2-8-4/4M - Solenoid valve

Spool type, 4-way, 2-position
Up to 13 L/min (4 USgpm) • 210 bar (3000 psi)

A

Model code



- 1 Function**
SV2 - 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-980.

- 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	02-160747
3G	3/8" BSPP	02-160748
4T	SAE 4	02-160749
6T	SAE 6	02-160750

See section J for housing details.

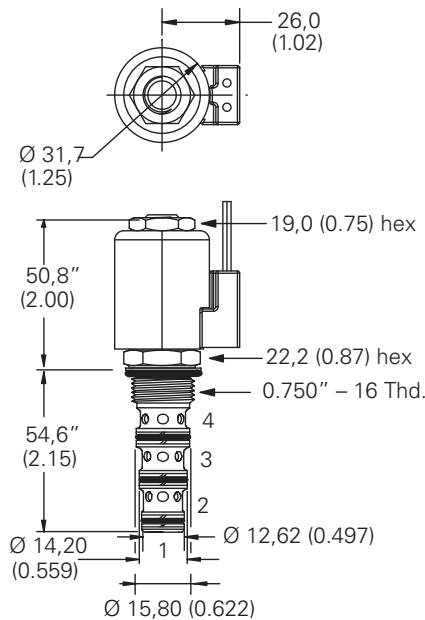
- 9 Connector types**
Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
E - Weather-Pack (Packard) female on wire leads
F - Weather-Pack (Packard) male on wire leads
For coil part numbers and dimensions see section C.

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

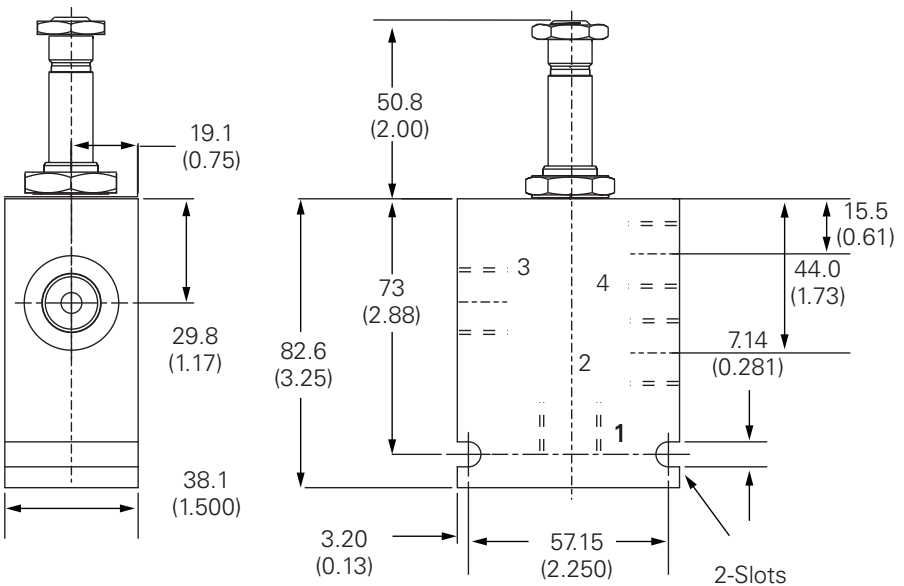
- 10 Coil series**
S - 8 series, 20 W
For coil part numbers and dimensions see section C.
- 11 Special features**
00 - None
(Only required if valve has Special features omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing

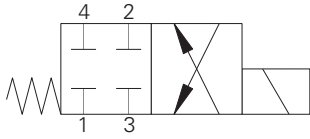


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV12-8-4/4M - Solenoid valve

Spool type, 4-way, 2-position
Up to 11 L/min (3 USgpm) • 350 bar (5000 psi)

A



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.

Performance data

Ratings and specifications

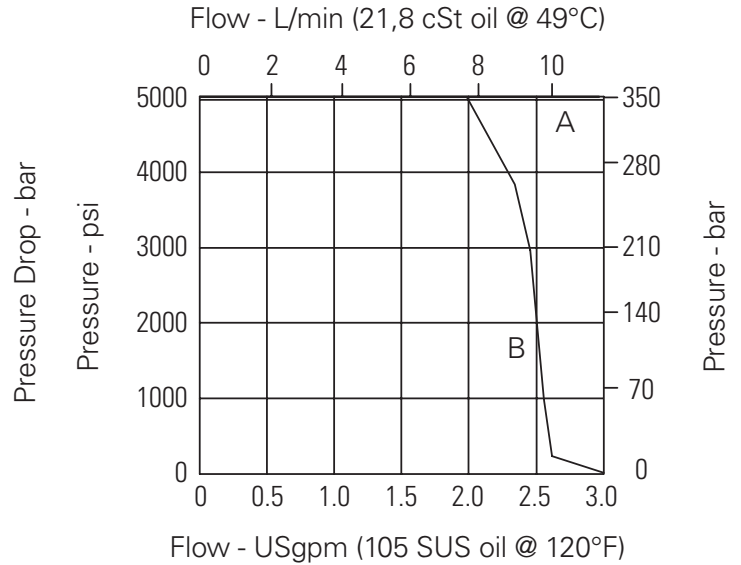
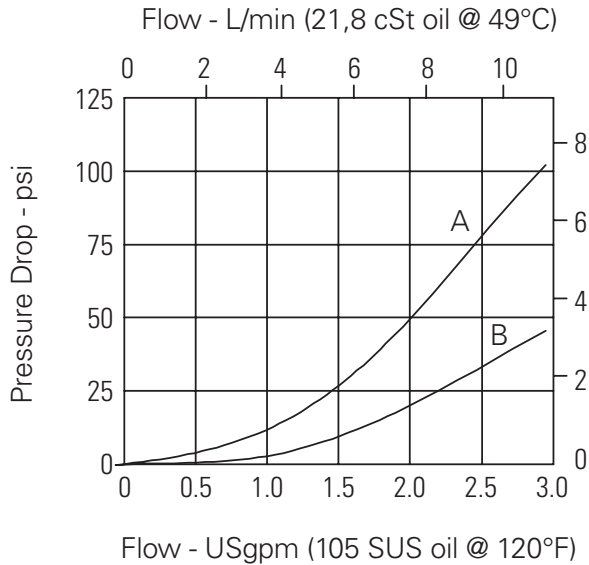
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 psi)
Rated flow	11 L/min (3 USgpm)
Internal leakage, port 2 to port 1	82 cm ³ /min (5 in ³ /min) max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
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
Seal kit	02-160757 (Buna-N), 02-160758 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



Pressure drop vs. Flow

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

Operating Limits

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

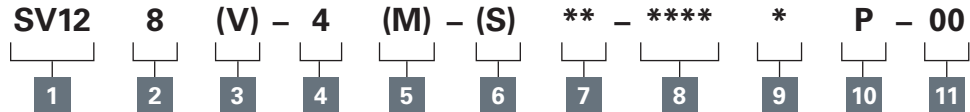
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV12-8-4/4M - Solenoid valve

Spool type, 4-way, 2-position
Up to 11 L/min (3 USgpm) • 350 bar (5000 psi)

A

Model code



1 Function

SV12 - 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-980.

6 Valve housing material

Blank - Omit for Cartridge only
A - Aluminum

7 Port size

Code	Port size	Housing number
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 housing details.

9 Connector types

Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
F - Weather-Pack (Packard) male on wire leads
For coil part numbers and dimensions see section C.

10 Coil series

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

11 Special features

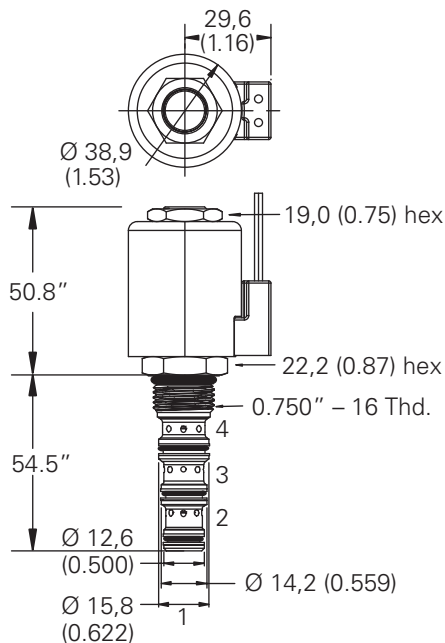
00 - None
(Only required if valve has Special features omitted if "00".)

8 Voltage rating

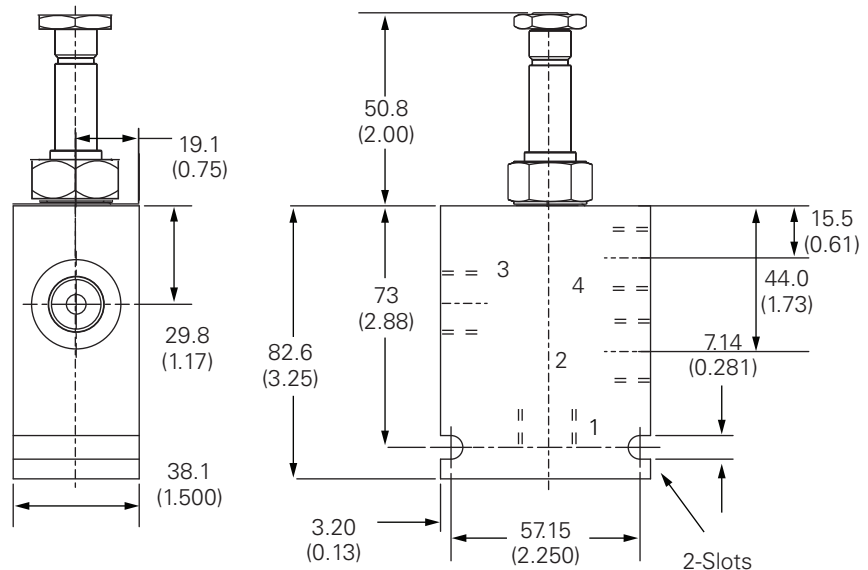
00 - No coil
12D - 12VDC
24D - 24VDC
115A - 115VAC
230A - 230VAC
12B - 12VDC/w diode*
24B - 24VDC/w diode*
*Optional arc suppression diode.

Dimensions - mm (inch)

Cartridge only



Installation drawing

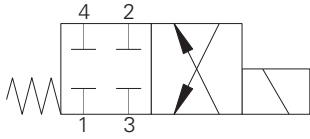


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV12-10-4 - Solenoid valve

Spool type, 4 way, 2 position
 23 L/min (6 US GPM) 350 bar (5000 PSI)

A



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.

Performance data

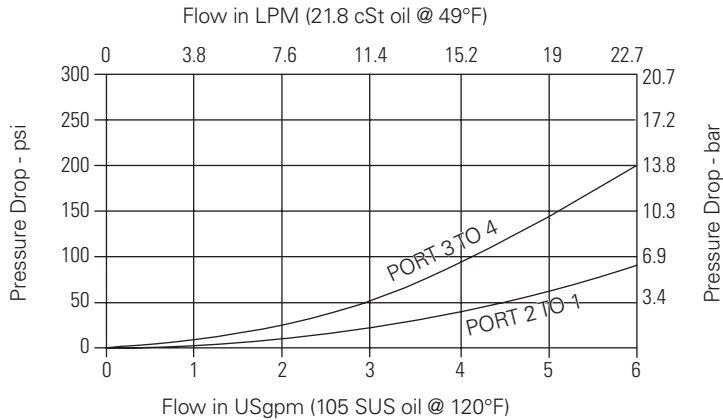
Ratings and specifications

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

Typical application pressure (all ports)	350 bar (5000 psi)
Rated flow	23 litre/min (6 US GPM)
Internal leakage	8.5 Cubic inches (140 ml) per min max at 350 Bar
Temperature range	-20 to +120°C (-4 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)	Steel
Weight cartridge only	0,44 kg (0.96 lbs)
Seal kit	889625 (Buna-N), 566080 (Viton)

Pressure drop

Cartridge only

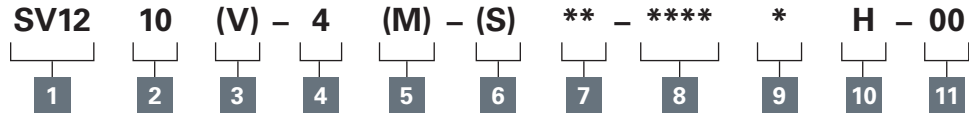


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV12-10-4 - Solenoid valve

Spool type, 4 way, 2 position
23 L/min (6 US GPM) 350 bar (5000 PSI)

Model code



A

1 Function

SV12 - 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 - Manual override
For valve dimensions with Manual override installed, see page A-980.

6 Valve housing material

Blank - Omit for Cartridge only
A - Aluminum

7 Port size

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 housing details.

9 Connector types

Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
E - Weather-Pack (Packard) female on wire leads
F - Weather-Pack (Packard) male on wire leads

10 Coil series

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

11 Special features

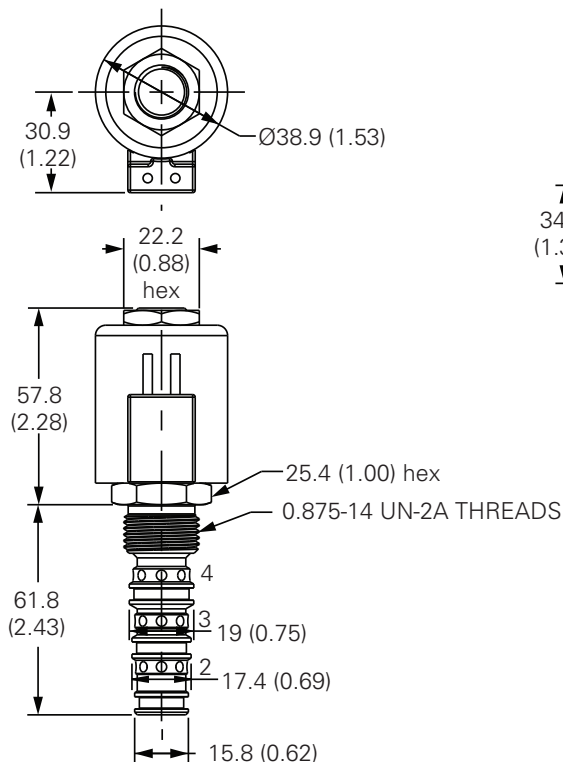
00 - None
(Only required if valve has Special features omitted if "00".)

8 Voltage rating

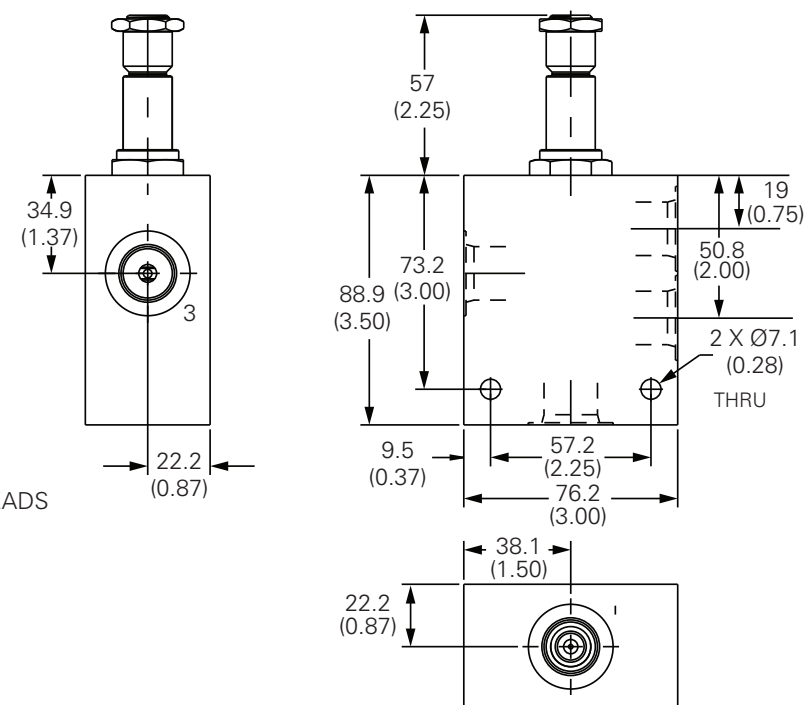
00 - No coil	230A - 230VAC
12D - 12VDC	12B - 12VDC/w diode*
24D - 24VDC	24B - 24VDC/w diode*
115A - 115VAC	*Optional arc suppression diode.

Dimensions - mm (inch)

Cartridge only



Installation drawing

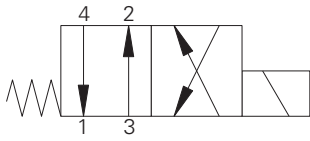


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV1-10-4/4M/4R - Solenoid valve

Spool type, 4-way, 2-position
Up to 23 L/min (6 USgpm) • 210 bar (3000 psi)

A



Operation

In the de-energized position this valve 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

Performance data

Ratings and specifications

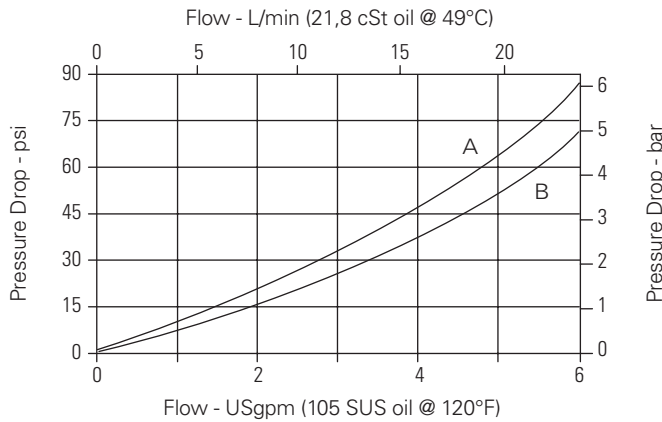
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	164 cm ³ /min (10 in ³ /min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-10-4
Weight including coil	0,44 kg (0.96 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Seal kit	889625 (Buna-N), 566080 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



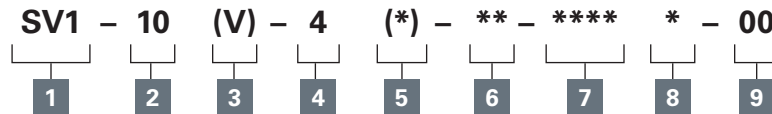
- A** - Port 4 to port 1
- B** - Port 3 to port 2

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV1-10-4/4M/4R - Solenoid valve

Spool type, 4-way, 2-position
Up to 23 L/min (6 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function

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-980.

6 Port size

Code	Port size	Housing number
0	Cartridge only	
3B	3/8" BSPP	02-179705*
6T	SAE 6	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 housing details.

7 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

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

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack female

F - Weather-Pack male

For coil part numbers and dimensions see section C.

9 Special features

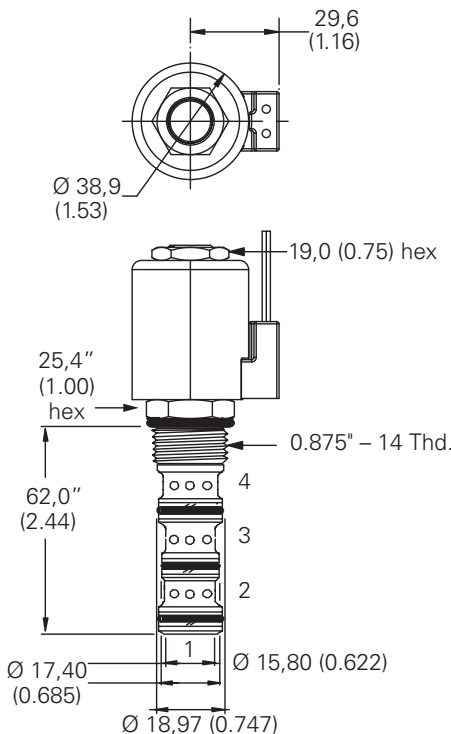
00 - None

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

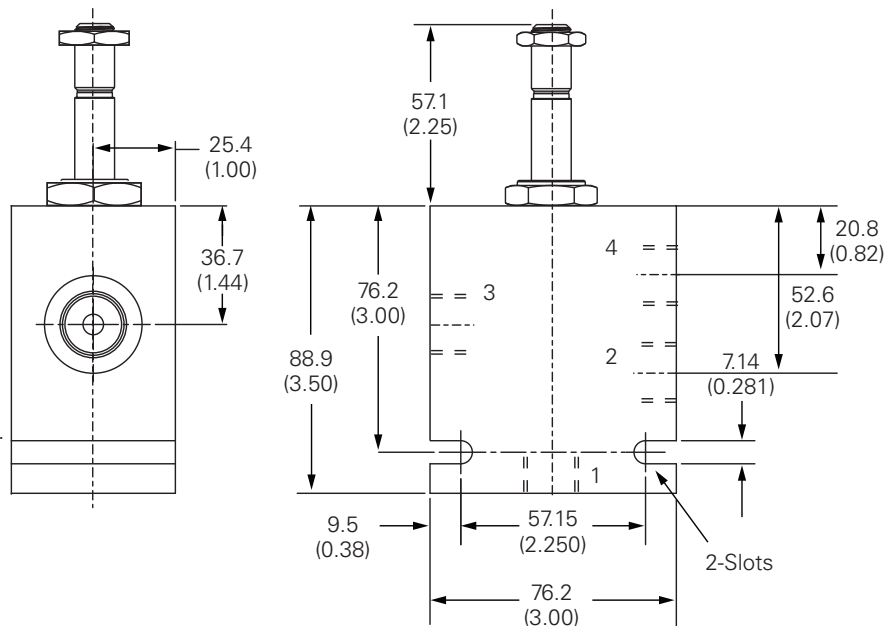
Note: Use J series 23W coils with this solenoid valve.

Dimensions - mm (inch)

Cartridge only



Installation drawing

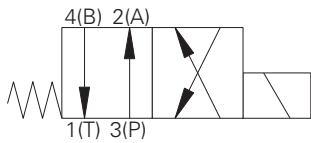


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S542 - Solenoid valve

Spool type, 4-way, 2-position
Up to 35 L/min (9 USgpm) • 210 bar (3000 psi)

A



Operation

In the de-energized position this valve 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.

