

# 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

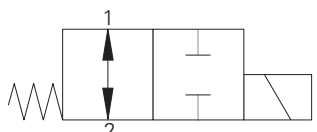
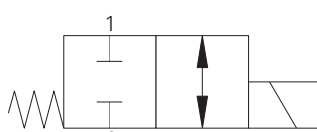
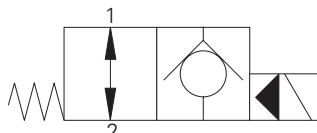
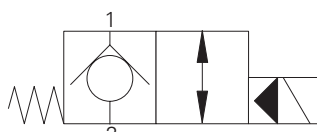
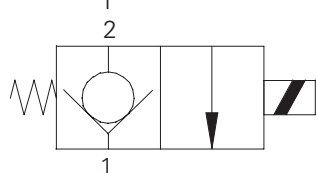
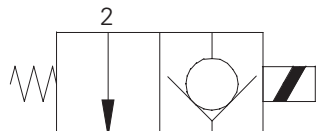
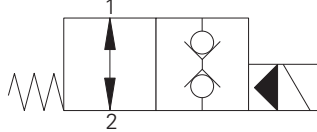
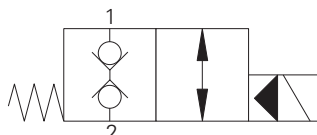
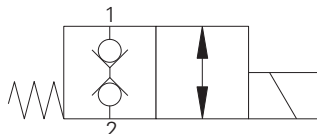
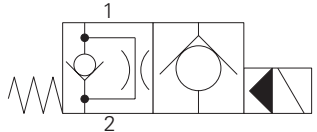
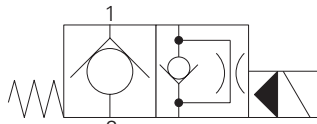
**Note:** Solenoid valve coil details are shown in section C.

**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 &amp; NO, poppet</i>		<b>L/min (USgpm)</b>	<b>bar (psi)</b>	
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>		<b>L/min (USgpm)</b>	<b>bar (psi)</b>	
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 &amp; NO, bi-directional, poppet</i>		<b>L/min (USgpm)</b>	<b>bar (psi)</b>	
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 &amp; NO, poppet</i>		<b>L/min (USgpm)</b>	<b>bar (psi)</b>	
S205	A879	1 (0.25)	210 (3000)	A-44
S206				

Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 2/2, NC &amp; NO, poppet</i>		<b>L/min (USgpm)</b>	<b>bar (psi)</b>	
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

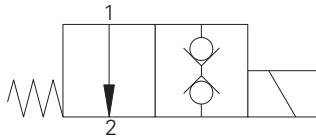
Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 2/2, NC &amp; NO, spool</i>		<b>L/min (USgpm)</b>	<b>bar (psi)</b>	
SV4-8-C/O	C-8-2	11 (3)	210 (3000)	A-54
SV14-8-C/O	C-8-2	11 (3)	350 (5000)	A-55
SV4-10-C/O	C-10-2	23 (6)	210 (3000)	A-58
SV14-10-C/O	C-10-2	23 (6)	350 (5000)	A-60

# Solenoid valves

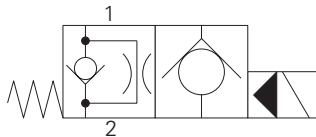
## Valve locator

A

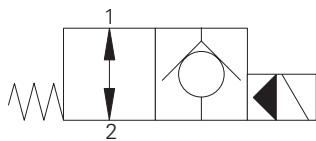
### Functional symbol



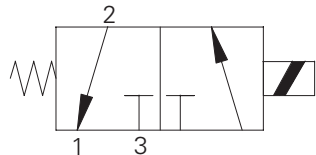
Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 2/2, NO, poppet</i>		<b>L/min (USgpm)</b>	<b>bar (psi)</b>	
S207	A879	1 (.25)	350 (5000)	A-62



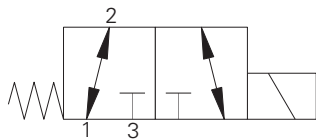
Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 2/2, NO, poppet</i>		<b>L/min (USgpm)</b>	<b>bar (psi)</b>	
SV5-10-0	C-10-2	45 (12)	210 (3000)	A-64
SV15-8-0	C-8-2	37 (10)	350 (5000)	A-66
SV15-10-0	C-10-2	45 (12)	350 (5000)	A-68



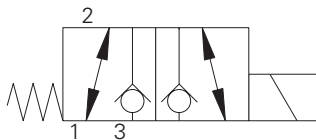
Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 2/2, NO, poppet</i>		<b>L/min (USgpm)</b>	<b>bar (psi)</b>	
SV3-16-0	C-16-2	132 (35)	210 (3000)	A-70
SV3-20-0	C-20-2	227 (60)	210 (3000)	A-72



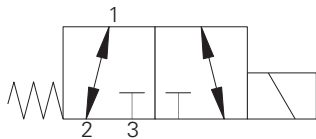
Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 3/2, spool</i>		<b>L/min (USgpm)</b>	<b>bar (psi)</b>	
S222	A18333	20 (5)	100 (1500)	A-75



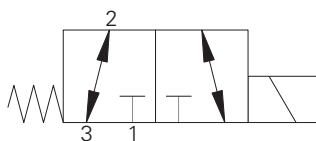
Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 3/2, spool</i>		<b>L/min (USgpm)</b>	<b>bar (psi)</b>	
SV4-8-3	C-8-3	13 (4)	210 (3000)	A-80
SV4-10-3	C-10-3	23 (6)	210 (3000)	A-92
SV4M-12-3	C-12-3	42 (11)	210 (3000)	A-108
SV14M-12-3	C-12-3	42 (11)	350 (5000)	A-110



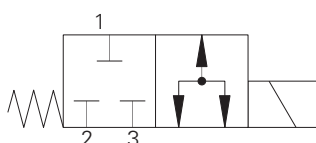
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<i>Solenoid 3/2, poppet</i>		<b>L/min (USgpm)</b>	<b>bar (psi)</b>	
S229	A3531	12 (3)	210 (3000)	A-82



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

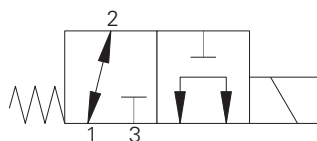


Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 3/2, spool</i>		<b>L/min (USgpm)</b>	<b>bar (psi)</b>	
S525H	C-10-3	30 (8)	210 (3000)	A-88

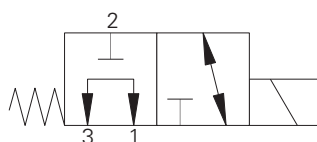


Model	Cavity	Flow rating	Typical pressure	Page
<i>Solenoid 3/2, spool</i>		<b>L/min (USgpm)</b>	<b>bar (psi)</b>	
S526N-2	C-10-3	35 (9)	210 (3000)	A-90

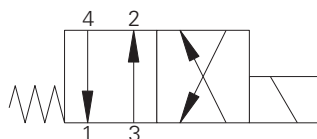
### Functional symbol



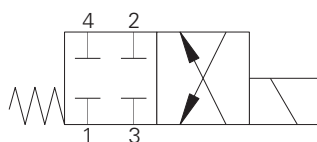
Model	Cavity	Flow rating	Typical pressure	Page
		<b>L/min (USgpm)</b>	<b>bar (psi)</b>	
<i>Solenoid 3/2, spool</i>				
SV1-8-3	C-8-3	11 (3)	210 (3000)	A-76
SV11-8-3	C-8-3	11 (3)	350 (5000)	A-78
SV1-10-3	C-10-3	23 (6)	210 (3000)	A-92
SV11-10-3	C-10-3	23 (6)	350 (5000)	A-94
SV1M-12-3	C-12-3	38-42 (10-11)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



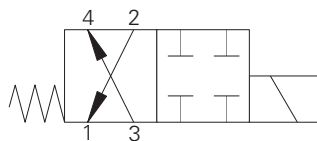
Model	Cavity	Flow rating	Typical pressure	Page
		<b>L/min (USgpm)</b>	<b>bar (psi)</b>	
<i>Solenoid 3/2, spool</i>				
SV2M-12-3	C-12-3	30-38 (8-10)	210 (3000)	A-104
SV12M-12-3	C-12-3	30 (8)	350 (5000)	A-106



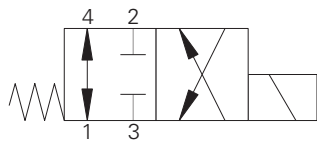
Model	Cavity	Flow rating	Typical pressure	Page
		<b>L/min (USgpm)</b>	<b>bar (psi)</b>	
<i>Solenoid 4/2, spool</i>				
SV1-8-4	C-8-4	11 (3)	210 (3000)	A-112
SV11-8-4	C-8-4	11 (3)	350 (5000)	A-114
SV1-10-4	C-10-4	23 (6)	210 (3000)	A-122
SV11-10-4	C-10-4	23 (6)	350 (5000)	A-126
S542	C-10-4	25 (9)	210 (3000)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



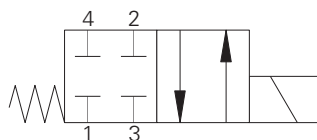
Model	Cavity	Flow rating	Typical pressure	Page
		<b>L/min (USgpm)</b>	<b>bar (psi)</b>	
<i>Solenoid 4/2, spool</i>				
SV2-8-4	C-8-4	13 (4)	210 (3000)	A-116
SV12-8-4	C-8-4	13 (4)	350 (5000)	A-118
SV12-10-4	C-10-4	12 (6)	350 (5000)	A-120
SV2-10-4	C-10-4	23 (6)	210 (3000)	A-130
S541	C-10-4	30 (8)	210 (3000)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



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



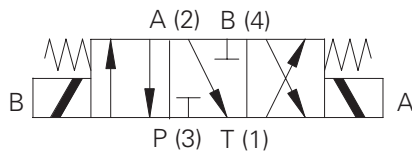
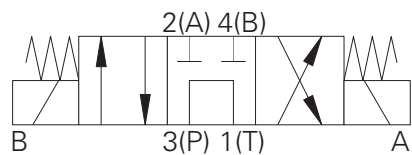
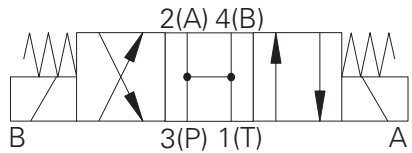
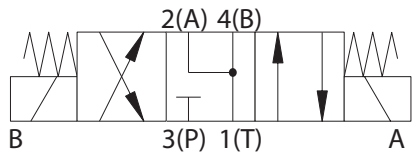
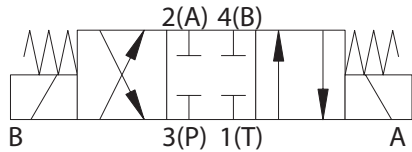
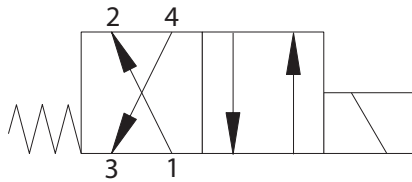
Model	Cavity	Flow rating	Typical pressure	Page
		<b>L/min (USgpm)</b>	<b>bar (psi)</b>	
<i>Solenoid 4/2, spool</i>				
SV5-10-4	C-10-4	23 (6)	210 (3000)	A-138

# Solenoid valves

## Valve locator

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### 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.



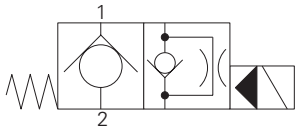
Powering Business Worldwide

# 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

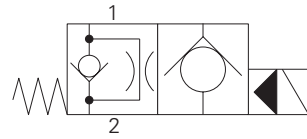


### Operation

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

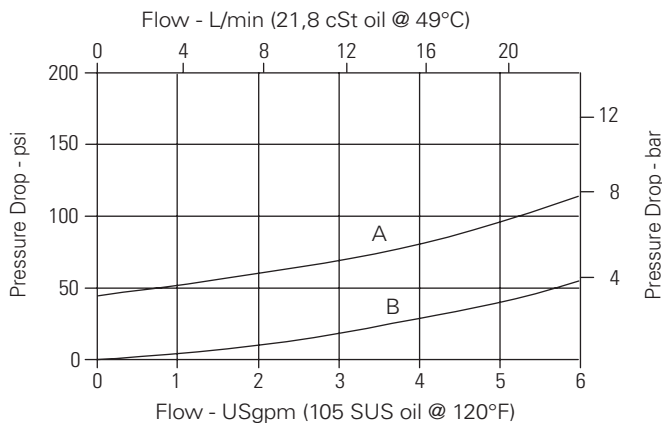
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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

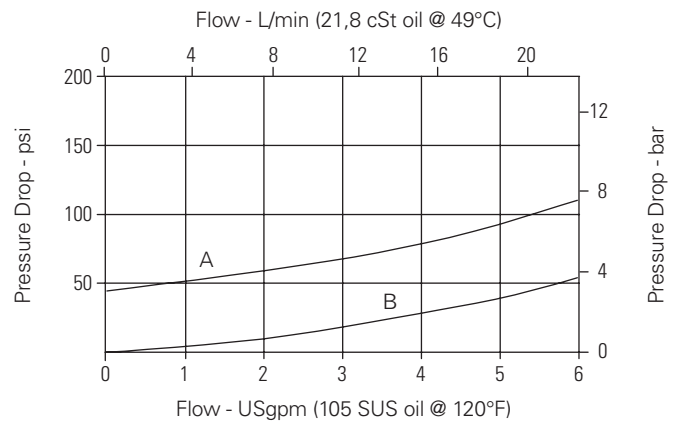
Cartridge only



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

## SV5-8-O Pressure drop

Cartridge only

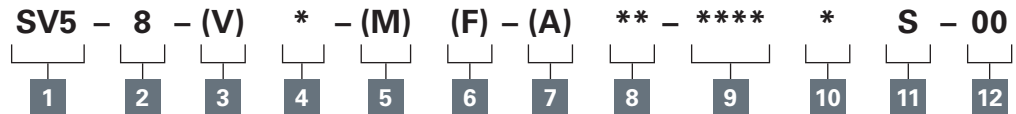


**A** - Port 1 to port 2 energized  
**B** - Port 2 to port 1 de-energized

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

---

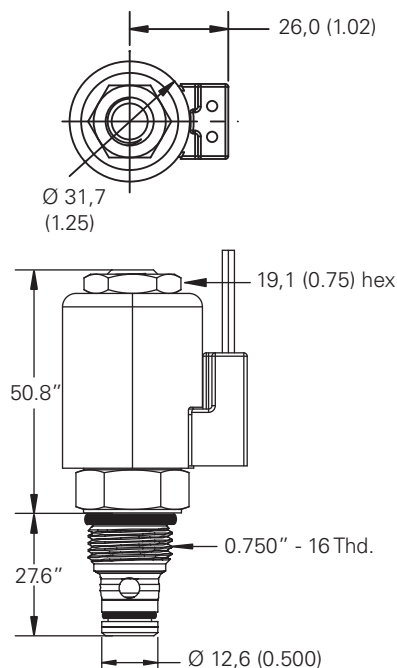
- 10 Connector types**  
Blank - No coil  
G - ISO 4400 DIN 43650  
W - Flying lead  
N - Deutsch (DC only)  
Y - Amp JR (DC only)  
D - Metripack 150 male (DC only)  
J - Metripack 280 male (DC only)  
E - Weather-Pack (Packard) female  
F - Weather-Pack (Packard) male

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

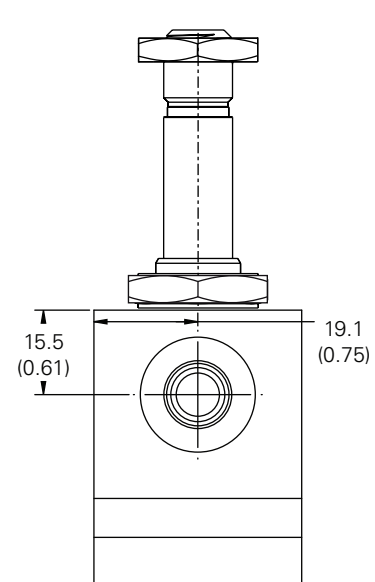
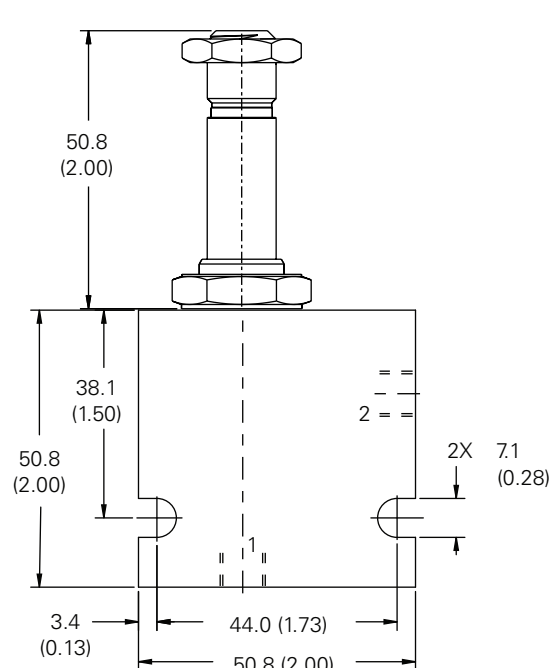
- 12 Special features**  
00 - None  
(Only required if valve has special features, omitted if "00".)

Dimensions - mm (inch)

Cartridge only



Installation drawing

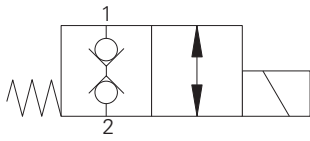


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

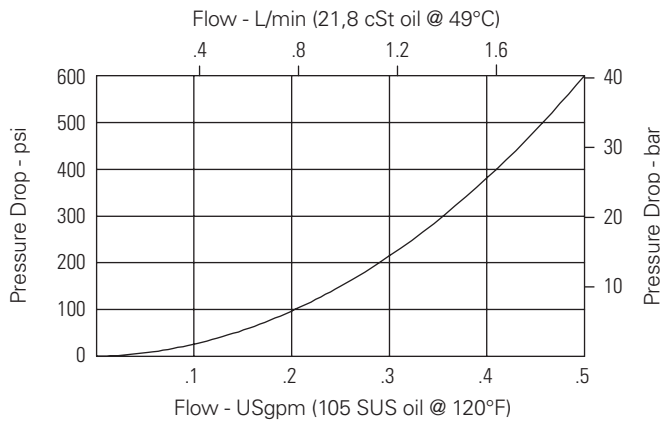
*Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)*

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

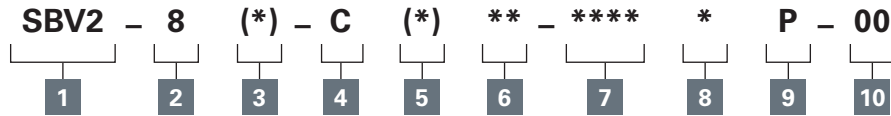


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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  
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)  
F - Weather-Pack (Packard) male

### 9 Coil series

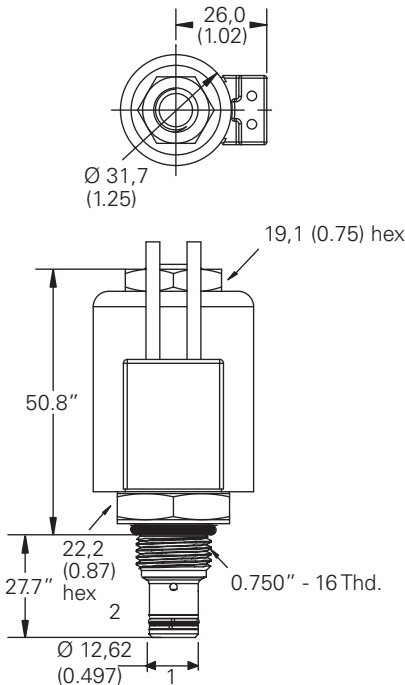
P - 8 series, 23 W  
For coil part numbers and dimensions see section C.

### 10 Special features

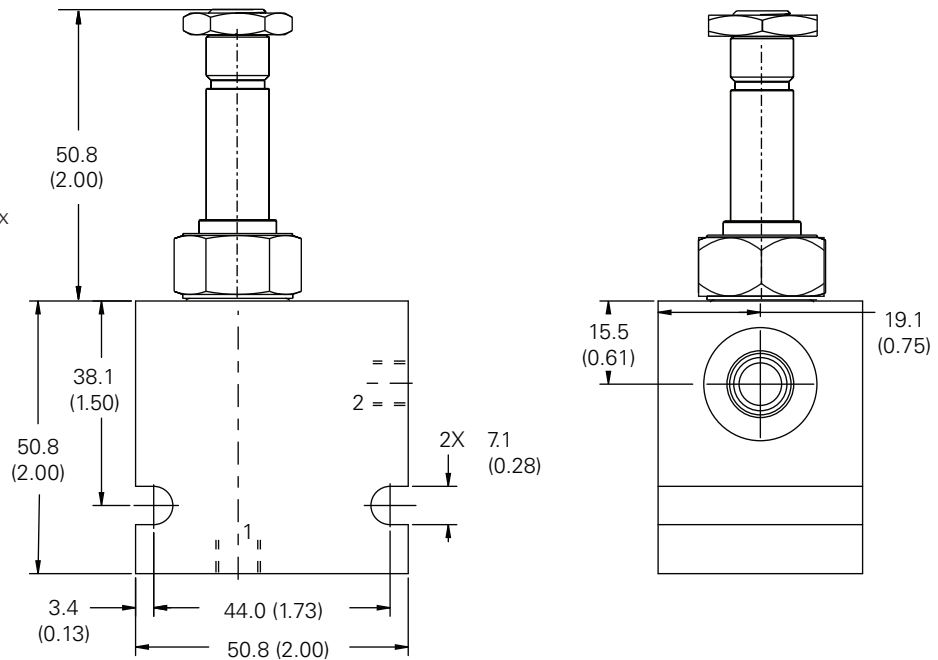
00 - None  
(Only required if valve has special features omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing (Aluminum)

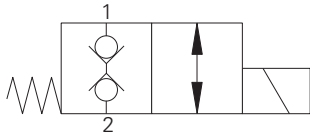


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

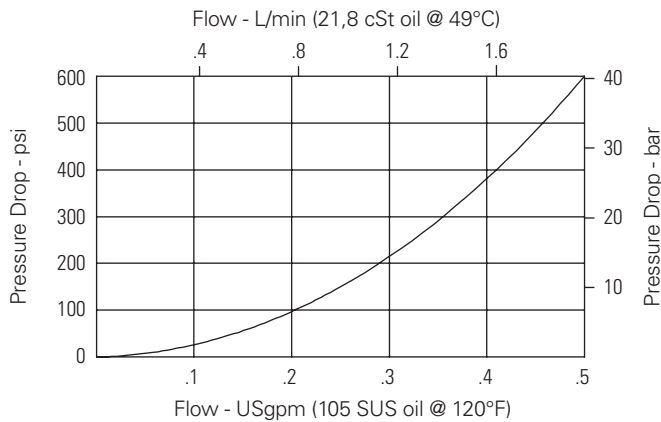
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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

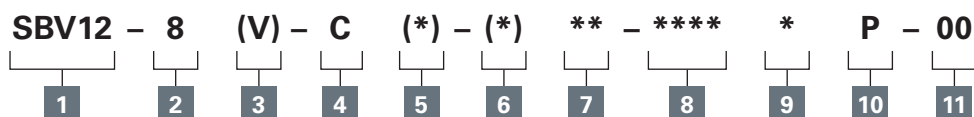


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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.

## 8 Voltage rating

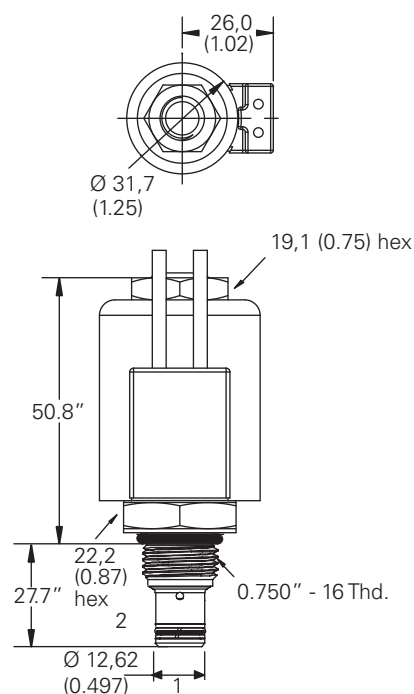
00 - No coil  
12D - 12VDC  
24D - 24VDC  
115A - 115VAC  
230A - 230VAC  
12B - 12VDC/w diode\*  
24B - 24VDC/w diode\*  
\*Optional arc suppression diode.

## 11 Special features

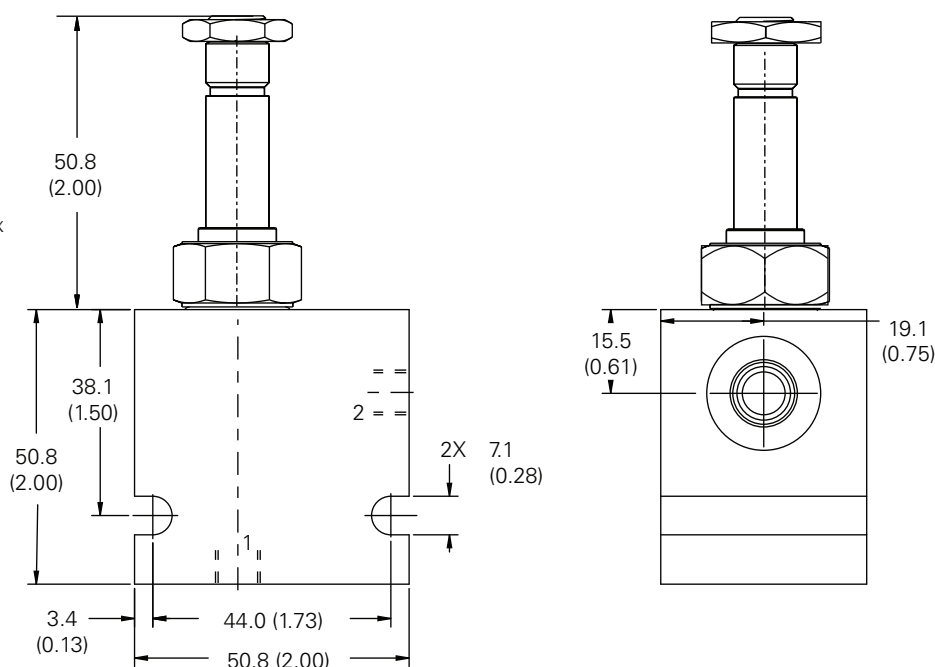
00 - None  
(Only required if valve has special features omitted if "00.")

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing (Steel)

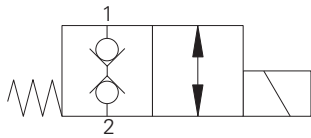


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

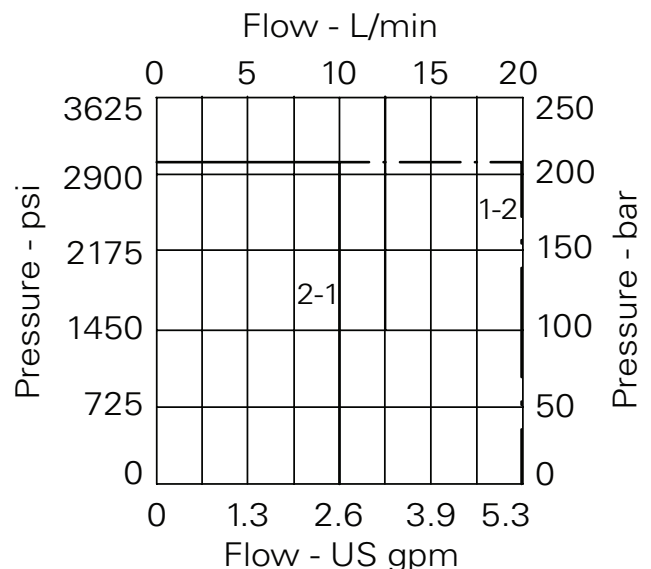
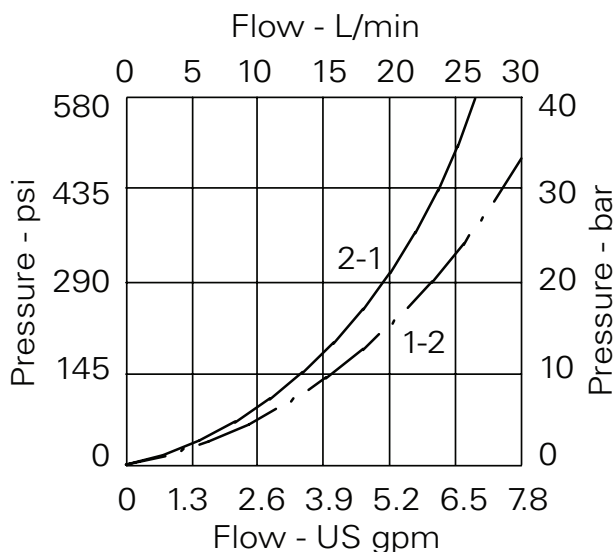
Performance data is typical with fluid at Viscosity 32 cSt (150 SSU)

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



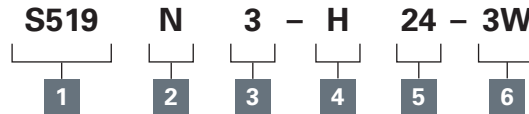
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.