Performance data

Ratings and specifications

Figures based on Viscosity 32 cST (150 SSU)

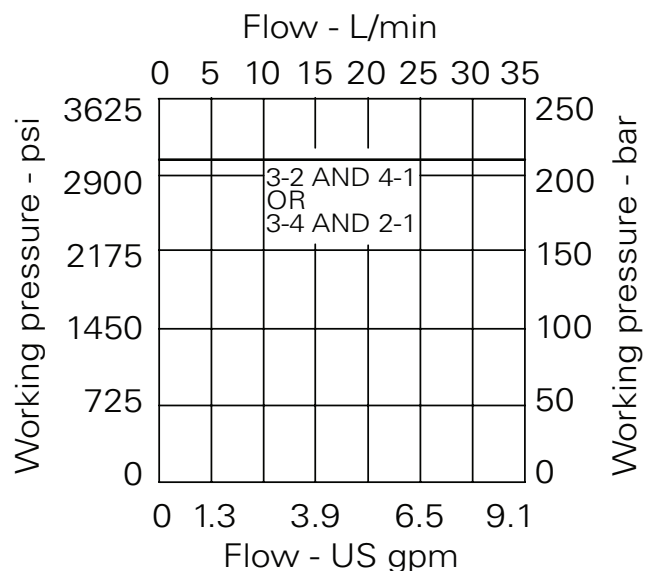
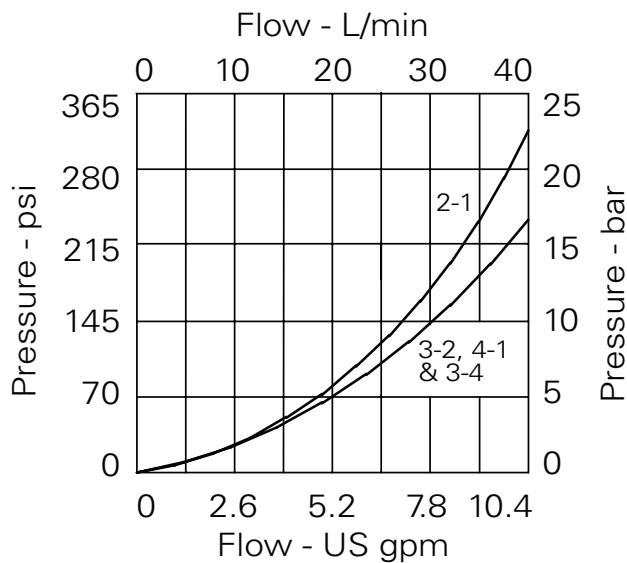
Max working pressure	210 bar (3000 psi)
Rated flow	See performance graphs
Nominal flow at $\Delta P = 5$ bar (70 psi)	20 L/min (5 USgpm)
Internal leakage	Less than 120 ml/min past each land 210 bar differential at 32 cSt
Temperature range	-30° to +120°C (-22° to +248°F)
Cavity	C-10-4 (See Section M)
Electrical data	See coil data sheet
Torque cartridge into cavity	30 Nm (22 lbs ft)
Mounting position	Unrestricted
Fluids	Most general purpose hydraulic fluids such as MIL-H-5606, SAE 10, SAE 20 etc.
Seal material	Standard nitrile with PTFE back up rings
Filtration	BS5540/4 Class 18/13 (25 micron or better)
Nominal viscosity range	15 to 250 cSt
Coil weight	0.3 kg (.6 lbs)
Cartridge weight	0.205 kg (.45 lbs)
Coil part number	C16-*/19
Coil voltage available	12, 24 VDC, 110, 220, VAC*

Viton is a registered trademark of E.I. DuPont

*AC coils must be used with a rectifying connector

Pressure drop

Performance



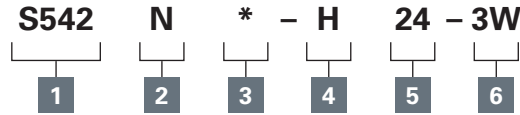
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S542 - Solenoid valve

Spool type, 4-way, 2-position
Up to 35 L/min (9 USgpm) • 210 bar (3000 psi)

A

Model code



1 Function

S542

2 Seals

N - Nitrile
V - Viton

3 Manual Override

2 - Screw

(Consult factory for availability).
See page A-960

4 Coil Termination

H - DIN43650
F - Flying leads
DM - Deutsch moulded
Other terminations available on request

5 Voltage

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

6 Port sizes

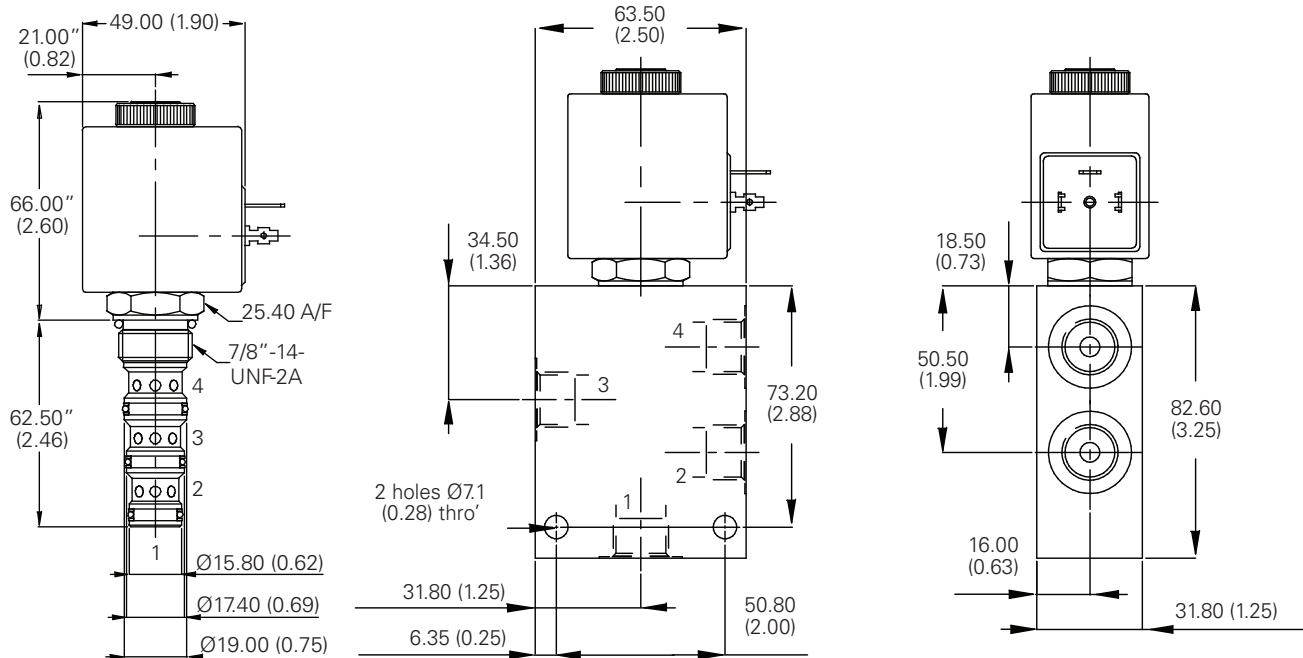
Code	Port size	Housing number - Body only
		Aluminium
3W	3/8" BSP	B19240
4W	1/2" BSP	B19228
8T	1/2" SAE	B19229

Dimensions - mm (inch)

Cartridge only

Basic Code **S542**

Installation drawing

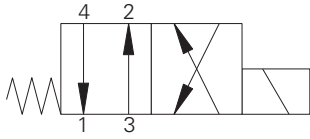


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV1 1-10-4/4M - Solenoid valve

Spool type, 4-way, 2-position
23 L/min (6 USgpm) • 350 bar (5000 psi)

A



Operation

In the de-energized position this valve 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.

Performance data

Ratings and specifications

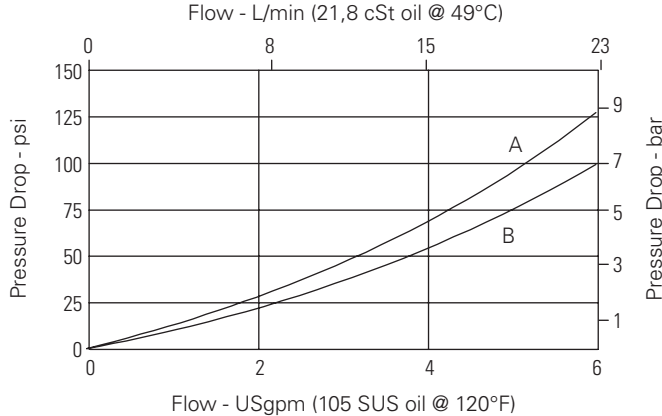
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

Typical application pressure (all ports)	350 bar (5000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage, port 2 to port 1	82 cm ³ /min. (5 in ³ /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
Weight Cartridge only	0,21 kg (0.46 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	889625 (Buna-N), 566080 (Viton®)

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Pressure drop

Cartridge only



A - Port 3 to port 2

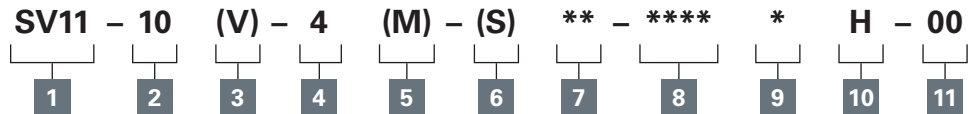
B - Port 4 to port 1

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV11-10-4/4M - Solenoid valve

Spool type, 4-way, 2-position
23 L/min (6 USgpm) • 350 bar (5000 psi)

Model code



A

1 Function

SV11 - 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 - Manual override

For valve dimensions with Manual override option installed see page A-980.

6 Valve housing material

Blank - Omit for Cartridge only

S - Steel

7 Port size

Code	Port size	Housing number
0	Cartridge only	
2G	1/4" BSPP	02-175139
3G	3/8" BSPP	02-175140
6T	SAE 6	02-175137
8T	SAE 8	02-175138

See section J for housing details.

10 Coil series

H - 10 series, 29W

For coil part numbers and dimensions see section C.

11 Special features

00 - None

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

8 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

115A - 115VAC

230A - 230VAC

12B - 12VDC/w diode*

24B - 24VDC/w diode*

*Optional arc suppression diode.

9 Coil types

Blank - No coil

G - ISO 4400 DIN 43650

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

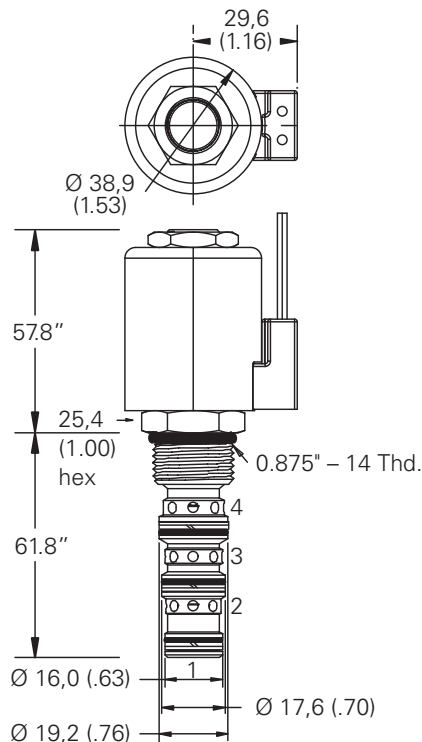
E - Weather-Pack female

F - Weather-Pack male

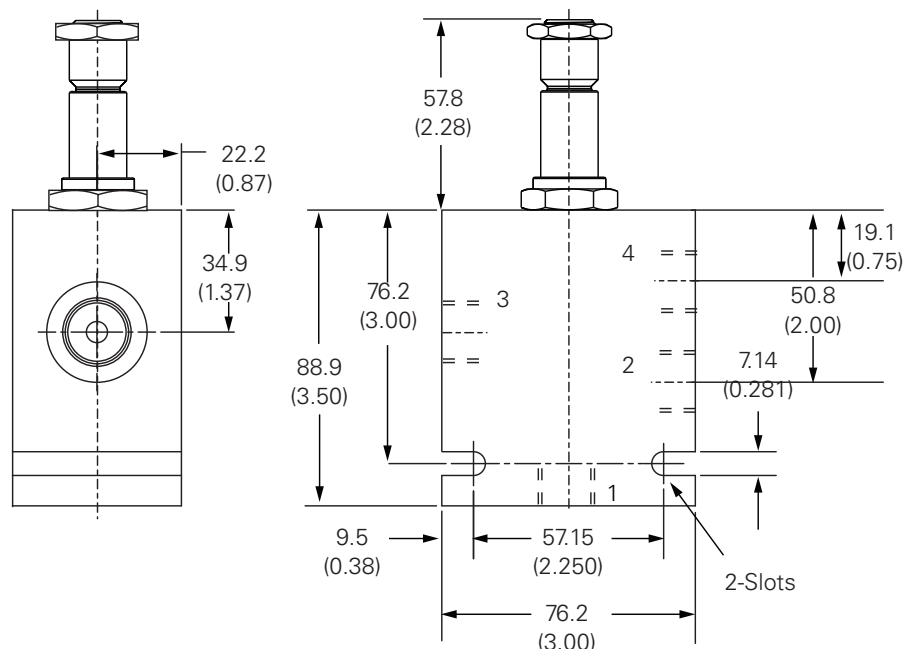
For coil part numbers and dimensions see section C.

Dimensions - mm (inch)

Cartridge only



Installation drawing

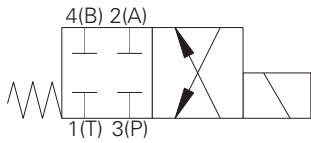


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S541 - Solenoid valve

Spool type, 4-way, 2-position
Up to 30 L/min (8 USgpm) • 210 bar (3000 psi)

A



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.

Performance data

Ratings and specifications

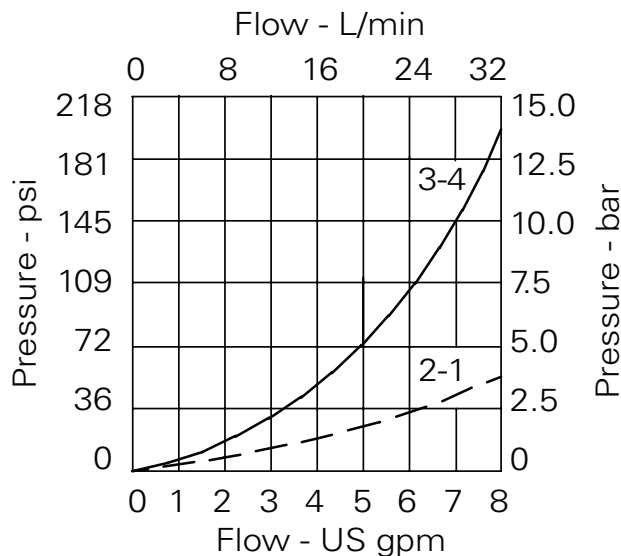
Performance data is typical with Viscosity 32 cST (150 SSU)

Max working pressure	210 bar (3000 psi)
Rated flow	See performance graphs
Nominal flow at $\Delta P = 5$ bar (70 psi)	20 L/min (5 USgpm)
Internal leakage	Less than 120 ml/min 210 bar differential
Temperature range	-30° to +120°C (-22° to +248°F)
Cavity	C-10-4 (See Section M)
Torque cartridge into cavity	30 Nm (22 lbs ft)
Mounting position	Unrestricted
Seal material	Nitrile with PTFE back up rings
Filtration	BS5540/4 Class 18/13 (25 micron or better)
Nominal viscosity range	15 to 250 cSt
Coil weight	0.3 kg (0.6 lbs)
Cartridge weight	0.13 kg (0.3 lbs)
Coil part number	C16-*.*/19
Coil voltage available	12, 24 VDC, 110, 220, VAC*

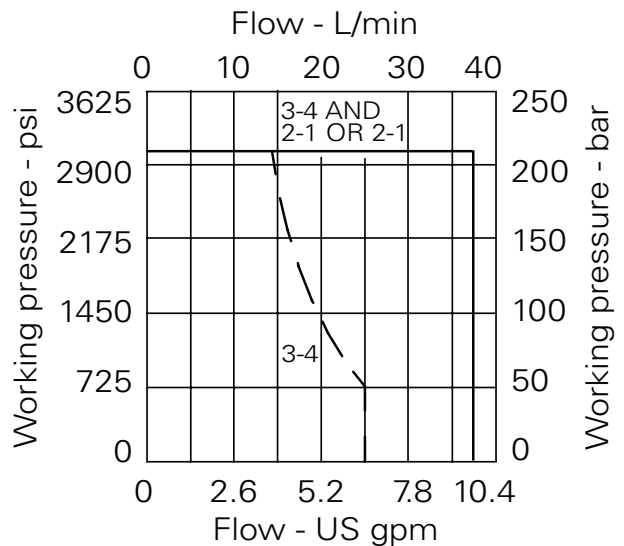
Viton is a registered trademark of E.I. DuPont

*AC coils must be used with a rectifying connector

Pressure drop



Performance



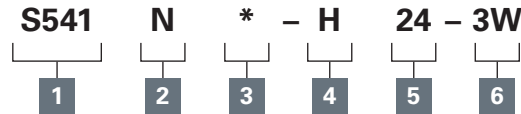
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S541 - Solenoid valve

Spool type, 4-way, 2-position
Up to 30 L/min (8 USgpm) • 210 bar (3000 psi)

A

Model code



1 Function

S541

2 Seal material

N - Nitrile

V - Viton

3 Manual Override

2 - Screw

(Consult factory for availability).
See page A-960.

4 Coil Termination

H - DIN43650

F - Flying leads

DM - Deutsch moulded

Other terminations available on request

5 Voltage

12 - 12 VDC

24 - 24 VDC

110 - 110 VAC

220 - 220 VAC

6 Port size

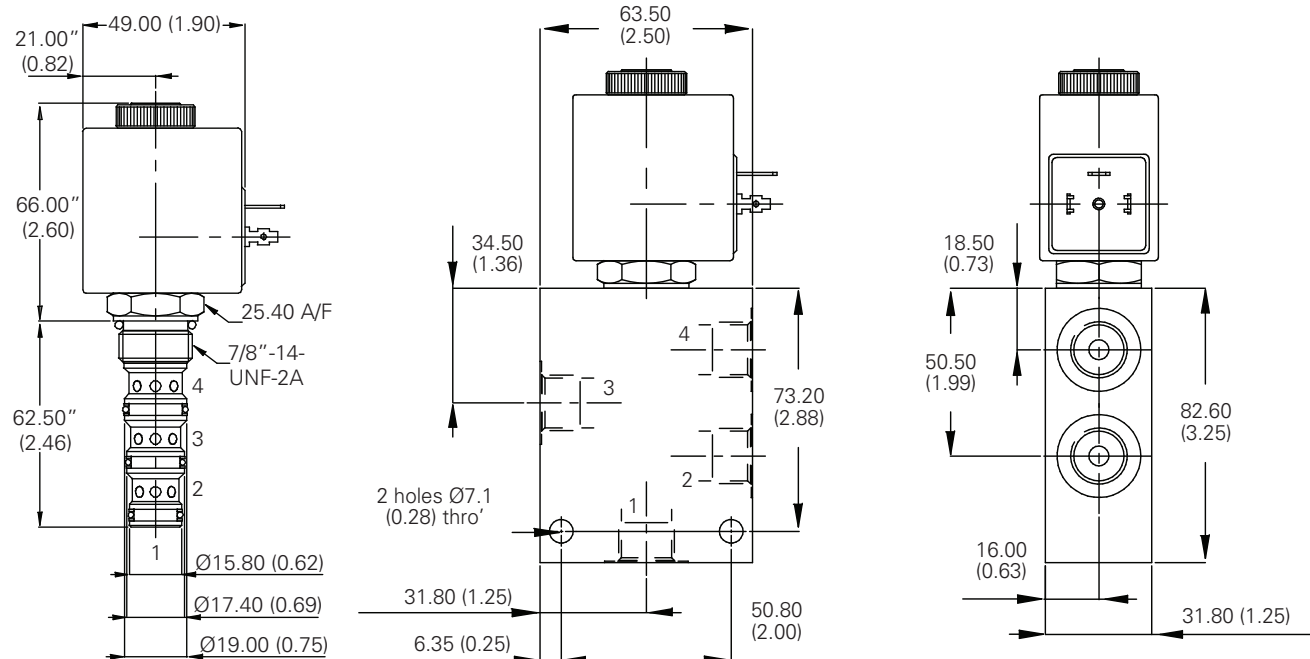
Code	Port size	Housing number - Body only
		Aluminium
3W	3/8" BSP	B19240
4W	1/2" BSP	B19228
8T	1/2" SAE	B19229

Dimensions - mm (inch)

Cartridge only

Basic Code **S541**

Installation drawing

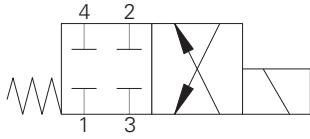


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV2-10-4/4M/4R - Solenoid valve

Spool type, 4-way, 2-position
23 L/min (6 USgpm) • 210 bar (3000 psi)

A



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.

Performance data

Ratings and specifications

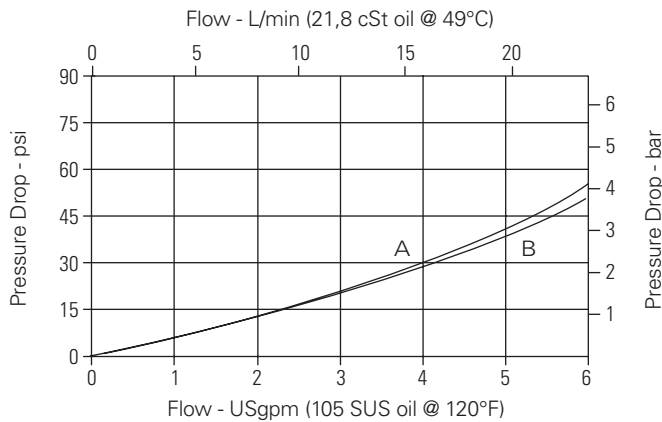
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	164 cm ³ /min (10 in ³ /min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-10-4
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Weight including coil	0,44 kg (0.96 lbs)
Filtration	Cleanliness code 18/16/13
Housing material (standard)	Aluminum
Seal kit	889625 (Buna-N), 566080 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



A - Port 3 to port 4

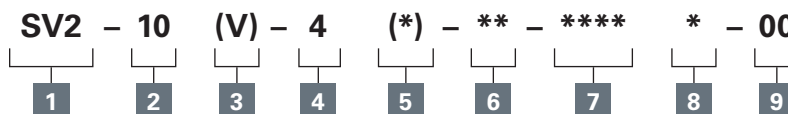
B - Port 1 to port 2

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV2-10-4/4M/4R - Solenoid valve

Spool type, 4-way, 2-position
23 L/min (6 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function

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-980.

6 Port size

Code	Port size	Housing number
0	Cartridge only	
3B	3/8" BSPP	02-179705*
6T	SAE 6	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 housing details.

7 Voltage rating

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

8 Connector types

Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
E - Weather-Pack female
F - Weather-Pack male
For coil part numbers and dimensions see section C.

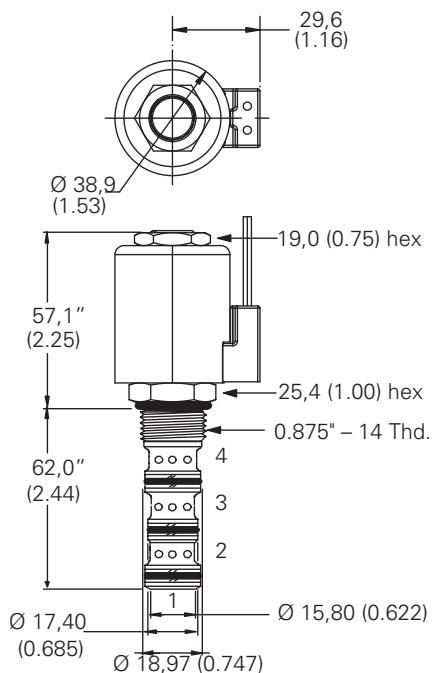
9 Special features

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

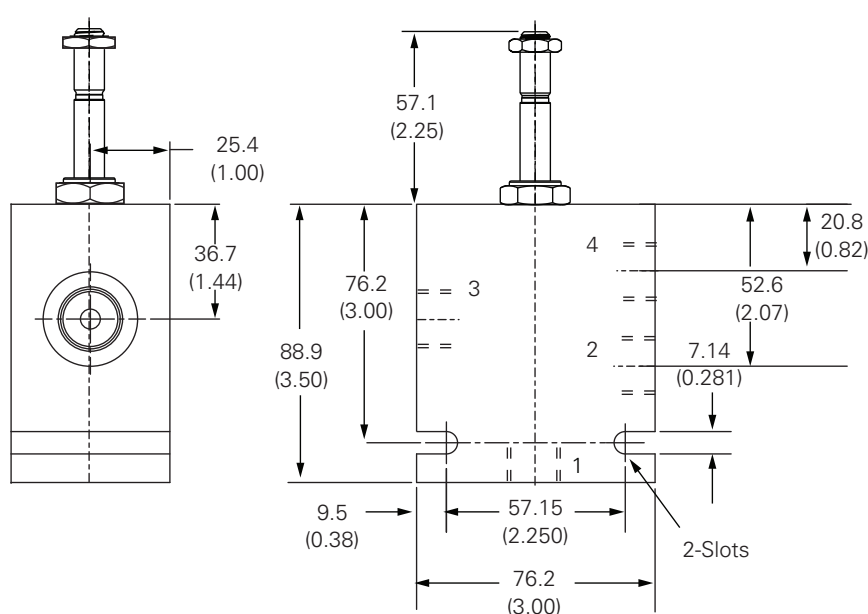
Note: Use J series 23, W coils with this solenoid valve.

Dimensions - mm (inch)

Cartridge only



Installation drawing

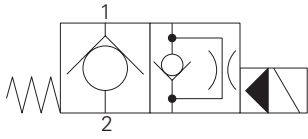


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV2-10-C - Solenoid valve

Poppet type, 2-way, 2-position, normally closed
23 L/min (6 USgpm) • 210 bar (3000 psi)

A



Operation

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

When the solenoid is energized the pilot poppet is pulled off the seat allowing the valve to open from port 2 to 1. In the reverse direction the flow is restricted by the pilot orifice.

Performance data

Ratings and specifications

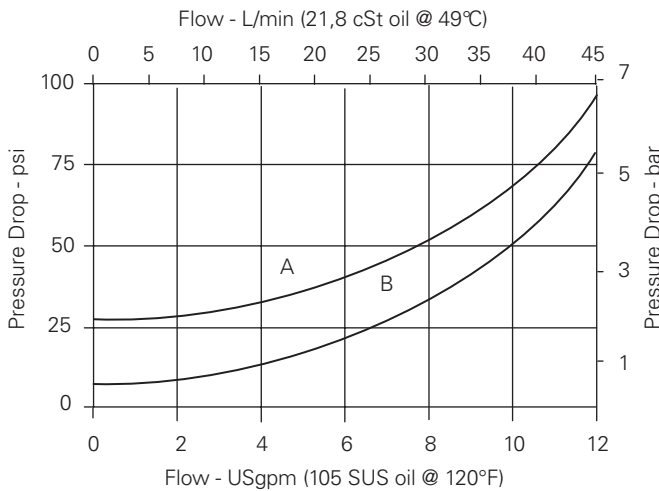
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	Less than 5 drops/min. max @ 210 bar (3000 psi)
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
Weight cartridge only	0,4 kg (0.087 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	565803 (Buna-N), 566086 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



Pressure drop vs. Flow

A - Port 1 to port 2 de-energized

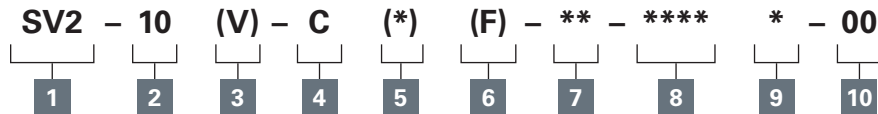
B - Port 2 to port 1 energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV2-10-C - Solenoid valve

Poppet type, 2-way, 2-position, normally closed
23 L/min (6 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function

SV2 - 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 installed see page A-980.

6 Filter option

Blank - None
F - Filter screen

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.

9 Connector types

Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
E - Weather-Pack (Packard) female on wire leads
F - Weather-Pack (Packard) male on wire leads
For coil part numbers and dimensions see section C.

8 Voltage rating

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

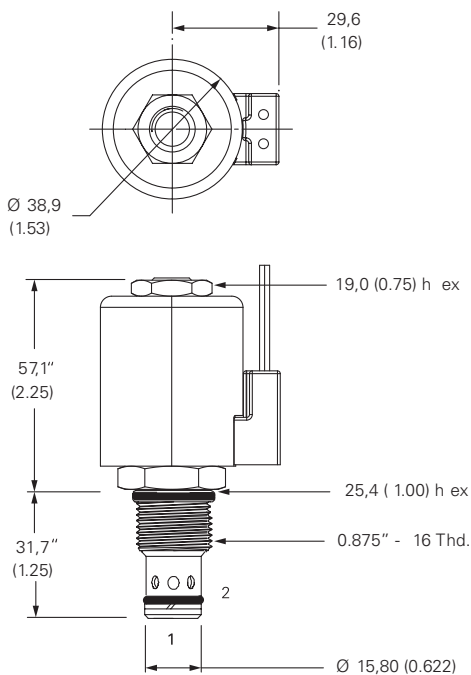
10 Special features

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

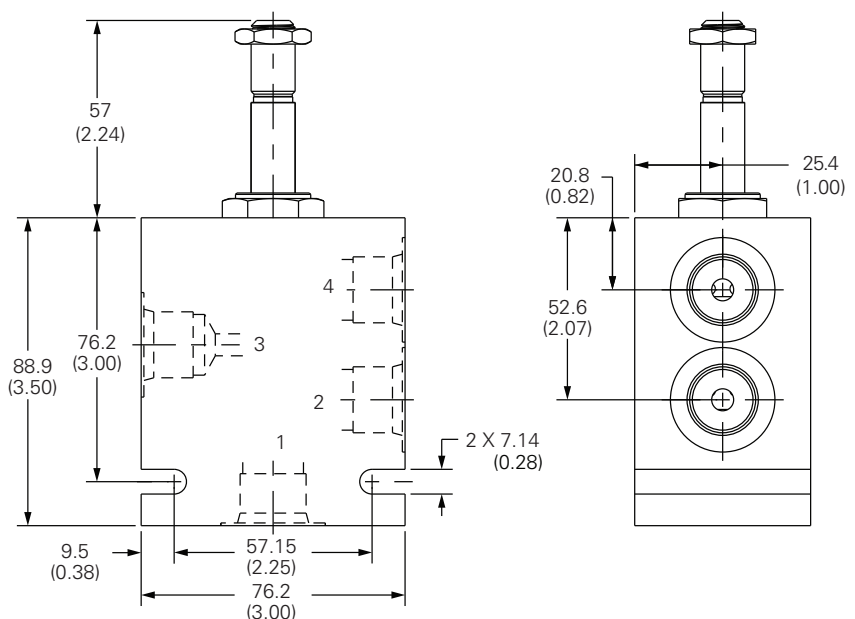
Note: Use J series 23, W coils with this solenoid valve.

Dimensions - mm (inch)

Cartridge only



Installation drawing

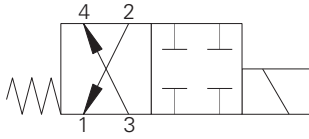


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV3-10-4/4M/4R - Solenoid valve

Spool type, 4-way, 2-position
23 L/min (6 USgpm) • 210 bar (3000 psi)

A



Operation

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

Performance data

Ratings and specifications

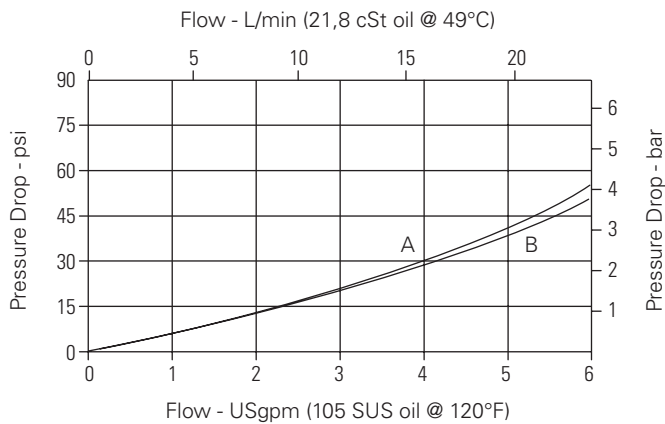
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	164 cm ³ /min (10 in ³ /min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-10-4
Weight including coil	0,44 kg (0.96 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	889625 (Buna-N), 566080 (Viton®)

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Pressure drop

Cartridge only



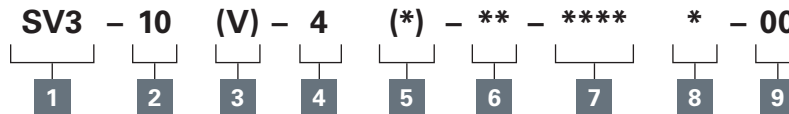
A - Port 3 to port 4
B - Port 1 to port 2

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV3-10-4/4M/4R - Solenoid valve

Spool type, 4-way, 2-position
23 L/min (6 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function

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-980.

6 Port size

Code	Port size	Housing number
0	Cartridge only	
3B	3/8" BSPP	02-179705*
6T	SAE 6	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 housing details.

7 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

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

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack female

F - Weather-Pack male

For coil part numbers and dimensions see section C.

9 Special features

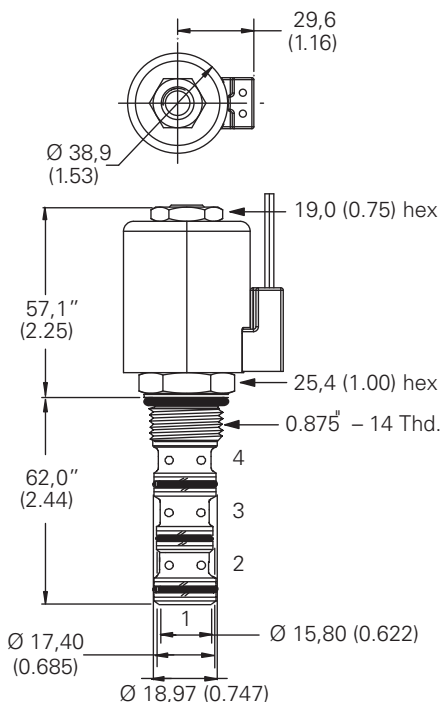
00 - None

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

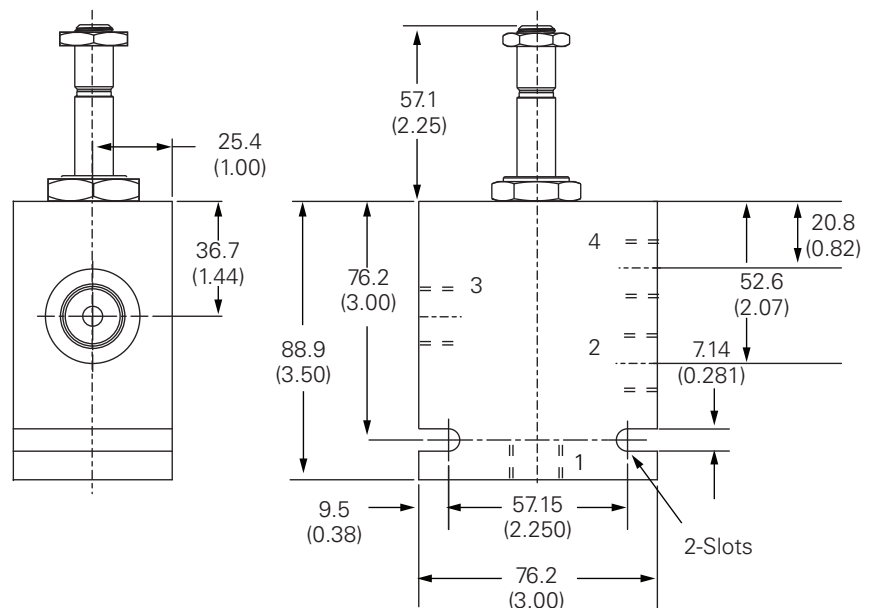
Note: Use J series 23, W coils with this solenoid valve.

Dimensions - mm (inch)

Cartridge only



Installation drawing

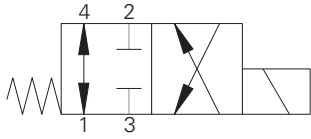


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV4-10-4/4M/4R - Solenoid valve

Spool type, 4-way, 2-position
23 L/min (6 USgpm) • 210 bar (3000 psi)

A



Operation

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

Performance data

Ratings and specifications

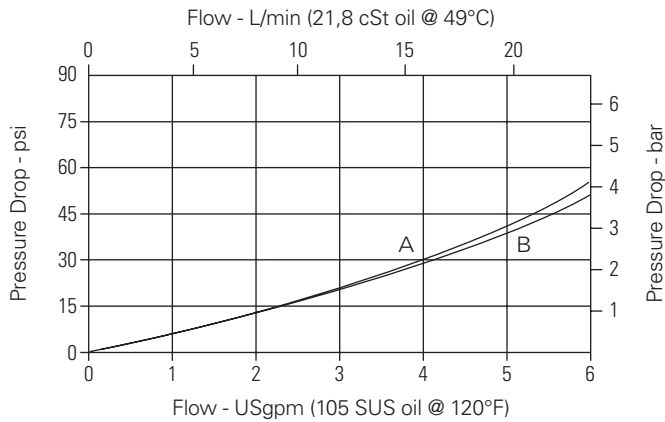
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	164 cm ³ /min (10 in ³ /min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-10-4
Weight including coil	0,44 kg (0.96 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	889625 (Buna-N), 566080 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



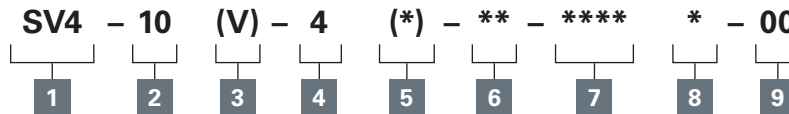
- A** - Port 3 to port 4
- B** - Port 1 to port 2

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV4-10-4/4M/4R - Solenoid valve

Spool type, 4-way, 2-position
23 L/min (6 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function
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-980.

6 Port size

Code	Port size	Housing number
0	Cartridge only	
3B	3/8" BSPP	02-179705*
6T	SAE 6	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 housing details.

7 Voltage rating

00 - No coil	230A - 230VAC
12D - 12VDC	12B - 12VDC/w diode*
24D - 24VDC	24B - 24VDC/w diode*
115A - 115VAC	

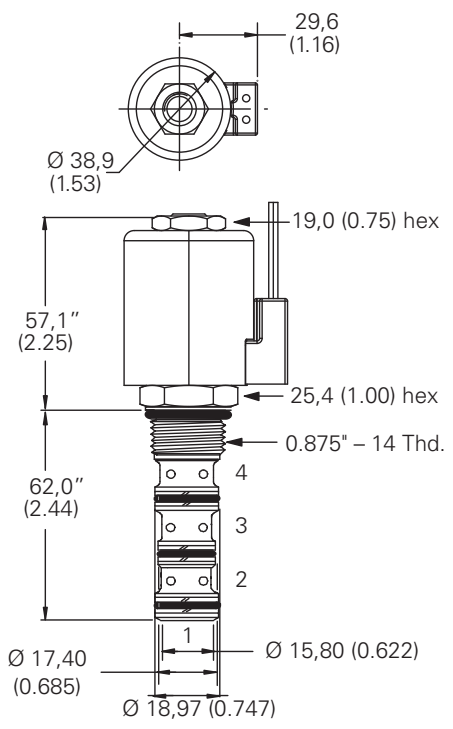
*Optional arc suppression diode.

8 Connector types
Blank - No coil
G - ISO 4400 DIN 43650
W - Flying lead
N - Deutsch (DC only)
Y - Amp JR (DC only)
D - Metripack 150 male (DC only)
J - Metripack 280 male (DC only)
E - Weather-Pack female
F - Weather-Pack male
For coil part numbers and dimensions see section C.

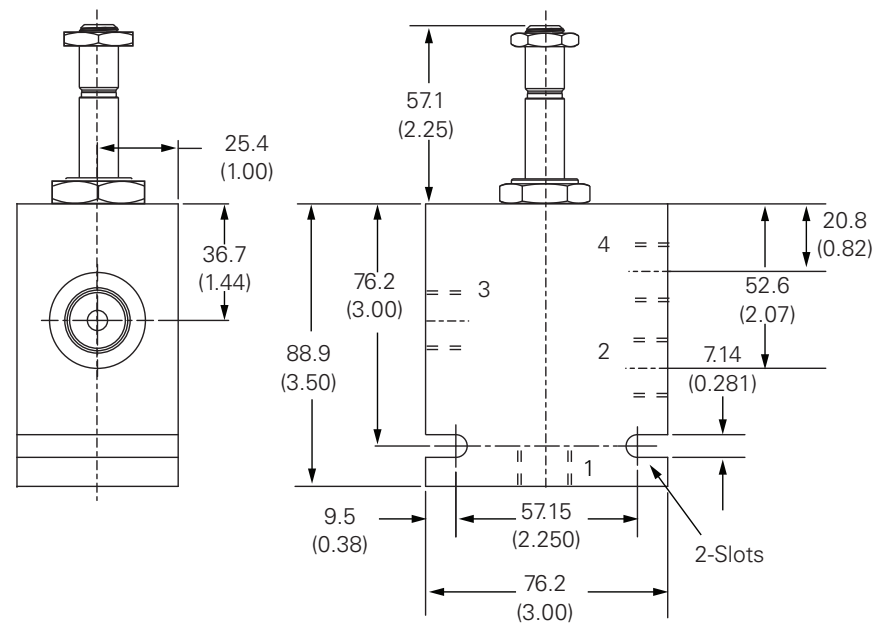
9 Special features
00 - None
(Only required if valve has Special features omitted if "00".)
Note: Use J series 23, W coils with this solenoid valve.

Dimensions - mm (inch)

Cartridge only



Installation drawing

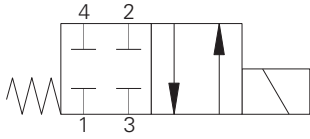


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV5-10-4/4M/4R - Solenoid valve

Spool type, 4-way, 2-position
23 L/min (6 USgpm) • 210 bar (3000 psi)

A



Operation

In the de-energized position all ports are blocked.

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

Performance data

Ratings and specifications

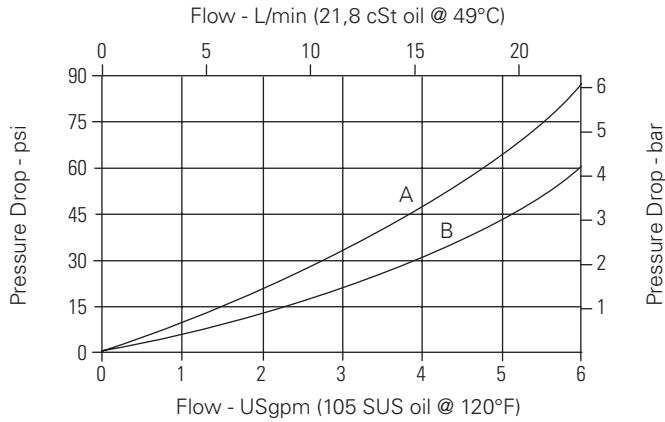
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	164 cm ³ /min (10 in ³ /min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-10-4
Weight including coil	0,44 kg (0.96 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	889625 (Buna-N), 566080 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



A - Port 1 to port 4

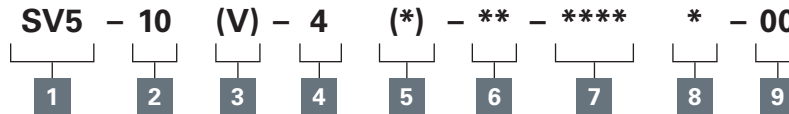
B - Port 3 to port 2

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV5-10-4/4M/4R - Solenoid valve

Spool type, 4-way, 2-position
23 L/min (6 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function

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-980.

6 Port size

Code	Port size	Housing number
0	Cartridge only	
3B	3/8" BSPP	02-179705*
6T	SAE 6	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 housing details.

7 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

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

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack female

F - Weather-Pack male

For coil part numbers and dimensions see section C.

9 Special features

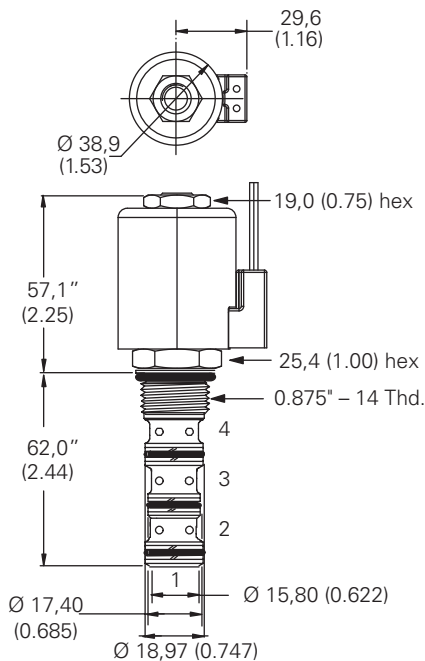
00 - None

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

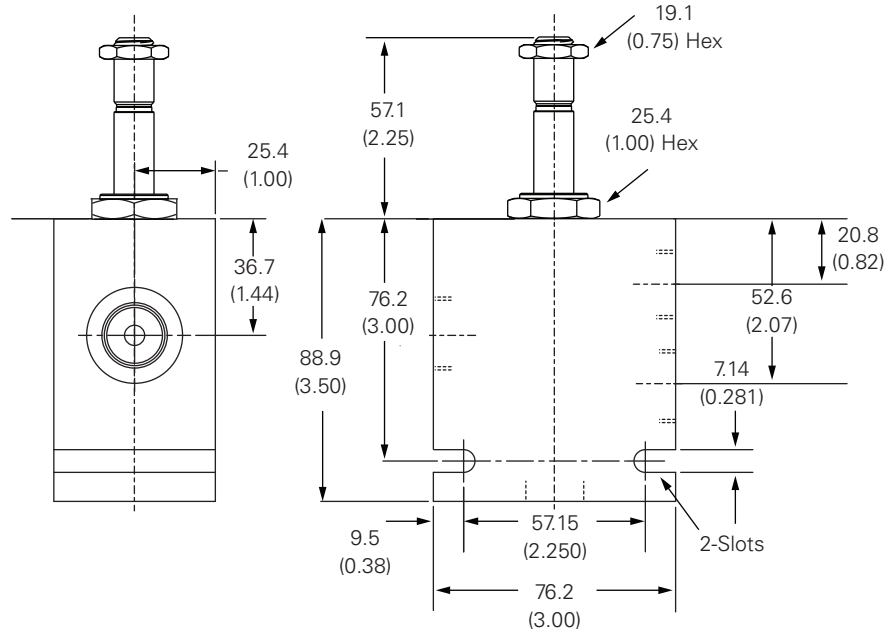
Note: Use J series 23 W coils with this solenoid valve.

Dimensions - mm (inch)

Cartridge only



Installation drawing

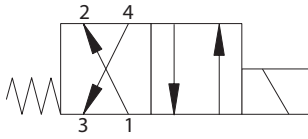


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV7-10-4/4P/4S - Solenoid valve

Spool type, 4-way, 2-position
17 L/min (5 USgpm) • 210 bar (3000 psi)

A



Operation

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

Performance data

Ratings and specifications

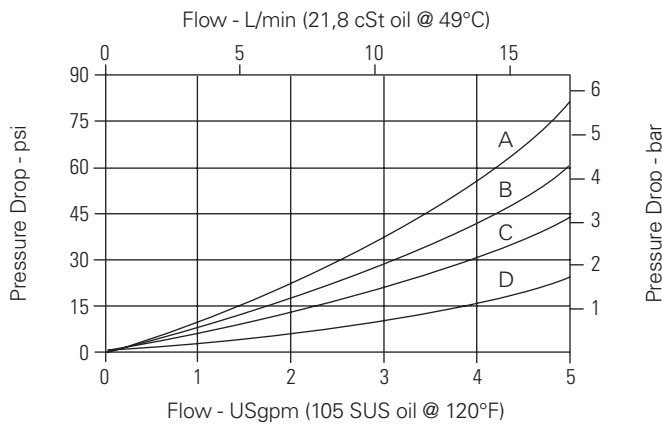
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	17 L/min (5 USgpm)
Internal leakage	164 cm ³ /min (10 in ³ /min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-10-4
Weight including coil	0,44 kg (0.96 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	889625 (Buna-N), 566080 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



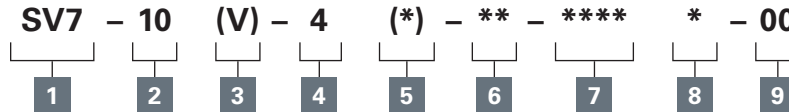
- A** - Port 4 to port 1 energized
- B** - Port 3 to port 2 energized
- C** - Port 3 to port 4 de-energized
- D** - Port 2 to port 1 de-energized

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV7-10-4/4P/4S - Solenoid valve

Spool type, 4-way, 2-position
17 L/min (5 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function

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-980.

6 Port size

Code	Port size	Housing number
0	Cartridge only	
3B	3/8" BSPP	02-179705*
6T	SAE 6	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 housing details.

7 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

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

W - Flying lead

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male (DC only)

J - Metripack 280 male (DC only)

E - Weather-Pack female

F - Weather-Pack male

For coil part numbers and dimensions see section C.

9 Special features

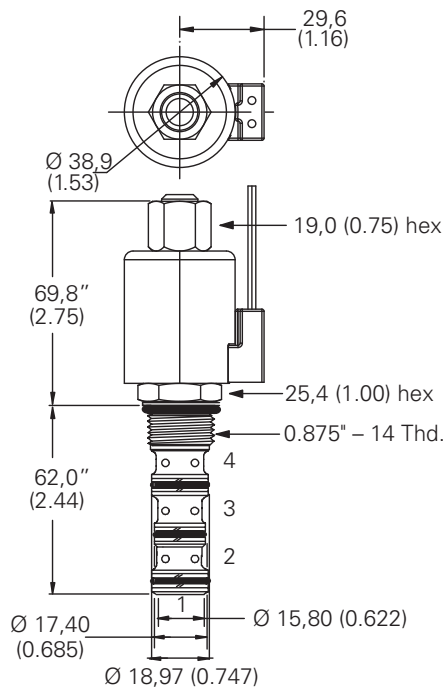
00 - None

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

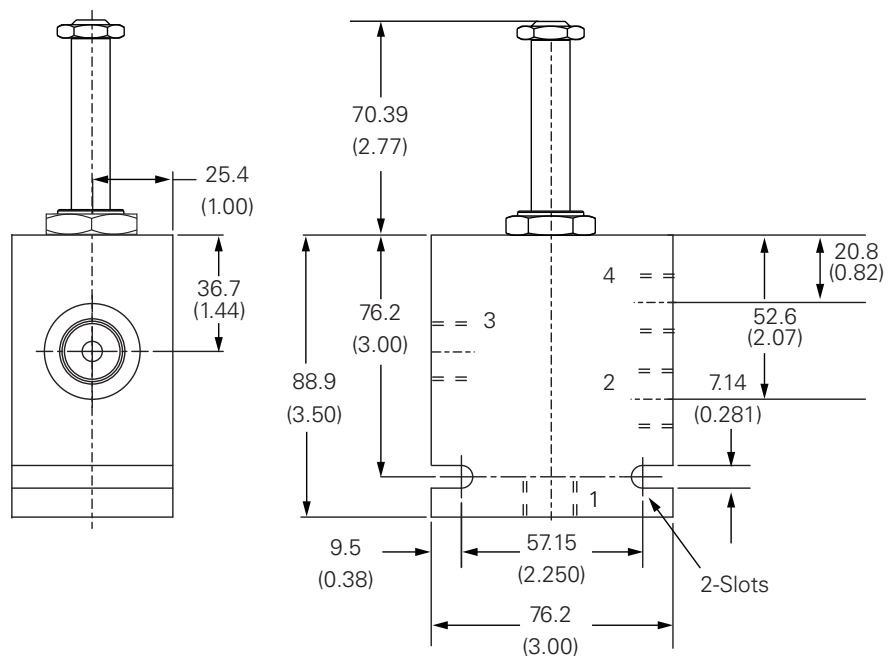
Note: Use J series 23 W coils with this solenoid valve.