# S519 - Directional control valve

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

## Model code



A

### 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.

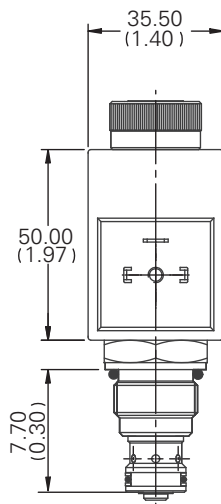
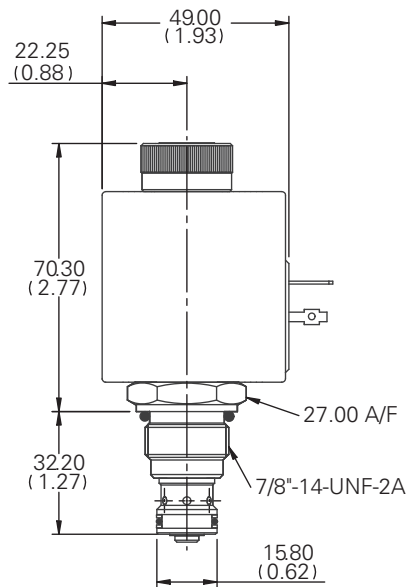
### 6 Port sizes

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

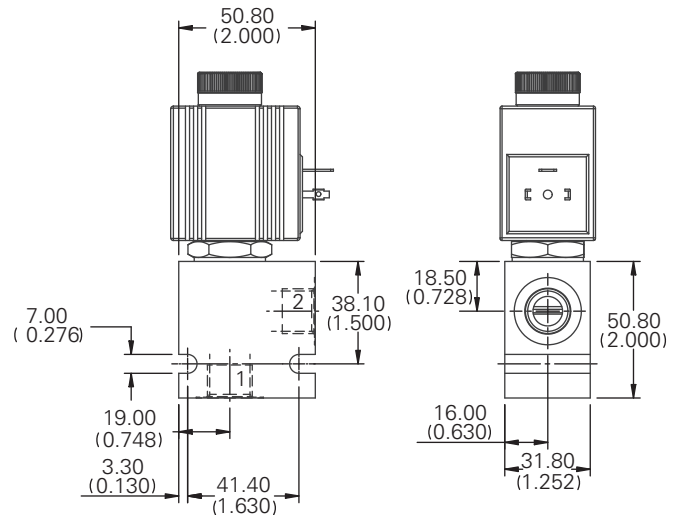
## Dimensions - mm (inch)

### Cartridge only

Basic code **S217**



### Installation drawing



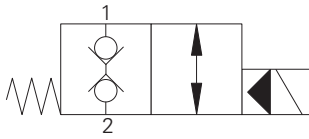
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

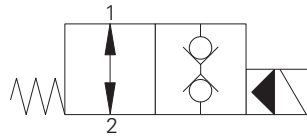


### Operation

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

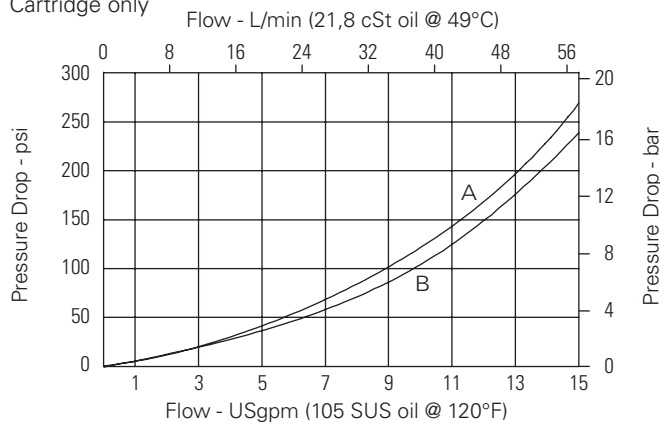
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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

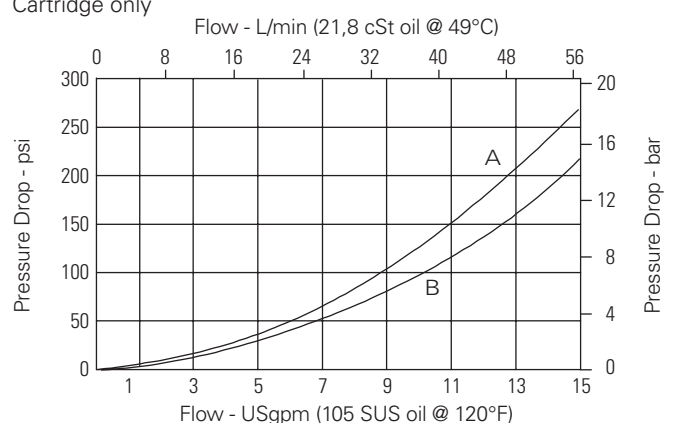
Cartridge only



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

## SBV11-8-O Pressure drop

Cartridge only



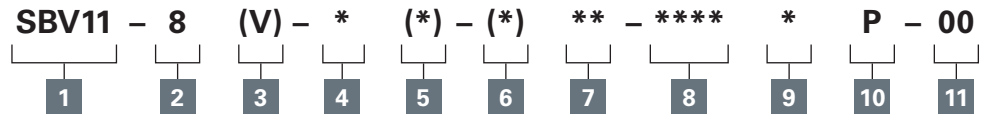
**A** - Port 1 to port 2  
**B** - Port 2 to port 1

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.

### 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

### 10 Coil series

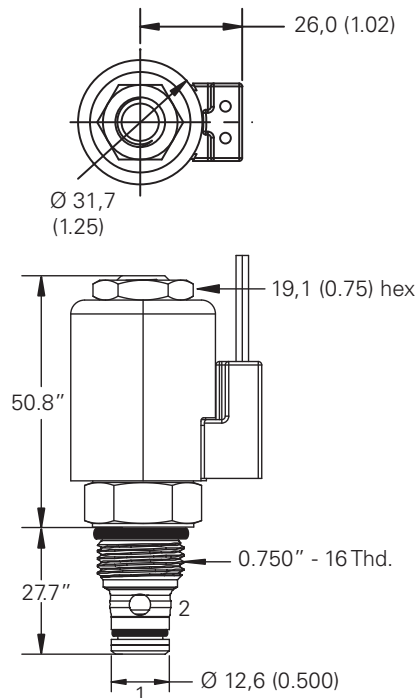
P - 8 series, 23 W  
For coil part numbers and dimensions see section C.

### 11 Special features

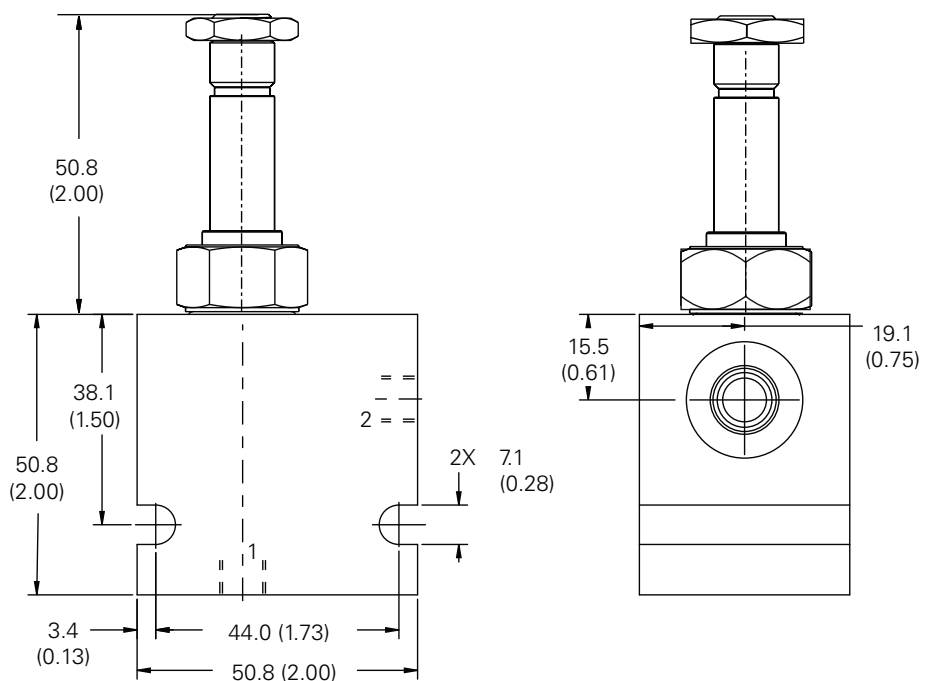
00 - None  
(Only required if valve has special features omitted if "00.")

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing (Steel)

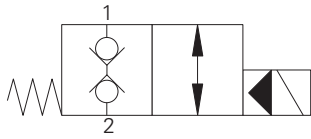


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

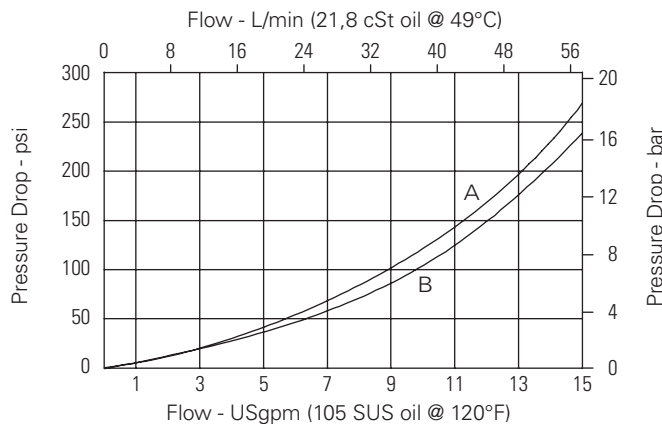
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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

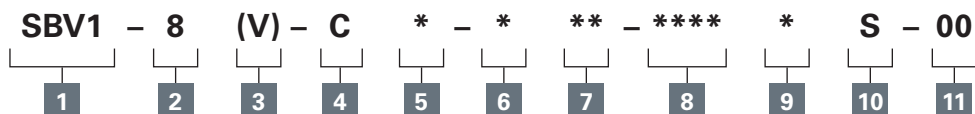
**B** - Port 2 to port 1

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

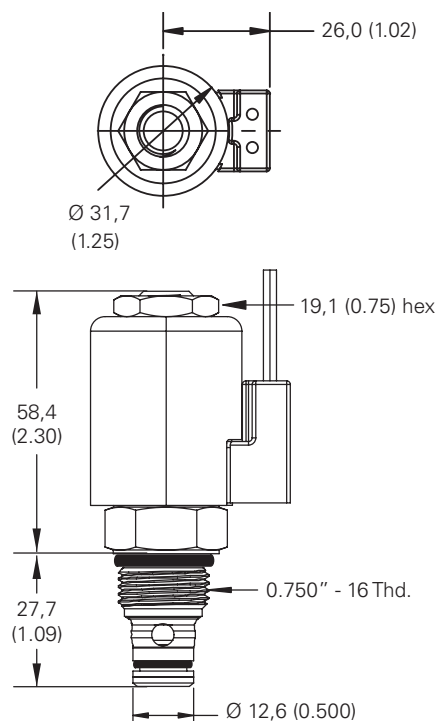
- 9 Connector types**  
Blank - No coil  
G - ISO 4400 DIN 43650  
W - Flying lead  
N - Deutsch (DC only)  
Y - Amp JR (DC only)  
D - Metripack 150 male (DC only)  
J - Metripack 280 male (DC only)  
E - Weather-Pack (Packard) female on wire leads  
F - Weather-Pack (Packard) male on wire leads

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

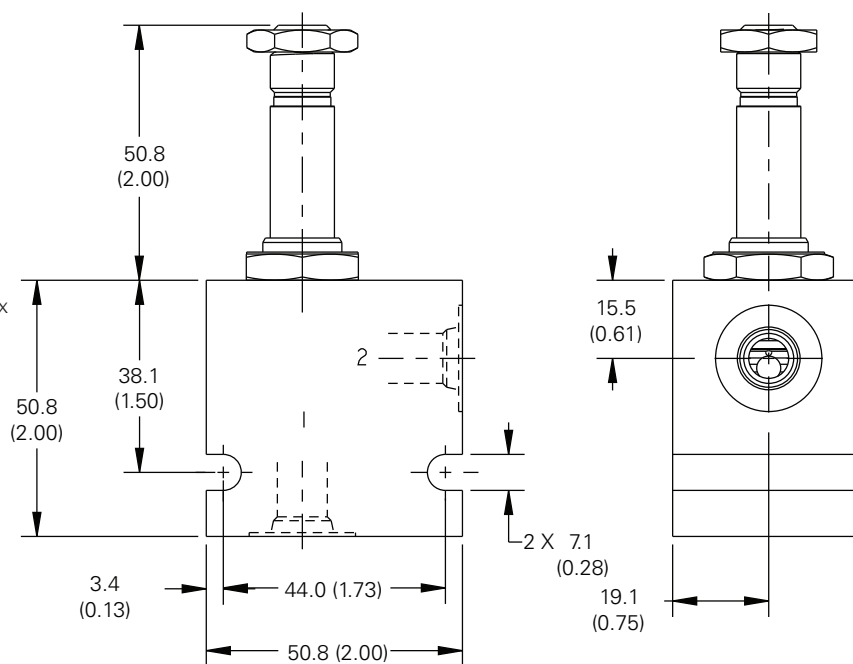
- 11 Special features**  
00 - None  
(Only required if valve has special features omitted if "00.")

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing (Steel)

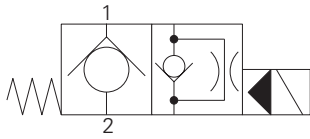


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

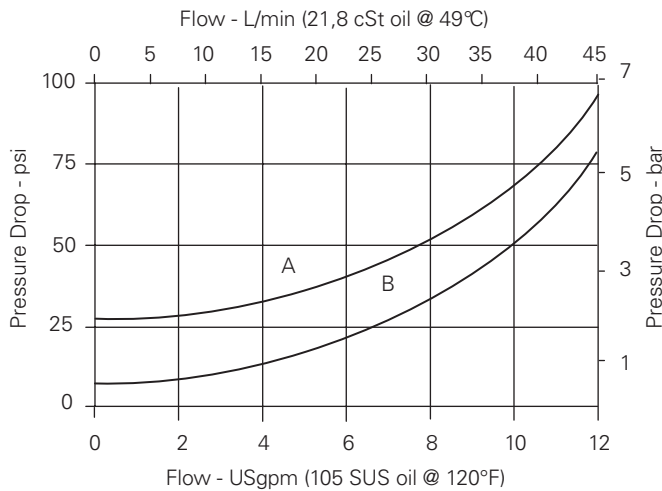
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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

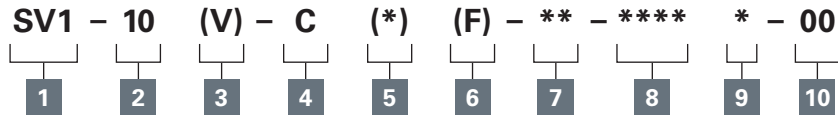
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

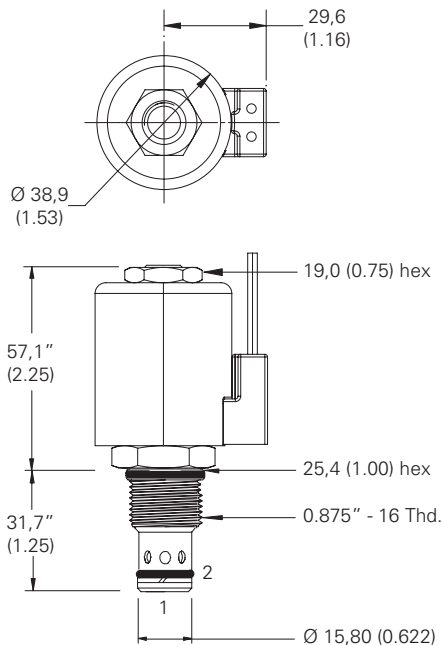
00 - None

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

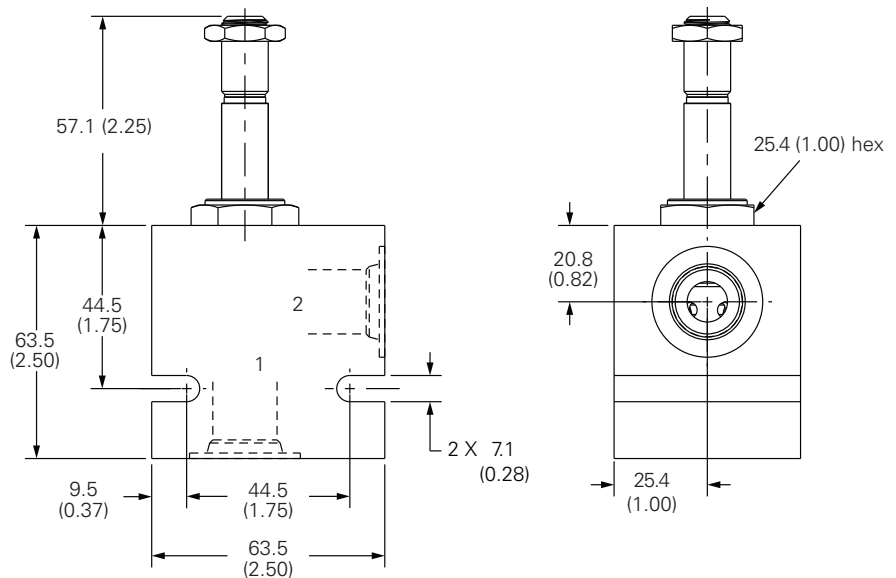
**Note:** Use J series, 23 W coils with this solenoid valve.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

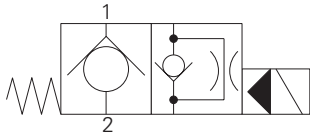


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

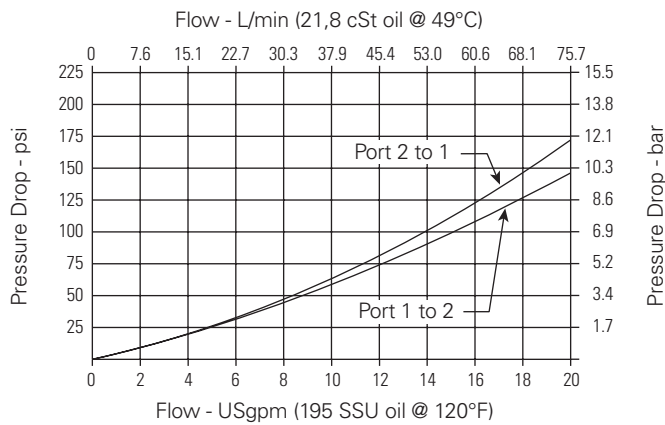
Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)

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

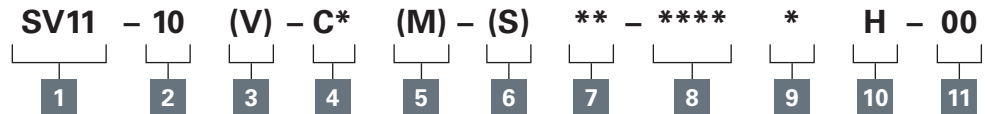
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.



# 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

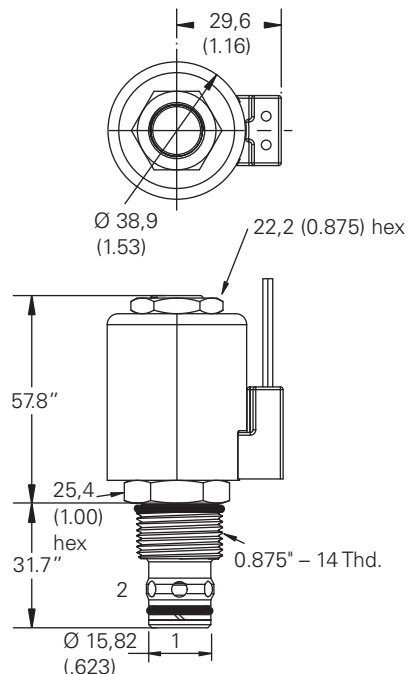
H - 10 series, 29 W For coil part numbers and dimensions see section C.

### 11 Special features

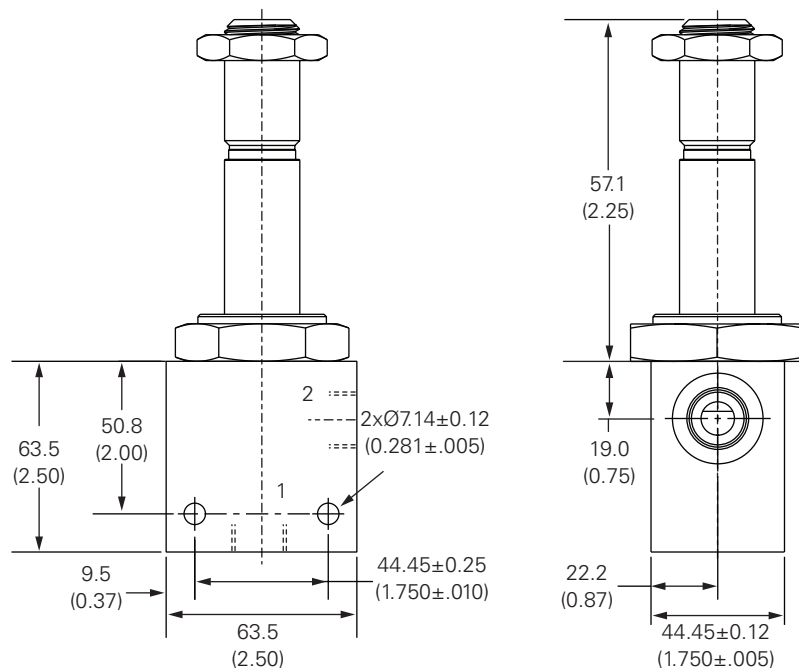
00 - None  
(Only required if valve has special features omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawings (Steel)



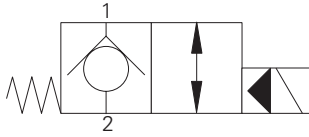
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

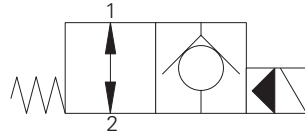


### Operation

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)

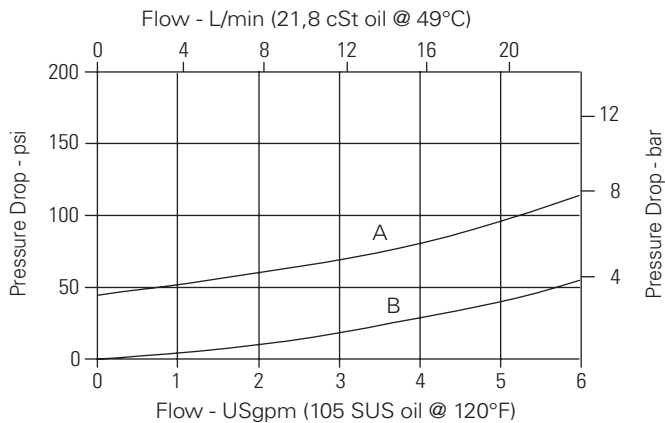
Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	less than 5 drops/min @ 210 bar (3000 psi)
Coil duty	Continuous from 85% to 110% of nominal voltage
Response times for normally close (100% rated voltage and flow)	Energize: 18 ms De-Energize: 46 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

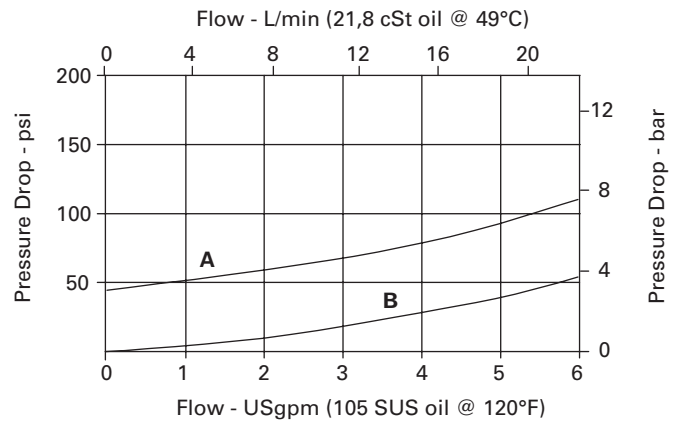


**A** - Port 1 to port 2 de-energized  
**B** - Port 2 to port 1 energized

## SV3-8-C

### Pressure drop

Cartridge Only



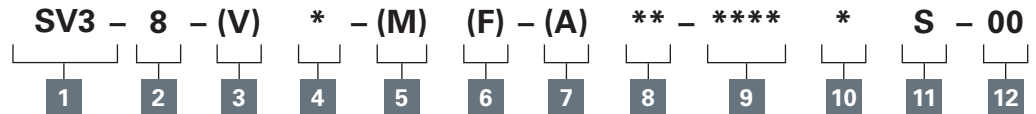
**A** - Port 1 to port 2 energized  
**B** - Port 2 to port 1 de-energized

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



### 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.

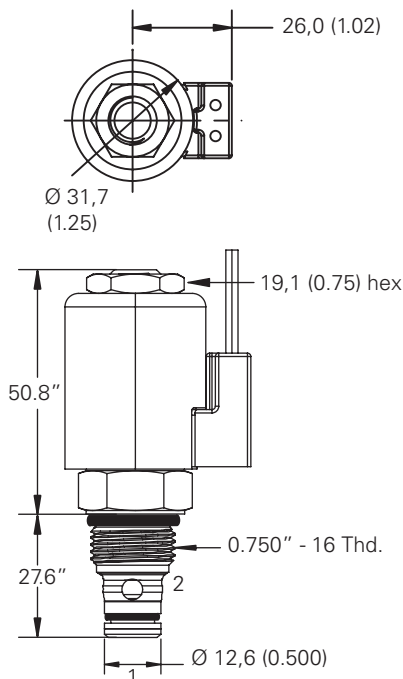
### 12 Special features

00 - None

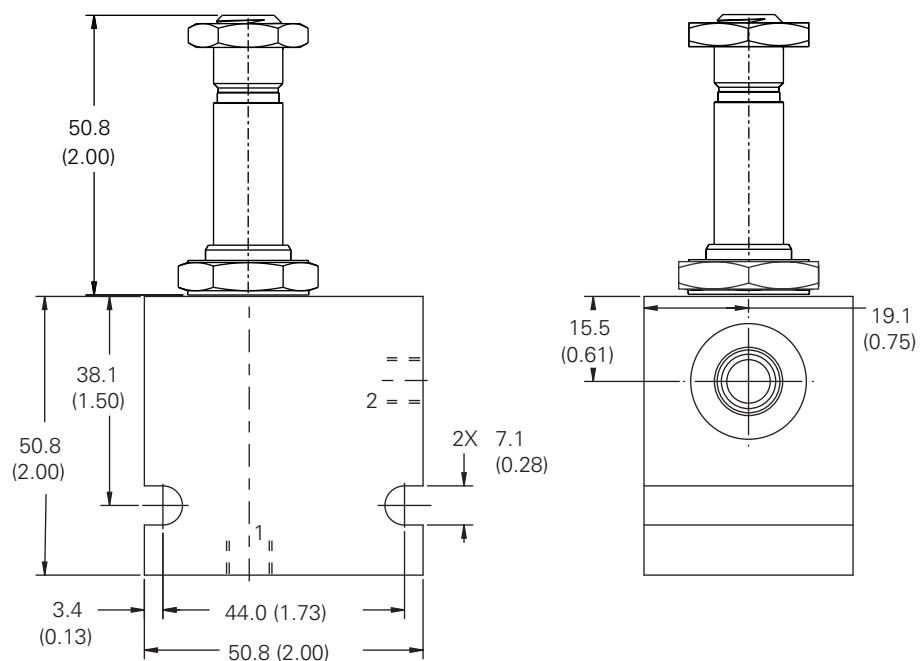
(Only required if valve has special features, omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing



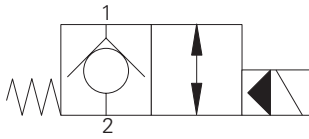
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

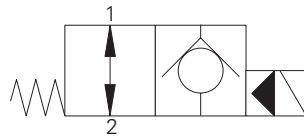


### Operation

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)

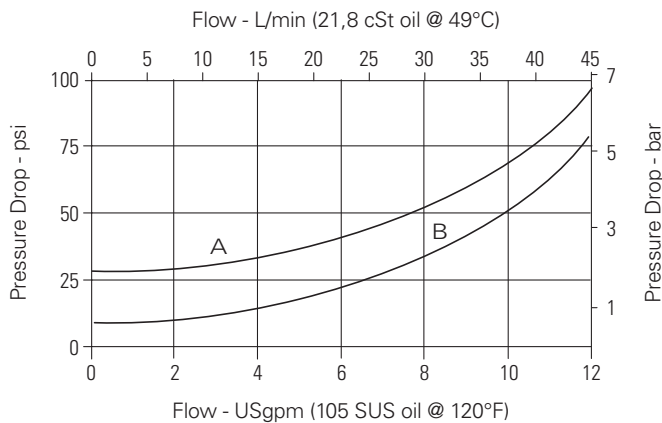
Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	45 L/min (12 USgpm)
Internal leakage	less than 5 drops/min, max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-10-2
Weight cartridge only	0,4 kg (0.87 lbs)
Fluids	All general purpose hydraulic fluids 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

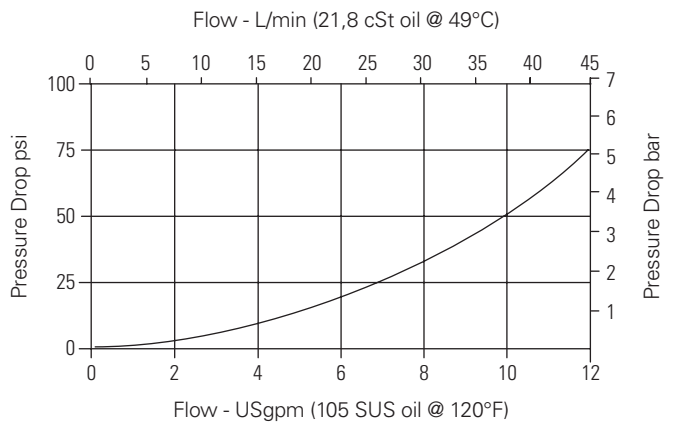


**A** - Port 1 to port 2 de-energized  
**B** - Port 2 to port 1 energized

## SV3-10-C

### Pressure drop

Cartridge only



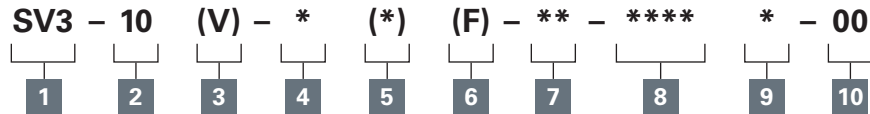
Port 1 to port 2 and port 2 to port 1 de-energized

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
<b>0</b>	Cartridge only	
<b>3B</b>	3/8" BSPP	02-175462*
<b>2G</b>	1/4" BSPP	876702
<b>3G</b>	3/8" BSPP	876703
<b>6T</b>	SAE 6	566151*
<b>6H</b>	SAE 6	876700
<b>8H</b>	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.

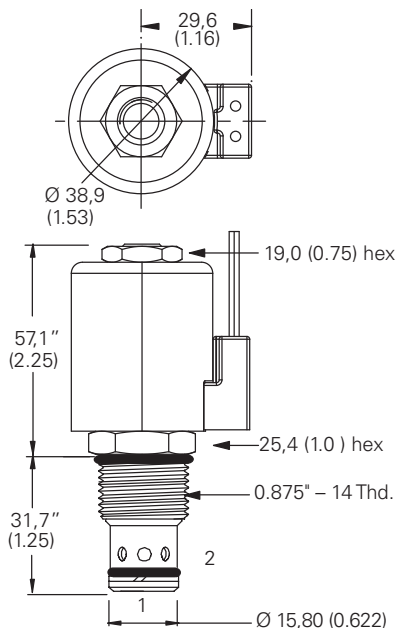
### 10 Special features

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

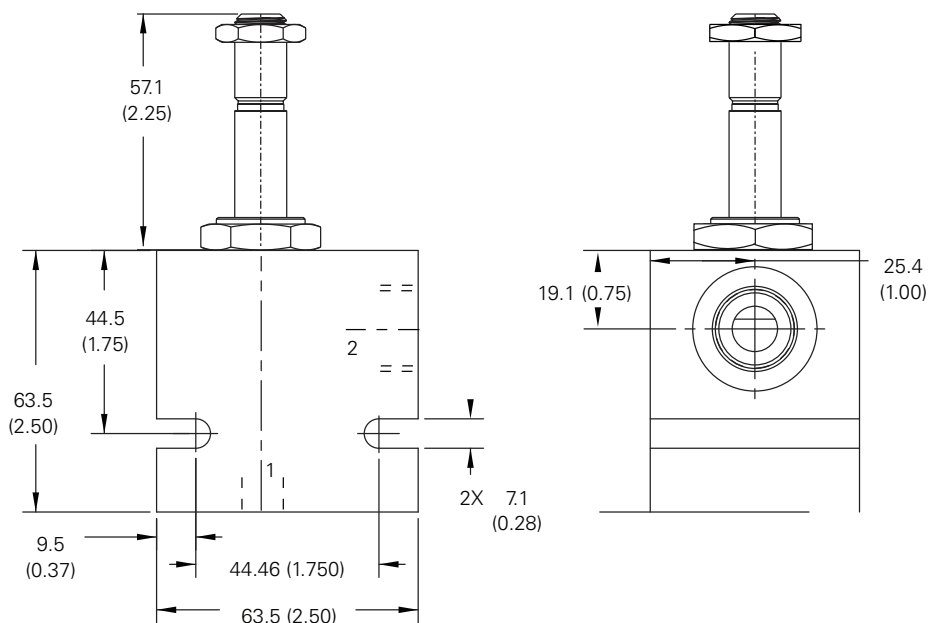
**Note:** Use J series, 23 W coils with this solenoid valve.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing



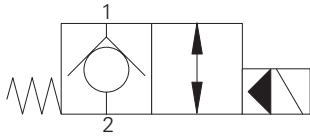
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

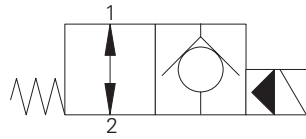


### Operation

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

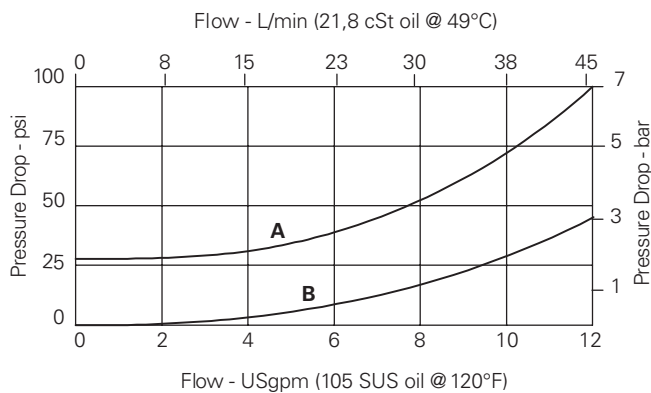
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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

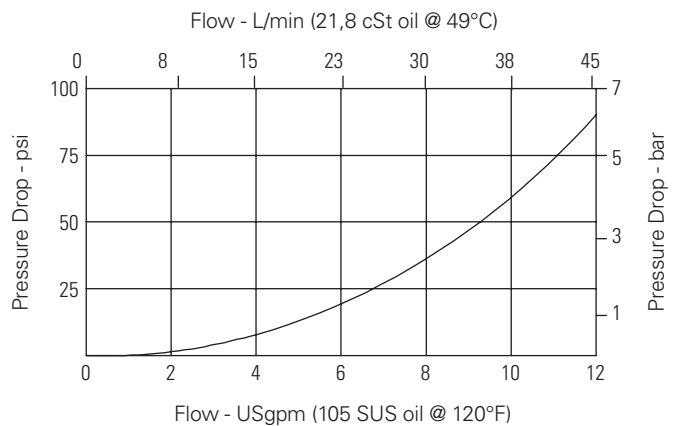
Cartridge only



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

## SV13-10-C Pressure drop

Cartridge only



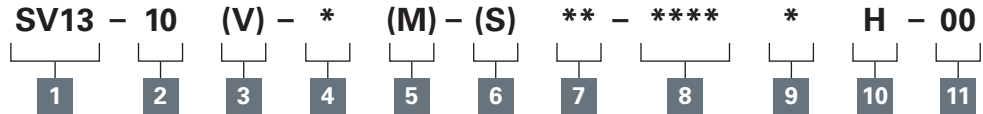
Port 1 to port 2 and port 2  
to port 1 de-energized

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
<b>0</b>	Cartridge only	
<b>2G</b>	1/4" BSPP	02-175102
<b>3G</b>	3/8" BSPP	02-175103
<b>6T</b>	SAE 6	02-175100
<b>8T</b>	SAE 8	02-175101

See section J for housing details.

### 8 Voltage rating

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

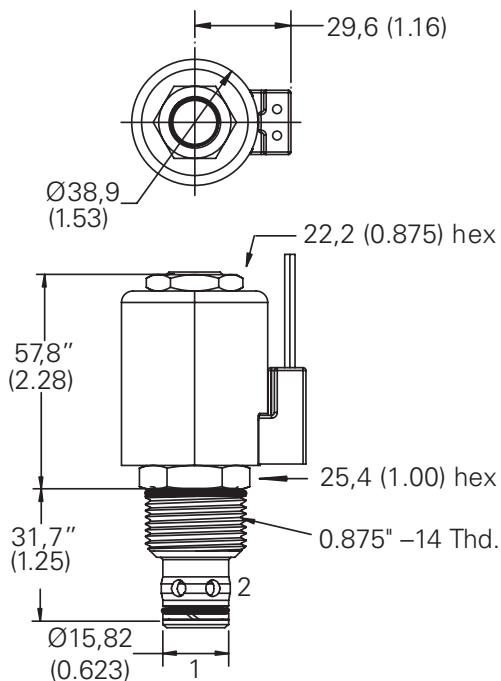
**H** - 10 Series, 29 W  
For coil part numbers and dimensions see section C.

### 11 Special features

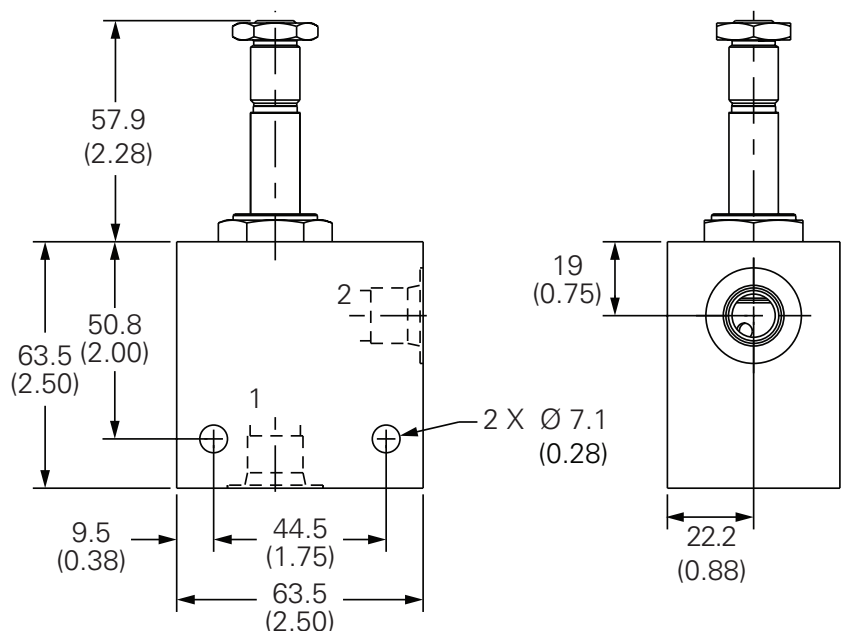
**00** - None  
(Only required if valve has special features, omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

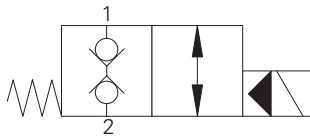


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

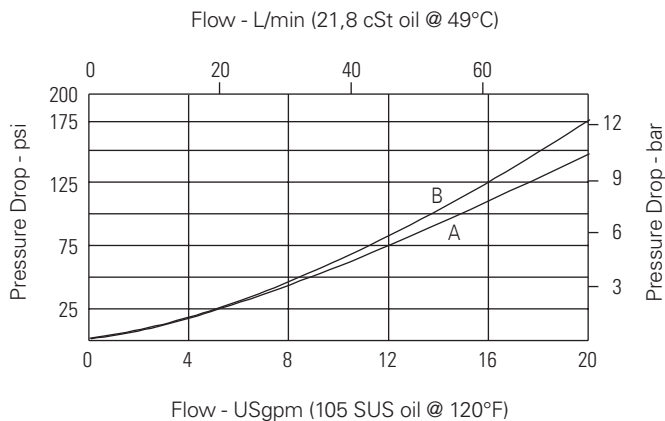
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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.

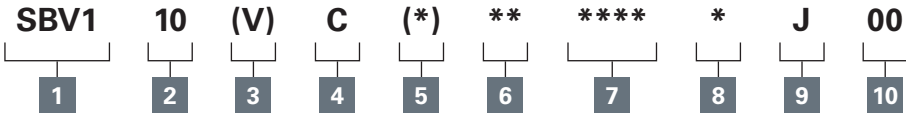


# SBV1-10-C - Solenoid valve

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
<b>0</b>	Cartridge only		
<b>2G</b>	1/4" BSPP	876702	02-175102
<b>3G</b>	3/8" BSPP	876703	02-175103
<b>3B</b>	3/8" BSPP	02-175462	-
<b>6H</b>	SAE 6	876700	-
<b>6T</b>	SAE 6	566151	02-175100
<b>8H</b>	SAE 8	876701	-
<b>8T</b>	SAE 8	-	02-175101

See section J for housing details.

**7 Voltage rating**

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

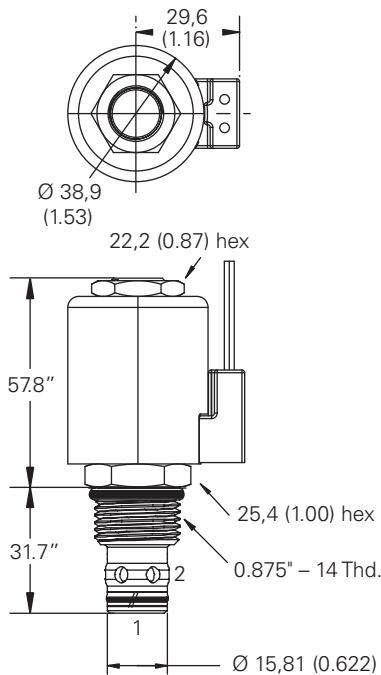
**J** - 10 series, 23 W  
For coil part numbers and dimensions see section C.

**10 Special features**

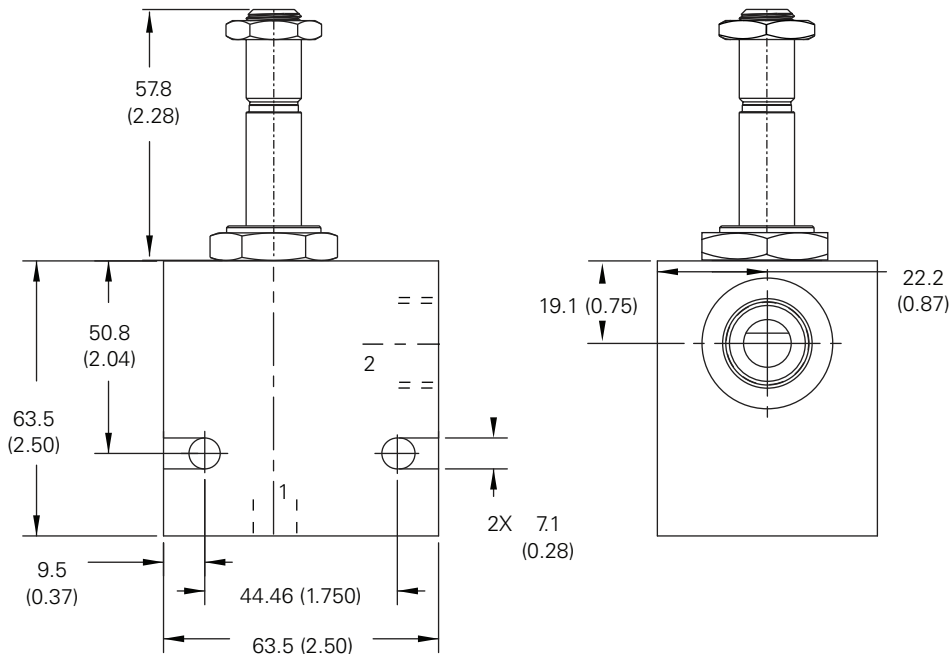
**00** - None  
(Only required if valve has special features, omitted if "00.")

**Dimensions - mm (inch)**

**Cartridge only**



**Installation drawing (Aluminum)**



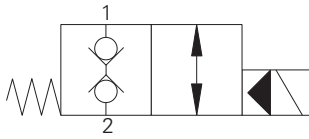
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

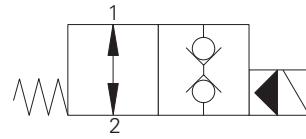


### Operation

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

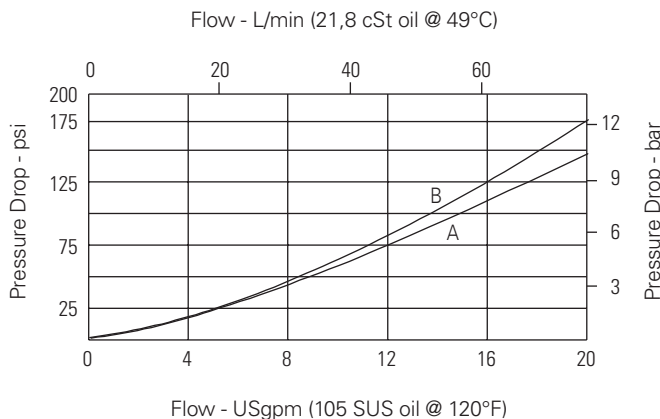
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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

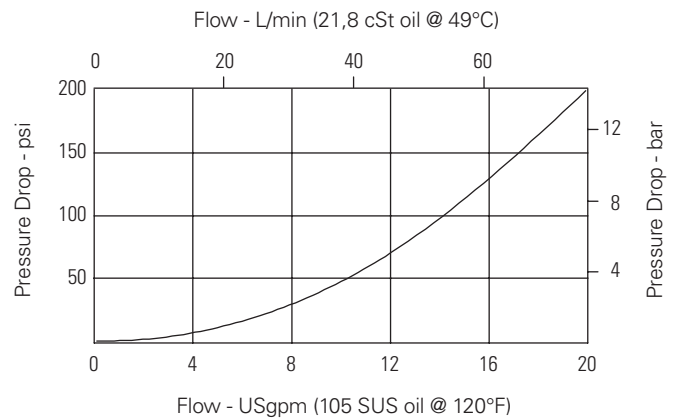
Cartridge only



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

## SBV11-10-O Pressure drop

Cartridge only



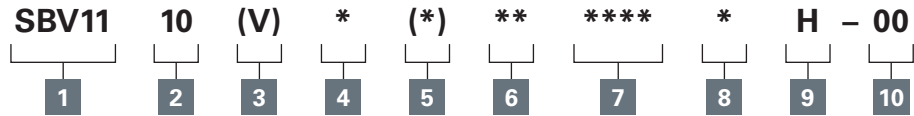
Port 1 to port 2 or port 2 to port 1 de-energized

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



### 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
<b>0</b>	Cartridge only		
<b>2G</b>	1/4" BSPP	876702	02-175102
<b>3G</b>	3/8" BSPP	876703	02-175103
<b>3B</b>	3/8" BSPP	02-175462	-
<b>6H</b>	SAE 6	876700	-
<b>6T</b>	SAE 6	566151	02-175100
<b>8H</b>	SAE 8	876701	-
<b>8T</b>	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

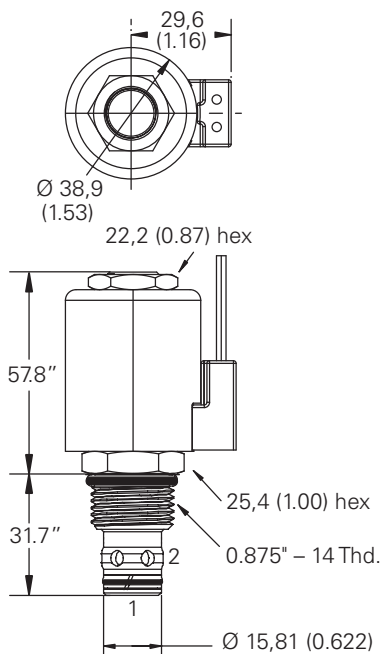
**H** - 10 series, 29 W  
For coil part numbers and dimensions see section C.

### 10 Special features

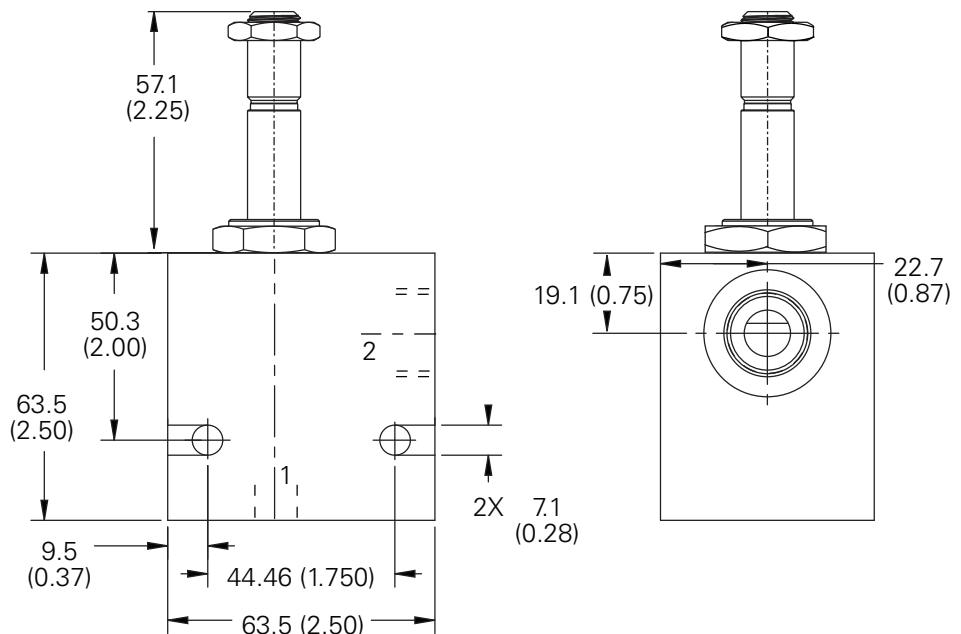
**00** - None  
(Only required if valve has special features, omitted if "00.")

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing (Steel)



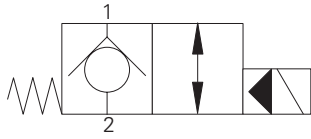
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

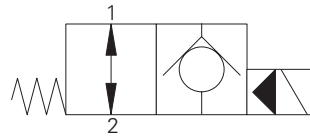


### Operation

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

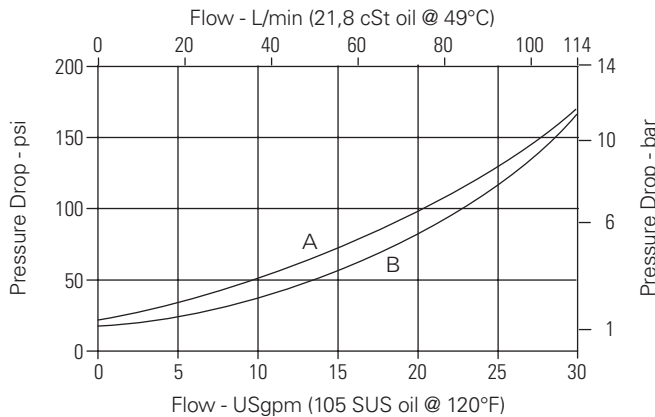
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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

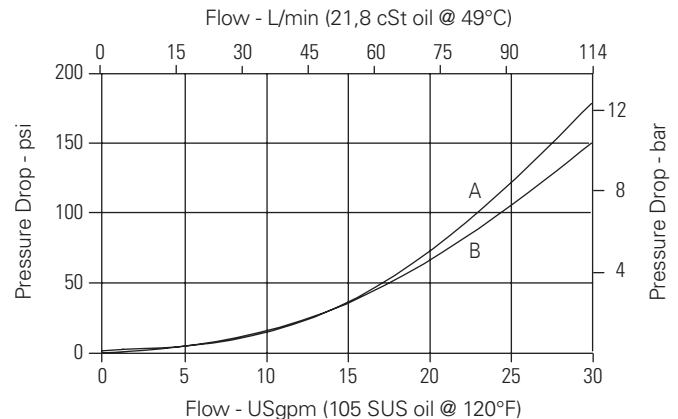
Cartridge only



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

## SV3-12-O Pressure drop

Cartridge only



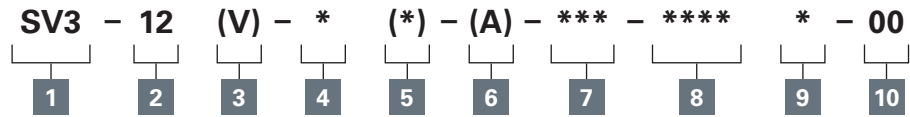
**A** - Port 2 to port 1 de-energized  
**B** - Port 1 to port 2 energized

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\*

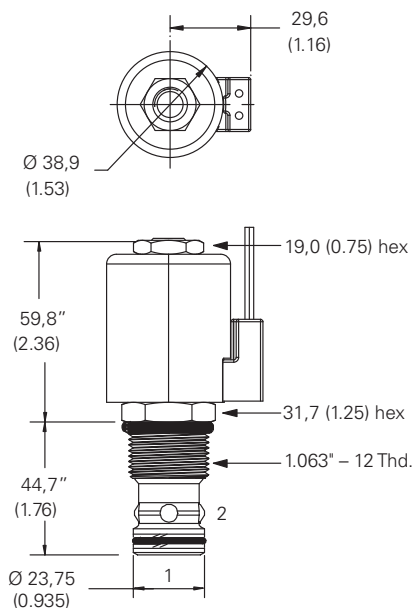
24B - 24VDC/w diode\*

\*Optional arc suppression diode.

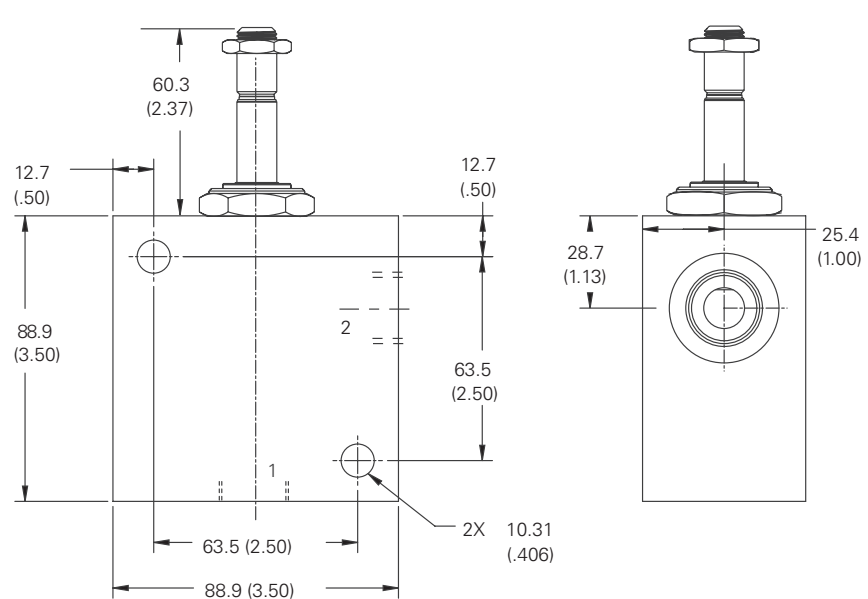
Note: Use J series, 23 W coils with this solenoid valve.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing (Aluminum)



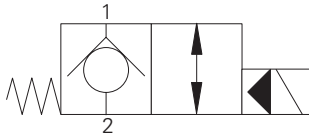
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

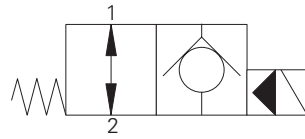


### Operation

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

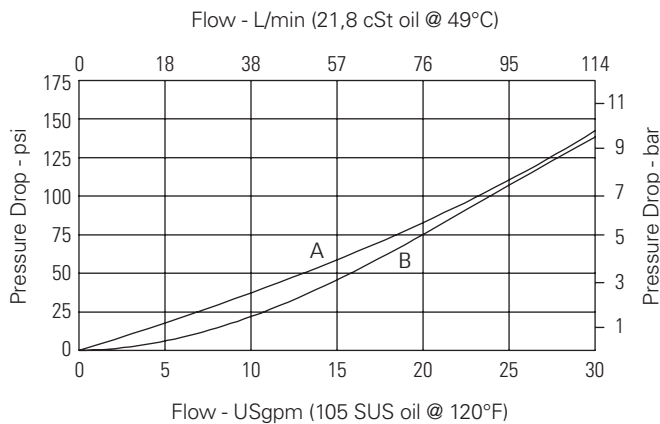
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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

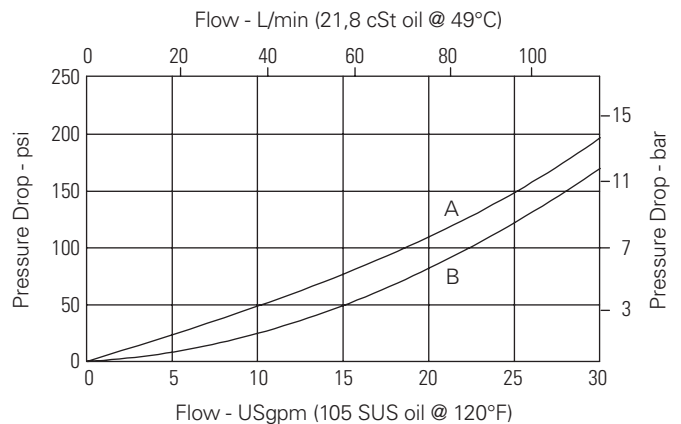
Cartridge only



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

## SV13-12-O Pressure drop

Cartridge only



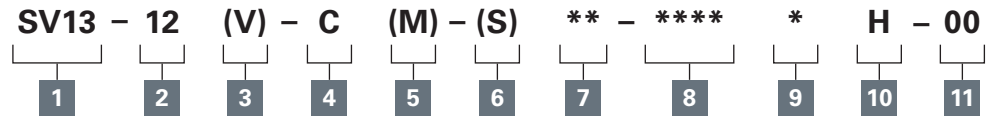
**A** - Port 1 to port 2 de-energized  
**B** - Port 2 to port 1 de-energized

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

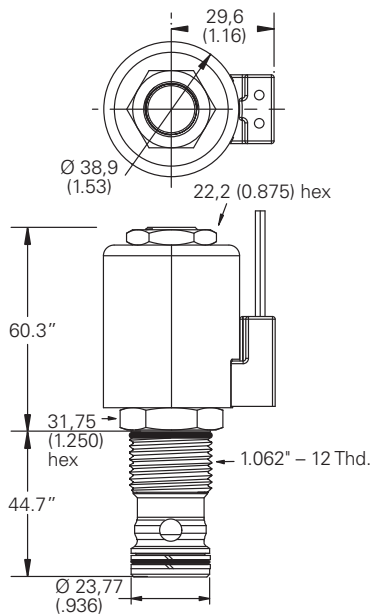
00 - None  
(Only required if valve has special features, omitted if "00.")

### 8 Voltage rating

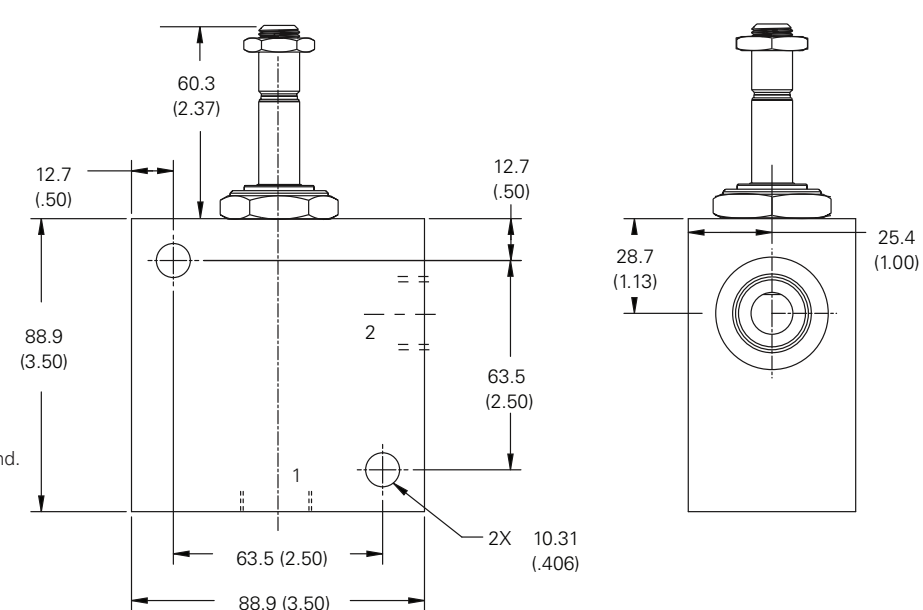
00 - No coil  
12D - 12VDC  
24D - 24VDC  
115A - 115VAC  
230A - 230VAC  
12B - 12VDC/w diode\*  
24B - 24VDC/w diode\*  
\*Optional arc suppression diode.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing (Steel)

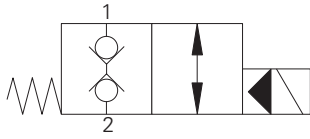


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# SBV1-12-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

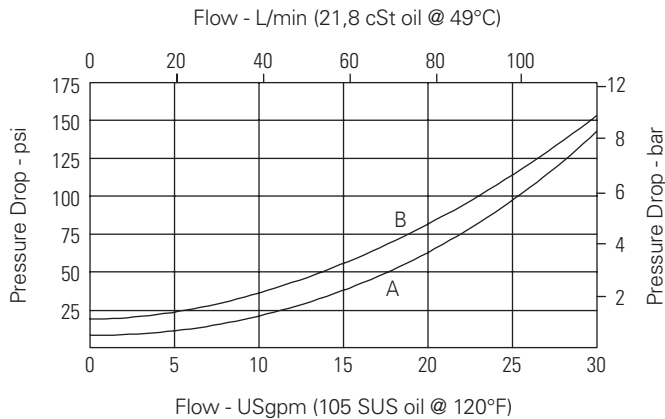
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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.

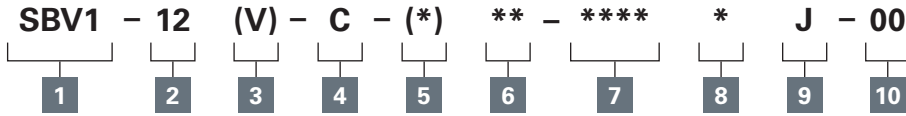


# SBV1-12-C - Solenoid valve

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

A

**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.

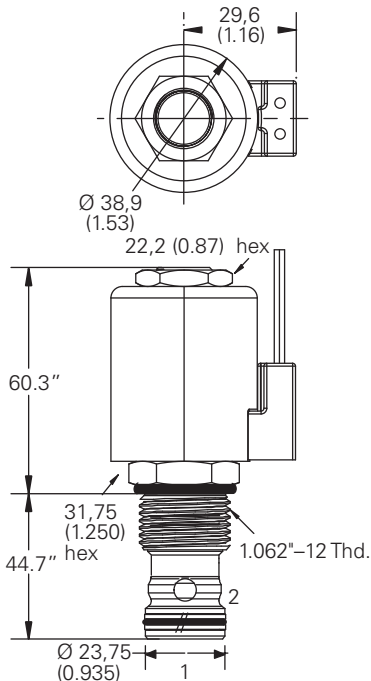
**10 Special features**

00 - None

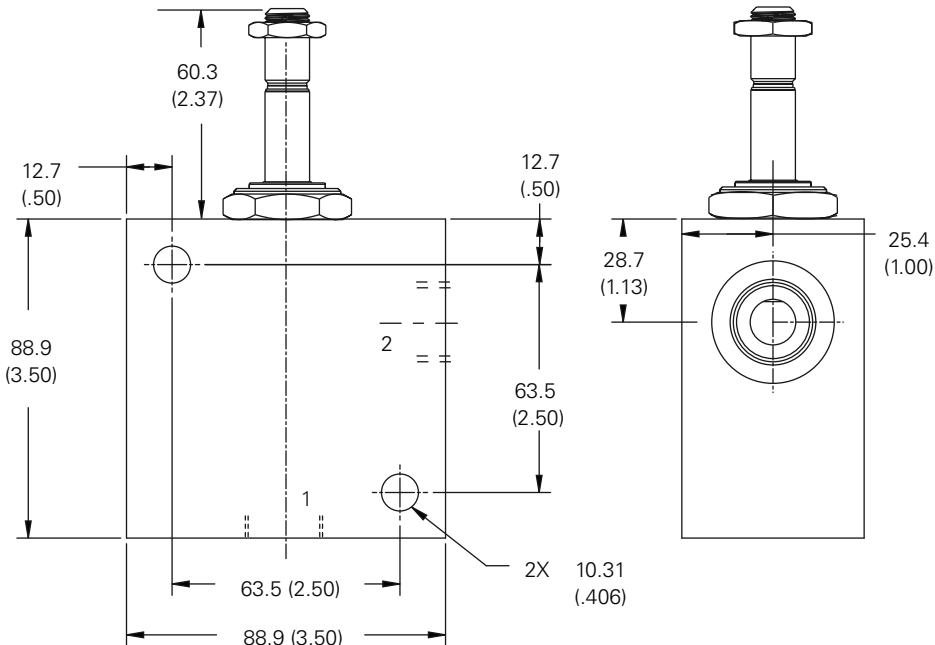
(Only required if valve has special features, omitted if "00.")