Dimensions - mm (inch)

Cartridge only



Installation drawing

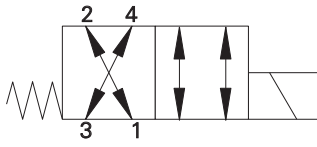


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV17M-10-4P - Solenoid valve

Spool type, 4-way, 2-position
 17 L/min (5 USgpm) • 350 bar (5000 psi)

A



Operation

In the de-energized position this valve allows flow between port 3 to port 4 and between port 2 to port 1 in both directions.

In the energized position flow is allowed between port 3 to port 2 and between port 4 to port 1 in both directions.

Performance data

Ratings and specifications

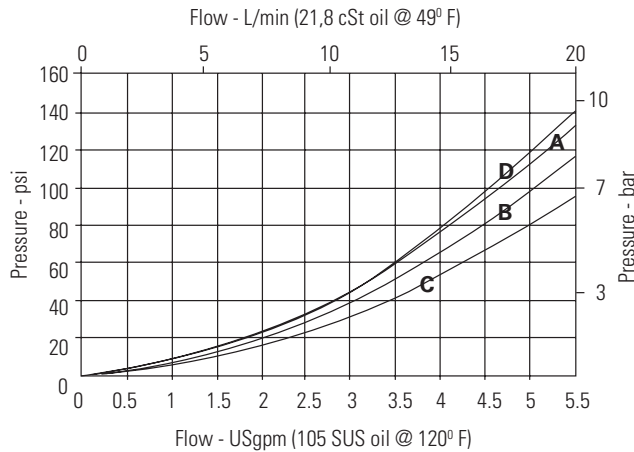
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports except port 1)	350 bar (5000 psi)
Typical application pressure at port 1	210 bar (3000 psi)
Rated flow	17 L/min (5 USgpm)
Internal leakage	350 cc/min (21.5 in ³ /min) @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-10-4
Weight including coil	0.44 kg (0.96 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration Cleanliness code	18/16/13
Seal kit	889625 Buna-N), 566080 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



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

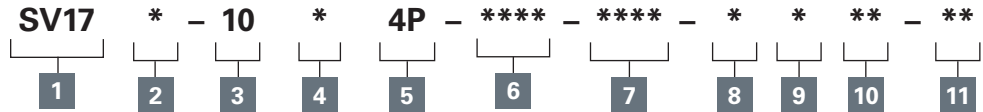
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV17M-10-4P - Solenoid valve

Spool type, 4-way, 2-position
17 L/min (5 USgpm) • 350 bar (5000 psi)

A

Model code



1 Function

SV17 - Solenoid valve

2 Max flow

M - 23 L/min (6 USgpm)

3 Size

10 - 10 Size

4 Seal material

Blank - Buna-N

V - Viton®

5 Style

4P - 4 way push type manual override

6 Port size

Code	Port size	Housing number	
		Aluminium	Steel
0	Cartridge only		
A2G	1/4" BSPP	02-185804	
A3G	3/8" BSPP	02-185805	
A6H	SAE 6	02-185802	
A8H	SAE 8	02-185803	
S2G	1/4" BSPP		02-175139
S3G	3/8"		02-175140
S6T	SAE 6		02-175137
S8T	SAE 8		02-175140

7 Voltage rating

00 - No coil
12D - 12VDC
24D - 24VDC
12B - 12VDC/w diode*
24B - 24VDC/w diode*

*Optional arc suppression diode.

8 Connector types

Blank - No coil
G0 - ISO 4400 DIN 43650
N0 - Deutsch male, DT04-2P, integrated
Y0 - Integrated Amp DC
D0 - MetriPack® 150 Male, Integrated (DC Only)
Mating connector : Delphi 12052641.

For coil part numbers and dimensions see section C.

9 Coil types

Blank - No coil
R - R series (30W) Large ToughCoil

10 Coil special features

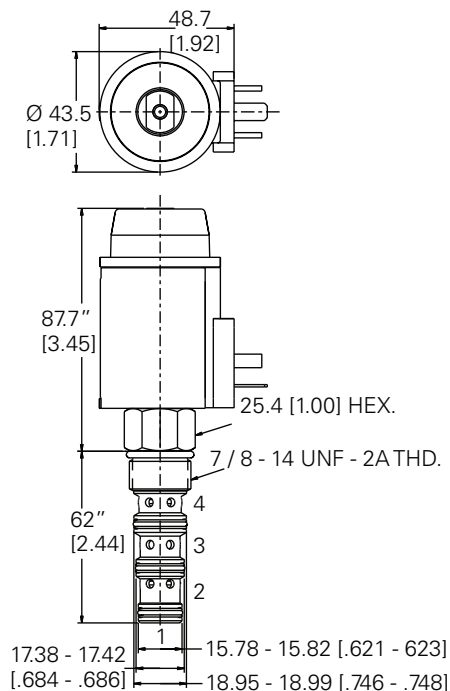
Blank - No coil
00 - No special feature

11 Special features

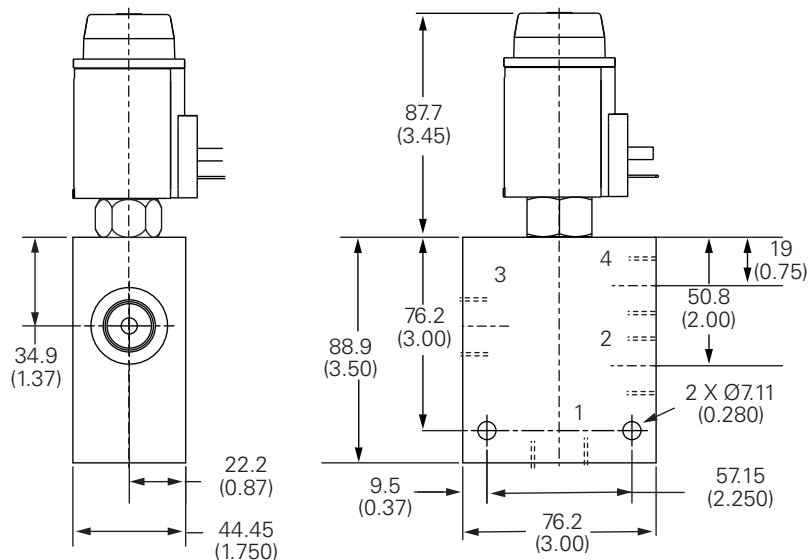
00 - None
(Only required if valve has Special features omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing (Steel)

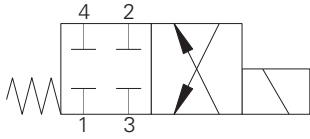


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV2M-12-4 - Solenoid valve

Spool type, 4-way, 2-position
Up to 42 L/min (11 USgpm) • 210 bar (3000 psi)

A



Operation

In the de-energized position all ports are blocked.

In the energized position flow is allowed between port 3 to port 4 and between port 2 to port 1 in both directions.

Performance data

Ratings and specifications

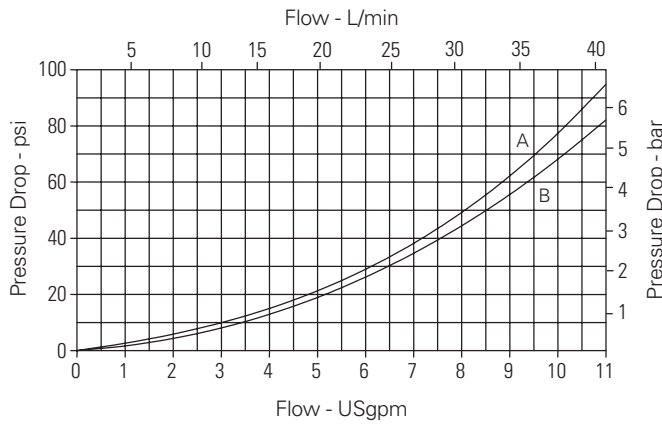
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

Typical application pressure	210 bar (3000 psi)
Rated flow	42 L/min (11 USgpm)
Internal leakage	300 cm ³ /min (21.5 in ³ /min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-12-4
Weight including coil	0,86 kg (1.9 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	2160979 (Buna-N), 2160980 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



A - Port 2 to port 1

B - Port 3 to port 4

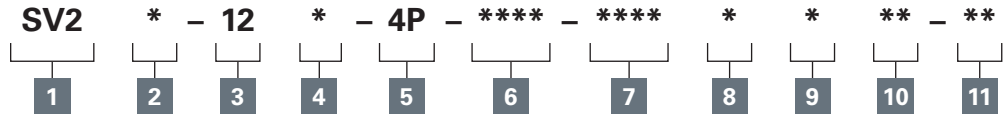
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV2M-12-4 - Solenoid valve

Spool type, 4-way, 2-position
Up to 42 L/min (11 USgpm) • 210 bar (3000 psi)

A

Model code



1 Function

SV2 - Solenoid valve

2 Max flow

M - 42 L/min (11USgpm)

3 Size

12 - 12 size

4 Seal material

Blank - Buna-N

V - Viton®

5 Style

4P - 4-way, push type manual override

6 Port size

Code	Port size	Housing number
0	Cartridge only	
A6G	3/4" BSPF	5986432-001
A10T	SAE 10	6030517-001
A12H	SAE 12	5986436-001

See section J for housing details.

7 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

12B - 12VDC/w diode*

24B - 24VDC/w diode*

*Optional arc suppression diode.

8 Connector types

Blank - No coil

G0 - ISO 4400 DIN 43650

N0 - Deutsch male, DT04-2P, integrated

Y0 - Integrated Amp DC

D0 - MetriPack® 150 Male, Integrated (DC Only)
Mating connector : Delphi 12052641.

For coil part numbers and dimensions see section C.

9 Coil types

Blank - No coil

L - L series (30W EN 490) used for SV2A-12

R - R series (30W) Large ToughCoil

10 Coil special features

Blank - No coil

00 - No special feature

11 Special features

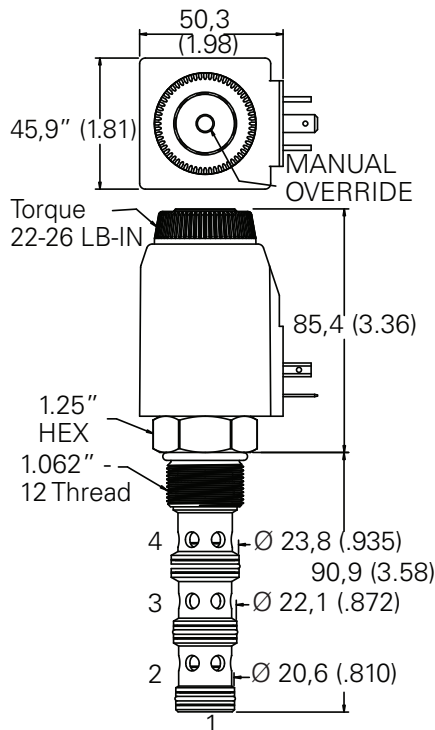
00 - None

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

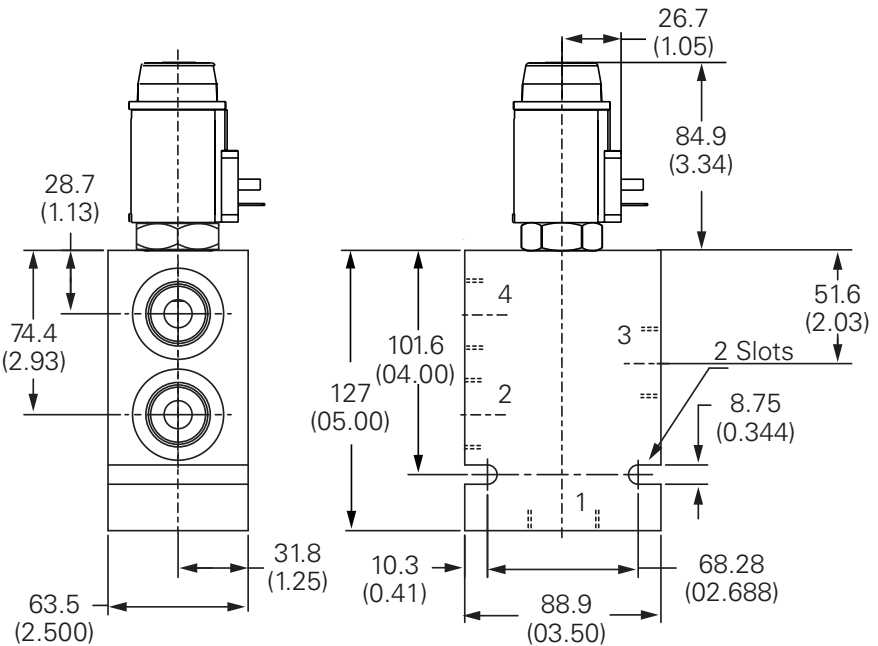
SF - Soft shift

Dimensions - mm (inch)

Cartridge only



Installation drawing

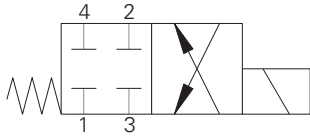


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV12M-12-4 - Solenoid valve

Spool type, 4-way, 2-position
Up to 42 L/min (11 USgpm) • 350 bar (5000 psi)

A



Operation

In the de-energized position all ports are blocked.

In the energized position flow is allowed between port 3 to port 4 and between port 2 to port 1 in both directions.

Performance data

Ratings and specifications

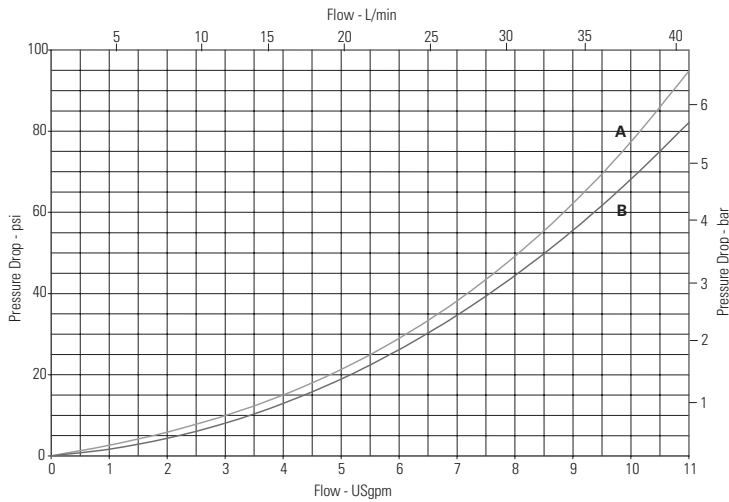
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports except port 1)	350 bar (5000 psi)
Typical application pressure at port 1	210 bar (3000 psi)
Rated flow	42 L/min (11 USgpm)
Internal leakage	350 cc/min (21.5 in3/min) @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-12-4
Weight including coil	0.86 kg (1.9 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration Cleanliness code	18/16/13
Seal kit	2160979 Buna-N), 2160980 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



A - Port 2 to port 1

B - Port 1 to port 4

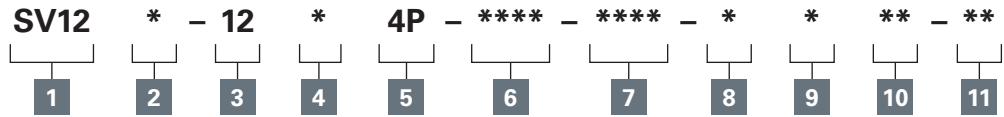
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV12M-12-4 - Solenoid valve

Spool type, 4-way, 2-position
Up to 42 L/min (11 USgpm) • 350 bar (5000 psi)

A

Model code



- 1 Function**
SV12 - Solenoid valve

- 2 Max flow**
M - 42 L/min (11USgpm)

- 3 Size**
12 - 12 size

- 4 Seal material**
Blank - Buna-N
V - Viton®

- 5 Style**
4P - 4-way, push type manual override

Code	Port size	Housing number	
		Aluminium	Steel
0	Cartridge only		
A6G	3/4" BSPP	5986432-001	
A10H	SAE 10	5986434-001	
A12H	SAE 12	5986436-001	
S6G	3/4" BSPP		5991073-001
S10T	SAE 10		5991074-001
S12T	SAE 12		5991075-001

- 6 Port size**

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

- 8 Connector types**
Blank - No coil
G0 - ISO 4400 DIN 43650
N0 - Deutsch male, DT04-2P, integrated
Y0 - Integrated Amp DC
D0 - MetriPack® 150 Male, Integrated (DC Only)
Mating connector : Delphi 12052641.
For coil part numbers and dimensions see section C.

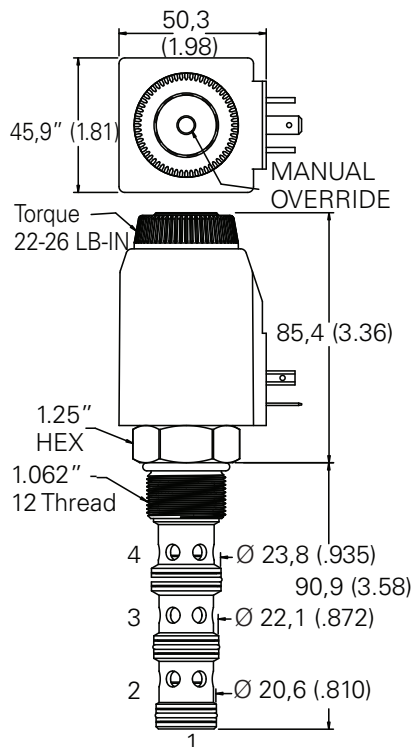
- 9 Coil types**
Blank - No coil
L - L series (30W EN 490) used for SV12A-12
R - R series (30W) Large ToughCoil

- 10 Coil special features**
Blank - No coil
00 - No special feature

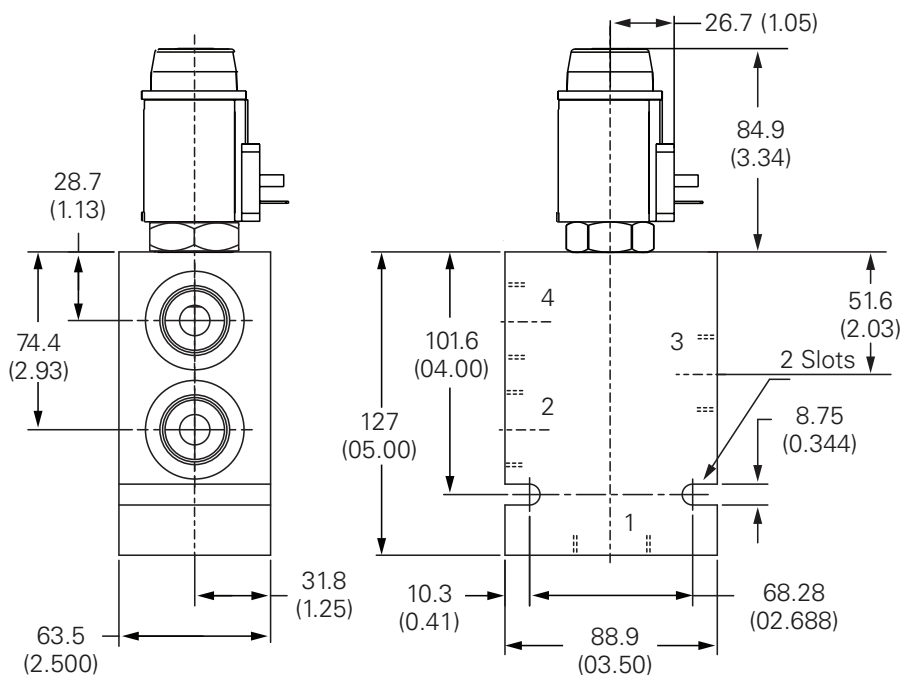
- 11 Special features**
00 - None
(Only required if valve has Special features omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing (Steel)

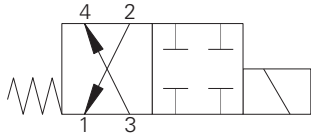


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV3M-12-4 - Solenoid valve

Spool type, 4-way, 2-position
Up to 53 L/min (14 USgpm) • 210 bar (3000 psi)

A



Operation

In the de-energized position flow is allowed from port 3 to port 4 and from port 2 to port 1 in both directions.

In the energized position all ports are blocked.

Performance data

Ratings and specifications

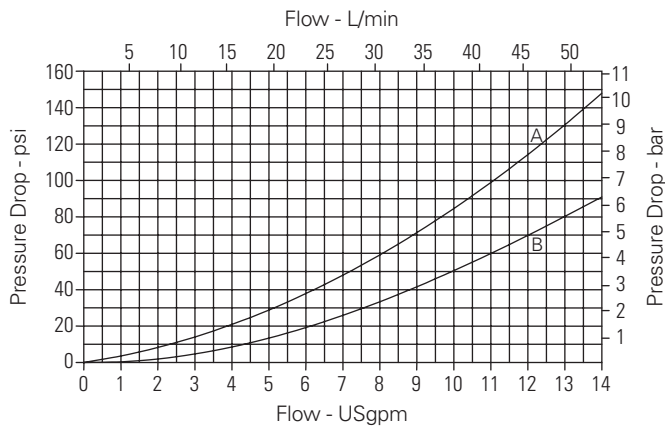
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

Typical application pressure	210 bar (3000 psi)
Rated flow	53 L/min (14 USgpm)
Internal leakage	300 cm ³ /min (21.5 in ³ /min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-12-4
Weight including coil	0,86 kg (1.9 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	2160979 (Buna-N), 2160980 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



A - Port 3 to port 4

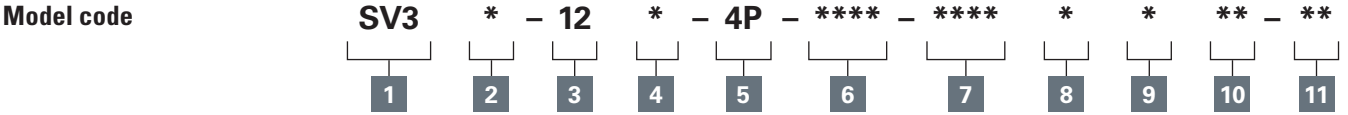
B - Port 2 to port 1

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV3M-12-4 - Solenoid valve

Spool type, 4-way, 2-position
Up to 53 L/min (14 USgpm) • 210 bar (3000 psi)

A



1 Function
SV3 - Solenoid valve

2 Max flow
M - 53 L/min (14USgpm)

3 Size
12 - 12 size

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

5 Style
4P - 4-way, push type manual override

6 Port Size

Code	Port size	Housing number
0	Cartridge only	
A6G	3/4" BSPP	5986432-001
A10T	SAE 10	6030517-001
A12H	SAE 12	5986436-001

See section J for housing details.

7 Voltage rating

00 - No coil
12D - 12VDC
24D - 24VDC
12B - 12VDC/w diode*
24B - 24VDC/w diode*

*Optional arc suppression diode.

8 Connector types

Blank - No coil
G0 - ISO 4400 DIN 43650
N0 - Deutsch male, DT04-2P, integrated
Y0 - Integrated Amp DC
D0 - MetriPack® 150 Male, Integrated (DC Only)
Mating connector : Delphi 12052641.

For coil part numbers and dimensions see section C.

9 Coil types

Blank - No coil
L - L series (30W EN 490) used for SV3A-12
R - R series (30W) Large ToughCoil

10 Coil series

Blank - No coil
00 - No special feature

11 Special features

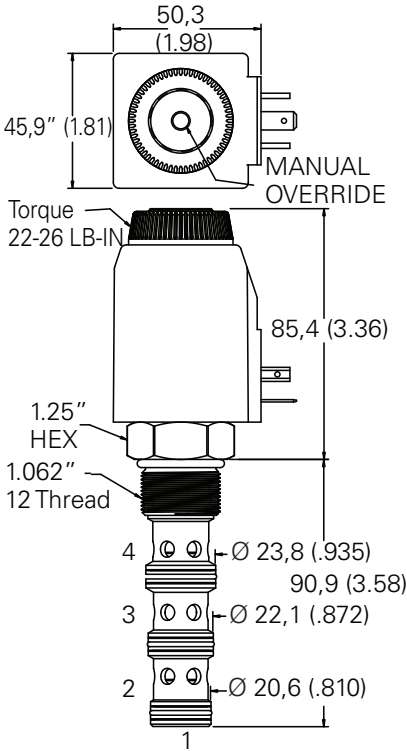
00 - None

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

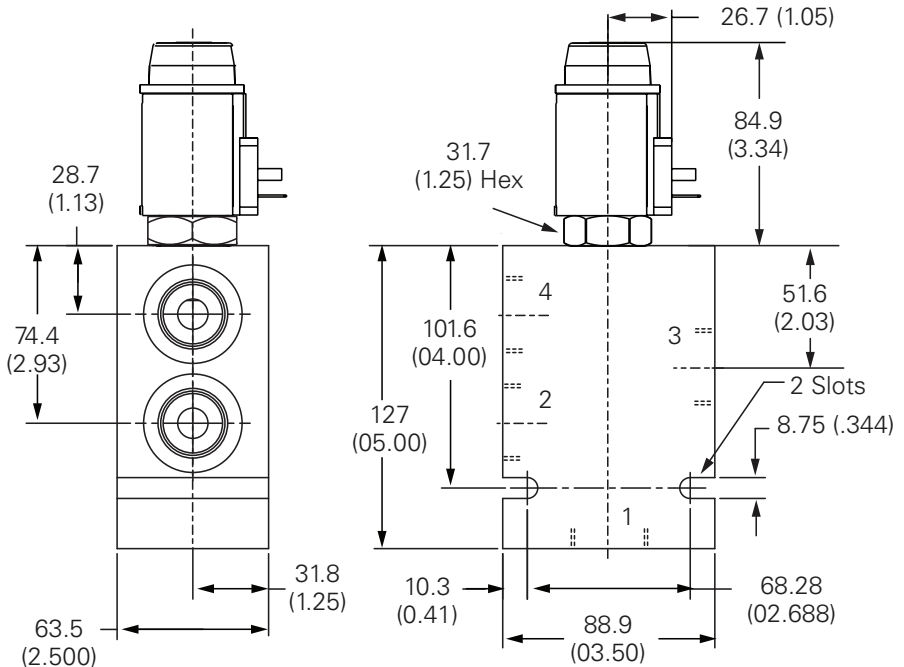
SF - Soft shift

Dimensions - mm (inch)

Cartridge only



Installation drawing

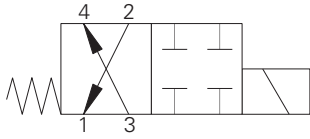


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV13M-12-4 - Solenoid valve

Spool type, 4-way, 2-position
Up to 53 L/min (14 USgpm) • 350 bar (5000 psi)

A



Operation

In the de-energized position flow is allowed from port 3 to port 4 and from port 2 to port 1 in both directions.

In the energized position all ports are blocked.

Performance data

Ratings and specifications

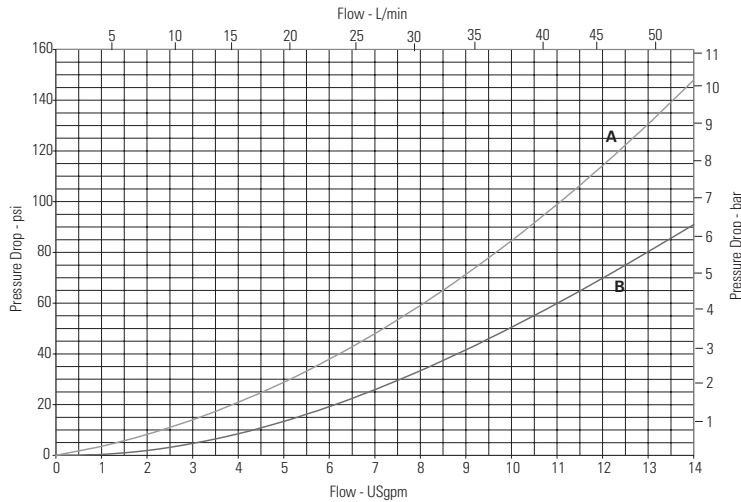
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports except port 1)	350 bar (5000 psi)
Typical application pressure at port 1	210 bar (3000 psi)
Rated flow	53 L/min (14 USgpm)
Internal leakage	350 cc/min (21.5 in ³ /min) @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-12-4
Weight including coil	0.86 kg (1.9 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration Cleanliness code	18/16/13
Seal kit	2160979 Buna-N, 2160980 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



A - Port 3 to port 4

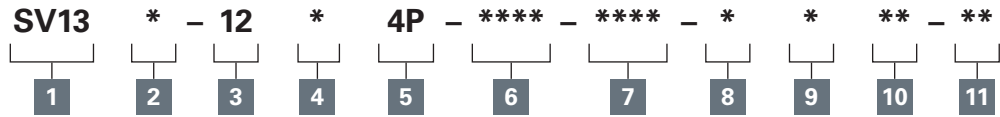
B - Port 2 to port 1

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV13M-12-4 - Solenoid valve

Spool type, 4-way, 2-position
Up to 53 L/min (14 USgpm) • 350 bar (5000 psi)

Model code



A

1 Function
SV13 - Solenoid valve

2 Max flow
M - 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 override

6 Port Size

Code	Port size	Housing number	
		Aluminium	Steel
0	Cartridge only		
A6G	3/4" BSPP	5986432-001	
A10H	SAE 10	5986434-001	
A12H	SAE 12	5986436-001	
S6G	3/4" BSPP		5991073-001
S10T	SAE 10		5991074-001
S12T	SAE 12		5991075-001

9 Coil types
Blank - No coil
R - R series (30W) Large ToughCoil

10 Coil special features
Blank - No coil
00 - No special feature

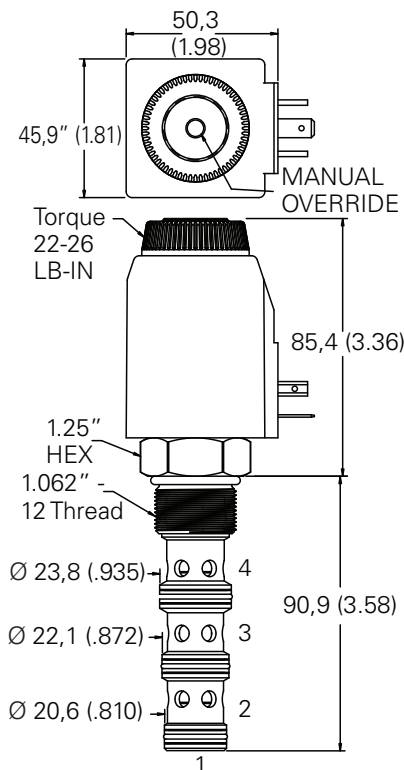
7 Voltage rating
00 - No coil
12D - 12VDC
24D - 24VDC
12B - 12VDC/w diode*
24B - 24VDC/w diode*
*Optional arc suppression diode.

8 Connector types
Blank - No coil
G0 - ISO 4400 DIN 43650
N0 - Deutsch male, DT04-2P, integrated
Y0 - Integrated Amp DC
D0 - MetriPack® 150 Male, Integrated (DC Only)
Mating connector : Delphi 12052641.
For coil dimensions see section C.

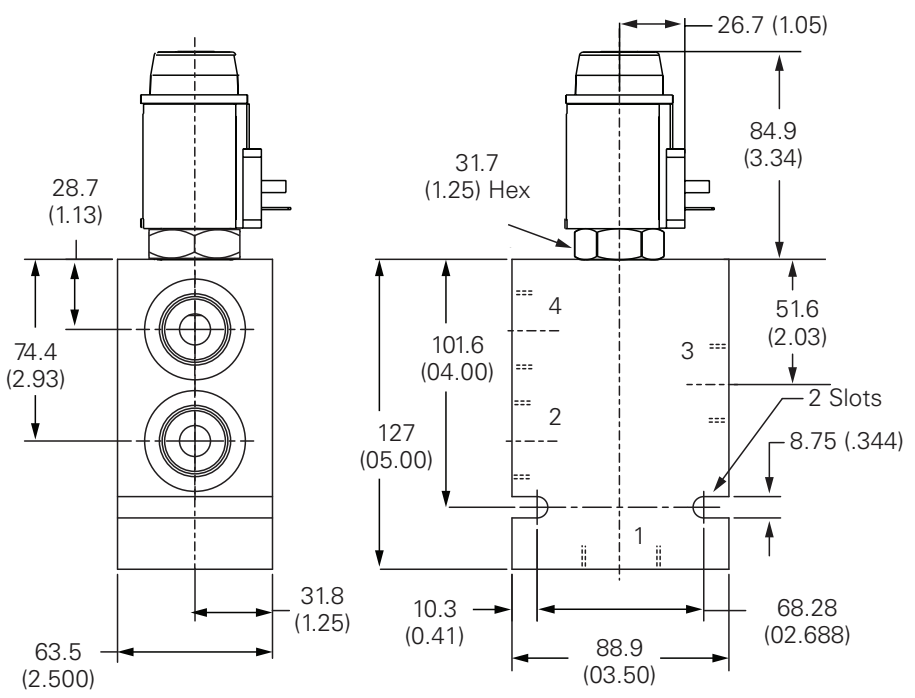
11 Special features
00 - None
(Only required if valve has Special features, omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing (Steel)

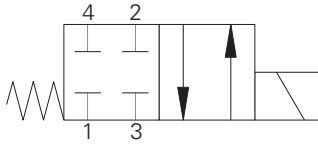


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV5M-12-4 - Solenoid valve

Spool type, 4-way, 2-position
Up to 53 L/min (14 USgpm) • 210 bar (3000 psi)

A



Operation

In the de-energized position all ports are blocked.

In the energized position flow is allowed between port 3 to port 2 and between port 4 to port 1 in both directions.

Performance data

Ratings and specifications

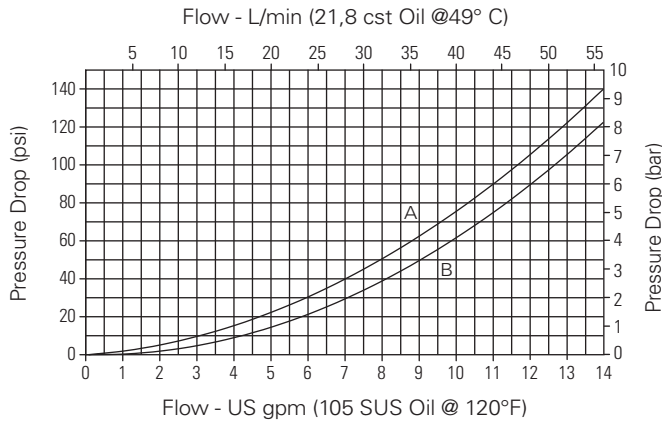
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

Typical application pressure	210 bar (3000 psi)
Rated flow	53 L/min (14 USgpm)
Internal leakage	300 cm ³ /min (21.5 in ³ /min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-12-4
Weight including coil	0,86 kg (1.9 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	2160979 (Buna-N), 2160980 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



A - Port 3 to port 2

B - Port 4 to port 1

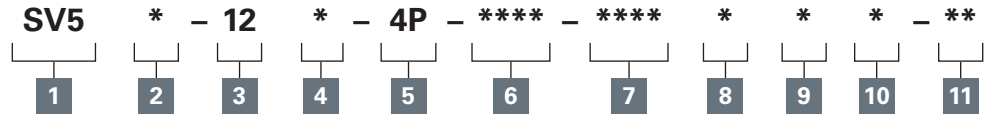
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV5M-12-4 - Solenoid valve

Spool type, 4-way, 2-position
Up to 53 L/min (14 USgpm) • 210 bar (3000 psi)

A

Model code



1 Function

SV5 - Solenoid valve

2 Max flow

M - 53 L/min (14USgpm)

3 Size

12 - 12 size

4 Seal material

Blank - Buna-N
V - Viton®

5 Style

4P - 4-way, push type manual override

6 Port Size

Code	Port size	Housing number
0	Cartridge only	
A6G	3/4" BSPP	5986432-001
A10T	SAE 10	6030517-001
A12H	SAE 12	5986436-001

See section J for housing details.

7 Voltage rating

00 - No coil
12D - 12VDC
24D - 24VDC
12B - 12VDC/w diode*
24B - 24VDC/w diode*

*Optional arc suppression diode.

8 Connector types

Blank - No coil
G0 - ISO 4400 DIN 43650
N0 - Deutsch male, DT04-2P, integrated
Y0 - Integrated Amp DC
D0 - MetriPack® 150 Male, Integrated (DC Only)
Mating connector : Delphi 12052641.

For coil part numbers and dimensions see section C.

9 Coil types

Blank - No coil
R - R series (30W)
Large ToughCoil

10 Coil special features

Blank - No coil
00 - No special feature

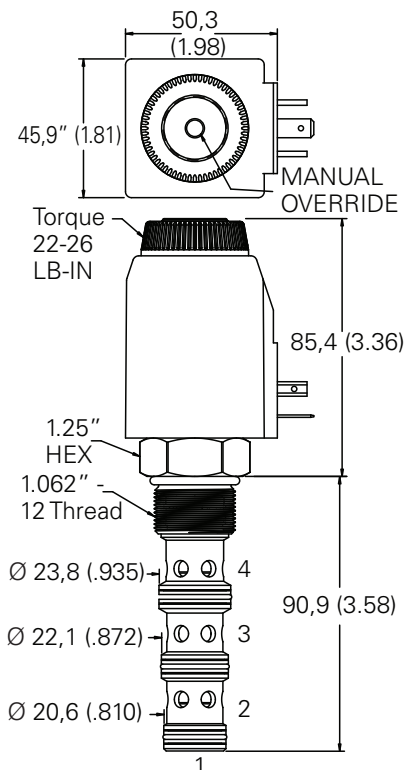
11 Special features

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

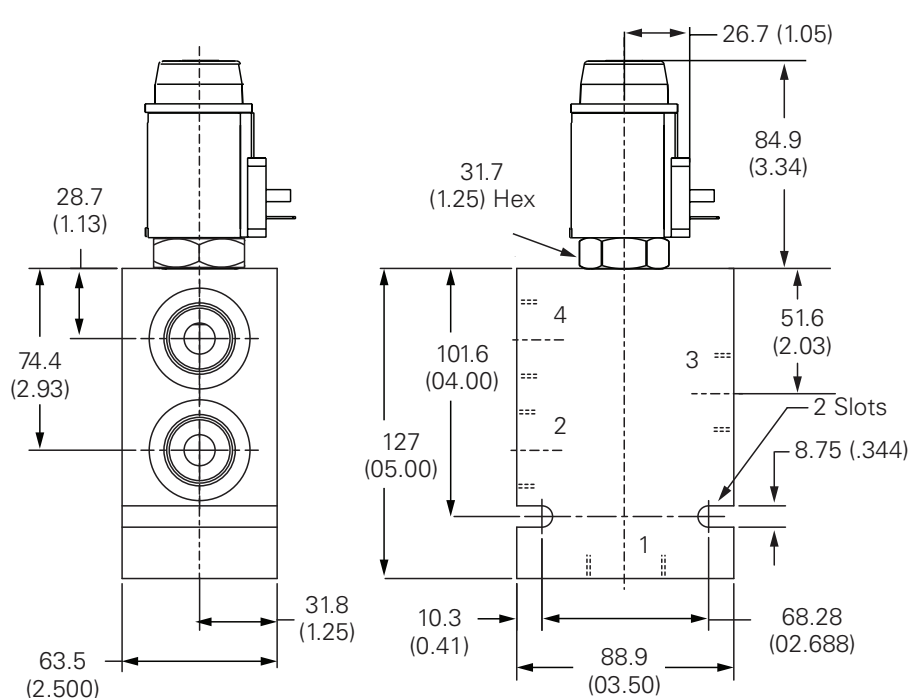
SF - Soft shift

Dimensions - mm (inch)

Cartridge only



Installation drawing

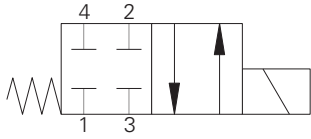


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV15M-12-4 - Solenoid valve

Spool type, 4-way, 2-position
Up to 53 L/min (14 USgpm) • 350 bar (5000 psi)

A



Operation

In the de-energized position all ports are blocked.

In the energized position flow is allowed between port 3 to port 2 and between port 4 to port 1 in both directions.

Performance data

Ratings and specifications

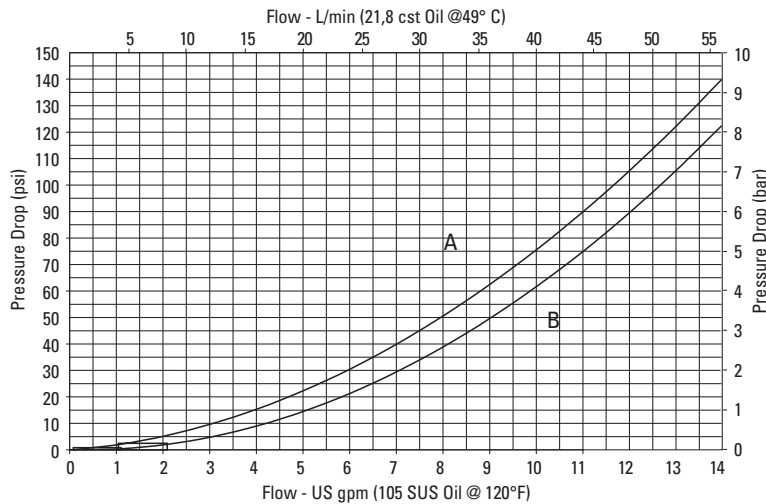
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports except port 1)	350 bar (5000 psi)
Typical application pressure at port 1	210 bar (3000 psi)
Rated flow	53 L/min (14 USgpm)
Internal leakage	350 cc/min (21.5 in ³ /min) @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-12-4
Weight including coil	0.86 kg (1.9 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration Cleanliness code	18/16/13
Seal kit	2160979 Buna-N, 2160980 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



A - Port 3 to port 2

B - Port 4 to port 1

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV15M-12-4 - Solenoid valve

Spool type, 4-way, 2-position
Up to 53 L/min (14 USgpm) • 350 bar (5000 psi)

A

Model code



1 Function

SV15 - Solenoid valve

2 Max flow

M - 53 L/min (14USgpm)

3 Size

12 - 12 size

4 Seal material

Blank - Buna-N

V - Viton

5 Style

4P - 4-way, push type manual override

6 Port Size

0 - Cartridge only

Code	Port size	Housing number	
		Aluminium	Steel
A6G	3/4" BSPP	5986432-001	
A10H	SAE 10	5986434-001	
A12H	SAE 12	5986436-001	
S6G	3/4" BSPP		5991023-001
S10T	SAE 10		5991074-001
S12T	SAE 12		5991075-001

7 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

12B - 12VDC/w diode*

24B - 24VDC/w diode*

*Optional arc suppression diode.

8 Connector types

Blank - No coil

G0 - ISO 4400 DIN 43650

N0 - Deutsch male, DT04-2P, integrated

Y0 - Integrated Amp DC

D0 - MetriPack® 150 Male, Integrated (DC Only)
Mating connector : Delphi 12052641.

For coil part numbers and dimensions see section C.

9 Coil types

Blank - No coil

R - R series (30W)

Large ToughCoil

10 Coil special features

Blank - No coil

00 - No special feature

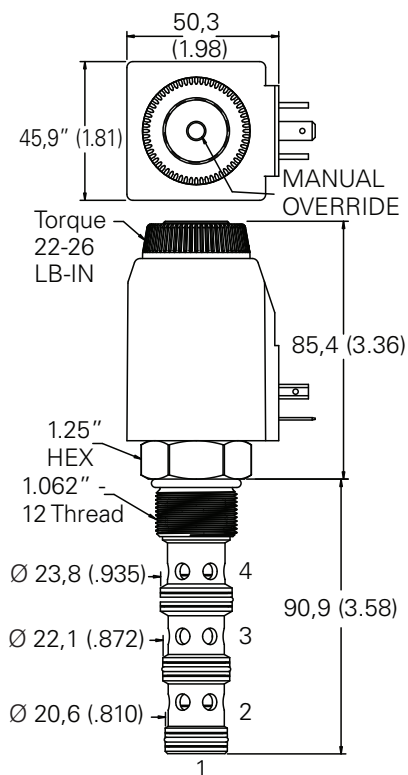
11 Special features

00 - None

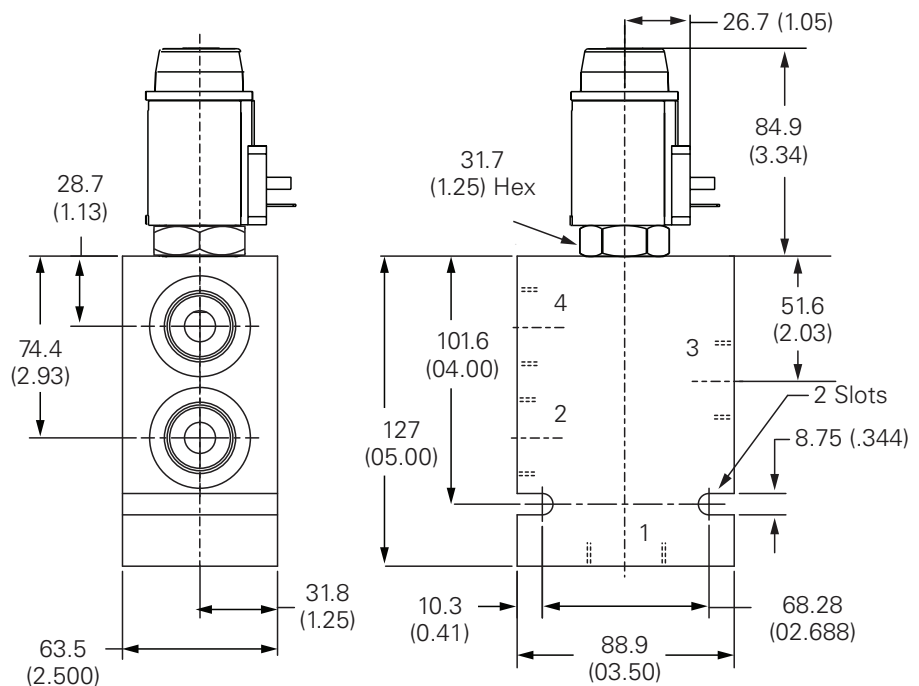
(Only required if valve has Special features omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing (Steel)

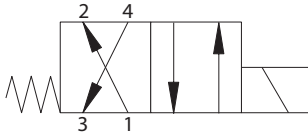


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV7M-12-4 - Solenoid valve

Spool type, 4-way, 2-position
Up to 46 L/min (12 USgpm) • 210 bar (3000 psi)

A



Operation

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

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

Performance data

Ratings and specifications

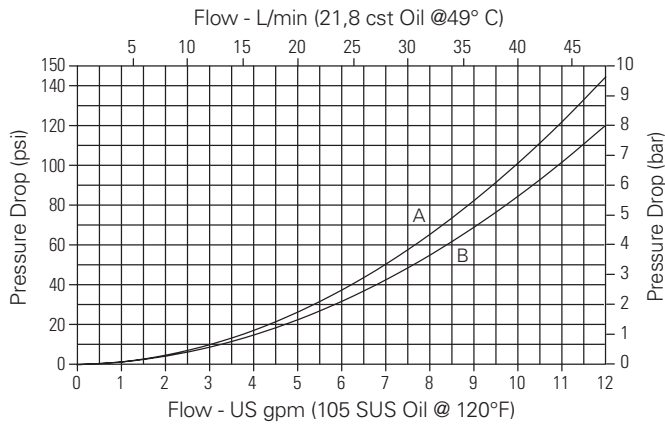
Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)

Typical application pressure	210 bar (3000 psi)
Rated flow	46 L/min (12 USgpm)
Internal leakage	300 cm ³ /min (21.5 in ³ /min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-12-4
Weight including coil	0,86 kg (1.9 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	2160979 (Buna-N), 2160980 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



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

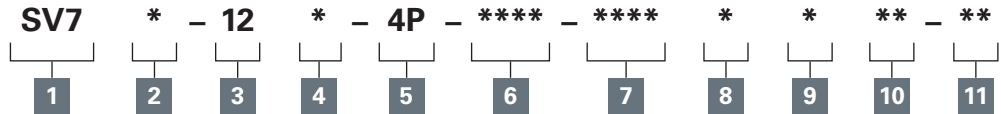
B - Port 3 to port 2, port 4 to port 1

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV7M-12-4 - Solenoid valve

Spool type, 4-way, 2-position
Up to 46 L/min (12 USgpm) • 210 bar (3000 psi)

Model code



A

1 Function

SV7 - Solenoid valve

2 Max flow

M - 46 L/min (12 USgpm)

3 Size

12 - 12 size

4 Seal material

Blank - Buna-N

M - Viton

5 Style

4P - 4 way, push type manual override

6 Port size

Code	Port size	Housing number
0	Cartridge only	
A6G	3/4" BSPP	5986432-001
A10T	SAE 10	6030517-001
A12H	SAE 12	5986436-001

See section J for housing details.

7 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

12B - 12VDC/w diode*

24B - 24VDC/w diode*

*Optional arc suppression diode.

8 Connector types

Blank - No coil

G0 - ISO 4400 DIN 43650

N0 - Deutsch male, DT04-2P, integrated

Y0 - Integrated Amp DC

D0 - MetriPack® 150 Male, Integrated (DC Only)
Mating connector : Delphi 12052641.

For coil part numbers and dimensions see section C.