**Dimensions - mm (inch)**

**Cartridge only**



**Installation drawing (Aluminum)**



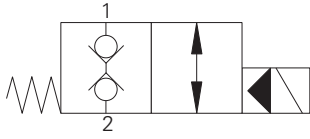
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

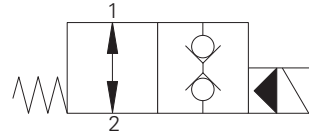


### Operation

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

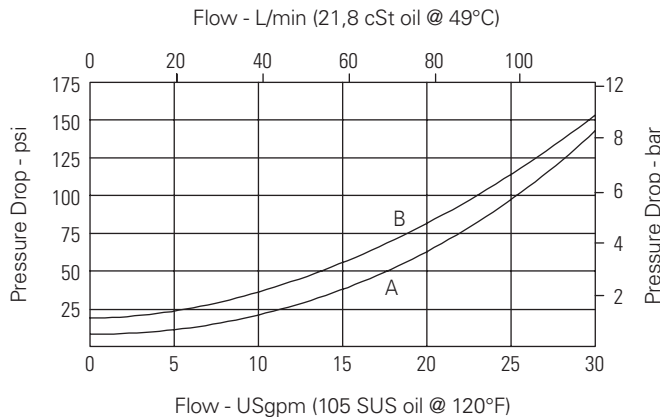
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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

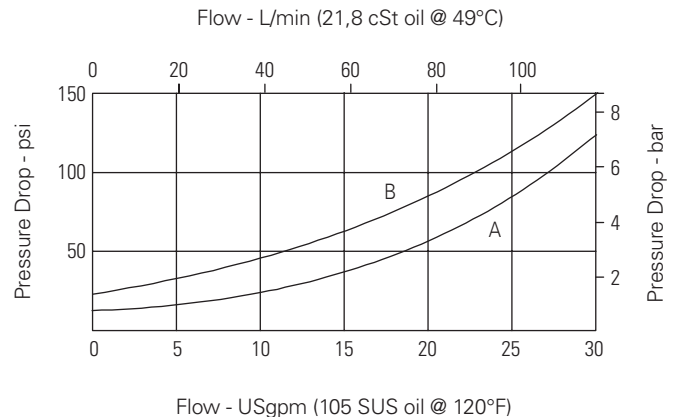
Cartridge only



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

## SBV11-12-O Pressure drop

Cartridge only



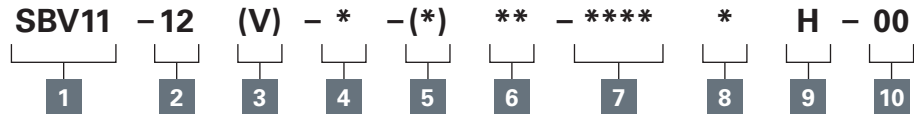
A - Port 1 to port 2  
 B - Port 2 to port 1

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
<b>0</b>	Cartridge only		
<b>4G</b>	1/2" BSPP	02-161118	02-172062
<b>4GU</b>	1/2" BSPP	02-161116	02-172512
<b>6G</b>	3/4" BSPP	02-161117	02-169665
<b>6GU</b>	3/4" BSPP	02-161115	02-162922
<b>10T</b>	SAE 10	02-160640	02-169744
<b>10TU</b>	SAE 10	02-160641	02-169817
<b>12T</b>	SAE 12	02-160644	02-169782
<b>12TU</b>	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.

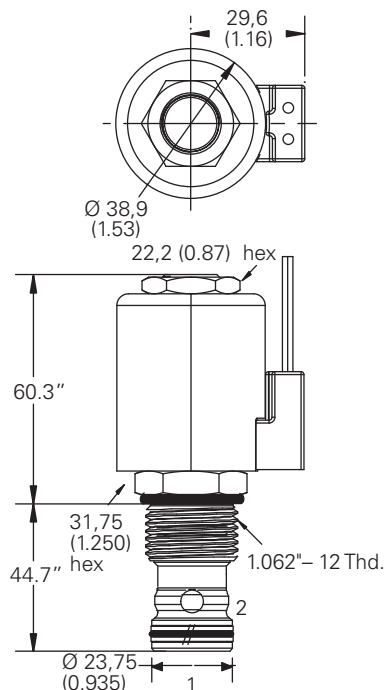
### 10 Special features

**00** - None

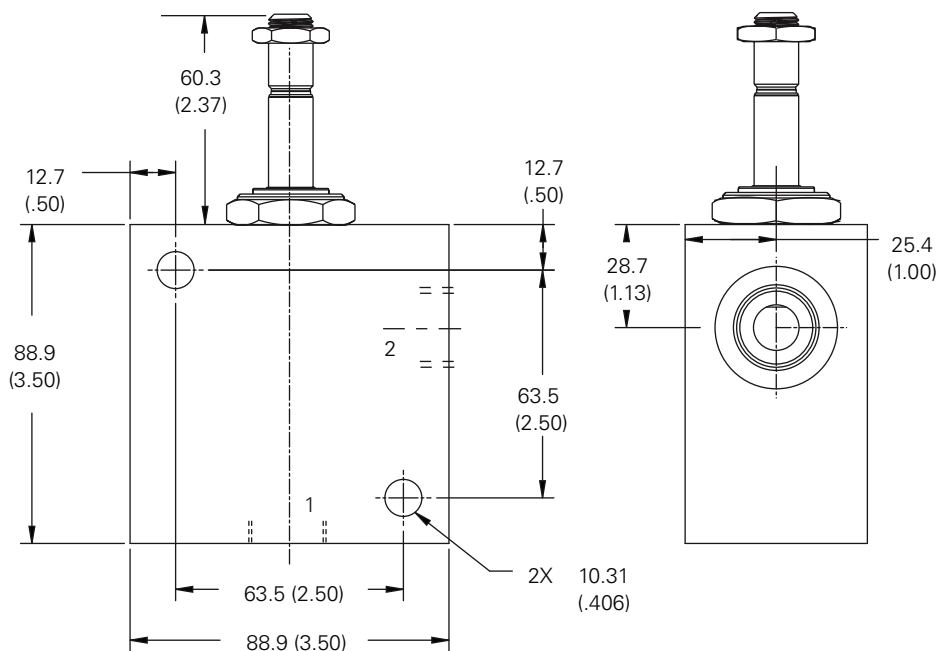
(Only required if valve has special features, omitted if "00.")

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing (Steel)



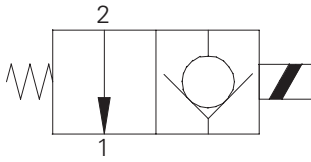
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

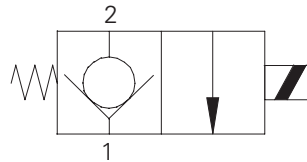
## S205 Normally Open



### 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

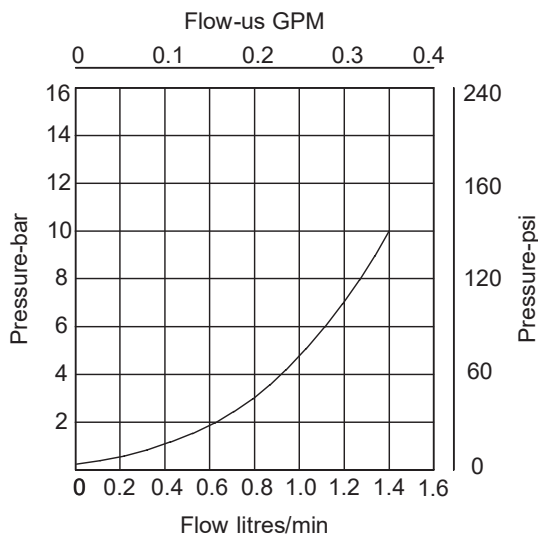
Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)

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

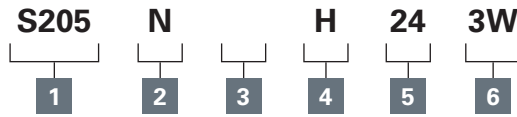


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

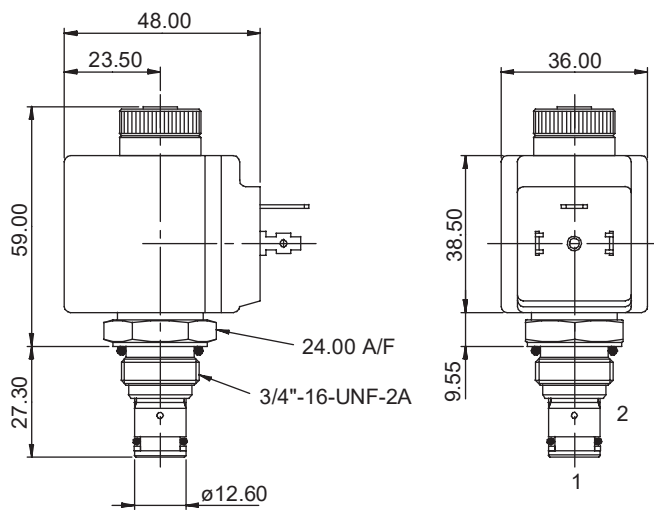
**F** - Flying Leads

**DM** - Deutsch Moulded

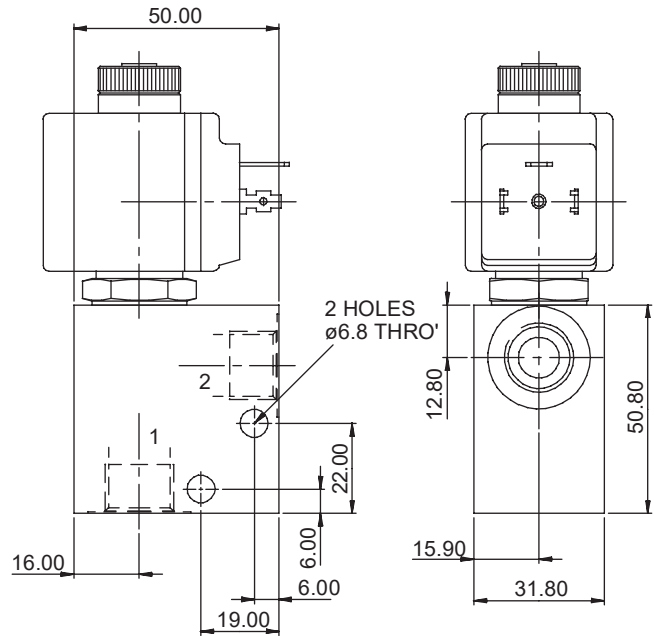
Other terminations available on request

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

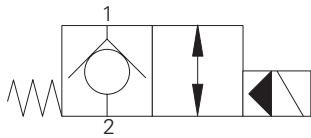


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

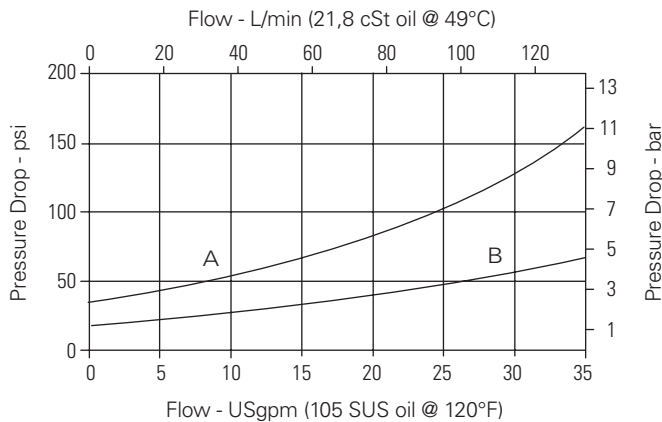
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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

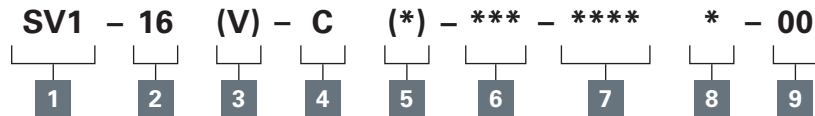
B - Port 1 to port 2 de-energized

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.

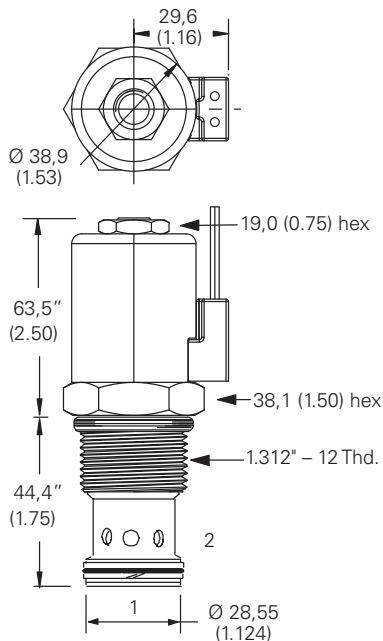
### 9 Special features

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

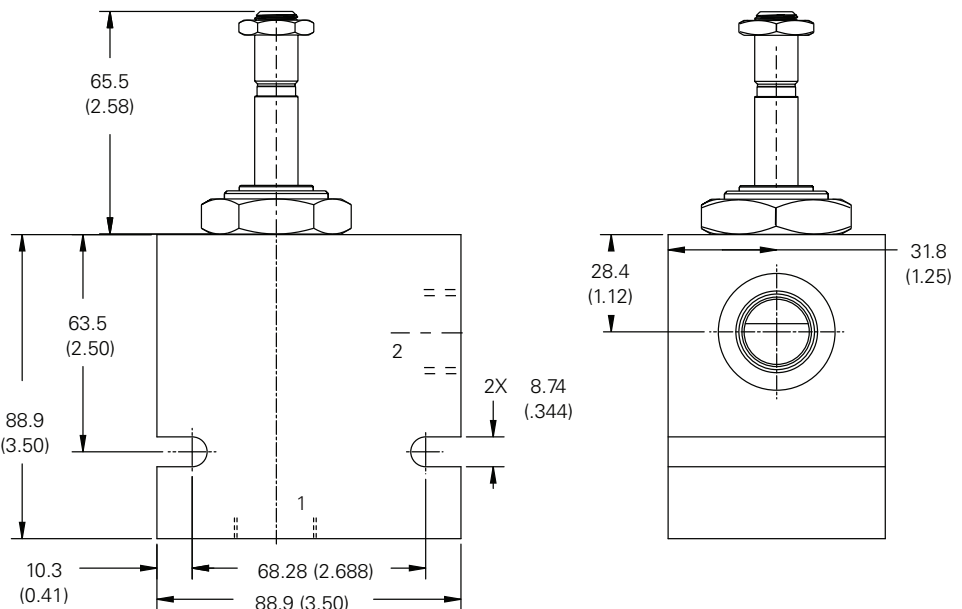
Notes: Use J series, 23 W coils with this solenoid valve.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawings



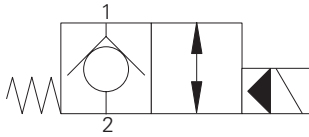
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

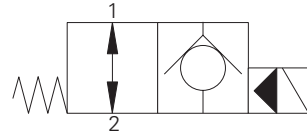


### Operation

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

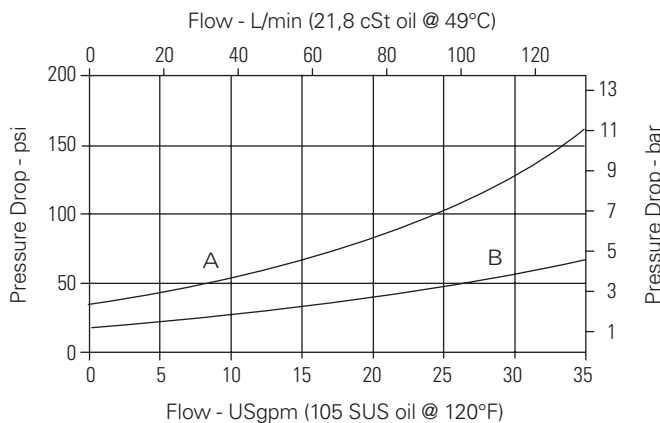
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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®)

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## SV13-16-C Pressure drop

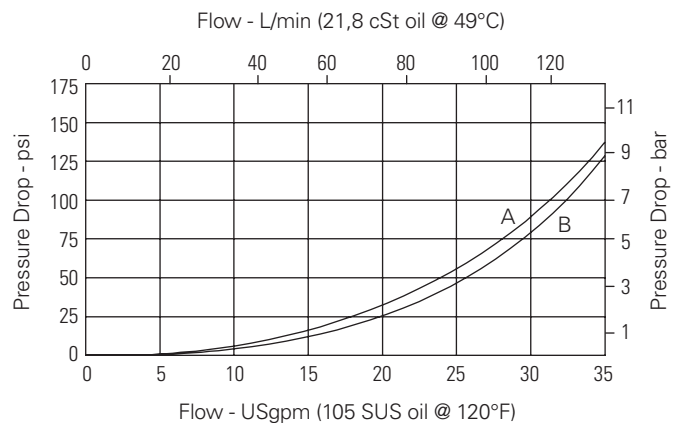
Cartridge only



- 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

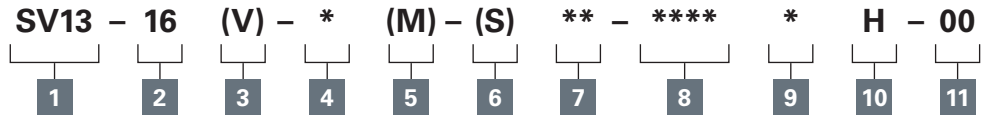
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.



# 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
<b>0</b>	Cartridge only	
<b>4G</b>	1/2" BSPP	02-175106
<b>6G</b>	3/4" BSPP	02-175107
<b>10T</b>	SAE 10	02-175104
<b>12T</b>	SAE 12	02-175105

See section J for housing details.

### 8 Voltage rating

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

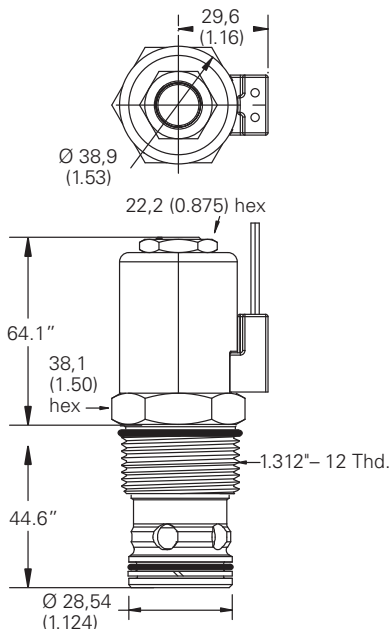
**H** - 10 Series, 29 W  
For coil part numbers and dimensions see section C.

### 11 Special features

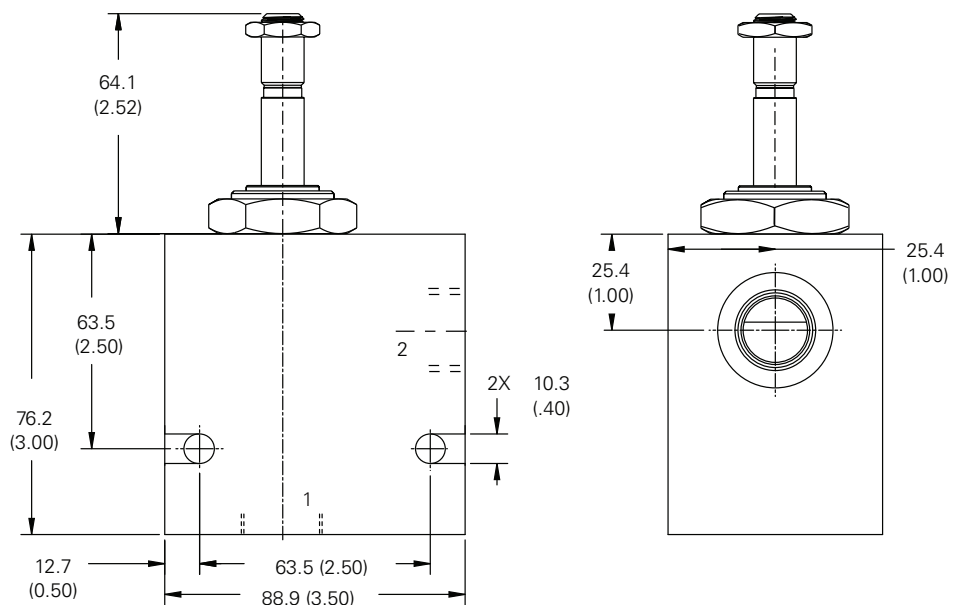
**00** - None  
(Only required if valve has special features, omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

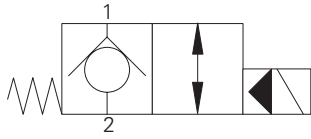


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

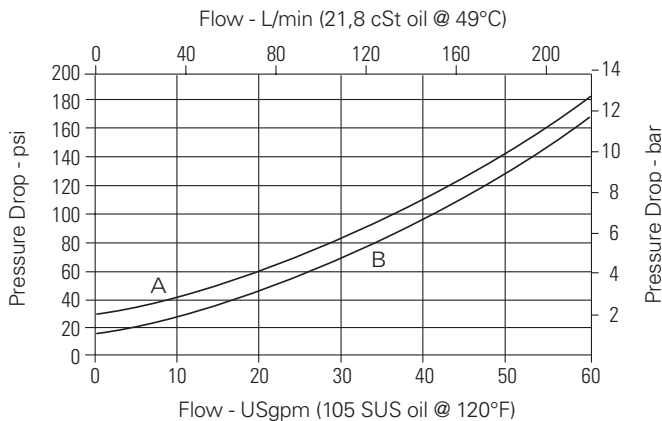
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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

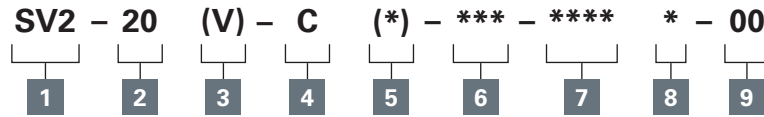
**B** - Port 2 to port 1 energized

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

# 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)

## Model code



A

### 1 Function

SV2 - Solenoid valve

### 2 Size

20 - 20 size

### 3 Seal material

Blank - Buna-N

V - Viton®

### 4 Style

C - Normally closed

### 5 Manual override option

Blank - No manual override

M - Knob type

R - Cable type

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

### 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

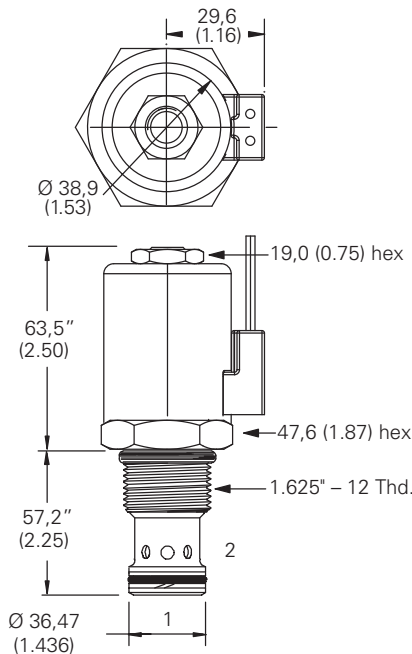
00 - None

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

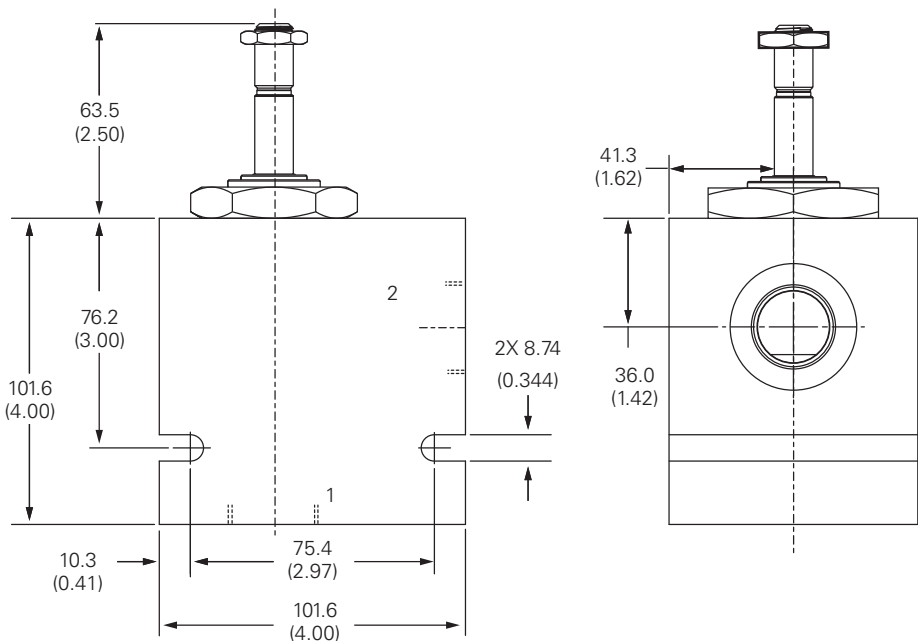
**Note:** Use J series, 23 W coils with this solenoid valve.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing



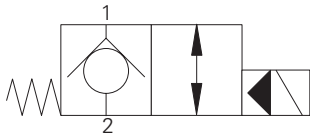
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# SV13-20-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

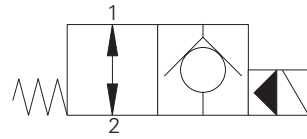


### Operation

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

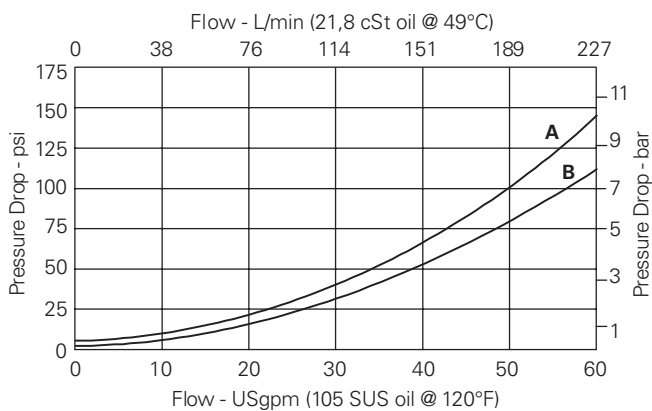
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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®)

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## SV13-20-C Pressure drop

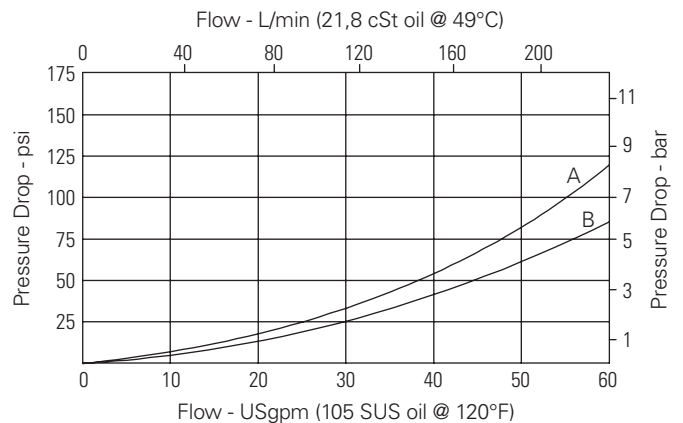
Cartridge only



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

## SV13-20-O Pressure drop

Cartridge only



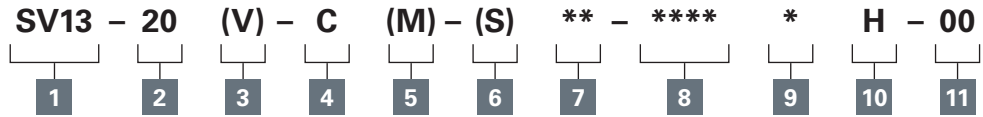
- A** - Port 2 to port 1 de-energized
- B** - Port 1 to port 2

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
<b>0</b>	Cartridge only	
<b>6G</b>	3/4" BSPP	02-175110
<b>8G</b>	1" BSPP	02-175111
<b>12T</b>	SAE 12	02-175108
<b>16T</b>	SAE 16	02-175109

See section J for housing details.

### 8 Voltage rating

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

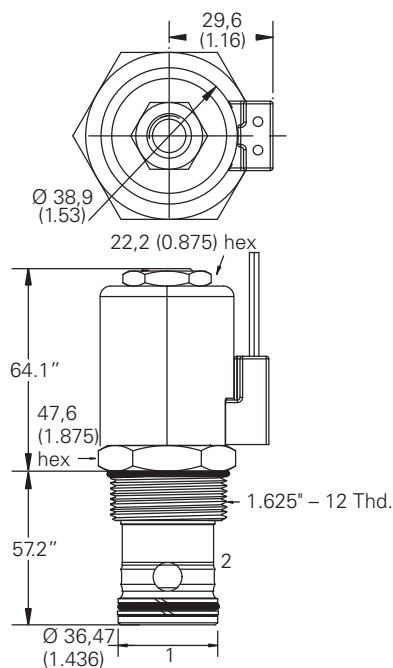
**H** - 10 Series, 29 W  
For coil part numbers and dimensions see section C.