9 Coil types

Blank - No coil

R - R series (30W)

Large ToughCoil

10 Coil special feature

Blank - No coil

00 - No special feature

11 Special features

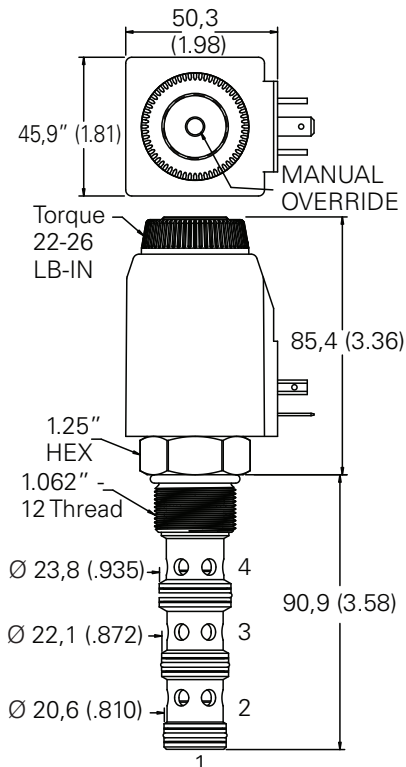
00 - None

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

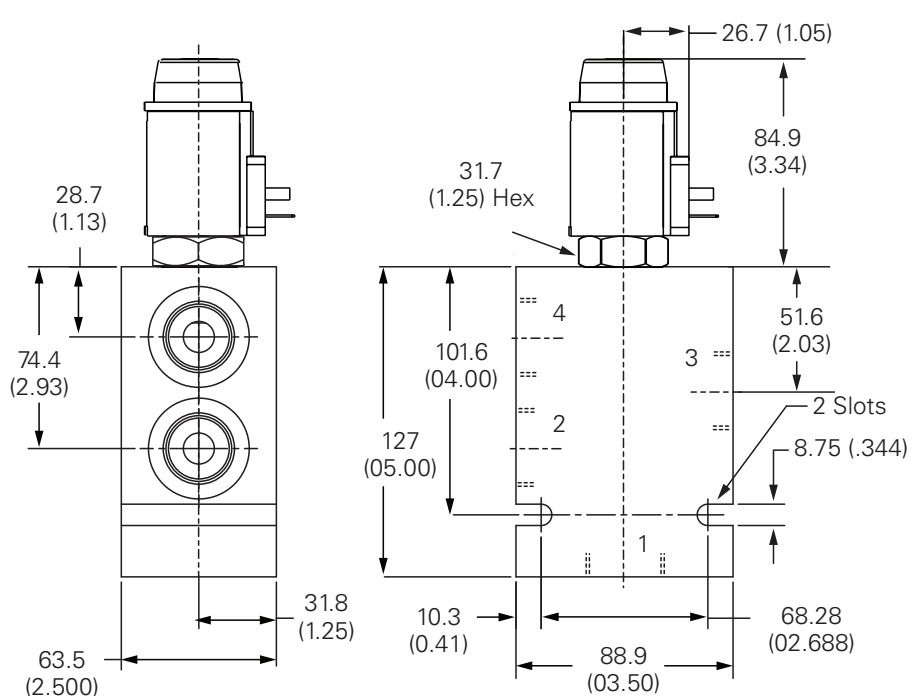
SF - Soft shift

Dimensions - mm (inch)

Cartridge only



Installation drawing

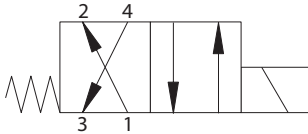


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV17M-12-4 - Solenoid valve

Spool type, 4-way, 2-position
Up to 46 L/min (12 USgpm) • 350 bar (5000 psi)

A



Operation

In the de-energized position this valve allows flow between port 3 to port 4 and between port 2 to port 1 in both directions.

In the energized position flow is allowed between port 3 to port 2 and between port 4 to port 1 in both directions.

Performance data

Ratings and specifications

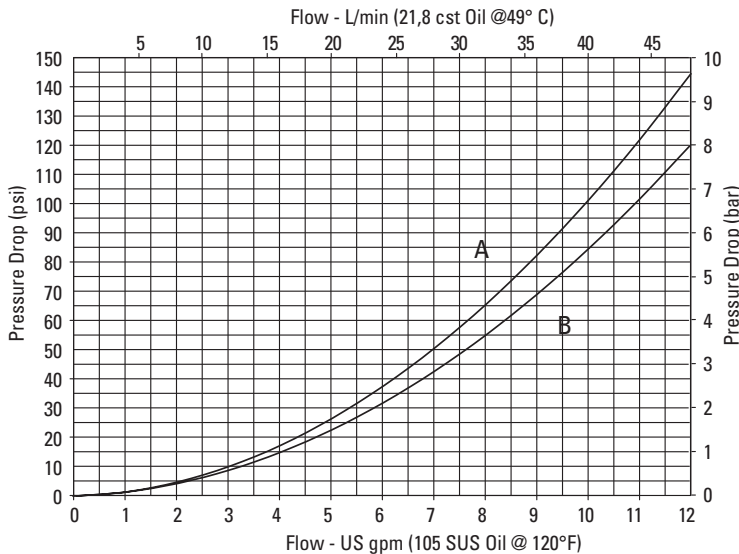
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports except port 1)	350 bar (5000 psi)
Typical application pressure at port 1	210 bar (3000 psi)
Rated flow	38 L/min (10 USgpm)
Internal leakage	350 cc/min (21.5 in ³ /min) @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-12-4
Weight including coil	0.68 kg (1.5 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration Cleanliness code	18/16/13
Seal kit	2160979 Buna-N, 2160980 (Viton®)

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Pressure drop

Cartridge only



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

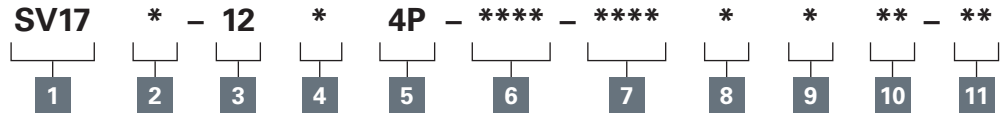
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV17M-12-4 - Solenoid valve

Spool type, 4-way, 2-position
Up to 46 L/min (12 USgpm) • 350 bar (5000 psi)

A

Model code



1 Function

SV17 - Solenoid valve

2 Max flow

M - 38 L/min (10 USgpm)

3 Size

12 - 12 size

4 Seal material

Blank - Buna-N

V - Viton

5 Style

4P - 4 way, push type manual override

6 Port Size

0 - Cartridge only

Code	Port size	Housing number	
		Aluminium	Steel
A6G	3/4" BSPP	5986432-001	
A10H	SAE 10	5986434-001	
A12H	SAE 12	5986436-001	
S6G	3/4" BSPP		5991073-001
S10T	SAE 10		5991074-001
S12T	SAE 12		5991075-001

7 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

12B - 12VDC/w diode*

24B - 24VDC/w diode*

*Optional arc suppression diode.

8 Connector types

Blank - No coil

G0 - ISO 4400 DIN 43650

N0 - Deutsch male, DT04-2P, integrated

Y0 - Integrated Amp DC

D0 - MetriPack® 150 Male, Integrated (DC Only)
Mating connector :
Delphi 12052641.

For coil part numbers and dimensions see section C.

9 Coil types

Blank - No coil

R - R series (30W)
Large ToughCoil

10 Coil Special Feature

Blank - Noil coil

00 - No special feature

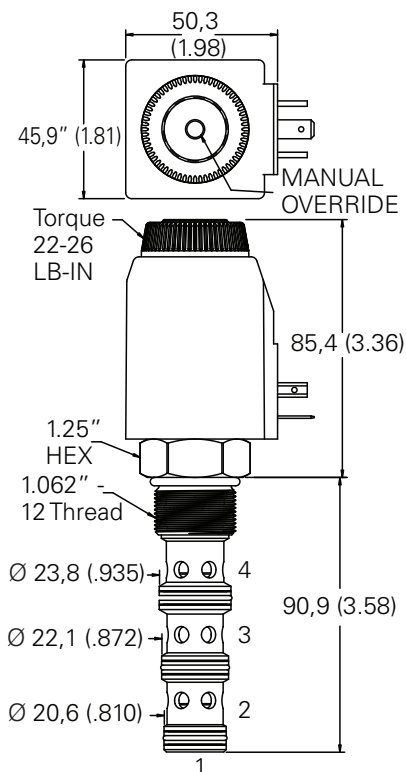
11 Special features

00 - None

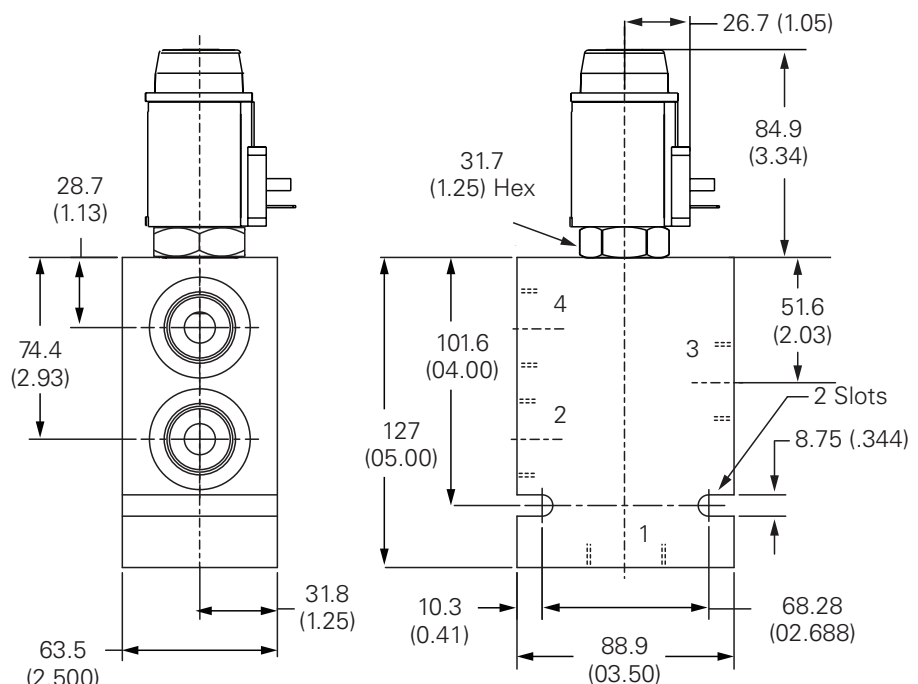
(Only required if valve has Special features omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing (Steel)



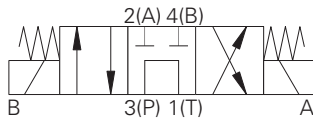
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV9-8 - Solenoid valve

Spool type, 4-way, 2-position
Up to 13 L/min (3.5 USgpm) • Up to 210 bar (3000 psi)

A

SV9-8-A

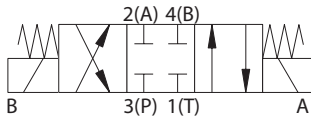


Operation

In the central de-energized position flow is allowed from inlet port 3 to tank port 1 and ports 2 and 4 are blocked

When solenoid 'A' is energized flow is allowed from ports 3 to 4 and ports 2 to 1. When solenoid 'B' is energized flow is allowed from port 3 to port 2 and from port 4 to port 1.

SV9-8-E

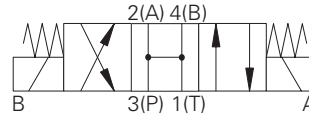


Operation

In the de-energized (center) position, all ports are blocked. When solenoid A is energized, flow is directed from port 3 to port 4 and from port 2 to port 1.

When solenoid B is energized, flow is directed from port 3 to port 2 and from port 4 to port 1.

SV9-8-B

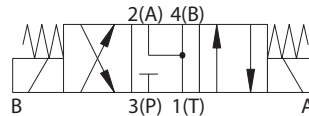


Operation

In the central de-energized position all ports are open. When solenoid 'A' is energized flow is allowed from port 3 to port 4 and port 2 to port 1.

When solenoid 'B' is energized flow is allowed from port 3 to port 2 and from port 4 to port 1.

SV9-8-F



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 A is energized, flow is directed from port 3 to port 4 and from port 2 to port 1. When solenoid B is energized, flow is directed from port 3 to port 2 and from port 4 to port 1.

Performance data

Ratings and specifications

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

Typical application pressure (all ports)	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 power	23W
Cavity	C-8-4
Weight including coil	(1.2 lbs)
Internal leakage	164 cm ³ /min (10 in ³ /min) max. @ 210 bar (3000 psi)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	02-160757 (Buna-N), 02-160758 (Viton®)

Viton is a registered trademark of E.I. DuPont

*AC coils must be used with a rectifying connector

Endurance tested to 1 million cycles at full rated flow and pressure.

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

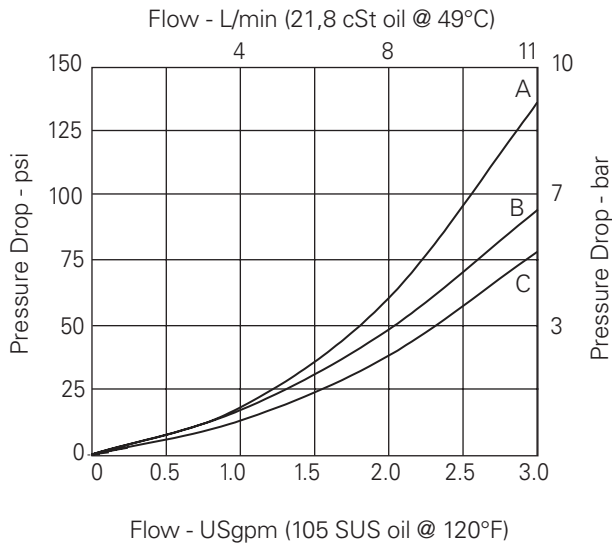
SV9-8 - Solenoid valve

Spool type, 4-way, 2-position
Up to 13 L/min (3.5 USgpm) • Up to 210 bar (3000 psi)

A

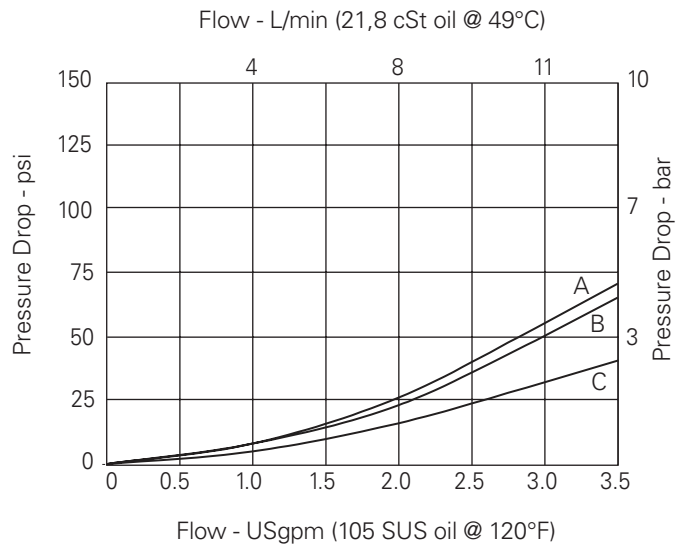
Pressure drop

SV9-8-A



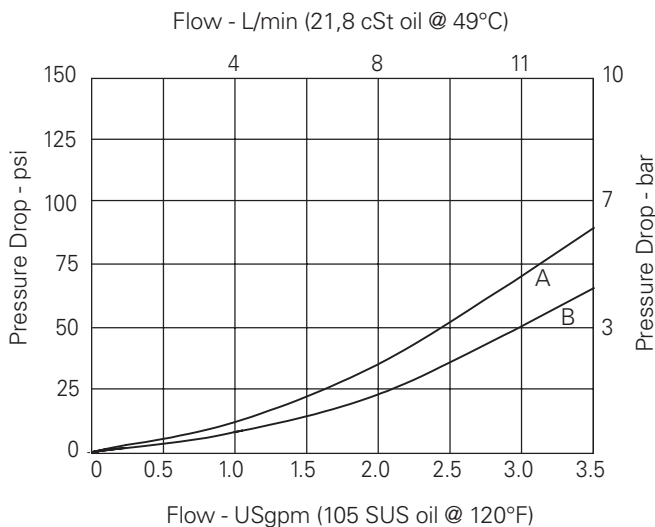
- A** - Port 3 or port 2 or port 4
- B** - Port 3 to port 1 de-energized
- C** - Port 2 or port 4 to port 1

SV9-8-B



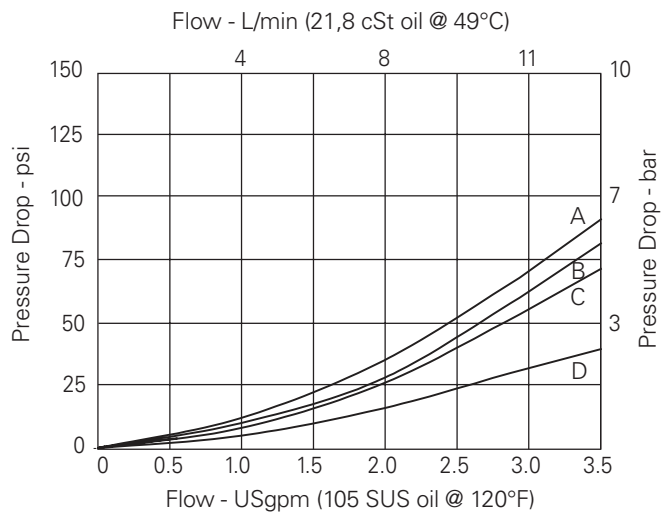
- A** - Port 4 or port 1 to port 4
Port 3 to port 1 de-energized
- B** - Port 3 to port 2 or port 4
- C** - Port 2 or port 1
Port 2 or 4 to 1 de-energized

SV9-8-E



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

SV9-8-F



- A** - Port 4 or port 1 de-energized
- B** - Port 3 to port 2 or port 4 to port 1
- C** - Port 2 or port 1 de-energized
- D** - Port 2 or 1

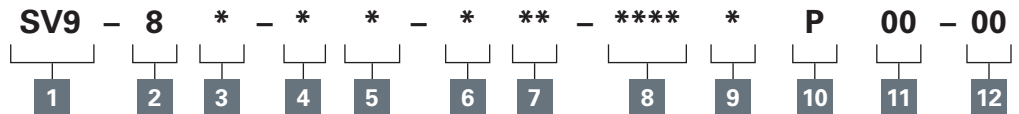
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV9-8 - Solenoid valve

4-way, 3-position, screw-in cartridge, solenoid valve
Up to 13 L/min (3.5 USgpm) • Up to 210 bar (3000 psi)

A

Model code



1 Function

SV9 - Solenoid valve

2 Size

8 - 8 size

3 Seal material

N - Buna-N

V - Viton

5 Manual override option

0 - No manual override

M - Manual override

For valve dimensions with manual override, see pages A980.

6 Housing Material

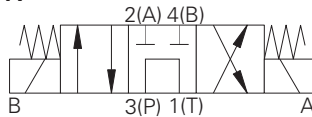
0 - Cartridge only

A - Aluminum

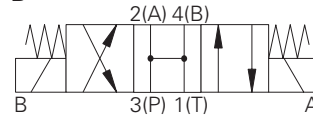
S - Steel

4 Spool center condition

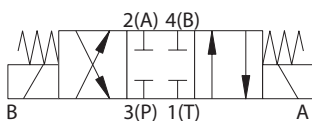
A



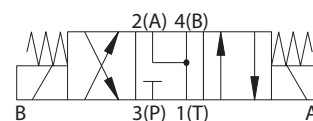
B



E



F



7 Port sizes

Code	Port size	Housing number	
		Aluminium	Steel
0	Cartridge only		
2G	1/4" BSPP	02-160747	02-160753
3G	3/8" BSPP	02-160748	02-160754
4T	SAE 4	02-160749	02-160751
6T	SAE 6	02-160750	02-160752

See section J for housing details.

8 Voltage rating ¹

000 - No coil

012D - 12VDC

024D - 24VDC

012B - 12VDC/w diode*

024B - 24VDC/w diode*

*Optional arc suppression diode.

9 Connector types ¹

0 - No coil

G - ISO 4400 DIN 43650

N - Deutsch male

W - Leadwire

C - Deutch on Leads

H - Metripak 150 on Leads

F - Weatherpak Male on Leads

Y - Amp JR (DC only)

D - Metripak 150 male (DC only)

J - Metripack 280 male (DC only)

10 Coil series ¹

0 - No Coil

P - 8 series, 23W

11 Coil special features ¹

00 - None

12 Valve Special features ¹

00 - None

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

¹ These model digits are not stamped on the valve.

SV9-8 - Solenoid valve

Spool type, 4-way, 2-position
Up to 13 L/min (3.5 USgpm) • 210 bar (3000 psi)

Dimensions

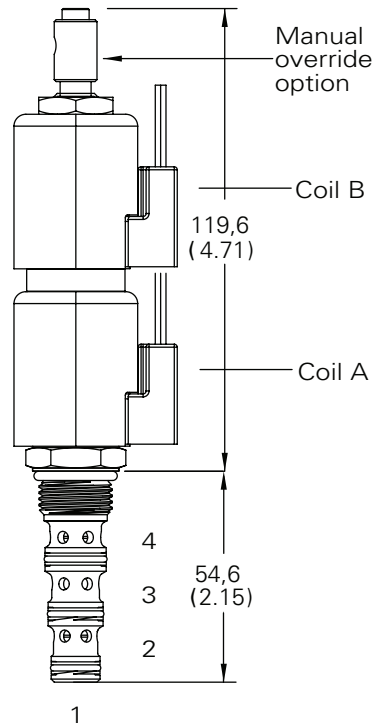
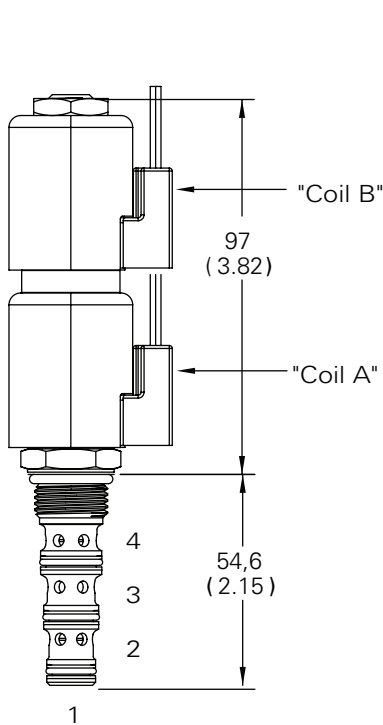
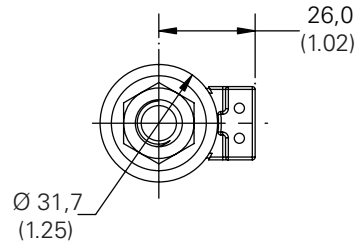
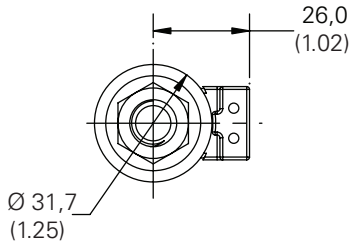
mm (inch)

Valve is shown with "W" coil.
See other coils in Section C.

This valve uses the P series,
8 size, 23 W coil.

Spare Parts

Coil Nut	565558
Coil Spacer	02-186730



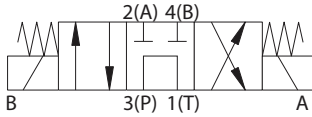
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV9-10 - Solenoid valve

Spool type, 4-way, 2-position
Up to 23 L/min (6 USgpm) * 210 bar (3000 psi)

A

SV9-10-A

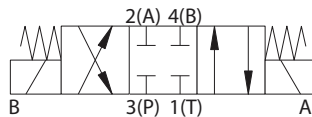


Operation

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.

SV9-10-E

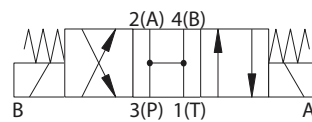


Operation

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.

SV9-10-B

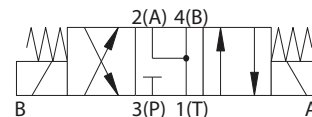


Operation

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.

SV9-10-F



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.

Performance data

Ratings and specifications

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

Typical application pressure (all ports)	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 A	19 L/min (5 USgpm)
Max Flow B, E, F	23 L/min (6 USgpm)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil power	B, E, F has 26W
Cavity	C-10-4
Weight including coil	0.95Kg (2.1 lbs)
Internal leakage	246 cm ³ /min (15 in ³ /min) max. @ 210 bar (3000 psi)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	889625 (Buna-N), 566080 (Viton®)

Viton is a registered trademark of E.I. DuPont

Endurance tested to 1 million cycles at full rated flow and pressure.

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV9-10 - Solenoid valve

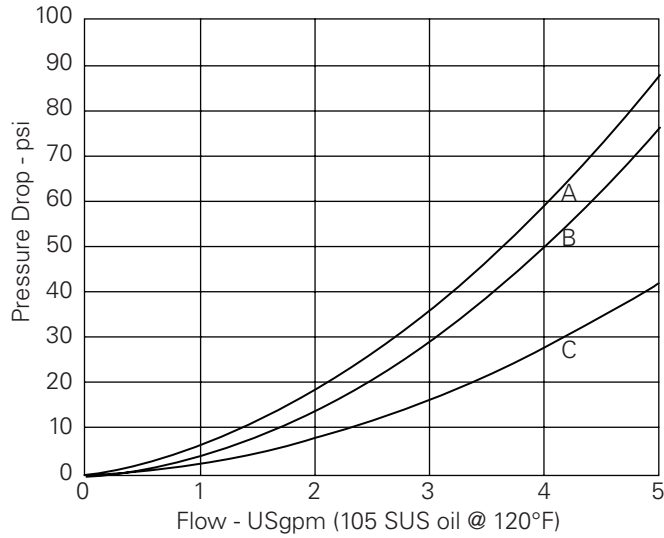
Spool type, 4-way, 2-position
Up to 23 L/min (6 USgpm) * 210 bar (3000 psi)

A

Pressure drop

SV9-10-A

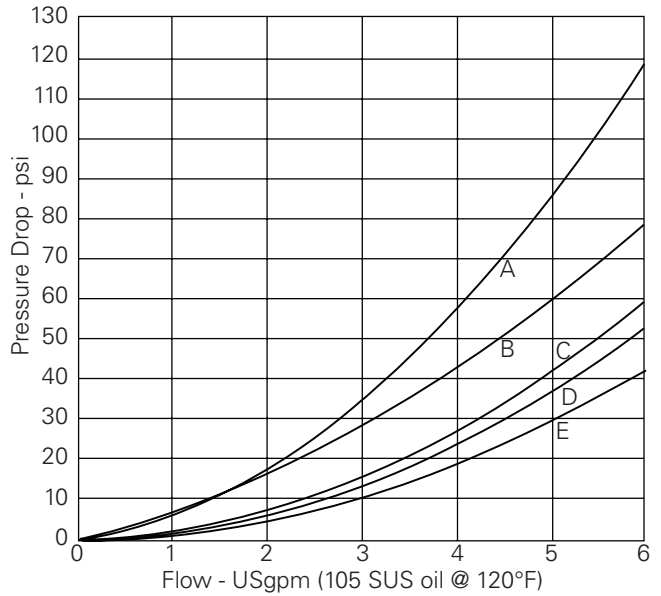
Cartridge only



- A** - Port 3 to port 1, de-energized
- B** - Port 3 to port 2, port 3 to port 4
- C** - Port 2 to port 1, port 4 to port 1

SV9-10-B

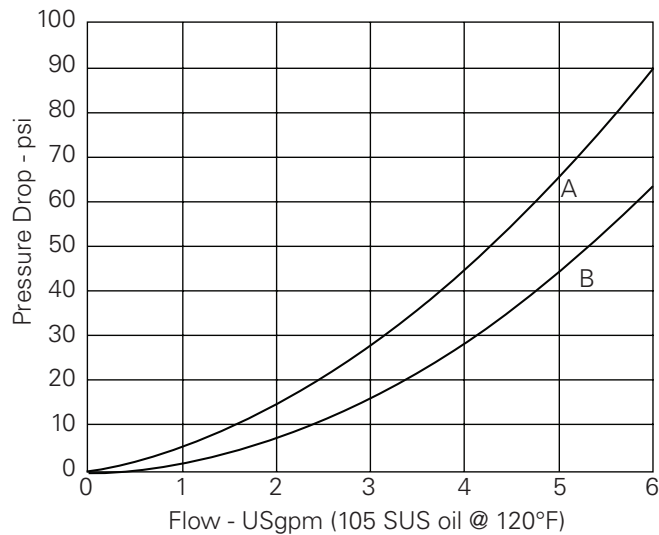
Cartridge only



- 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

SV9-10-E

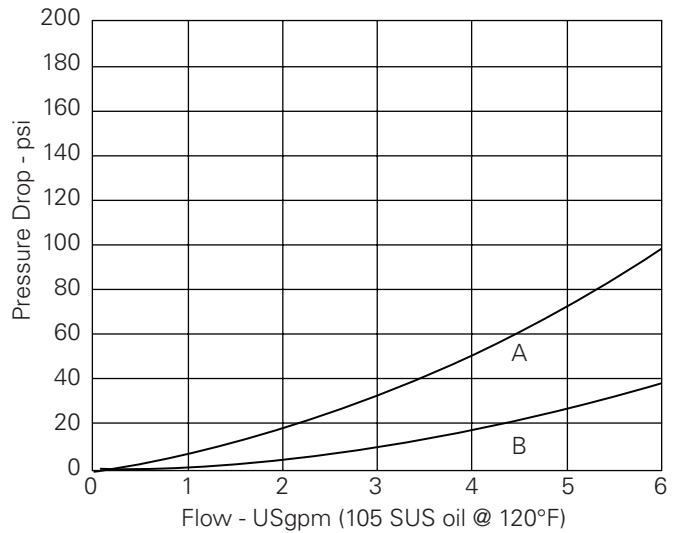
Cartridge only



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

SV9-10-F

Cartridge only



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

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV9-10 - Solenoid valve

Spool type, 4-way, 2-position
Up to 23 L/min (6 USgpm) • 2.10 bar (3000 psi)

A

Model code



1 Function
SV9 - Solenoid valve

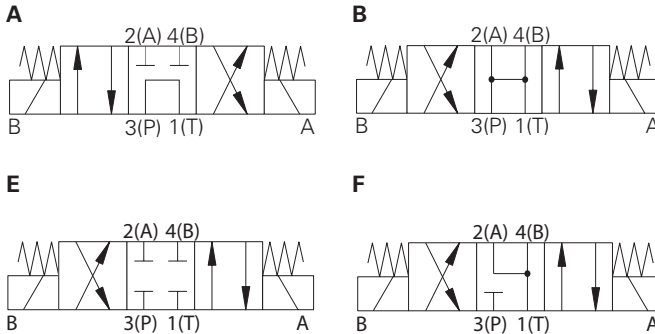
2 Size
10 - 10 size

3 Seal material
Blank - Buna-N
V - Viton

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

6 Housing material
0 - Cartridge only
A - Aluminum
S - Steel

4 Spool center condition



7 Port sizes

Code	Port size	Housing number	
		Aluminium light duty	Aluminium fatigue rated
Blank		Cartridge only	
3B	3/8" BSPP	02-179705	
2G	1/4" BSPP		876709
3G	3/8" BSPP		876715
6H	SAE 4		876708
8H	SAE 6		876713
6T	SAE 6	566161	

See section J for housings.

8 Voltage rating ¹

00 - No coil
012D - 12VDC
024D - 24VDC
024A - 24VAC
115A - 115VAC
230A - 230VAC
012B - 12VDC/w diode*
024B - 24VDC/w diode*

*Optional arc suppression diode.

9 Connector types ¹

Blank - No coil
G - ISO 4400 DIN 43650
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 ¹

Blank - No Coil
J - 10 series, 23W

11 Coil special features ¹

Blank - None

12 Valve Special features ¹

00 - None

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

¹ These model digits are not stamped on the valve.

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

Dimensions
mm (inch)

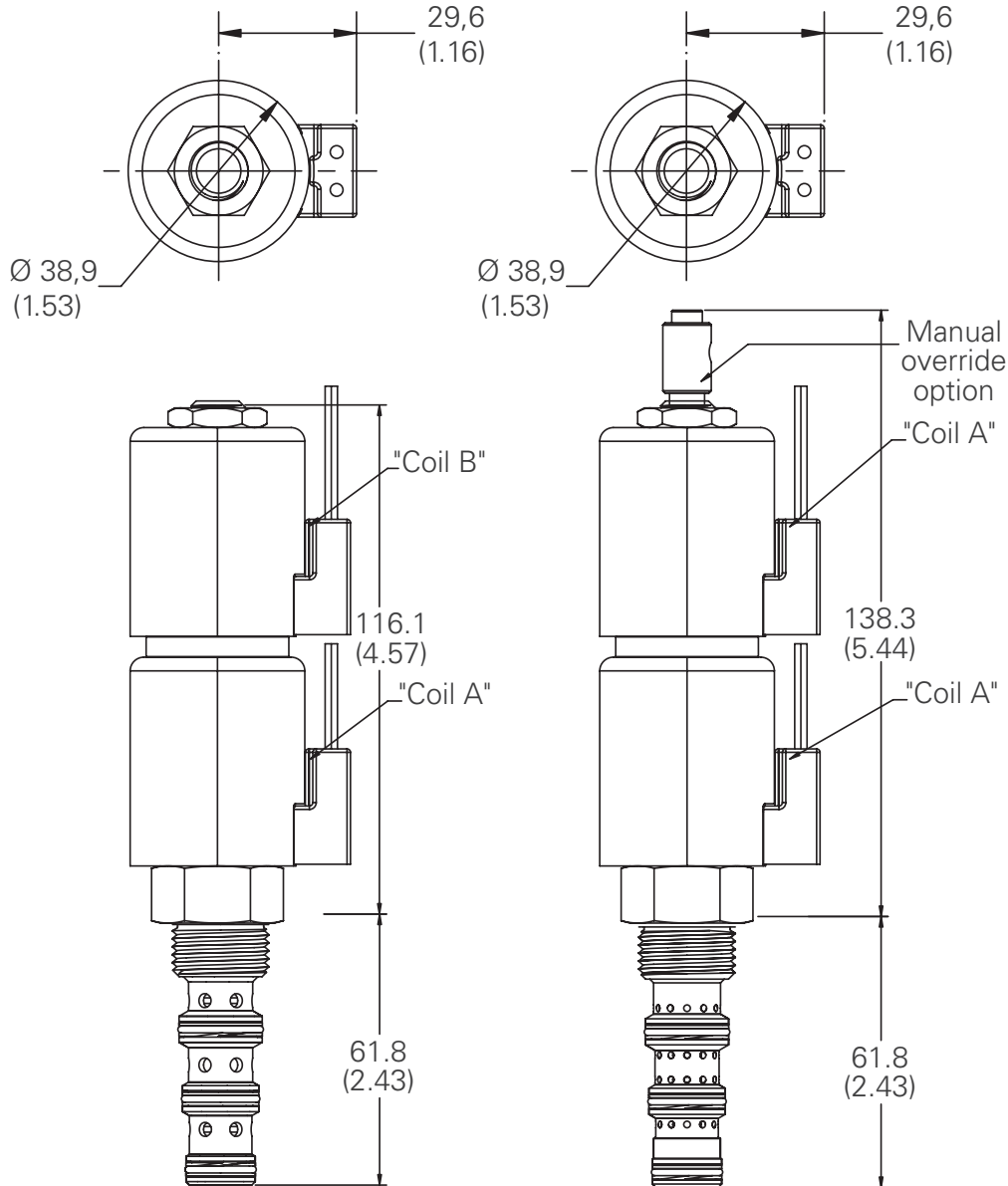
Valve is shown with "W" coil.
See other coils in Section C.

This valve uses the J series,
23 W coil.

Spare parts

Coil nut	565558
Coil spacer	02-179226

A



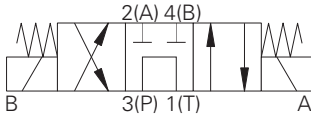
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV9M-10 - Solenoid valve

Spool type, 4-way, 2-position
Up to 25 L/min (6.5 USgpm) • 210 bar (3000 psi)

A

SV9M-10-A

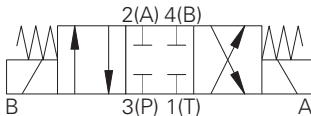


Operation

In the central de-energized position. Flow is allowed from inlet port 3 to port 1 and ports 2 and 4 are blocked. When solenoid 'B' is energized flow is allowed from port 3 to 4 and port 2 to 1.

When solenoid 'A' is energized flow is allowed from port 3 to port 2 and from port 4 to port 1.

SV9M-10-E

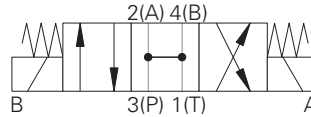


Operation

In the de-energized position all ports are closed. When solenoid 'A' is energized flow is allowed from port 3 to port 4 and port 2 to port 1.

When solenoid 'B' is energized flow is allowed from port 3 to port 2 and from port 4 to port 1.

SV9M-10-B

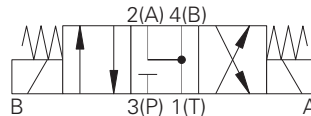


Operation

In the de-energized position all ports are open. When solenoid 'A' is energized flow is allowed from port 3 to port 4 and port 2 to port 1.

When solenoid 'B' is energized flow is allowed from port 3 to port 2 and from port 4 to port 1.

SV9M-10-F



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 A is energized, flow is directed from port 3 to port 4 and from port 2 to port 1. When solenoid B is energized, flow is directed from port 3 to port 2 and from port 4 to port 1.

Performance data

Ratings and specifications

Figures based on Viscosity 32 cST (150 SSU)

Max working pressure	210 bar (3000 psi)
Rated flow	See performance graphs
Nominal flow A, E, F	25 L/min (6.5 USgpm)
Nominal flow B	34 L/min (8.9 USgpm)
Internal leakage	Less than 120 ml/min past each land 210 bar differential
Temperature range	-30° to +120°C (-22° to +248°F)
Cavity	C-10-4 (See Section M)
Torque cartridge into cavity	30 Nm (22 lbs ft)
Mounting position	Unrestricted
Nominal viscosity range	15 to 250 cSt
Coil weight	0.3 kg (0.6 lbs) two per valve
Cartridge weight	0.25 kg (0.55 lbs)
Fluids	All general purpose hydraulic fluids such as MIL-H-5606, SAE 10, SAE 20 etc
Filtration	BS5540/4 Class 18/13 (25 micron or better)
Seal kit	SK1034 (Nitrile) SK1034V (Viton)

Viton is a registered trademark of E.I. DuPont

*AC coils must be used with a rectifying connector

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

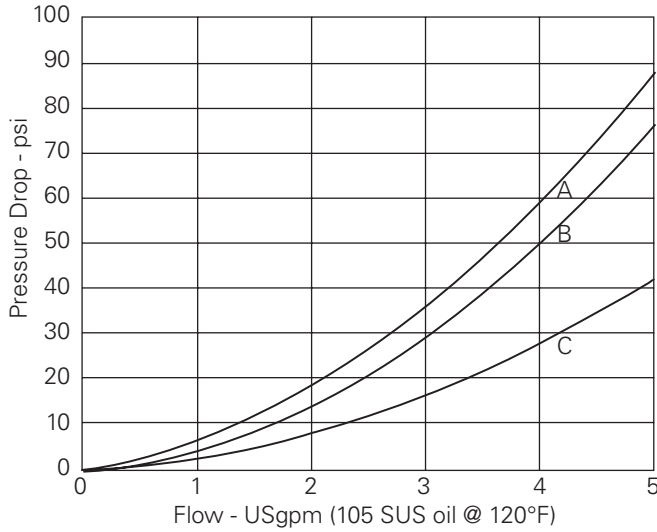
SV9M-10 - Solenoid valve

Spool type, 4-way, 2-position
Up to 25 L/min (6.5 USgpm) • 210 bar (3000 psi)

A

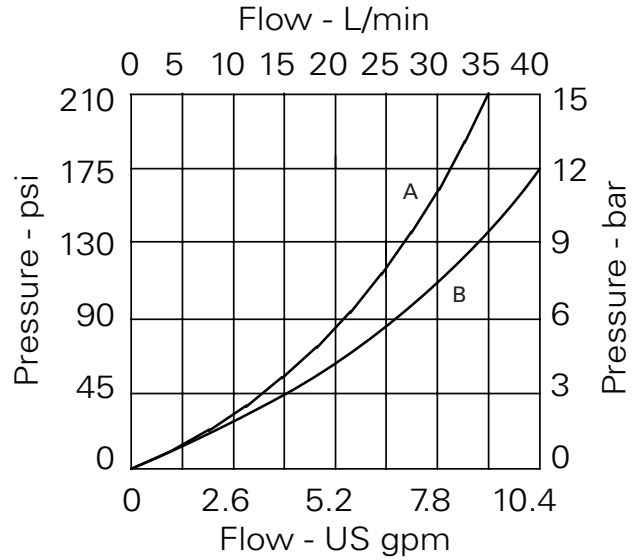
Pressure drop

SV9M-10-A



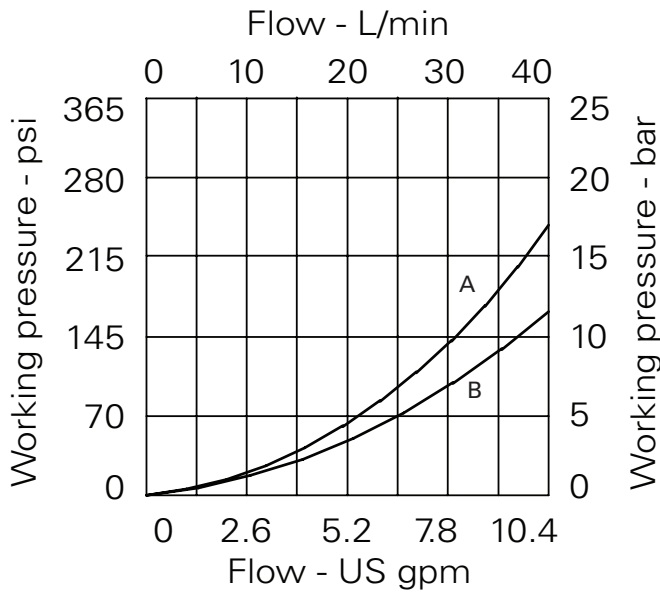
- A** - Port 3 to port 1, de-energized
- B** - Port 3 to port 2, port 3 to port 4
- C** - Port 2 to port 1, port 4 to port 1

SV9M-10-B



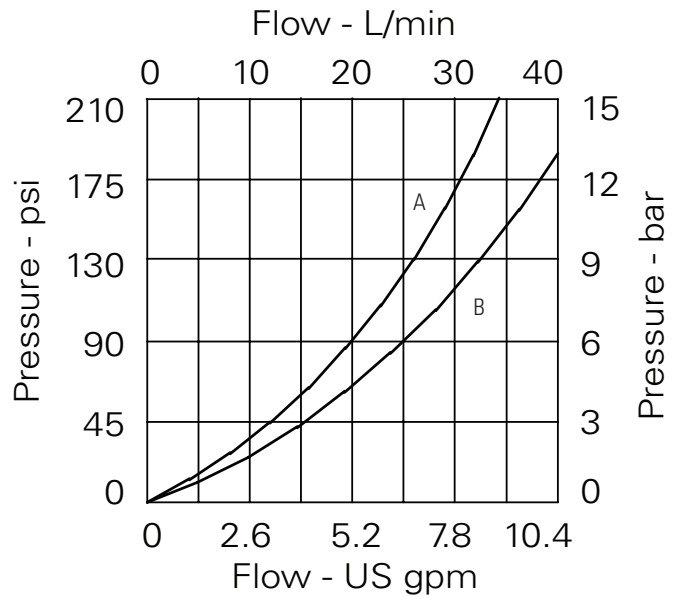
- A** - Spool shifted port 3-2, port 3-4 and port 2-1 and port 4-1
- B** - Spool centered port 2-1 and port 4-1

SV9M-10-E



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

SV9M-10-F



- A** - Spool shifted port 3-2, port 3-4 and port 2-1 and port 4-1
- B** - Spool centered port 3-2, port 3-4 and port 2-1 and port 4-1

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV9M-10 - Solenoid valve

Spool type, 4-way, 2-position
Up to 32 L/min (8.5 USgpm) • 210 bar (3000 psi)

A

Model code

SV9M - 10 ***** - ***** ***** - ***** ****** - ******** ***** **L** **00** - **00**

1
 2
 3
 4
 5
 6
 7
 8
 9
 10
 11
 12

1 Function

SV9M - Solenoid valve

2 Size

10 - 10 size

3 Seal material

N - Buna-N

V - Viton

5 Manual override option

0 - No manual override

M - Manual override

For valve dimensions with manual override, see pages A-961.

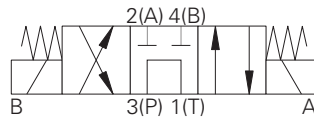
6 Housing material

0 - Cartridge only

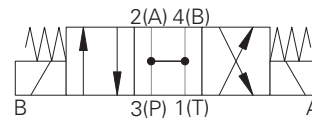
A - Aluminum

4 Spool center condition

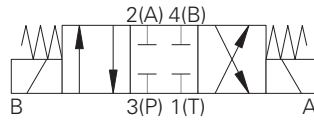
A



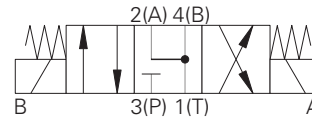
B



E



F



7 Port sizes

Code	Port size	Housing number
		Aluminium
0	Cartridge only	
3G	3/8" BSP	B19240
4G	1/2" BSP	B19228
8T	1/2" SAE	B19229

8 Voltage rating¹

000 - No coil

012D - 12VDC

024D - 24VDC

012B - 12VDC/w diode*

024B - 24VDC/w diode*

*Optional arc suppression diode.

9 Connector types¹

0 - No coil

W - Leadwire

N - Deutsch male, DT04-2P, integrated

10 Coil series¹

0 - No Coil

L - 10 series, 28W Large ToughCoil

11 Coil special features¹

00 - None

12 Valve special features¹

00 - None

¹ These model digits are not stamped on the valve.

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

SV9M-10 - Solenoid valve

Spool type, 4-way, 2-position
Up to 32 L/min (8.5 USgpm) • 210 bar (3000 psi)

Dimensions

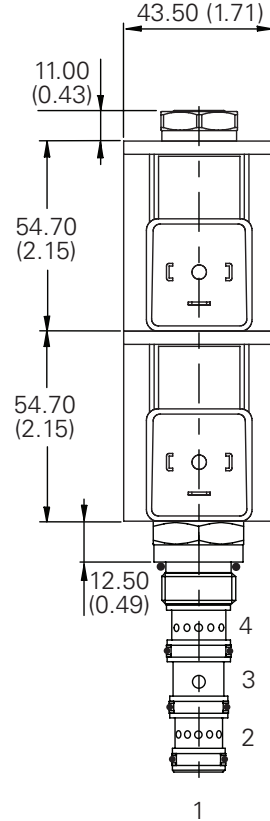
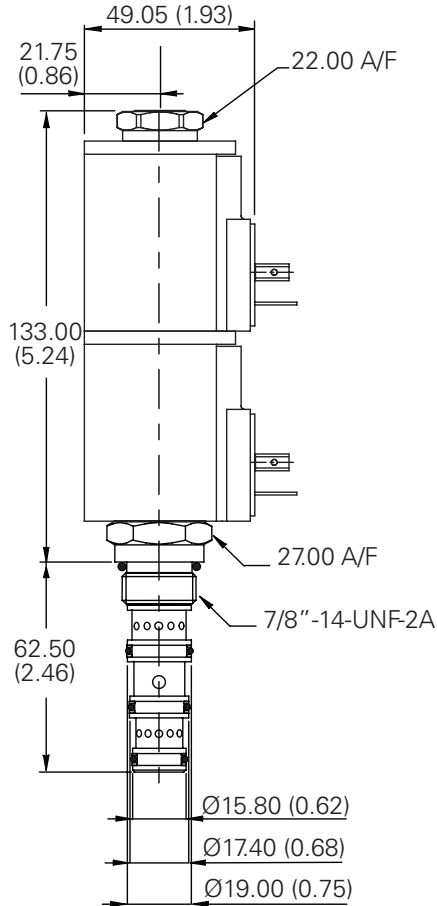
mm (inch)

This valve uses the L series, 30W coil.

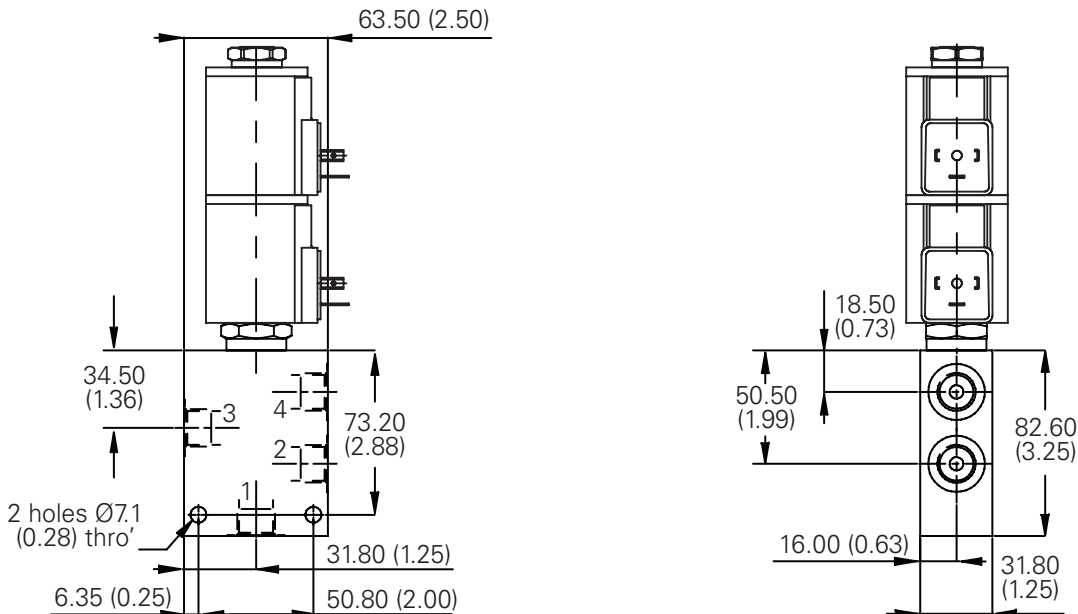
Spare parts

Coil nut	6025028-001
----------	-------------

Cartridge only



Installation drawing (Steel)

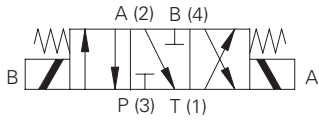


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S272 - Solenoid valves

4-Way, 3-Position Spool
14 L/min (3.7 US GPM), 210 bar (3000 PSI)

A



Operation

In the central de-energized position flow is allowed from port 2 to tank port 1 and ports 3 and 4 are blocked. When solenoid 'A' is energized flow is allowed from ports 3 to 4 and ports 2 to 1. When solenoid 'B' is energized flow is allowed from port 3 to port 2 and from port 4 to port 1.