### 11 Special features

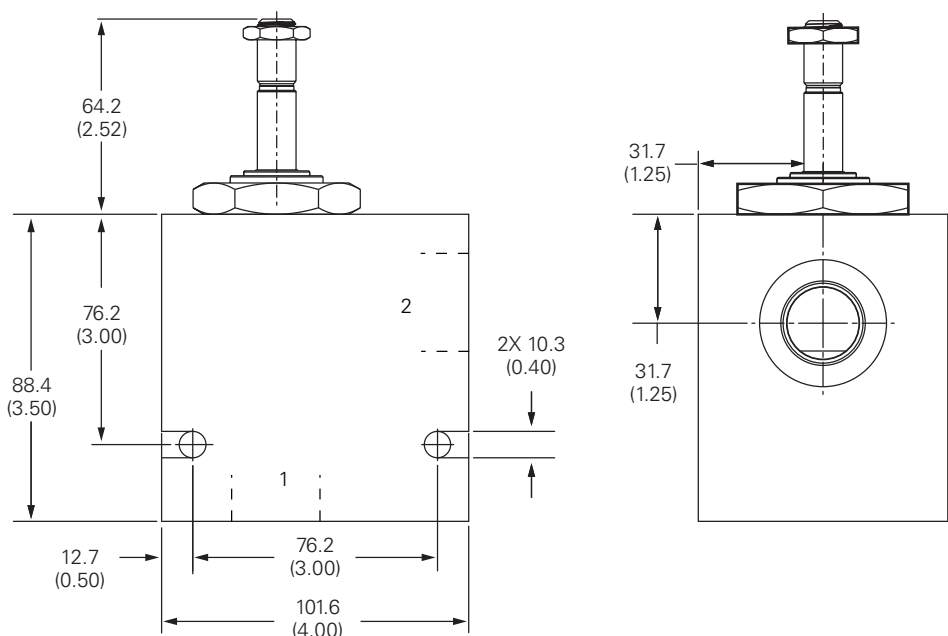
**00** - None  
(Only required if valve has special features, omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing



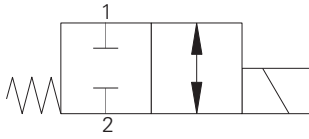
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

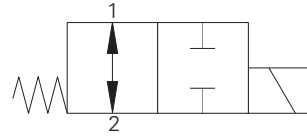
## SV4-8-C Normally Closed



### 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

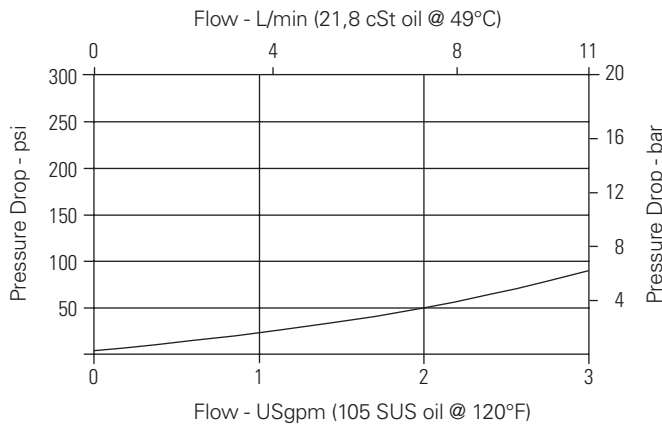
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	11 L/min (3 USgpm)
Internal leakage	82 cm <sup>3</sup> /min (5 in <sup>3</sup> /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

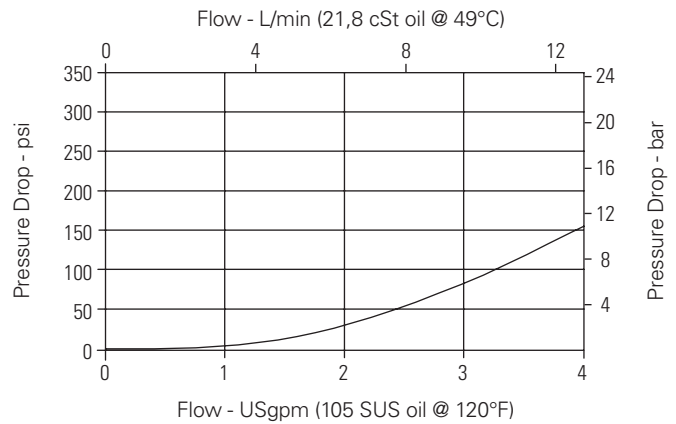
Cartridge only



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

## SV4-8-O Pressure drop

Cartridge only



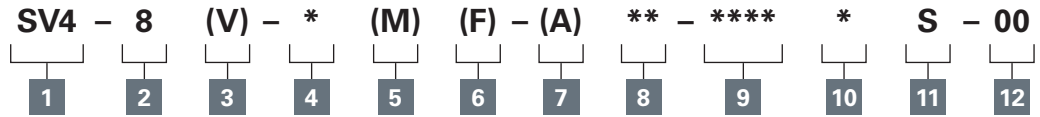
Port 2 to port 1 de-energized  
 Port 1 to port 2 de-energized

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
<b>0</b>	Cartridge only	
<b>2G</b>	1/4" BSP	02-160727
<b>3G</b>	3/8" BSP	02-160728
<b>4T</b>	SAE 4	02-160730
<b>6T</b>	SAE 6	02-160731
<b>8T</b>	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

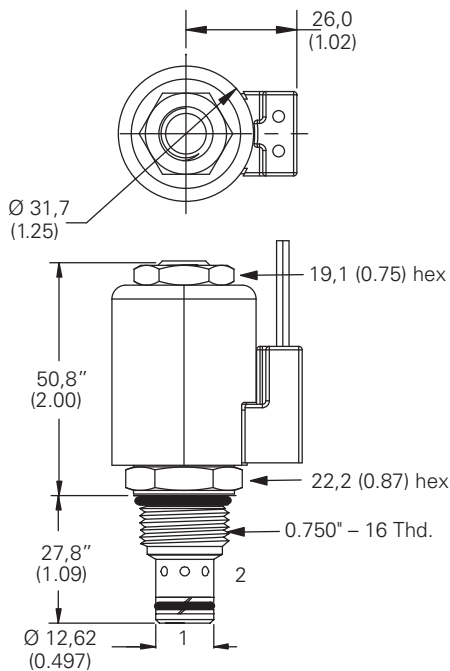
**S** - 8 series, 20 W  
For coil part numbers and dimensions see section C.

### 12 Special features

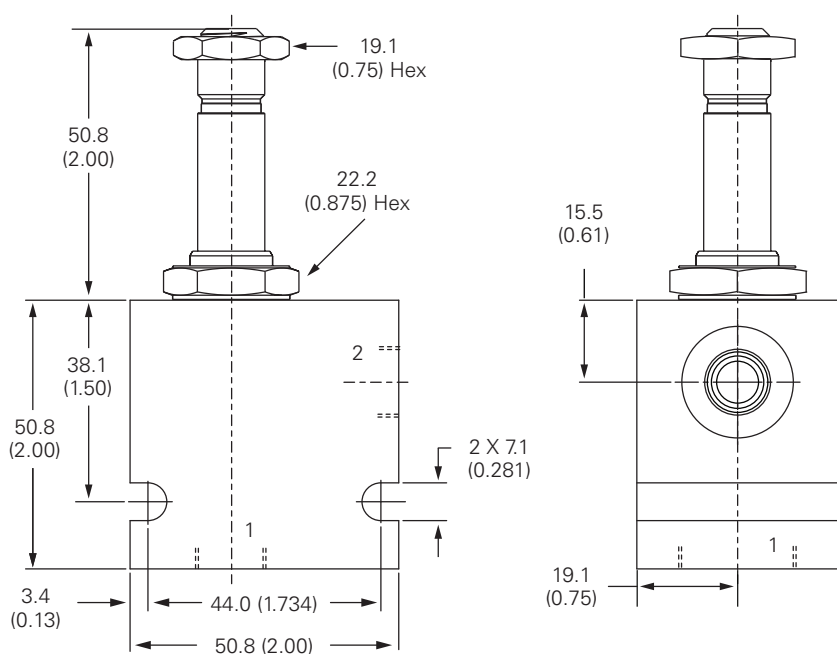
**00** - None  
(Only required if valve has special features, omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing



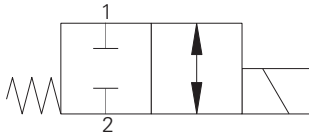
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

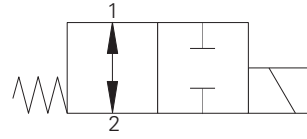
## SV14-8-C Normally Closed



### 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

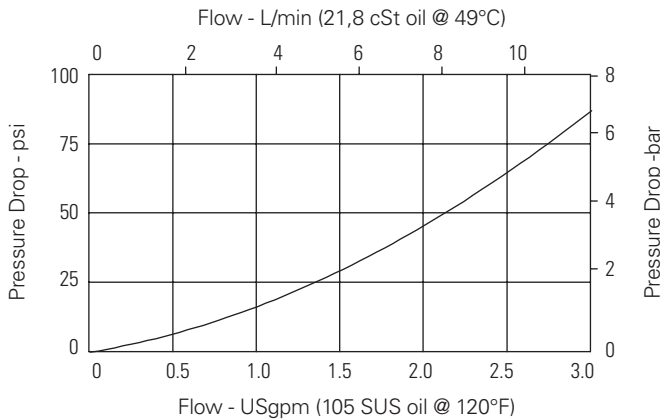
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 psi)
Rated flow	11 L/min (3 USgpm)
Internal leakage, port 2 to port 1	140cm <sup>3</sup> (8.5in <sup>3</sup> /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

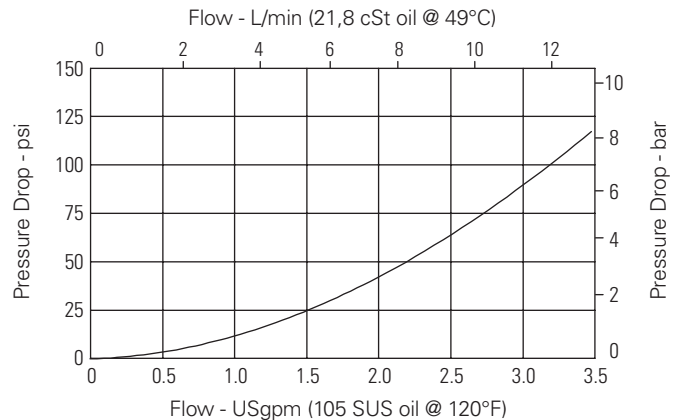
Cartridge only



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

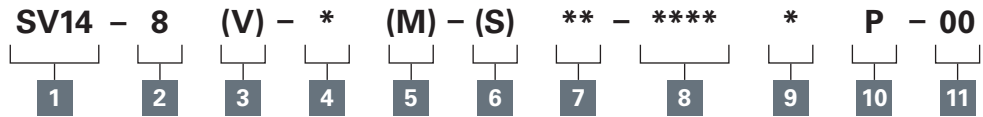
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.



# 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

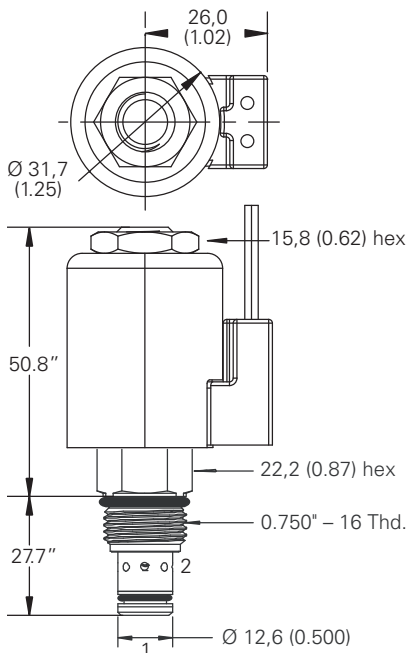
00 - None  
(Only required if valve has special features, omitted if "00".)

### 8 Voltage rating

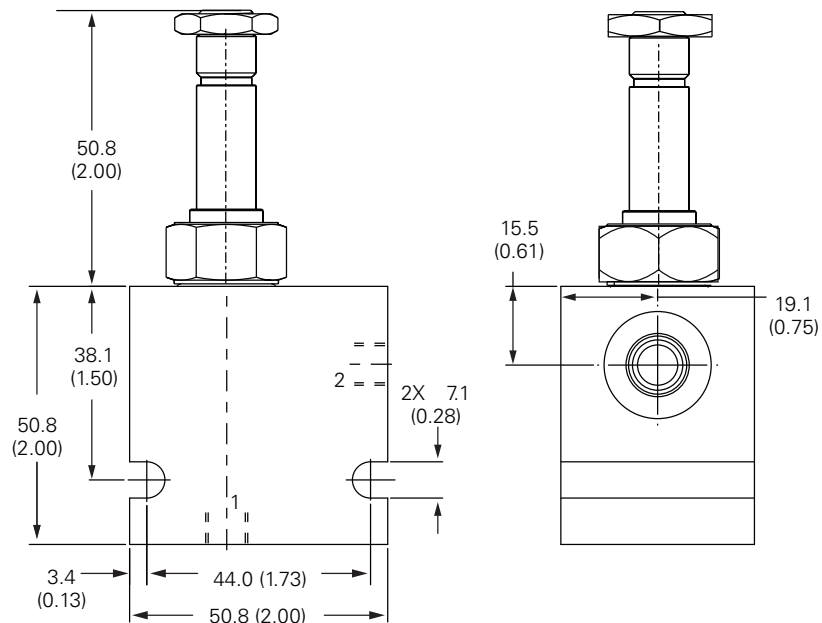
00 - No coil  
12D - 12VDC  
24D - 24VDC  
115A - 115VAC  
230A - 230VAC  
12B - 12VDC/w diode\*  
24B - 24VDC/w diode\*  
\*Optional arc suppression diode.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing



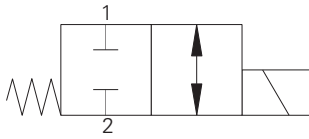
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

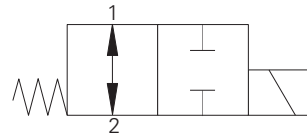


### Operation

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

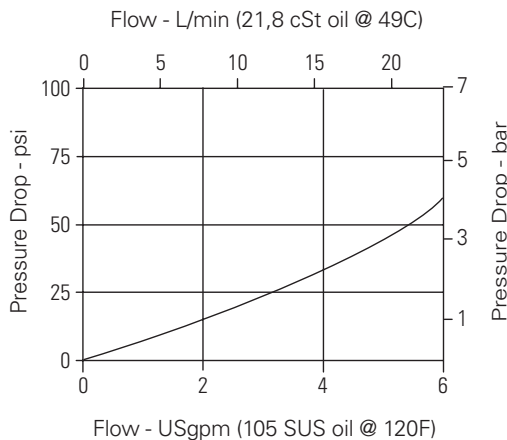
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	82 cm <sup>3</sup> /min (5 in <sup>3</sup> /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

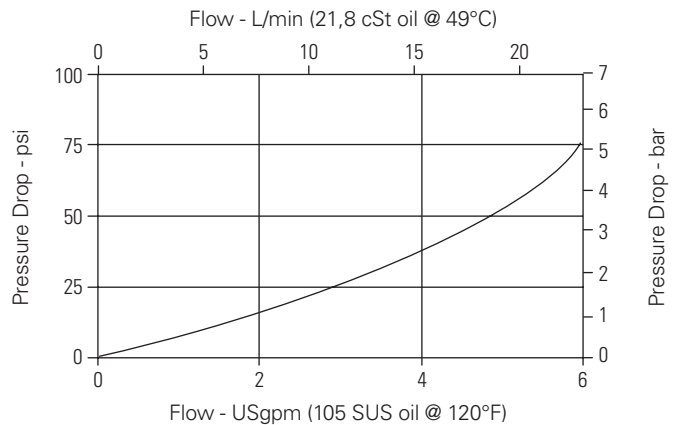


### Pressure drop vs. Flow

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

## SV4-10-O Pressure drop

Cartridge only



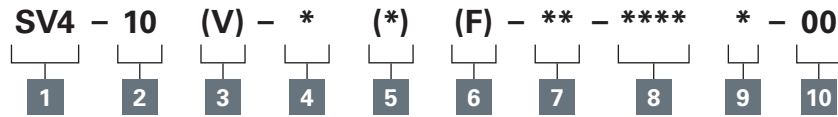
Port 2 to port 1 or  
 Port 1 to port 2 de-energized

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".)

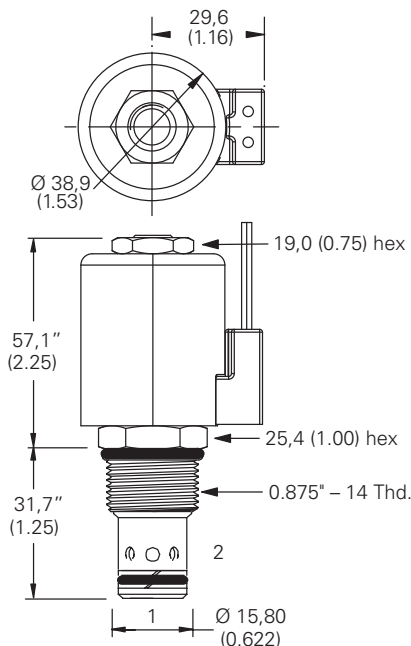
**Note:** Use J series, 23 W coils with this solenoid valve.

### 8 Voltage rating

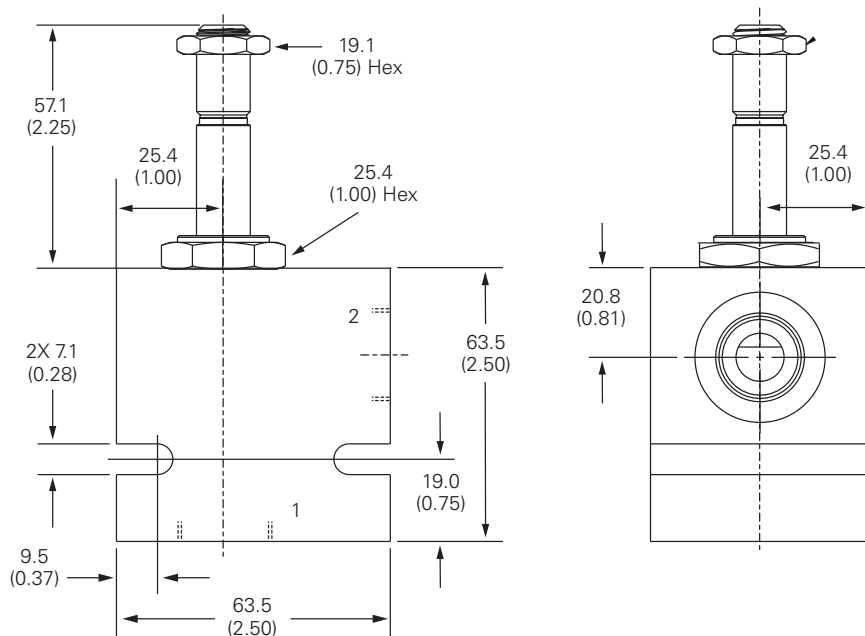
00 - No coil  
12D - 12VDC  
24D - 24VDC  
115A - 115VAC  
230A - 230VAC  
12B - 12VDC/w diode\*  
24B - 24VDC/w diode\*  
\*Optional arc suppression diode.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing



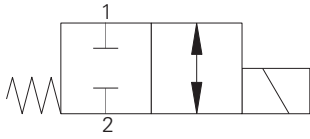
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

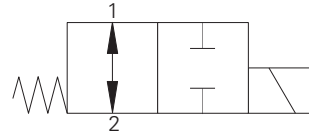
## SV14-10-C Normally Closed



### 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

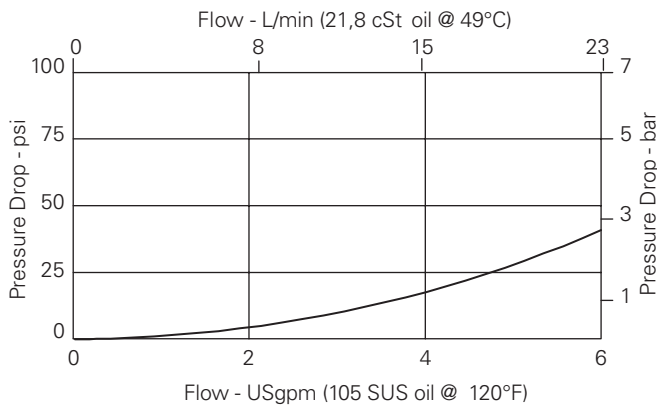
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	140 cm <sup>3</sup> /min (8.5 in <sup>3</sup> /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

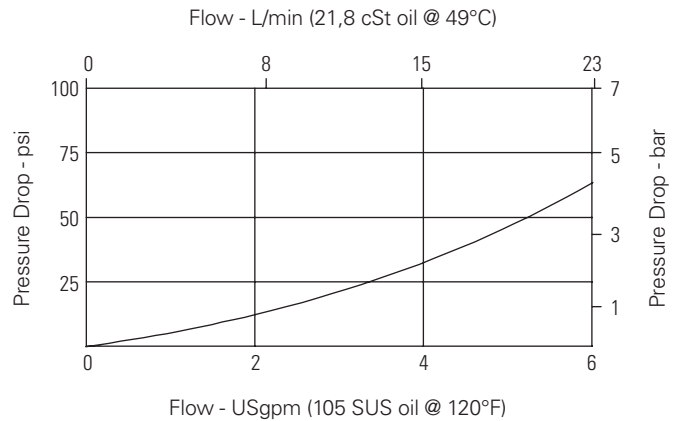
## SV14-10-C Pressure drop

Cartridge only



## SV14-10-O Pressure drop

Cartridge only



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

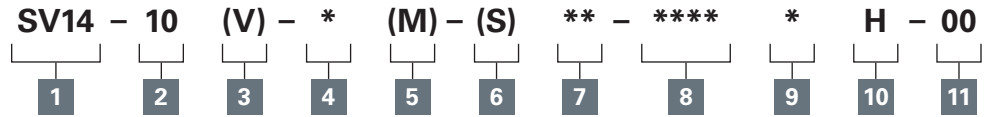
Port 2 to port 1 or  
 Port 1 to port 2 de-energized

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

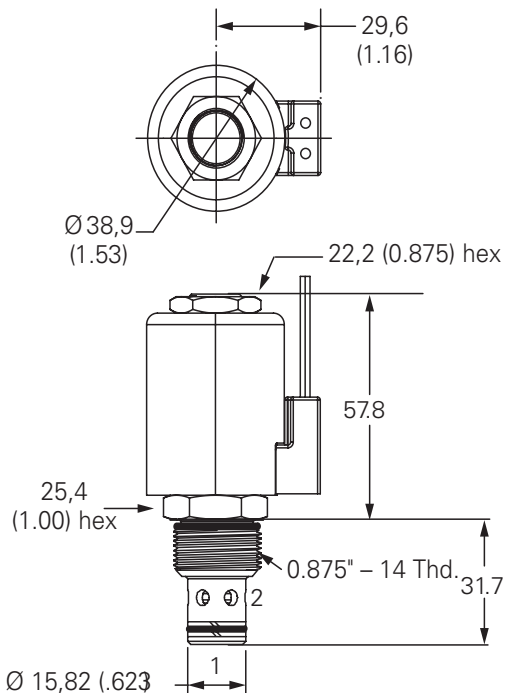
H - 10 Series, 29 W  
For coil part numbers and dimensions see section C.

### 11 Special features

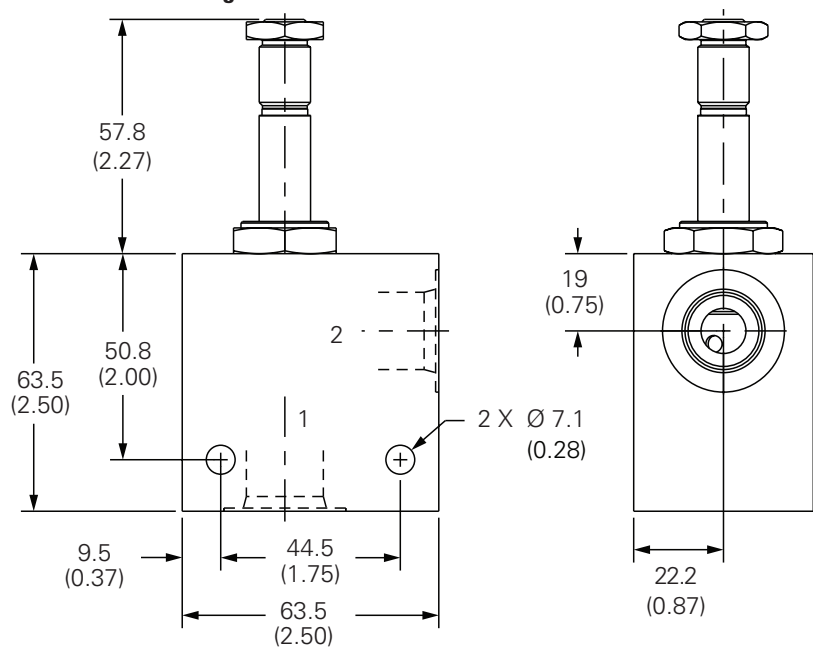
00 - None  
(Only required if valve has special features, omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

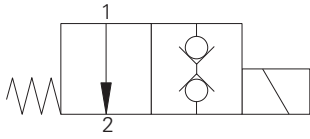


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

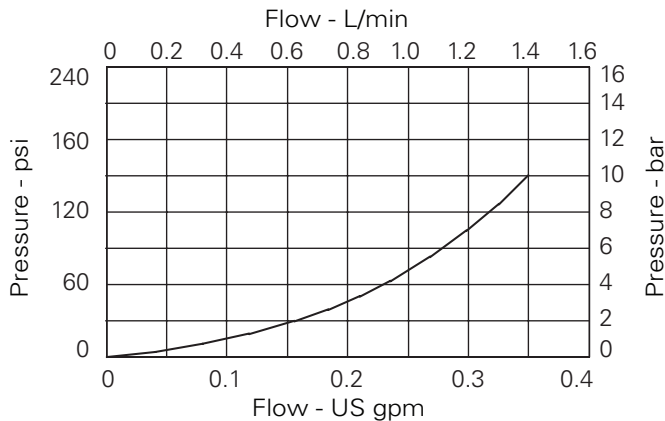
Performance data is typical with viscosity at 32 cST (150 SSU)

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

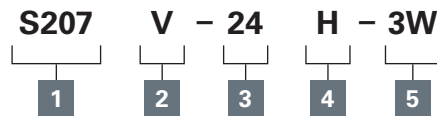


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

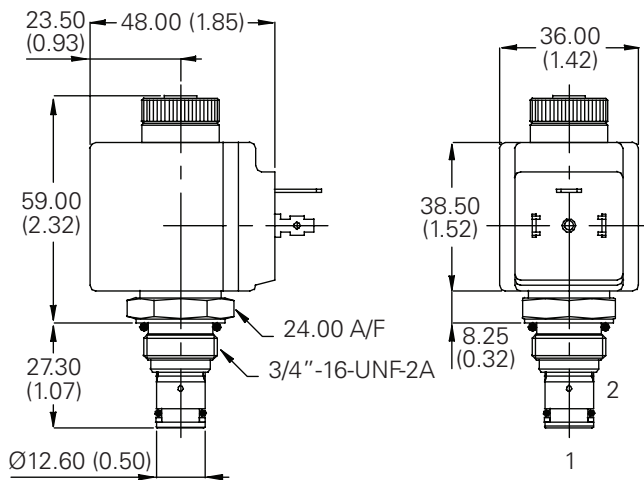
**4 Coil Termination**  
**H** - DIN43650  
**F** - Flying lead  
**DM** - Deutsch moulded  
 Other terminations available on request.

**5 Port sizes**

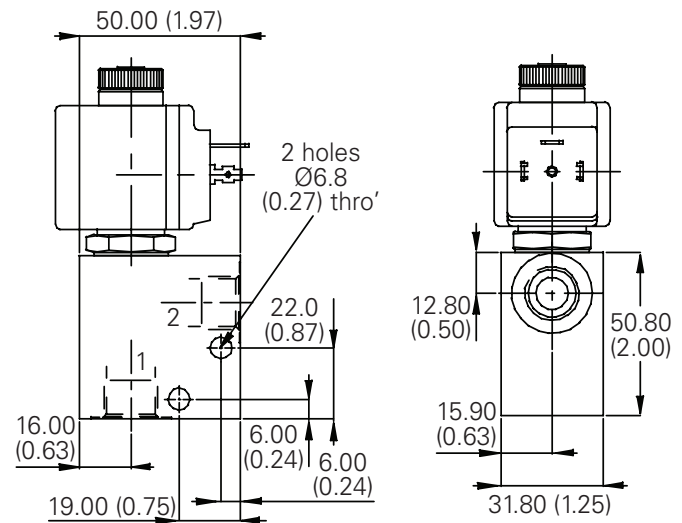
Code	Port size	Housing number - Body only	
		Aluminium	Steel
<b>2W</b>	1/4" BSP	A1485	
<b>3W</b>	3/8" BSP	A1043	A14175
<b>6T</b>	3/8" SAE	A15676	A14843

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing (Aluminum, steel)

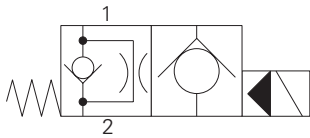


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

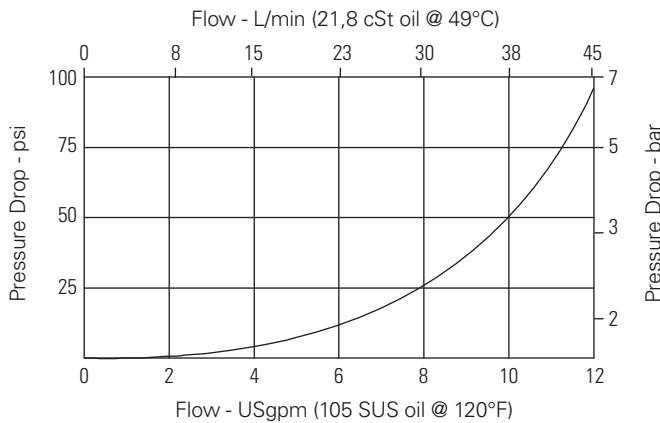
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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®)

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## Pressure drop

Cartridge only



Port 2 to port 1 de-energized

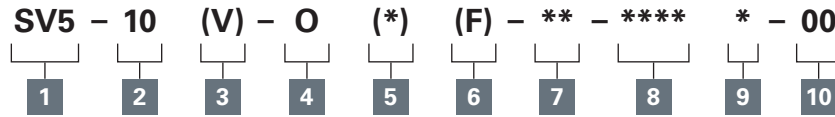
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.



# SV5-10-O - Solenoid valve

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

## Model code



A

### 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
<b>0</b>	Cartridge only	
<b>3B</b>	3/8" BSPP	02-175464*
<b>6T</b>	SAE 6	566151*
<b>2G</b>	1/4" BSPP	876702
<b>3G</b>	3/8" BSPP	876703
<b>6H</b>	SAE 6	876700
<b>8H</b>	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

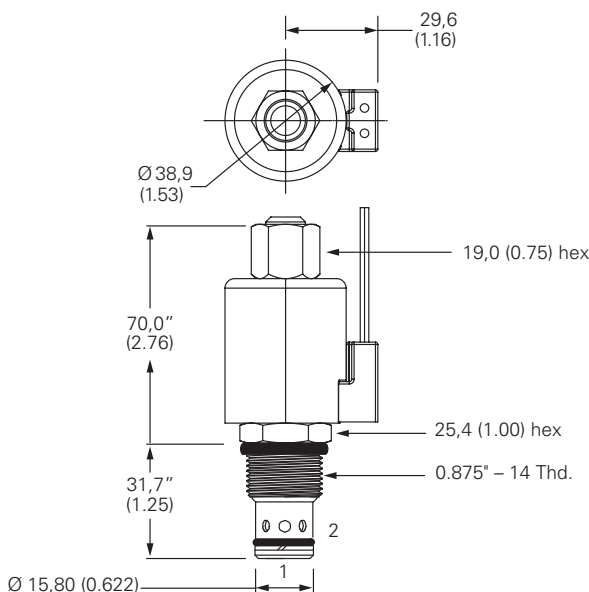
**00** - None

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

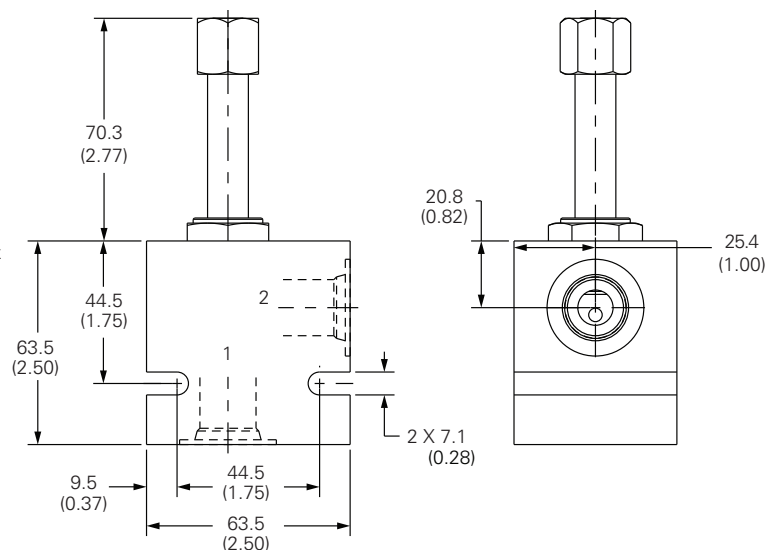
**Note:** Use J series, 23 W coils with this solenoid valve.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

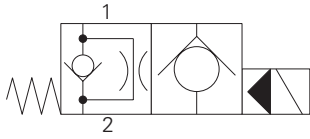


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

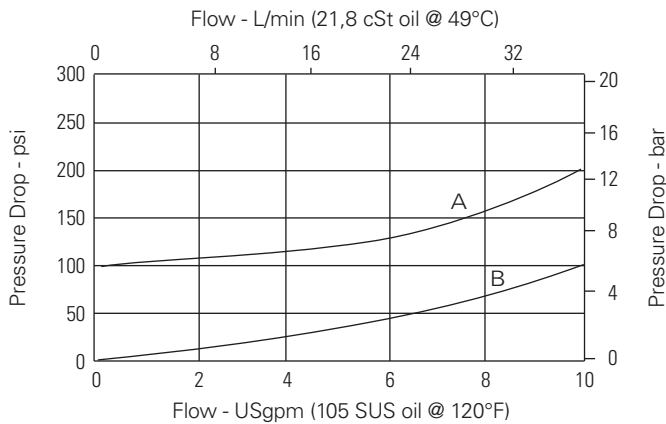
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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

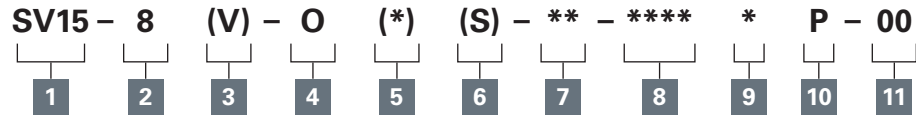
**B** - Port 2 to port 1 de-energized

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.

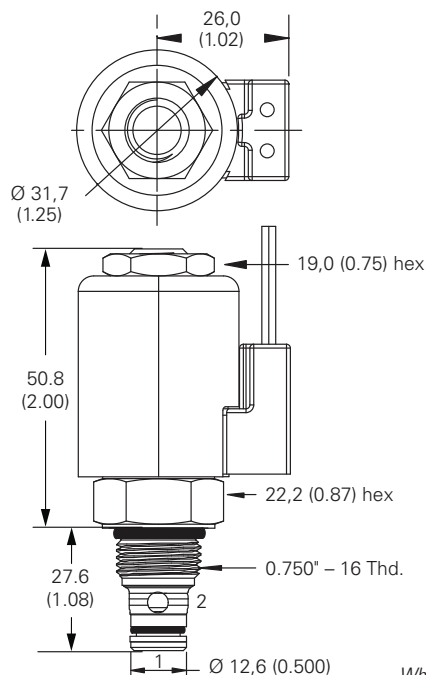
### 11 Special features

00 - None

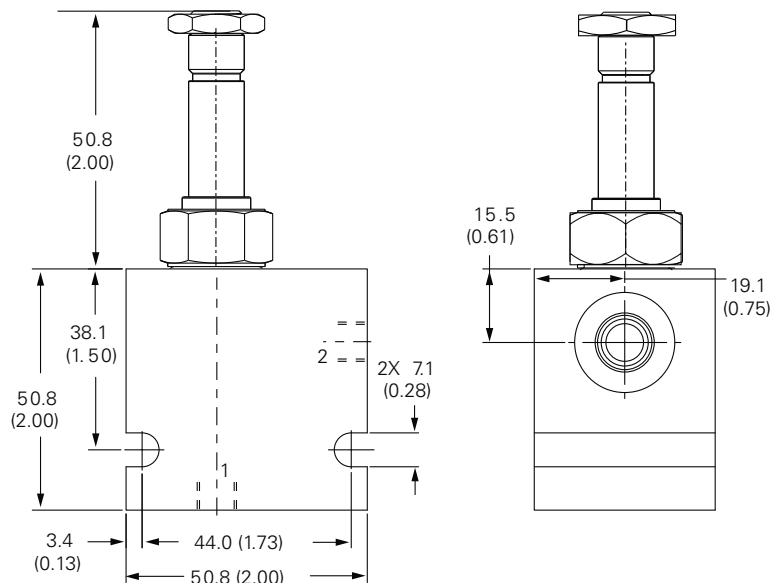
(Only required if valve has special features, omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

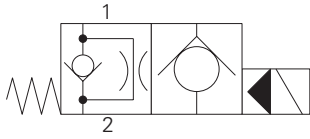


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

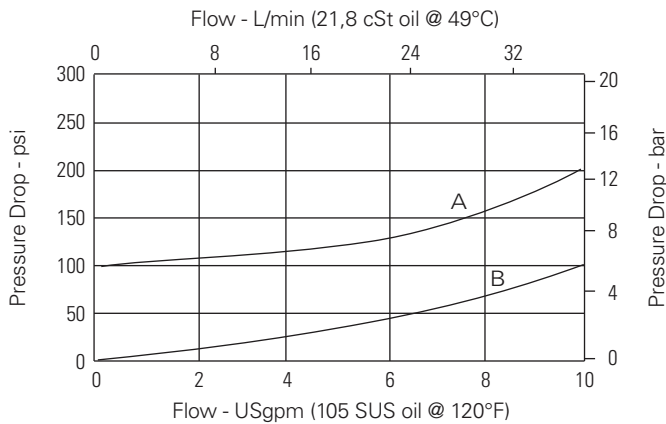
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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



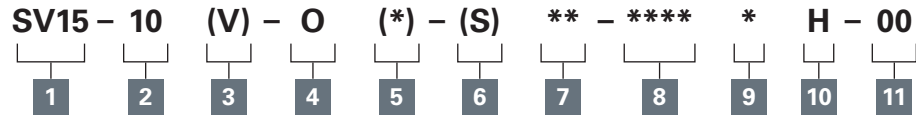
Port 2 to port 1 de-energized

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



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.

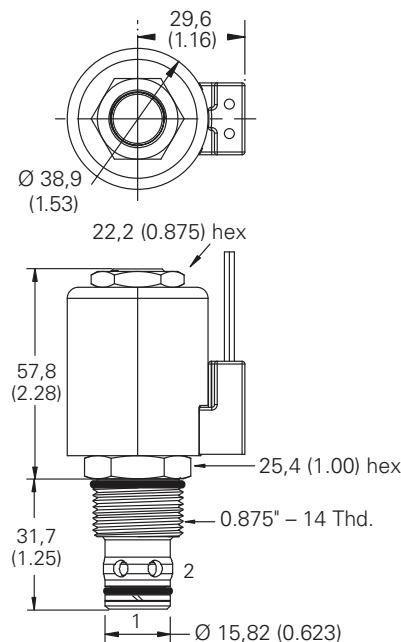
### 11 Special features

00 - None

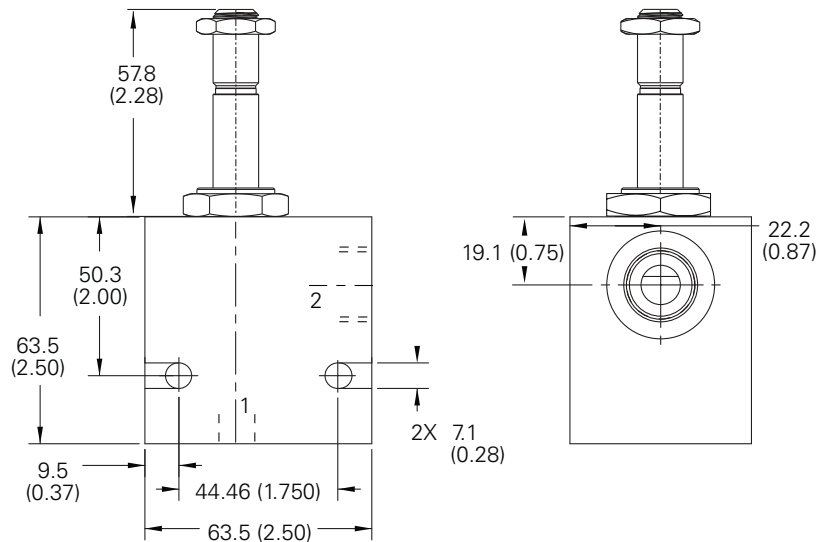
(Only required if valve has special features, omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

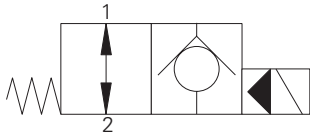


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

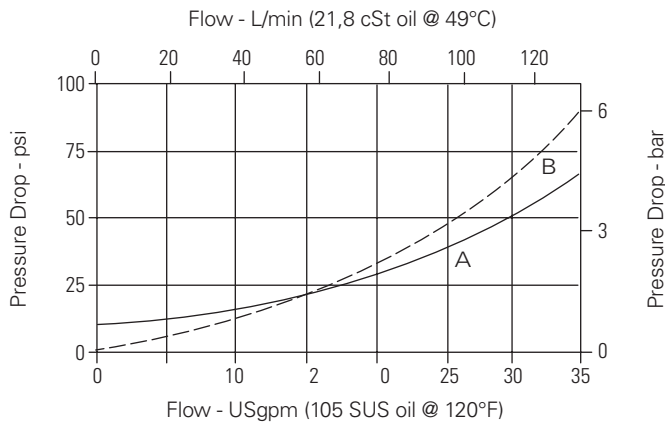
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

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

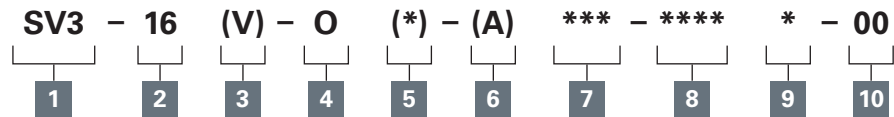
**B** - Port 2 to port 1 de-energized

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
<b>0</b>	Cartridge only	
<b>6B</b>	3/4" BSPP	02-175463*
<b>12T</b>	SAE 12	566149*
<b>6G</b>	3/4" BSPP	876718
<b>10H</b>	SAE 10	876717
<b>12H</b>	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

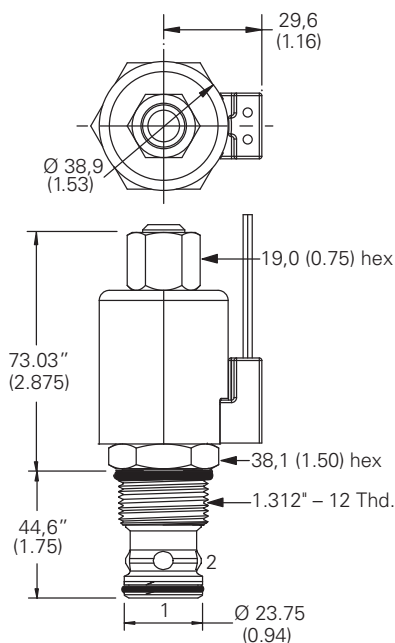
**00** - None

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

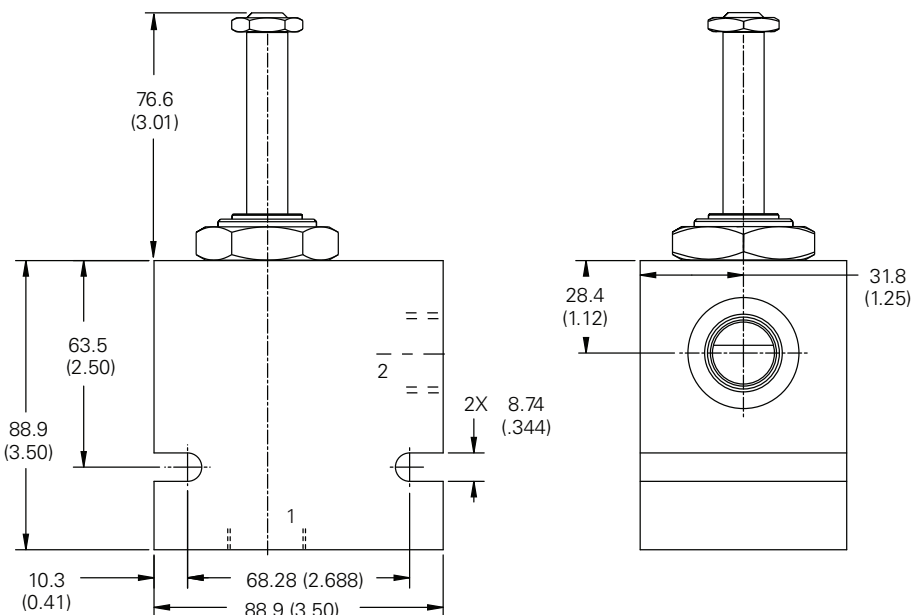
**Note:** When J series, 23 W coils with this solenoid valve.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

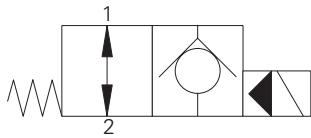


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

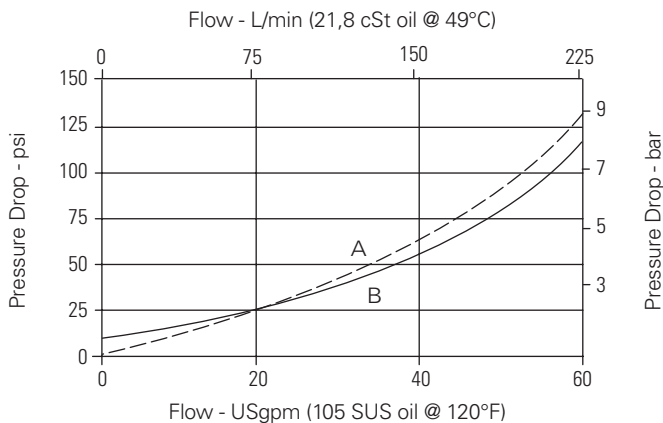
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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

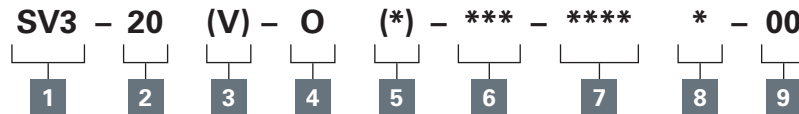
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.



# 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.

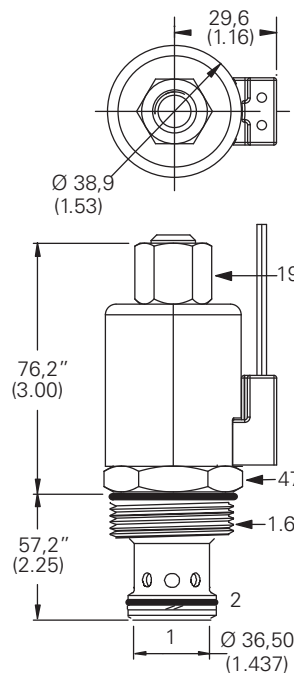
## 9 Special features

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

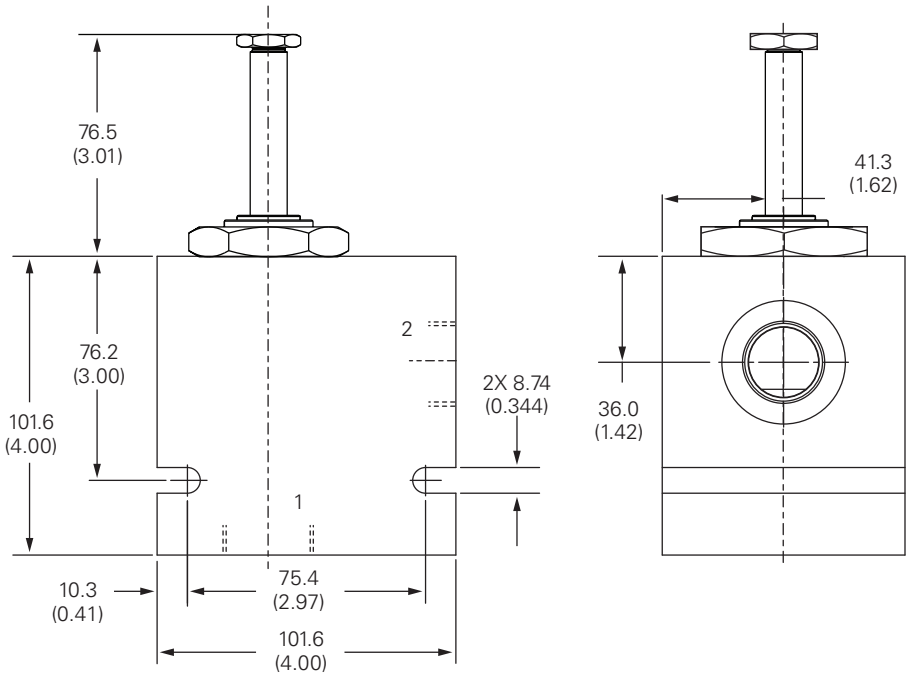
**Note:** Use J series, 23 W coils with this solenoid valve.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawings

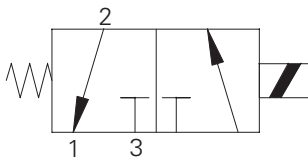


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

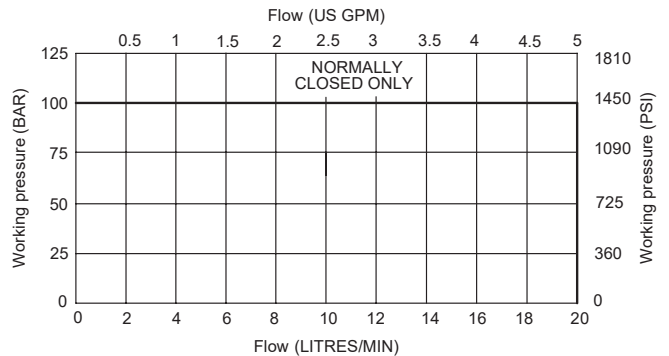
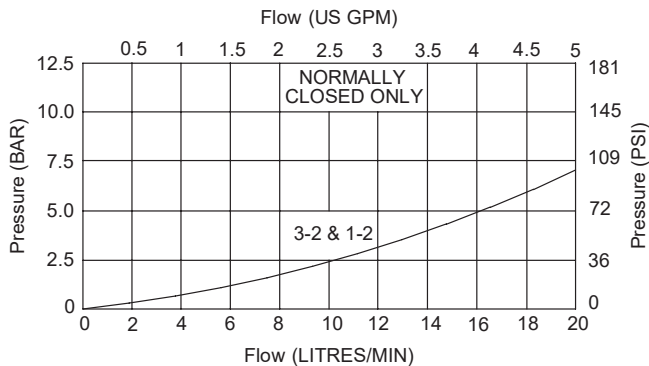
### Ratings and specifications

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

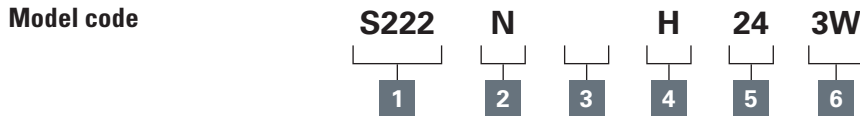


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# S222 - Solenoid valves

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

A



**1 Basic Code**  
**S222**

**2 Seals**  
N - Nitrile  
V - Viton®

**3 Manual Override (consult factory for availability)**

1 - Push and twist  
2 - Screw

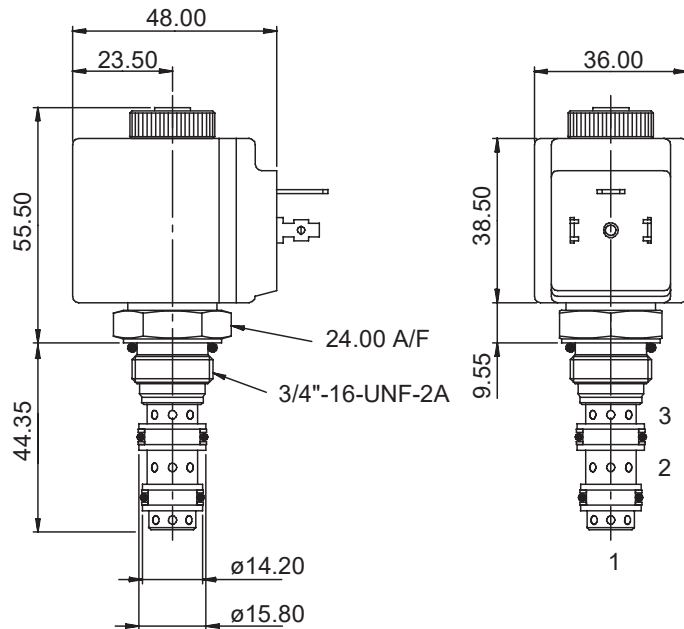
**4 Port Sizes**  
2W - 1/4" BSP  
3W - 3/8" BSP  
6T - 3/8" SAE

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

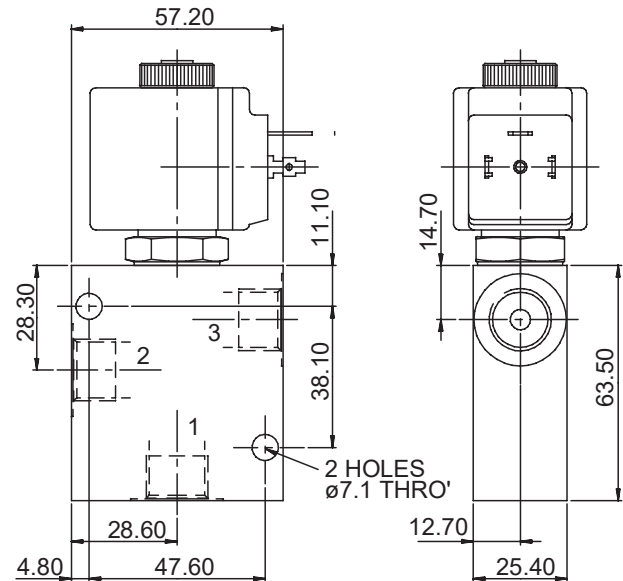
**6 Coil Termination**  
H - DIN43650  
F - Flying Leads  
DM - Deutsch Moulded  
Other terminations available on request

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

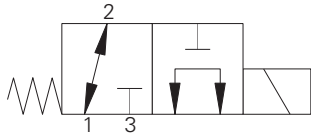


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

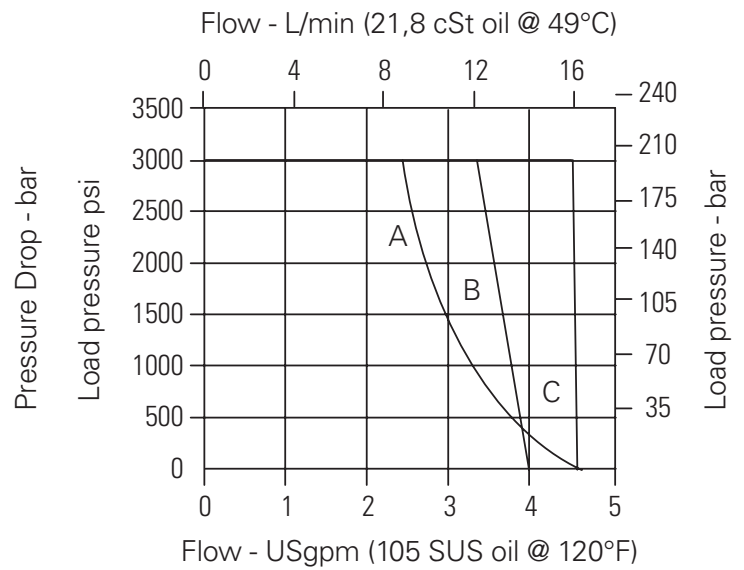
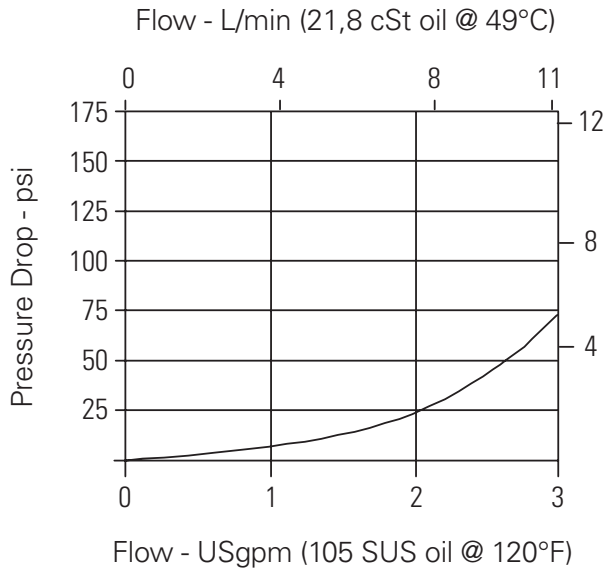
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	11 L/min (3 USgpm)
Internal leakage (per land)	82 cm <sup>3</sup> /min (5 in <sup>3</sup> /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

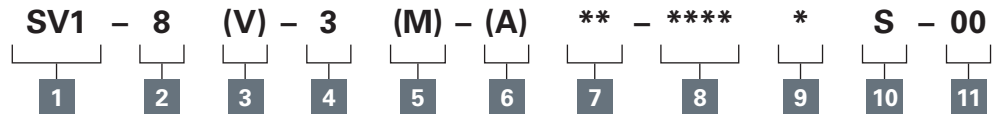
- A** - Selector 1 to 3
- B** - Normally Open
- C** - Normally closed and Selector 1 to 2

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.

- 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

**8 Voltage rating**

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

\*Optional arc suppression diode.

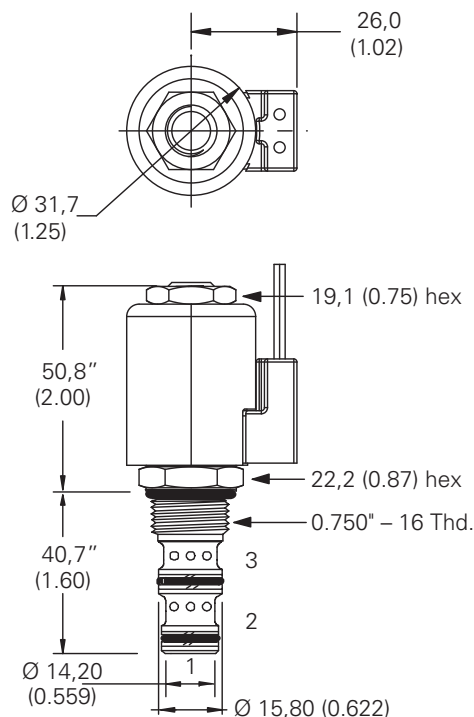
- 10 Coil series**  
S - 8 series, 20 W  
For coil part numbers and dimensions see section C.

---

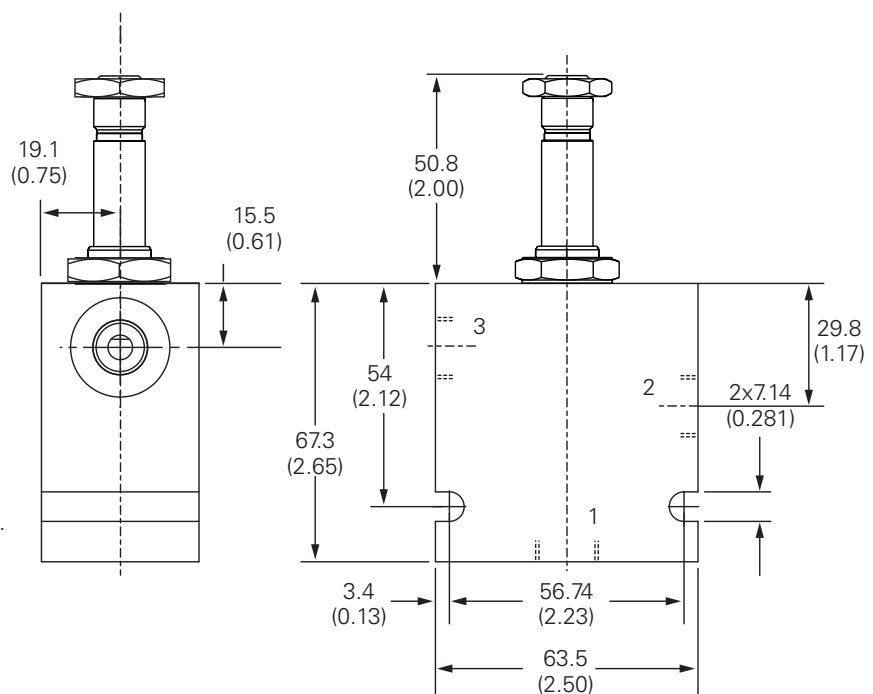
- 11 Special features**  
00 - None  
(Only required if valve has special features, omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

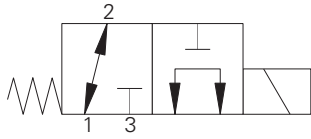


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

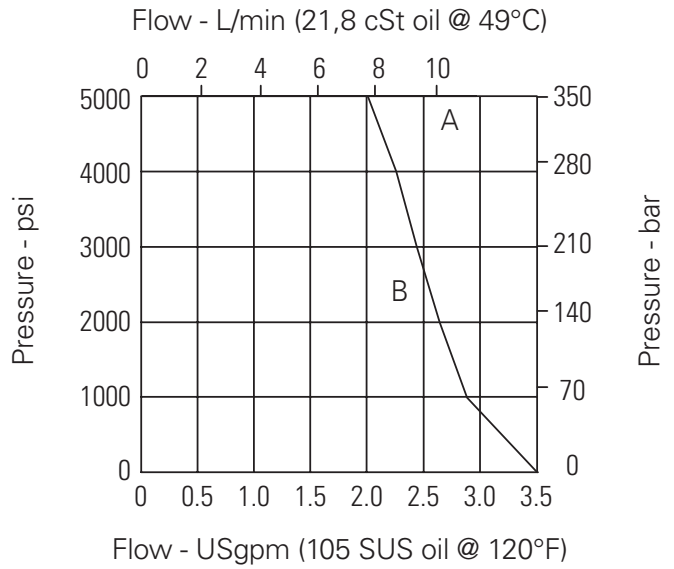
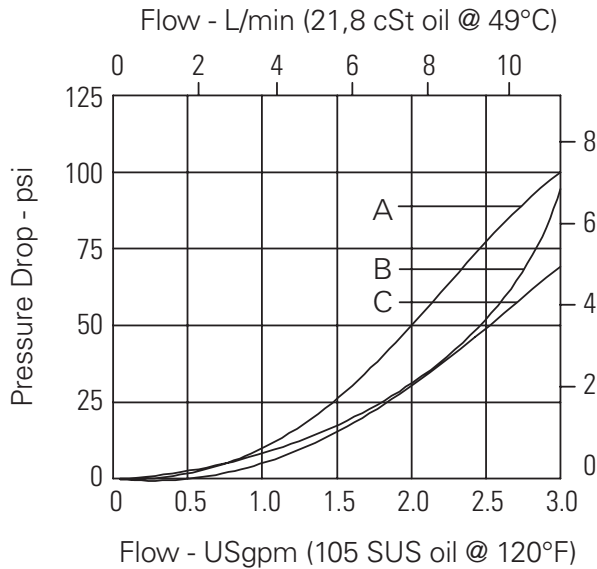
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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 <sup>3</sup> /min (8.5 in <sup>3</sup> /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

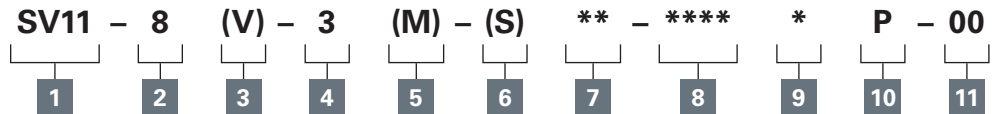
- A** - Normally open & closed
- B** - Selector 1 to 2 and 1 to 3

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

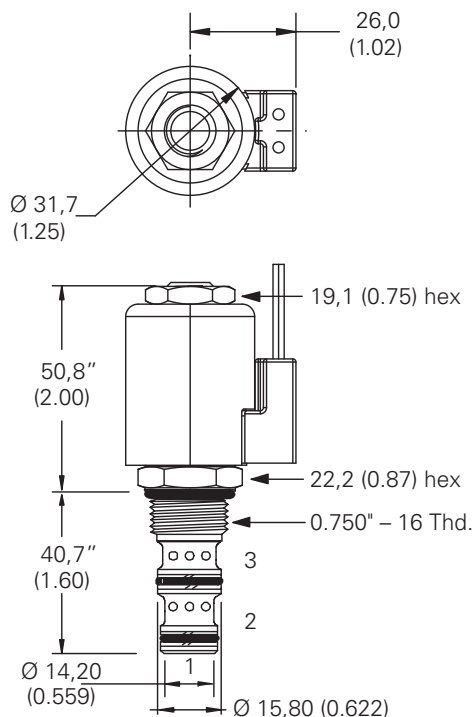
P - 8 series, 23 W  
For coil part numbers and dimensions see section C.