Performance data

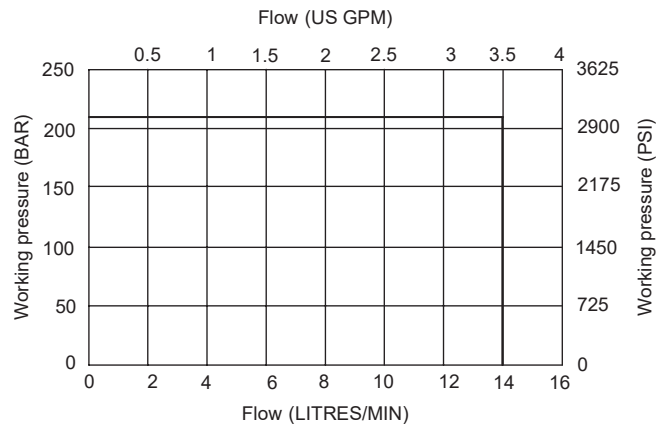
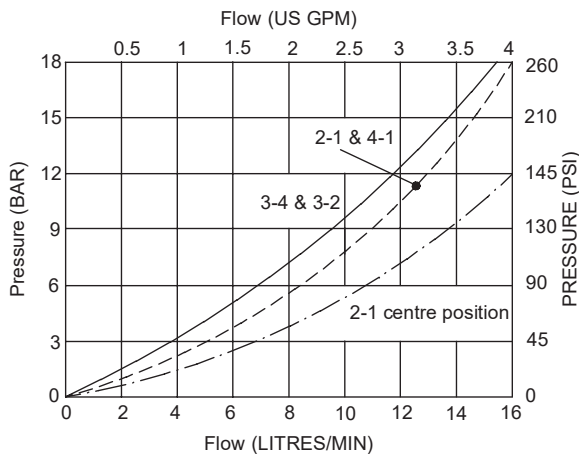
Ratings and specifications

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

Max. Working Pressure	210 bar (3000 psi)
Flow Rating	14 litres/min (3.7 US GPM)
Nominal Flow (at Delta P = 5 bar (70 psi))	8 litres/min (2 US GPM)
Internal leakage	"Less than 60 ml/min 210 bar differential at 32 centistokes"
Temperature range	-20 to +120°C (-4 to +248°F)
Nominal Viscosity Range	15 to 250 centistokes
Cavity	A6951
Fluids	Most general purpose hydraulics fluids such as: MIL-H-5606, SAE 10, SAE 20 etc
Filtration	BS5540/4 18/13 (25 micron or better)
Housing material (standard)	Aluminium Alloy
Weight cartridge only	0.16 kg (0.35 lbs)
Seal kit	SK974 (Nitrile) SK974V (Viton)

Pressure drop

Cartridge only

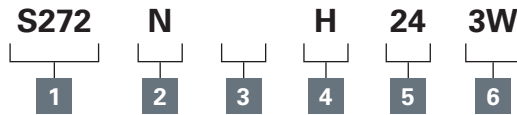


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S272 - Solenoid valves

4-Way, 3-Position Spool
14 L/min (3.7 US GPM), 210 bar (3000 PSI)

Model code



A

1 Basic Code

S272

2 Seals

N - Nitrile

V - Viton®

3 Manual Override (consult factory for availability)

4 - Push/Pull

4 Port Sizes

2W - 1/4" BSP

3W - 3/8" BSP

6T - 3/8" SAE

5 Voltage

12 - 12 VDC

24 - 24 VDC

110 - 110 VAC

220 - 220 VAC

6 Coil Termination

H - DIN43650

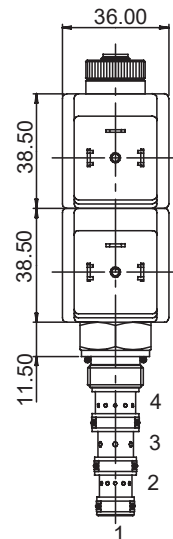
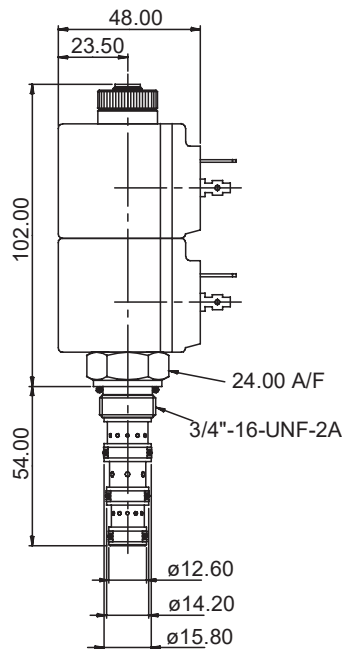
F - Flying Leads

DM - Deutsch Moulded

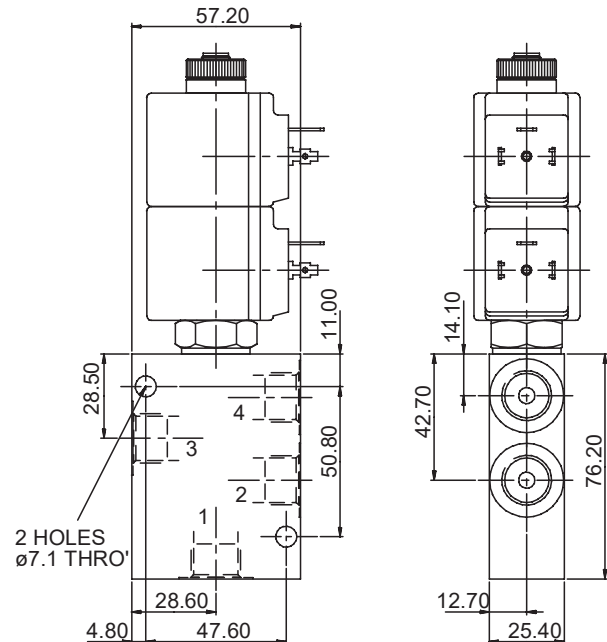
Other terminations available on request

Dimensions - mm (inch)

Cartridge only



Installation drawing



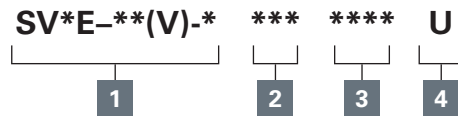
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

Explosion Proof Valves

(SV*E Series) Model Code

A

Model code



1 Base valve

- SV1 E-10-C - SV1-10-C
- SV1 E-10-3 SV1-10-3
- SV1 E-10-4 SV1-10-4
- SV1E-16-C SV1-16-C
- SV2E-10-C SV2-10-C
- SV2E-10-4 SV2-10-4
- SV2E-20-C SV2-20-C
- SV3E-10-C SV3-10-C
- SV3E-10-0 SV3-10-0
- SV3E-16-0 SV3-16-0
- SV3E-20-0 SV3-20-0
- SV4E-10-C SV4-10-C
- SV4E-10-0 SV4-10-0
- SV4E-10-4 SV4-10-4

For performance specifications refer to base valve data sheet. Viton® seal options are available.

2 Port size housing number

Refer to table in Model Code for Base valves
4.8 liters/min

4 Type (C.S.A. Approved)

U - 1/2" NPT Connector Class I, Group C & D Class II, Group E, F & G

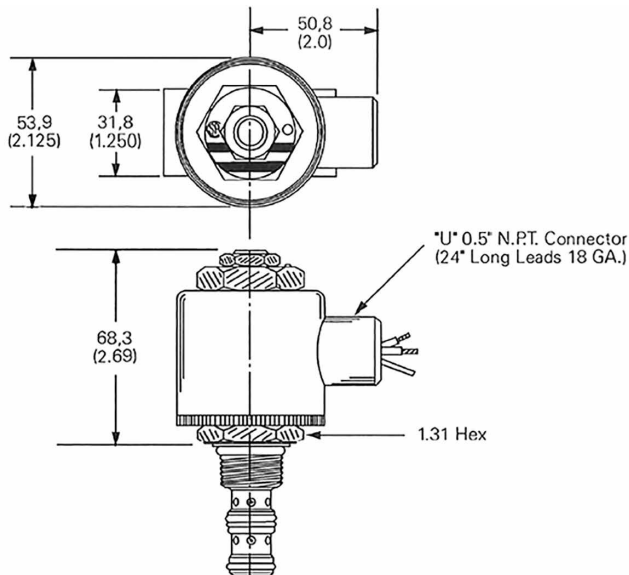
3 Voltage*

Code	Voltage	Replacement Coil Part Number
12D	12VDC	888831
24D	24 DVC	888832
115A	115 VAC	888838
230A	230 VAC	888840

* Arc suppression diode is not available

Dimensions - mm (inch)

Description type



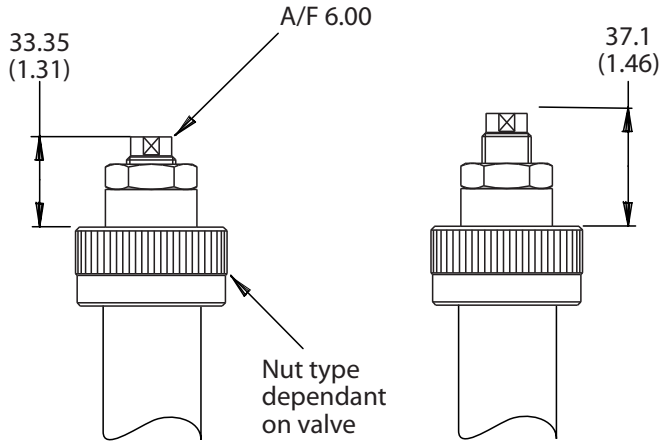
Note: Cartridge only or coil housing are not available as service parts. It is not possible to convert standard valves to explosion proof variants. SV1 E-10-3 shown. Dimensions of coil housing are the same for all Eaton explosion proof SiCV valves, for other dimensions please refer to base valve datasheet.

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S2 Series

Consult factory for availability

Screw, normally closed manual override - type 2

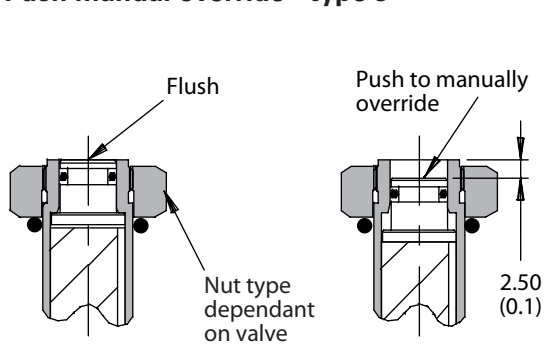


Manually operated position

Normal position

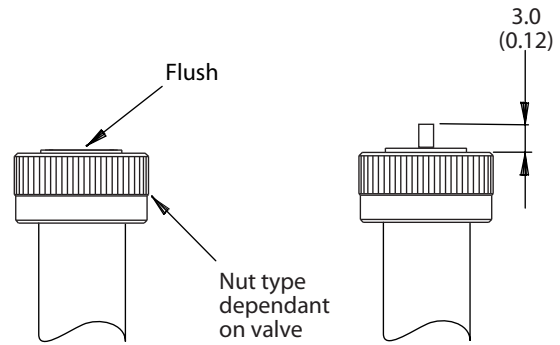
Available for S217, S229

Push manual override - type 3



Push to manually override

Available for S217



Push to manually override

Available for S229

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

S Series - Manual overrides

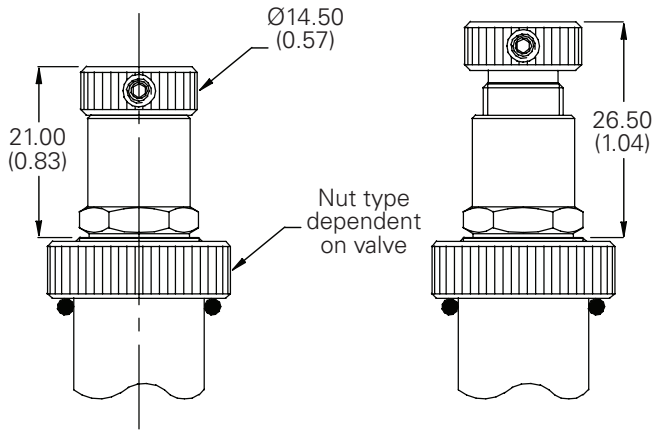
16 mm tube

A

S5 Series

Consult factory for availability

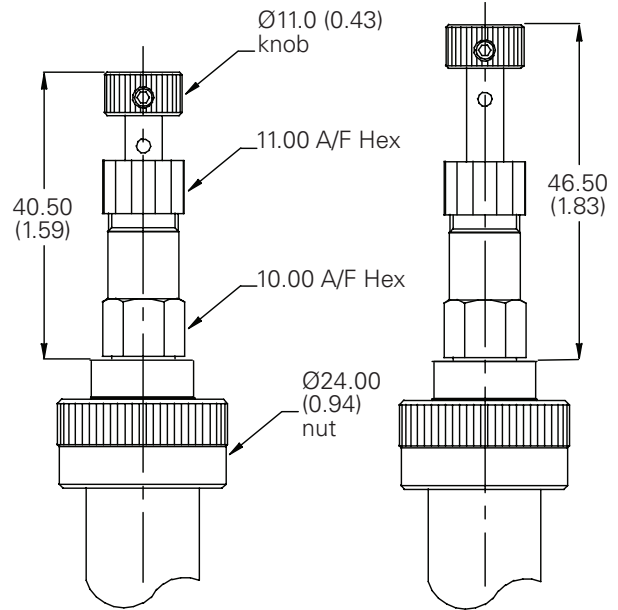
Screw manual override - Type 2



Manually operated position
Available for: S520, S521,
S525, S526, S541, S542

Normal position

Push/pull manual override - Type M



Normal position
Available for: SV9A-10-A,
SV9A-10-B, SV9A-10-E,
SV9A-10-F

Pulled out

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

Note: Manual override is available on all solenoid cartridge valves, except SBV series valves.

⚠ Warning

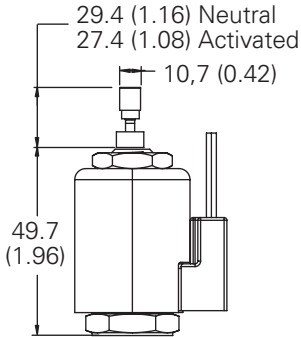
The Manual override option is intended for emergency use, not for continuous duty operation.

Manual override options

Push type overrides (type P and S)

A

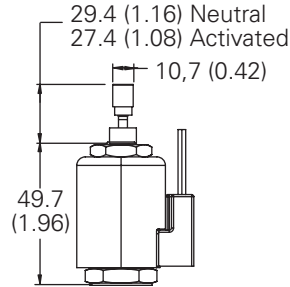
Manual override "S" screw type



8-Series – 210 bar valves

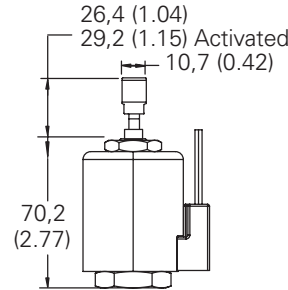
To override:

1. Turn the override button clockwise until it stops.



8-Series – 350 bar valves

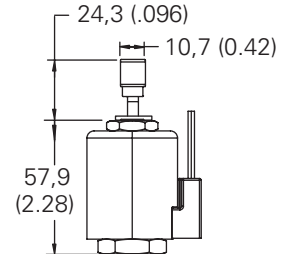
2. The override button will remain activated until the override button is turned counterclockwise.



10, 12, 16, 20-Series – 210 bar valves

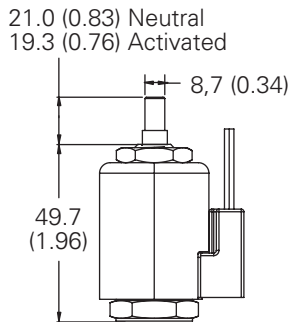
To release:

1. Turn the override button counterclockwise until it stops.



10, 12, 16, 20-Series – 350 bar valves

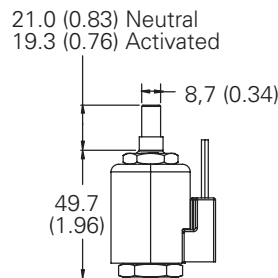
Manual override "P" push type



8-Series – 210 bar valves

To override:

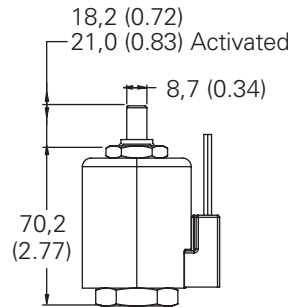
1. Push the override button to stop and hold.



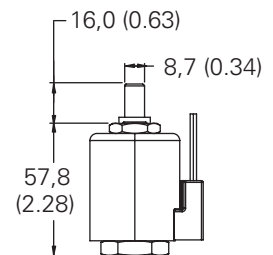
8-Series – 350 bar valves

To release:

1. Remove pressure from the override button.



10, 12, 16, 20-Series – 210 bar valves



10, 12, 16, 20-Series – 350 bar valves

Manual override "P" & "S" options are available on the following models:

SV13-10-OP/OS-0-00	SV3-10-OS-0-00	SV3-8-CM-0-00	SV5-10-OS-0-00
SV13-12-OP/OS-0-00	SV3-12-OP-0-00	SV3-8-OP-0-00	SV5-8-OP-0-00
SV13-16-OP/OS-0-00	SV3-12-OS-0-00	SV3-8-OS-0-00	SV5-8-OS-0-00
SV13-20-OP/OS-0-00	SV3-16-OP-0-00	SV4-10-3P-0-00	SV7-10-4P-0-00
SV15-10-OP/OS-0-00	SV3-16-OS-0-00	SV4-10-3S-0-00	SV7-10-4S-0-00
SV15-8-OP/OS-0-00	SV3-20-OP-0-00	SV4-8-3P-0-00	
SV3-10-OP-0-00	SV3-20-OS-0-00	SV5-10-OP-0-00	

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

Manual override options

Pull type overrides (type M and R)

Warning

The Manual override option is intended for emergency use, not for continuous duty operation.

Note: Manual override is available on all solenoid cartridge valves, except SBV series valves.

A

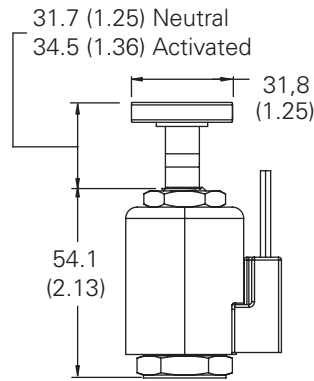
Manual override "M" pull type

To override:

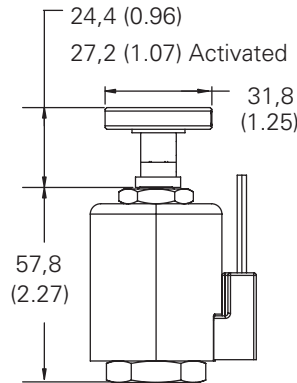
1. Pull up knob until the override tooth is completely out of the detent base.
2. Turn the knob clockwise until the override tooth is resting securely on top of the detent base slot.

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.

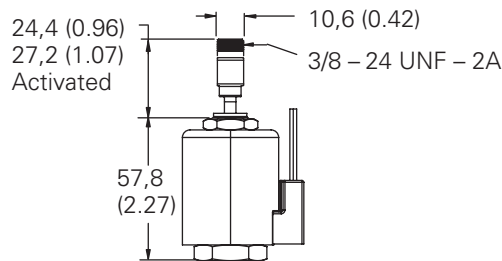


8-Series – 210 bar and 350 bar values



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:

SBV11-8-CM-0-00	SV1-16-CM-0-00	SV13-20-CM-0-00	SV2-10-4M-0-00	SV4-10-CM-0-00
SBV12-8-CM-0-00	SV11-8-3M-0-00	SV14-10-CM-0-00	SV2-10-CM-0-00	SV4-10-0M-0-00
SV1-10-3M-0-00	SV11-8-4M-0-00	SV14-10-0M-0-00	SV2-20-CM-0-00	SV4-8-CM-0-00
SV1-10-4M-0-00	SV12-10-CM-0-00	SV14-8-CM-0-00	SV2-8-4M-0-00	SV4-8-0M-0-00
SV1-10-CM-0-00	SV12-8-4M-0-00	SV14-8-0M-0-00	SV3-10-4M-0-00	SV5-10-4M-0-00
SV11-10-3M-0-00	SV13-10-CM-0-00	SV15-8-CM-0-00	SV3-10-CM-0-00	SV5-8-CM-0-00
SV11-10-4M-0-00	SV13-12-CM-0-00	SV1-8-3M-0-00	SV3-12-CM-0-00	
SV11-10-CM-0-00	SV13-16-CM-0-00	SV1-8-4M-0-00	SV4-10-4M-0-00	

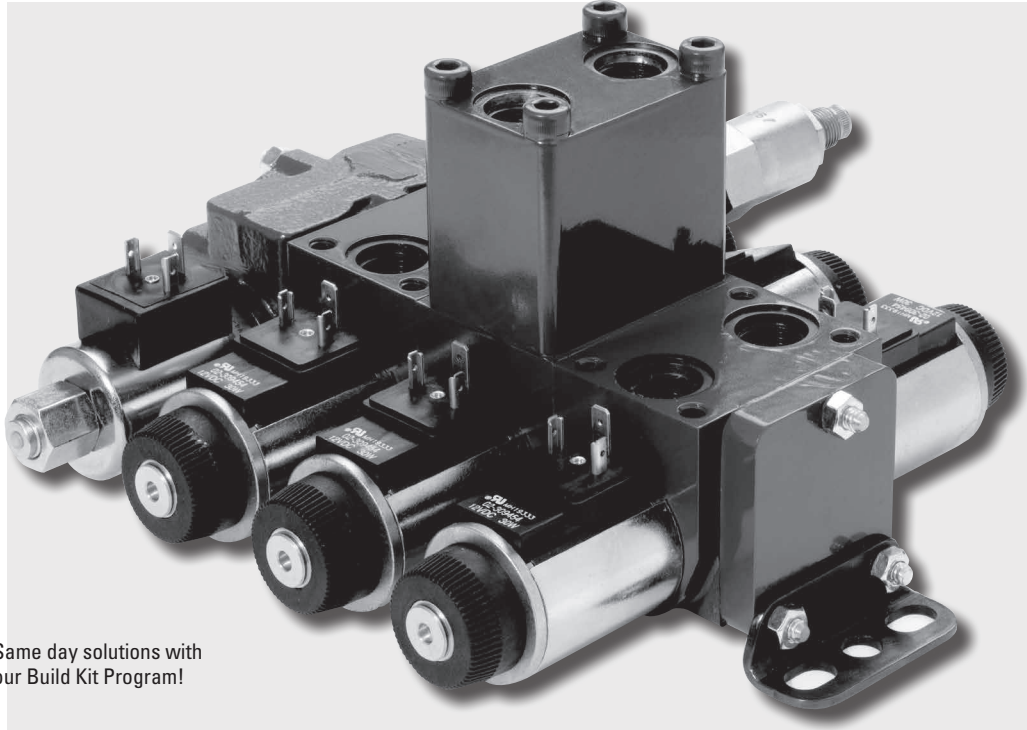
Manual override "R" options are available on the following models:

SV1-10-3R-0-00	SV2-10-4R-0-00	SV3-10-CR-0-00	SV4-10-0R-0-00	SV1-16-CR-0-00
SV1-10-4R-0-00	SV2-10-CR-0-00	SV4-10-4R-0-00	SV5-10-4R-0-00	SV2-20-CR-0-00
SV1-10-CR-0-00	SV3-10-4R-0-00	SV4-10-CR-0-00	SV3-12-CR-0-00	

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

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