### 11 Special features

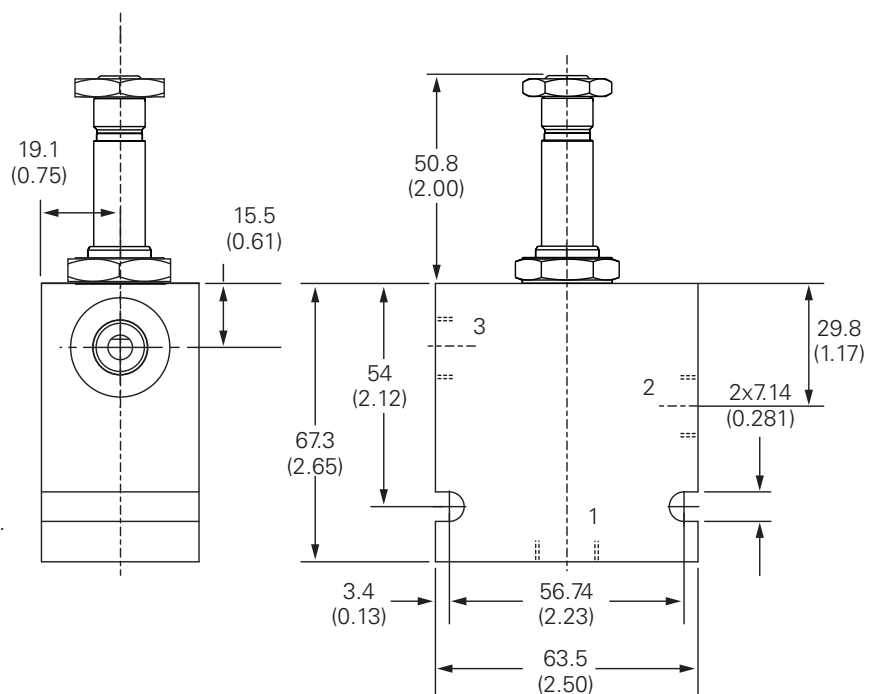
00 - None  
(Only required if valve has special features, omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

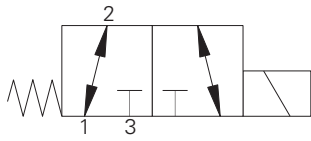


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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)

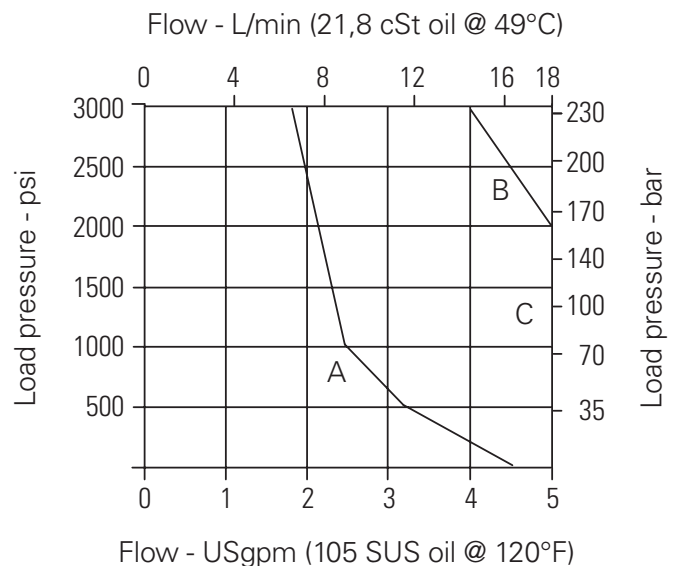
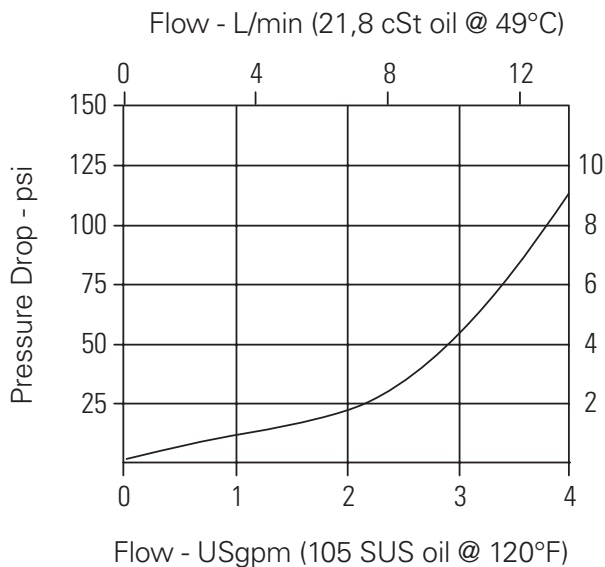
Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	13 L/min (4 USgpm)
Internal leakage	82 cm <sup>3</sup> /min (5 in <sup>3</sup> /min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Response times (100% rated voltage and flow)	Energize: 22 ms De-Energize: 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

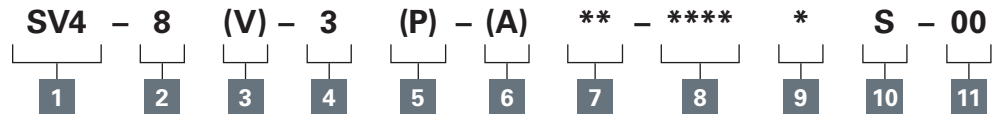
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.



# 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.

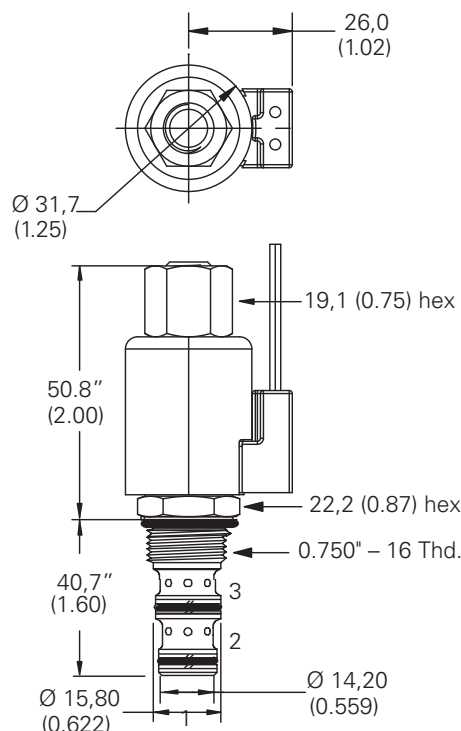
### 11 Special features

00 - None

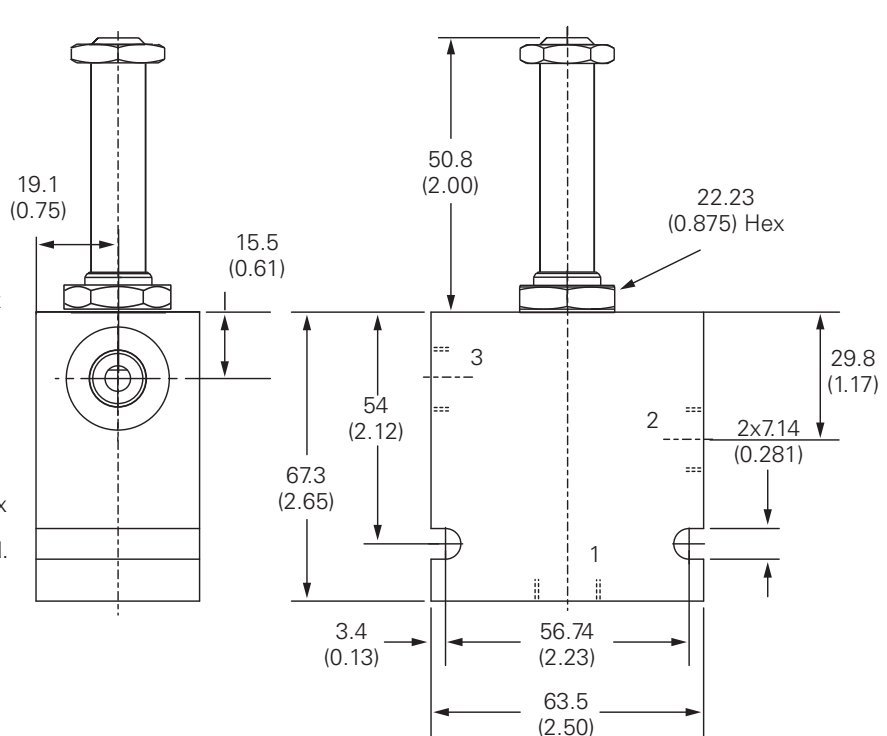
(Only required if valve has special features, omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

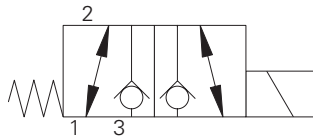


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

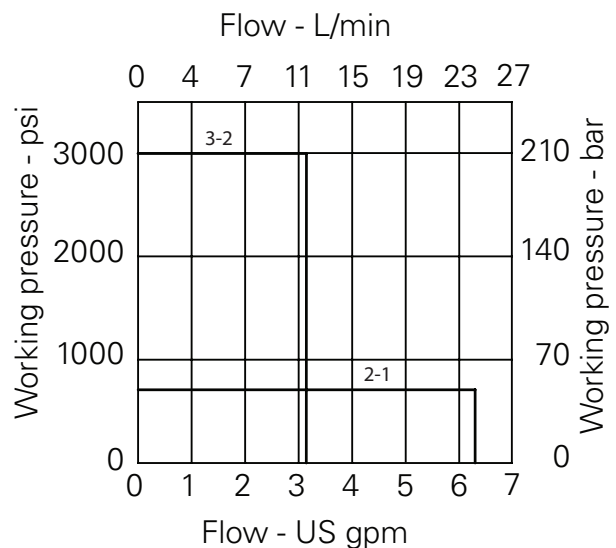
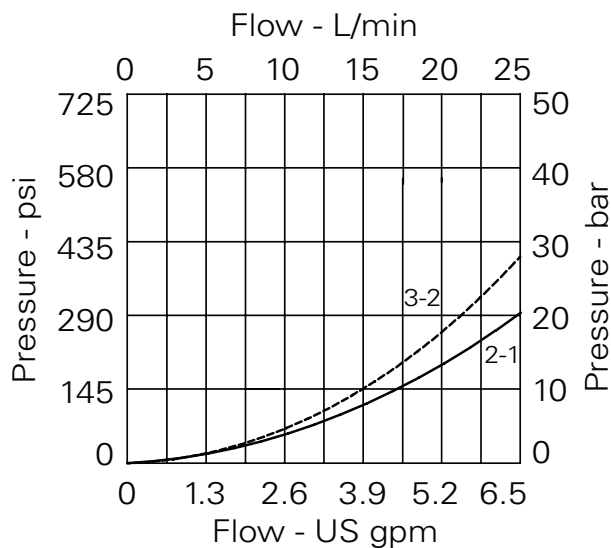
Figures based on Viscosity 32 cST (150 SSU)

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



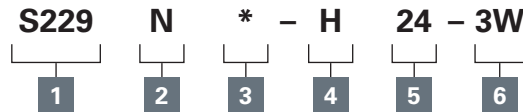
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# S229 - Solenoid valve

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

A

## 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

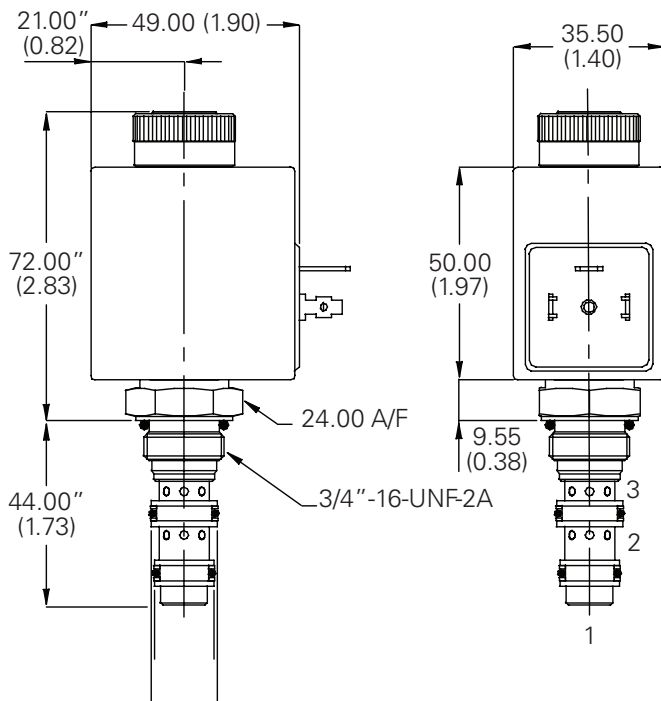
**220** - 220 VAC

### 6 Port size

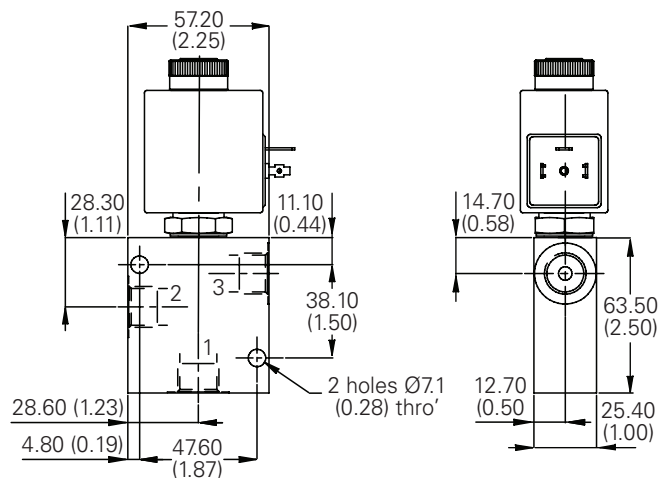
Code	Port size	Housing number - body only
<b>Aluminium</b>		
<b>2W</b>	1/4" BSP	B7724
<b>3W</b>	3/8" BSP	B6684
<b>6T</b>	3/8" SAE	B6516

## Dimensions - mm (inch)

### Cartridge only Basic Code S229



### Installation drawing

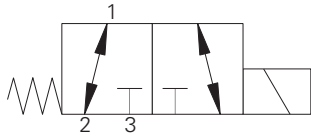


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

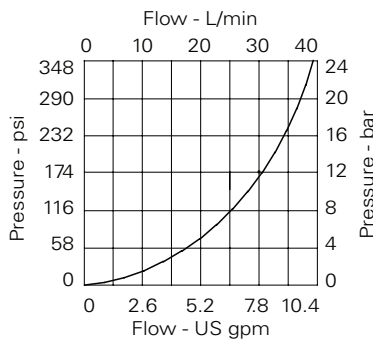
Figures based on Viscosity 32 cST (150 SSU)

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*

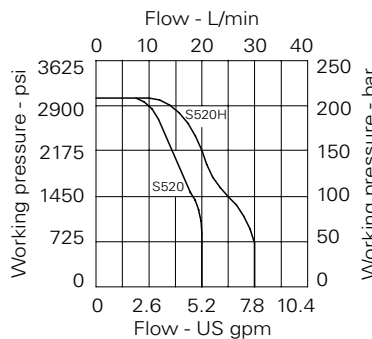
Viton is a registered trademark of E.I. DuPont

\*AC coils must be used with a rectifying connector

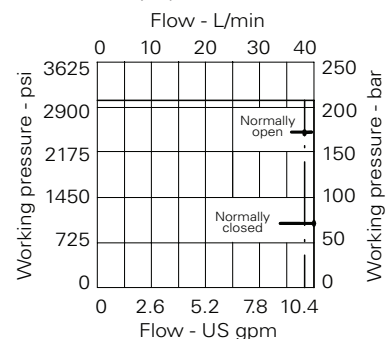
## Pressure drop



### Selector Mode



### Normally closed and Normally open modes

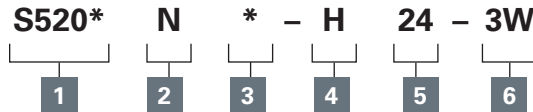


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

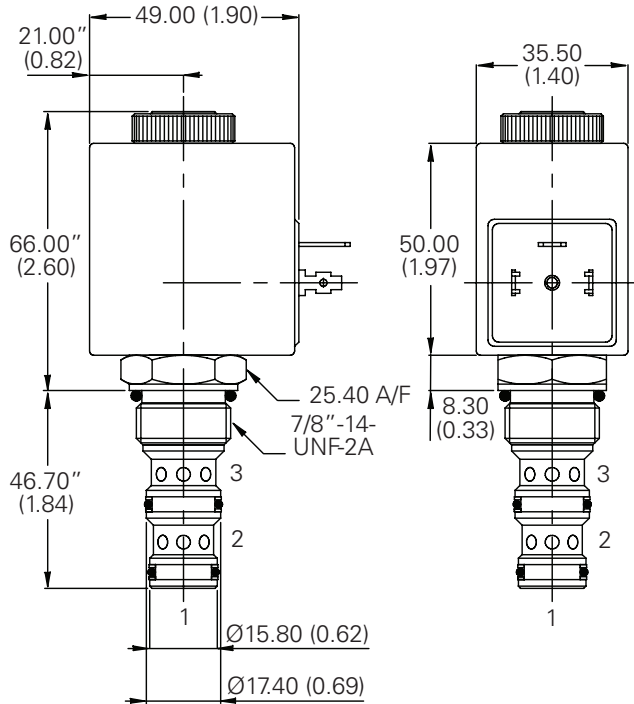
**12** - 12 VDC  
**24** - 24 VDC  
**110** - 110 VAC  
**220** - 220 VAC

### 6 Port size

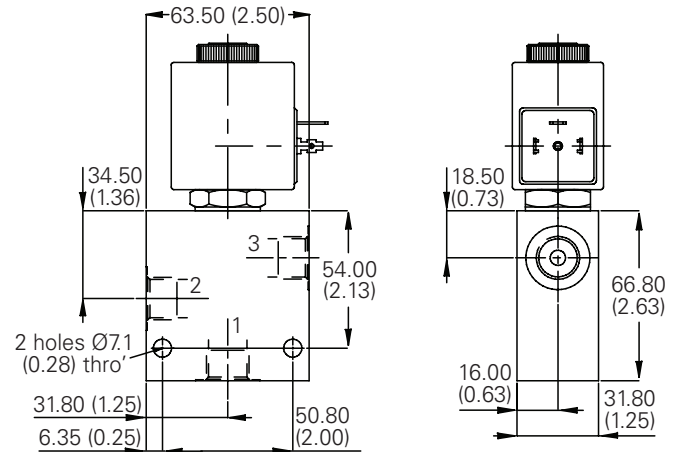
Code	Port size	Housing number - body only
		Aluminium
<b>3W</b>	3/8" BSP	B18982
<b>4W</b>	1/2" BSP	B19358
<b>8T</b>	1/2" SAE	B19360

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

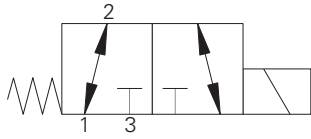


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# S521(H) - Solenoid valve

Spool type, 3-way, 2-position  
Up to 44 L/min (1 1.5 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

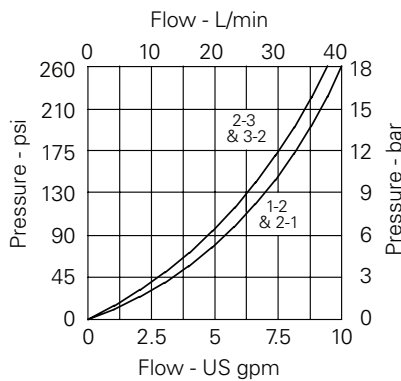
Figures based on Viscosity 32 cST (150 SSU)

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*

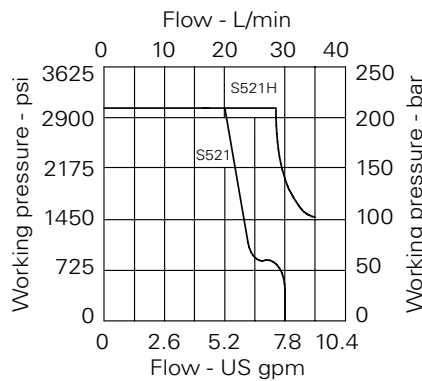
Viton is a registered trademark of E.I. DuPont

\*AC coils must be used with a rectifying connector

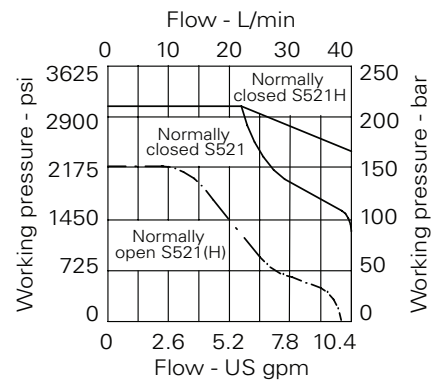
## Pressure drop



Performance Selector Mode



Performance Normally closed and Normally open modes

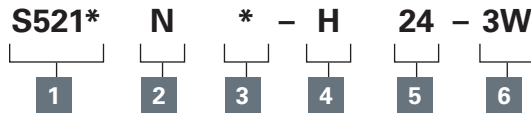


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

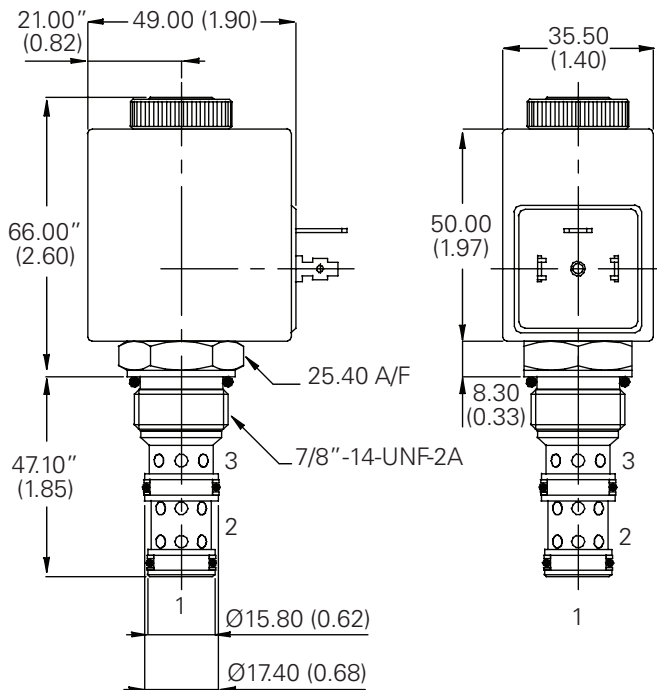
**12** - 12 VDC  
**24** - 24 VDC  
**110** - 110 VAC  
**220** - 220 VAC

### 6 Port size

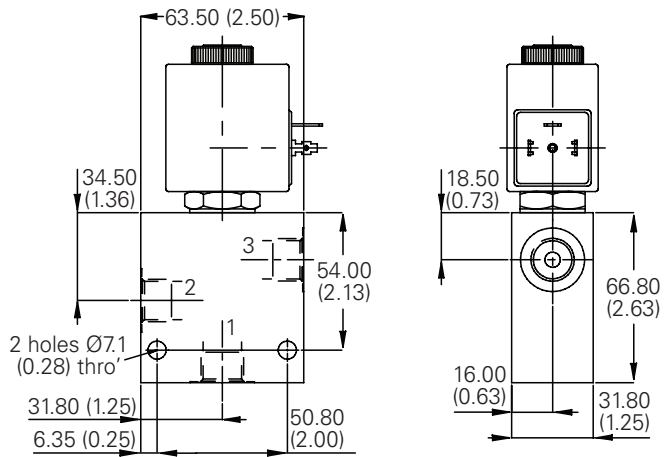
Code	Port size	Housing number - body only
<b>Aluminium</b>		
<b>3W</b>	3/8" BSP	B18982
<b>4W</b>	1/2" BSP	B19358
<b>8T</b>	1/2" SAE	B19360

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

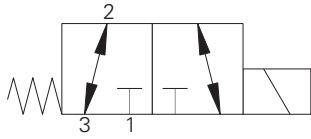


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

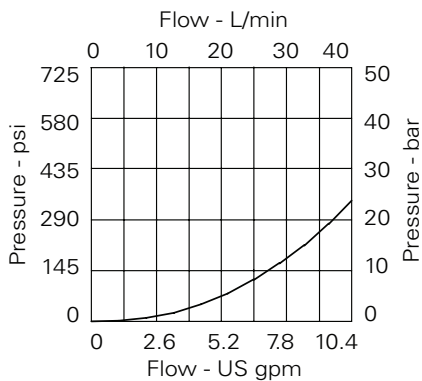
Performance data is typical based on Viscosity 32 cST (150 SSU)

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*

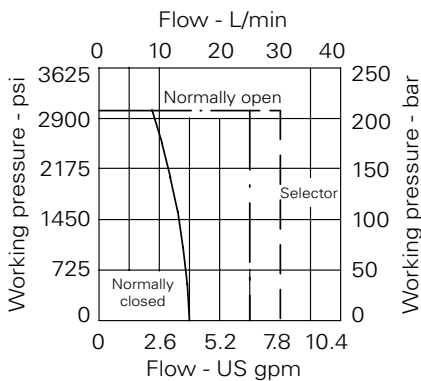
Viton is a registered trademark of E.I. DuPont

\*AC coils must be used with a rectifying connector

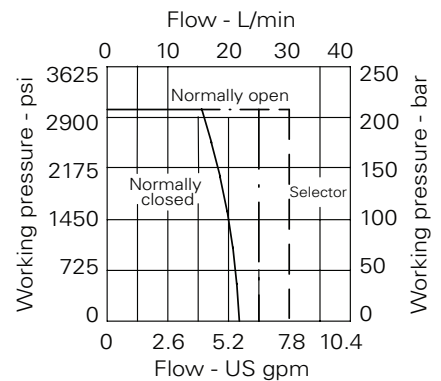
## Pressure drop



Performance  
S525



Performance  
S525H



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

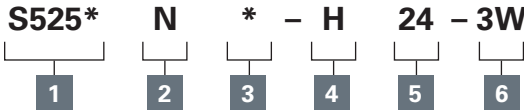


# S525(H) - Solenoid valve

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.

---

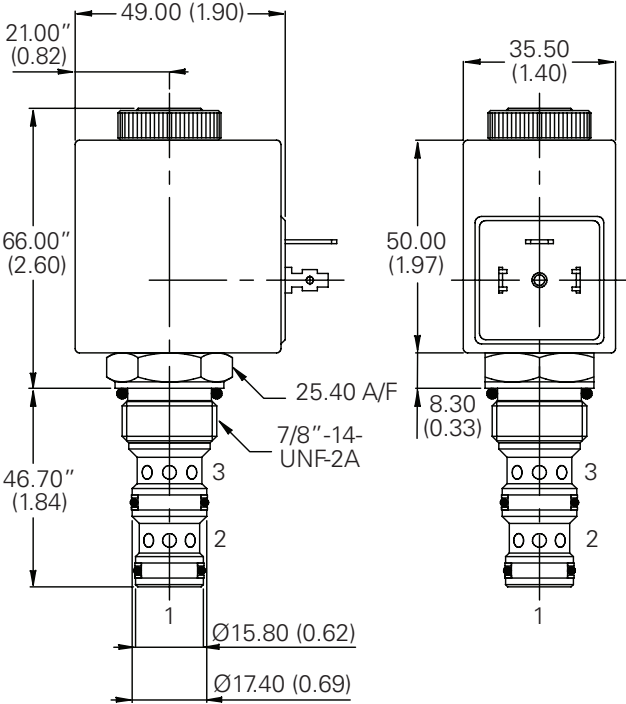
- 5 Voltage**  
12 - 2 VDC  
24 - 24 VDC  
110 - 110 VAC  
220 - 220 VAC

**6 Port size**

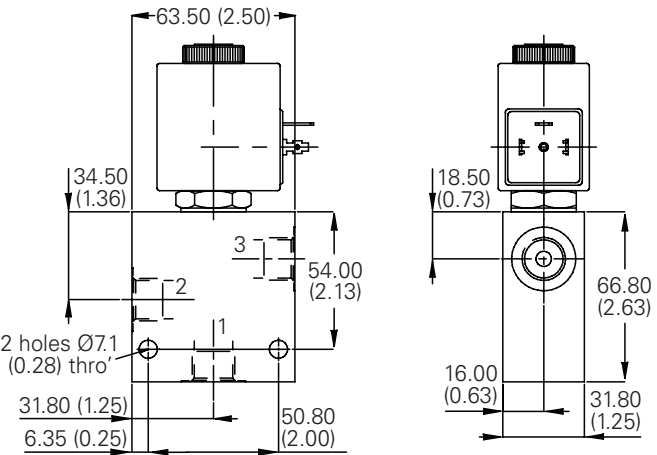
Code	Port size	Housing number - body only
<b>Aluminium</b>		
3W	3/8" BSP	B18982
4W	1/2" BSP	B19358
8T	1/2" SAE	B19360

**Dimensions - mm (inch)**

**Cartridge only**



**Installation drawing**

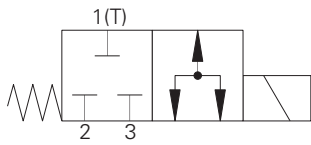


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

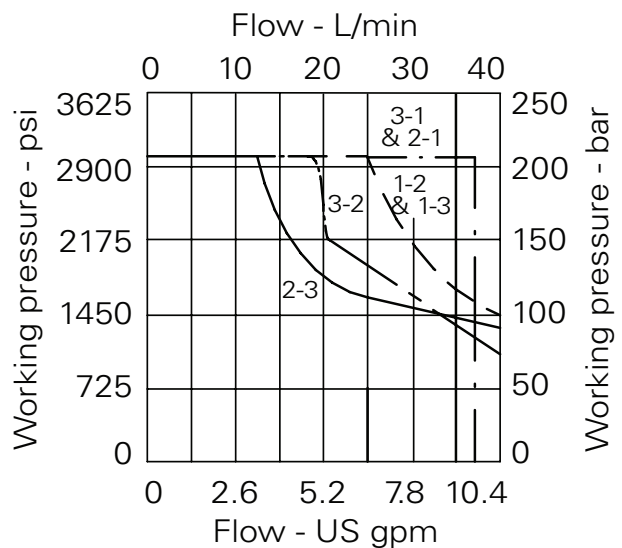
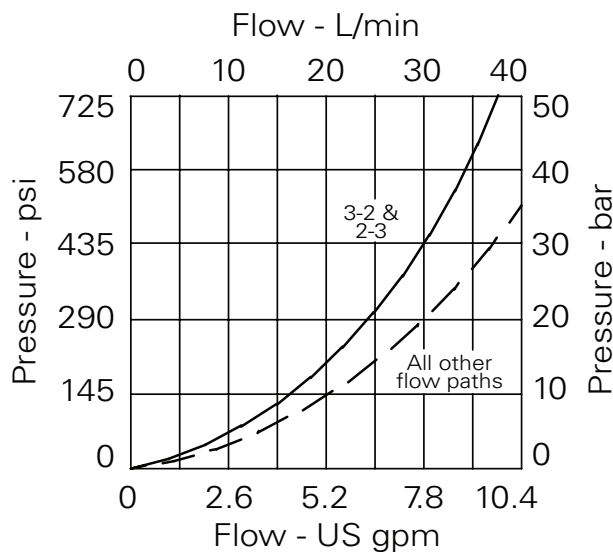
Performance data is typical with Viscosity 32 cST (150 SSU)

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

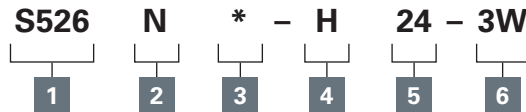


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# S526 - Solenoid valve

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

## Model code



### 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

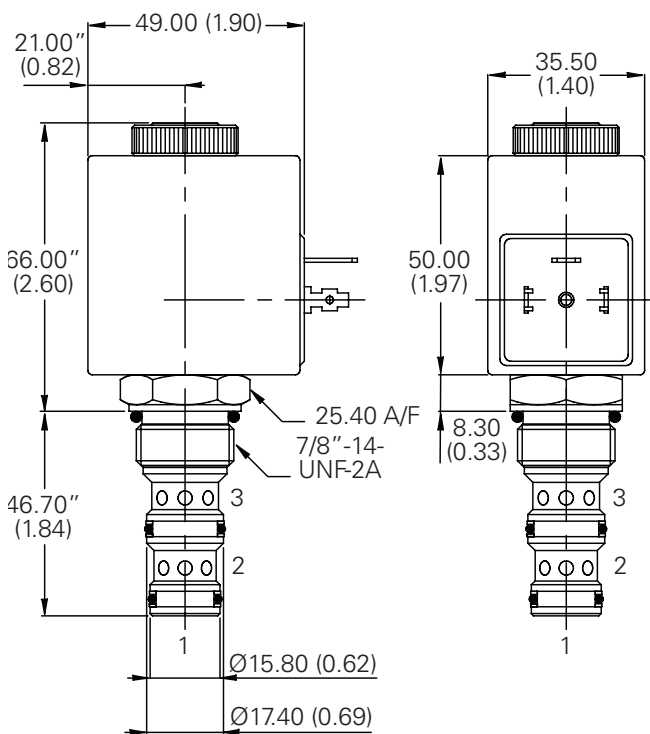
**220** - 220 VAC

### 6 Port size

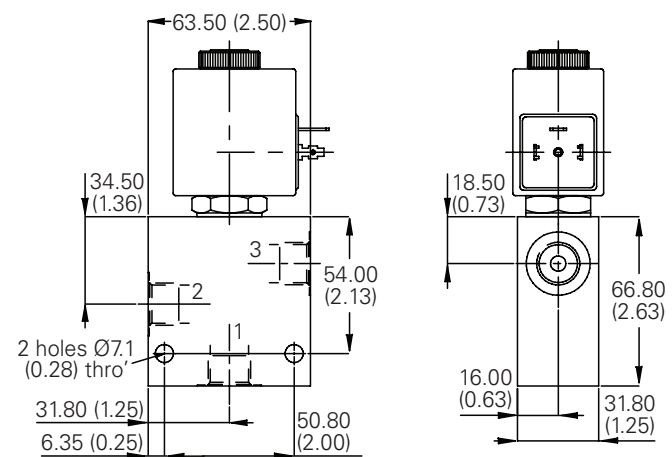
Code	Port size	Housing number - body only
<b>Aluminium</b>		
<b>3W</b>	3/8" BSP	B18982
<b>4W</b>	1/2" BSP	B19358
<b>8T</b>	1/2" SAE	B19360

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

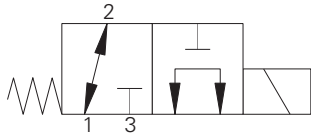


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

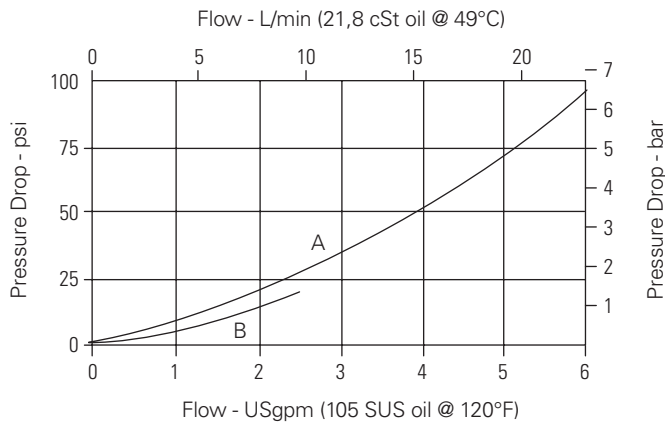
### Ratings and specifications

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 <sup>3</sup> /min (10 in <sup>3</sup> /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

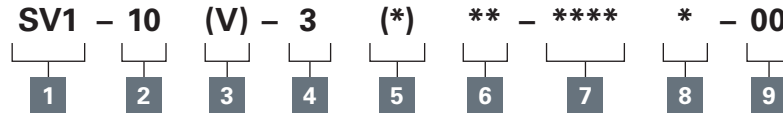


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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.

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.

- 6 Port size**

---

- 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

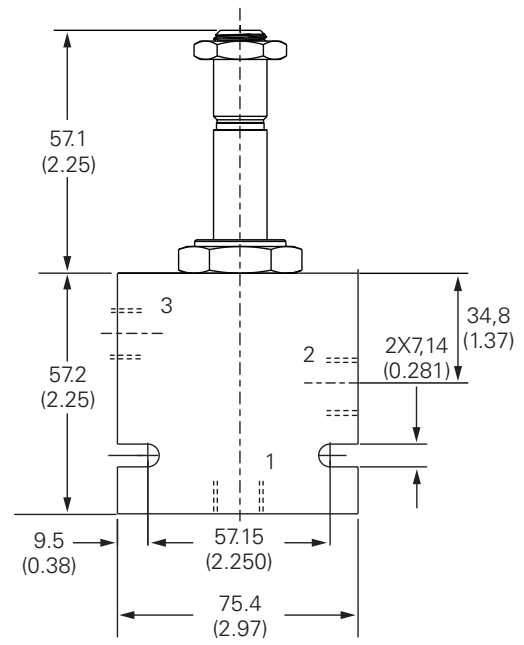
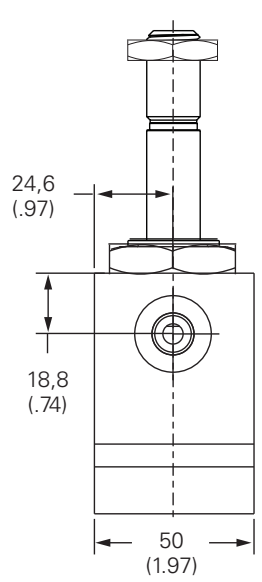
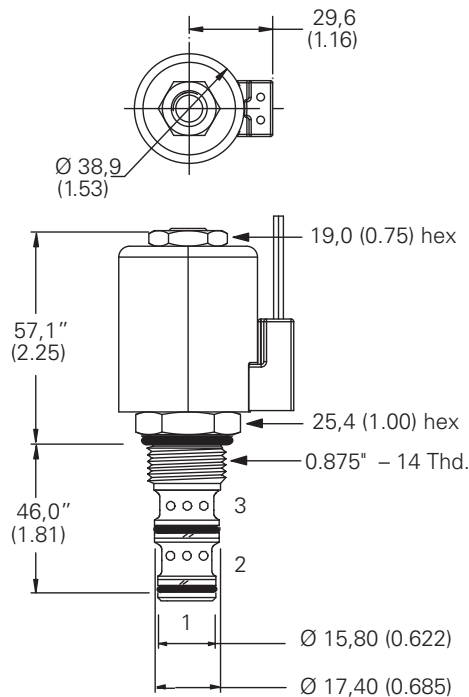
- 8 Connector types**  
Blank - No coil  
G - ISO 440 DIN 43650  
W - Flying lead  
N - Deutsch (DC only)  
Y - Amp JR (DC only)  
D - Metripack 150 male (DC only)  
J - Metripack 280 male (DC only)  
E - Weather-Pack female  
F - Weather-Pack male  
For coil dimensions see section C.

- 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.

## Dimensions - mm (inch)

### Cartridge only

### Installation drawing (Aluminum)

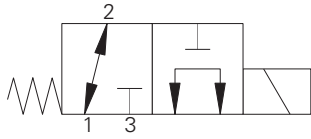


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

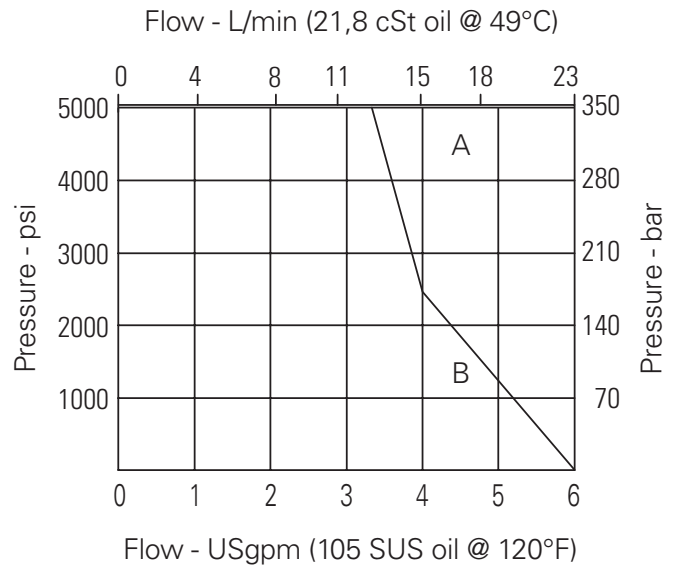
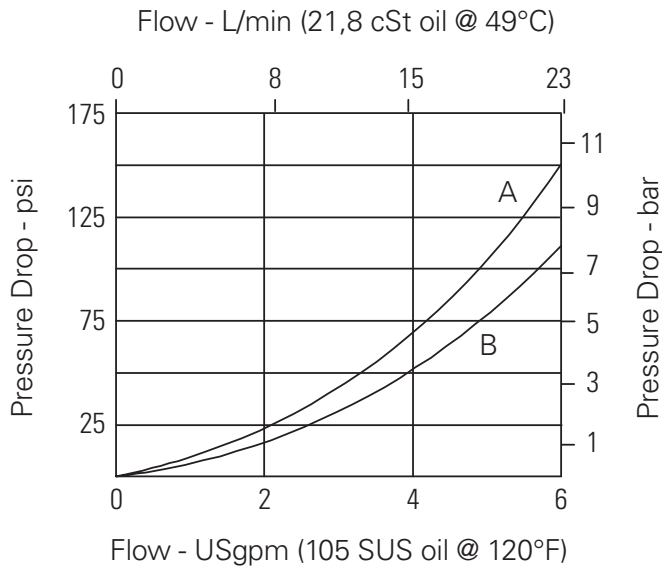
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

Typical Application pressure (all ports)	350 bar (5000 psi)
Rated Flow	23L/min (6 USgpm)
Internal leakage, port 2 to port 1	164 cm <sup>3</sup> /min (10 in <sup>3</sup> /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

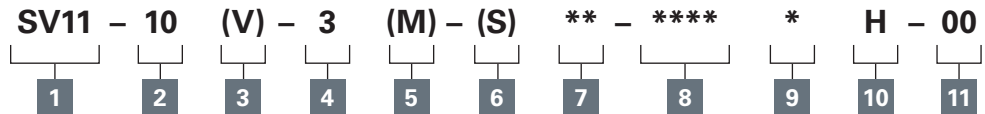
- A - Normally open, normally closed
- B - Selector 1 to 2

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.

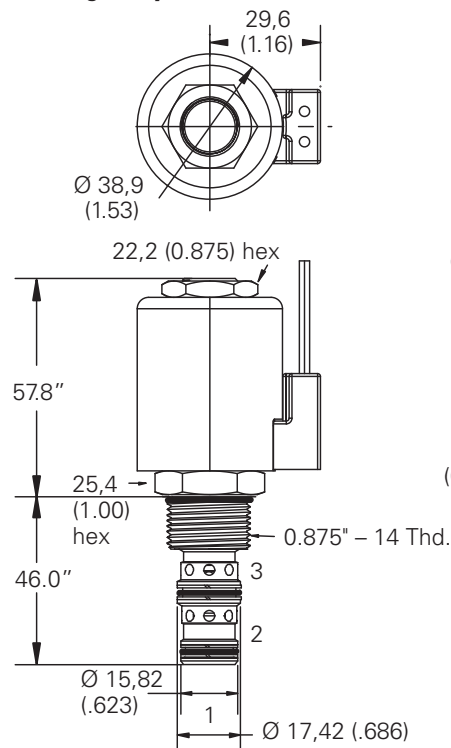
### 11 Special features

00 - None

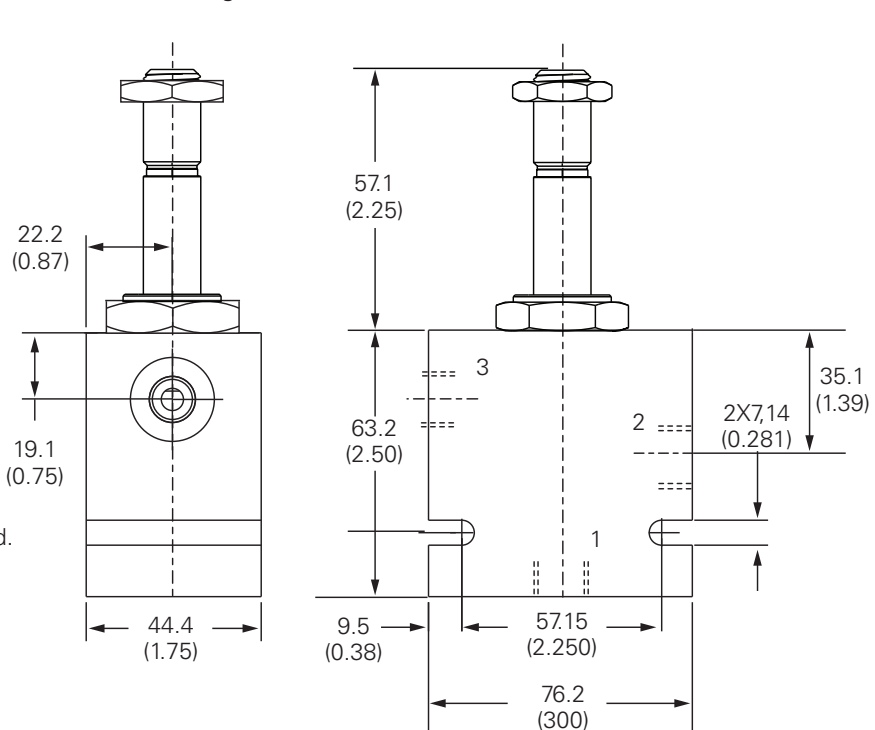
(Only required if valve has Special features, omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

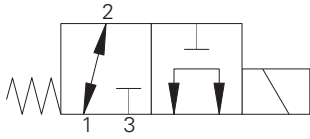


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

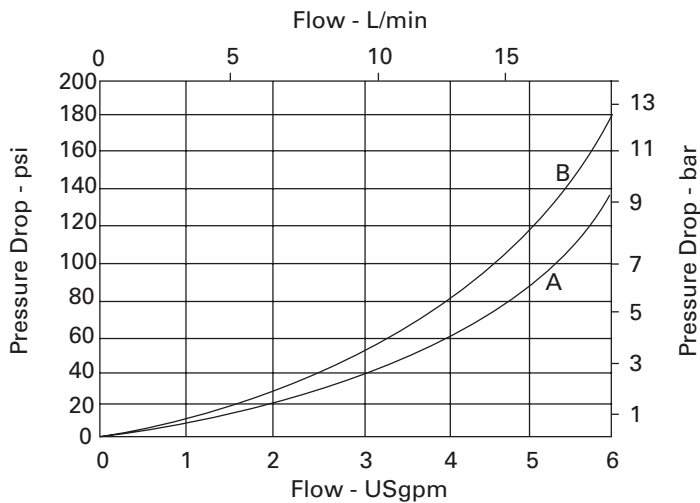
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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 in3/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

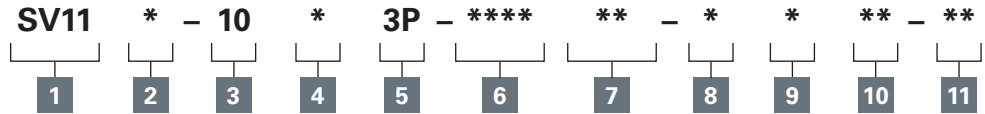
B - Port 3 to port 1

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

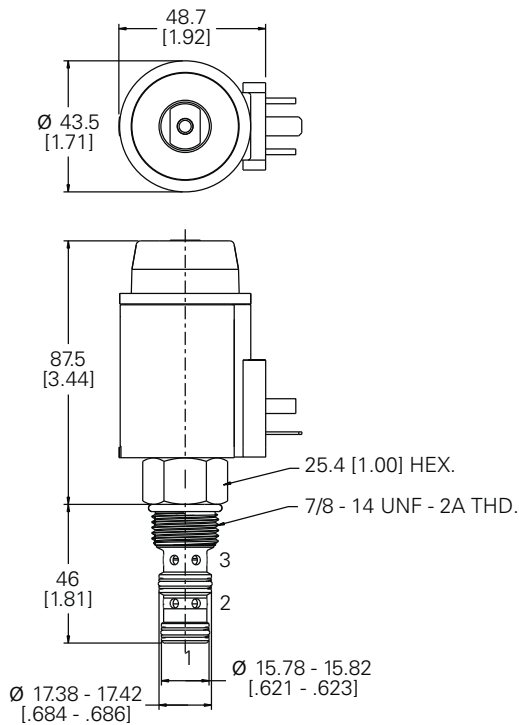
### 11 Special features

00 - None

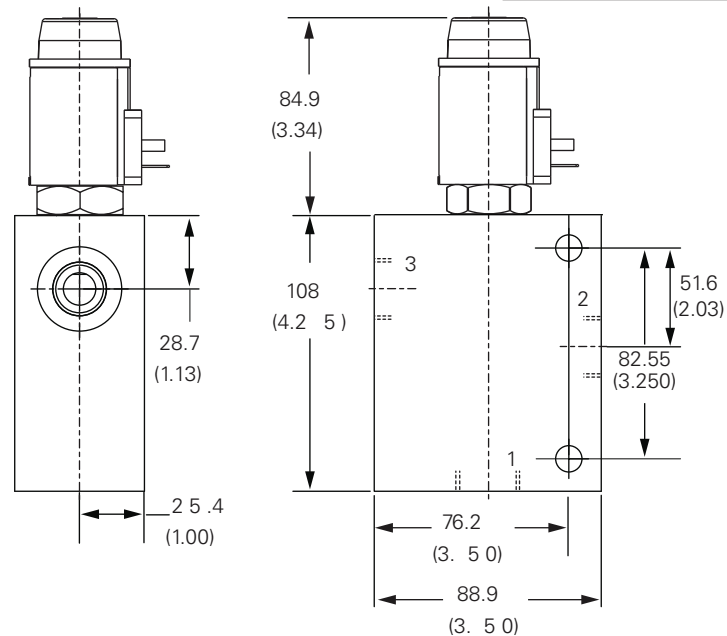
(Only required if valve has Special features, omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

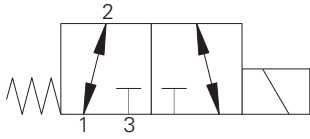


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

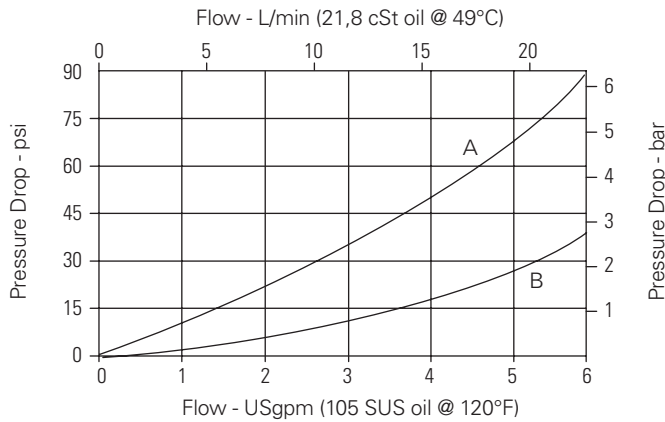
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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 <sup>3</sup> /min (10 in <sup>3</sup> /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



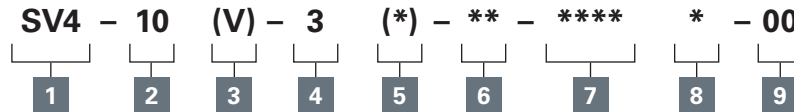
- A** - Port 3 to port 2 energized
- B** - Port 2 to port 1 de-energized

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

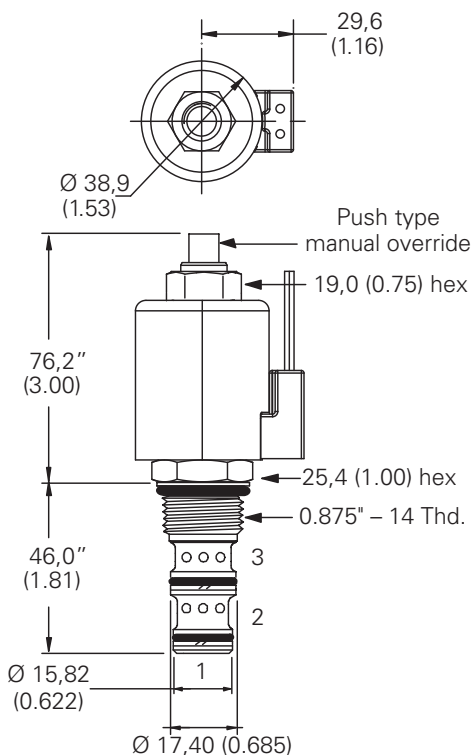
24B - 24VDC/w diode\*

115A - 115VAC

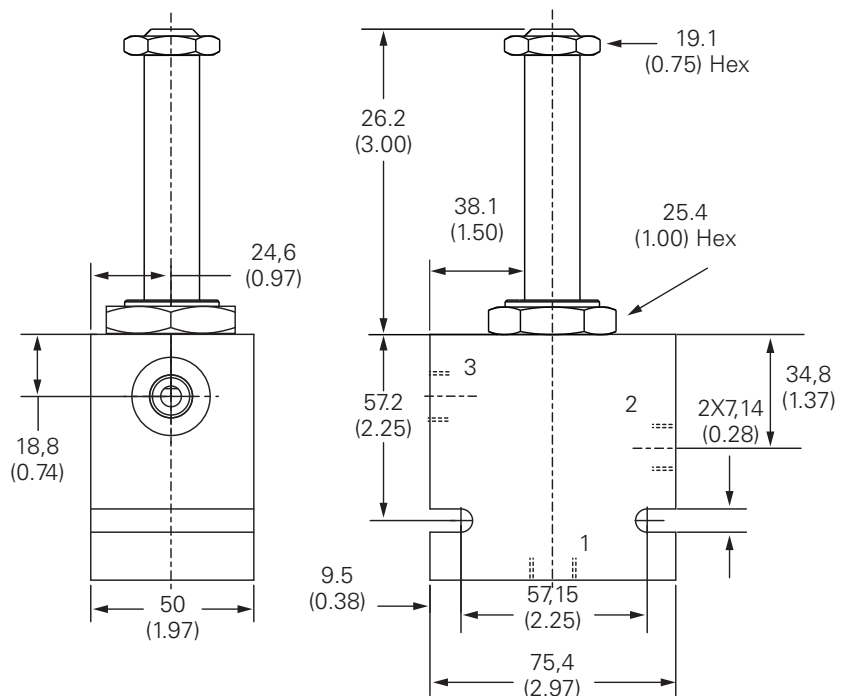
\*Optional arc suppression diode.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

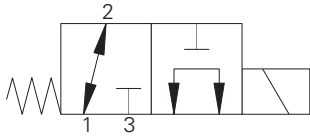


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

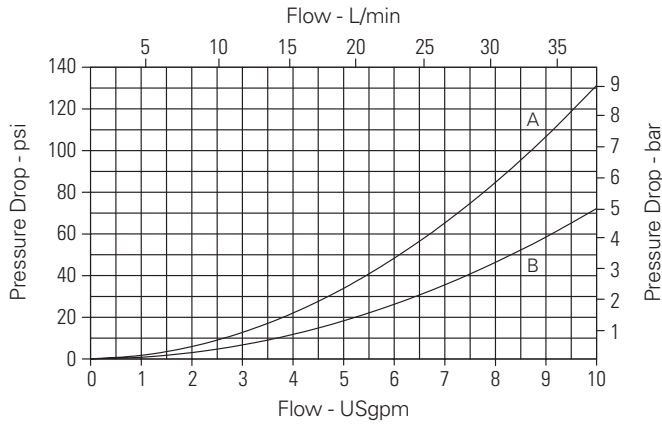
Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)

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 <sup>3</sup> /min (21.5 in <sup>3</sup> /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

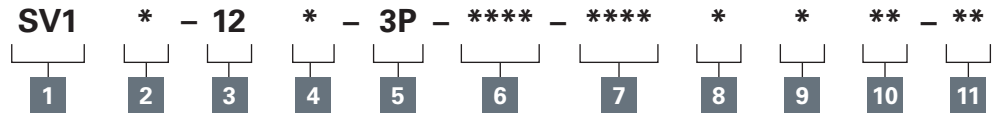
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

---

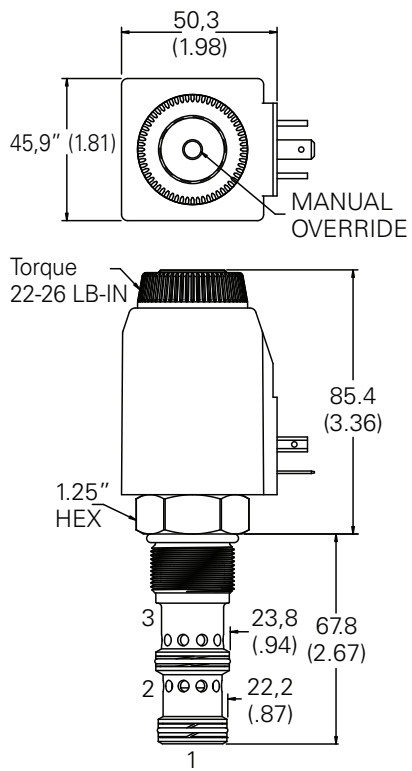
- 10 Coil special features**  
Blank - No coil  
00 - No special feature

---

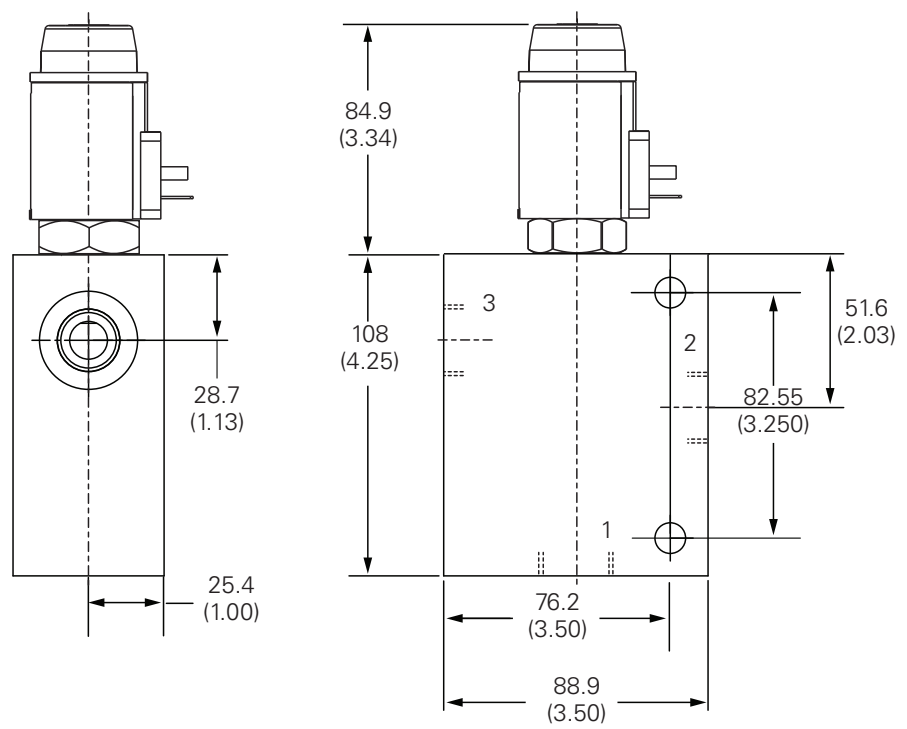
- 11 Special features**  
00 - None  
(Only required if valve has Special features, omitted if "00".)  
SF - Soft shift

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

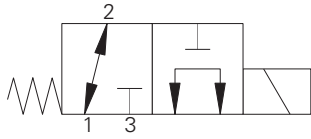


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

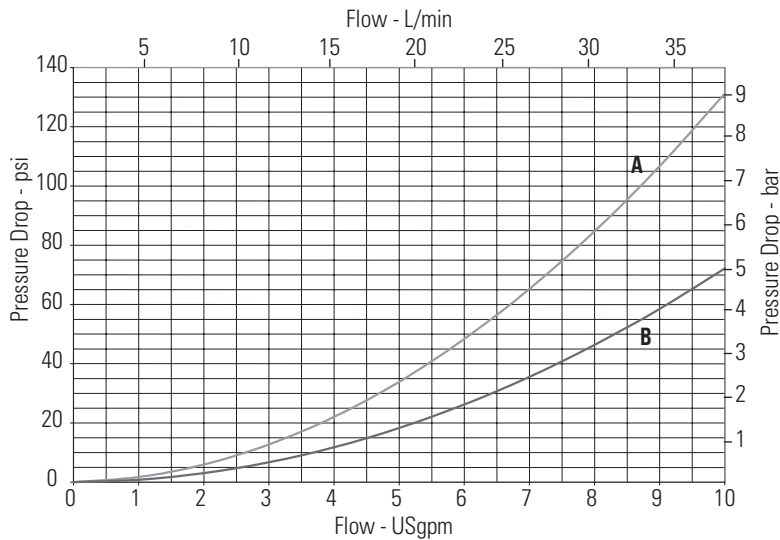
*Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)*

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 <sup>3</sup> /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

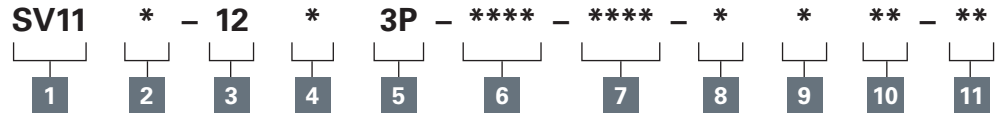
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

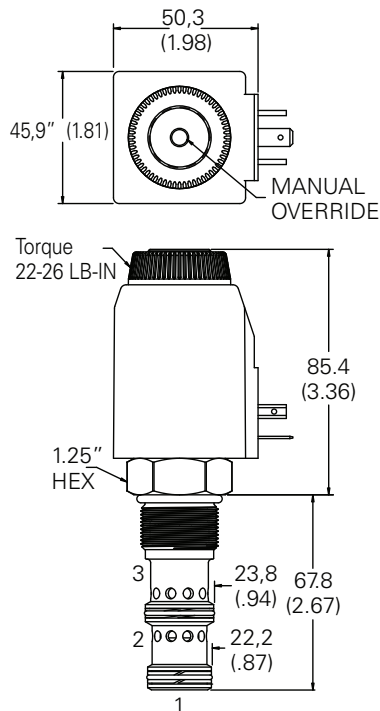
00 - None

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

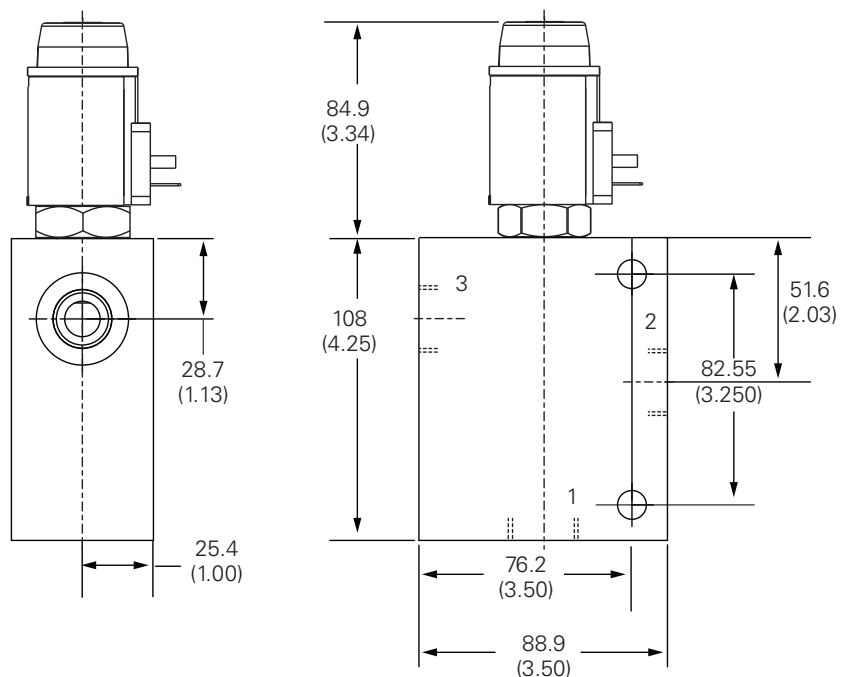
SF - Soft shift

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing (Steel)

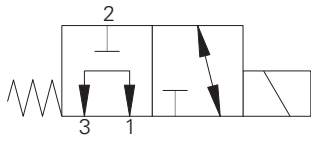


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

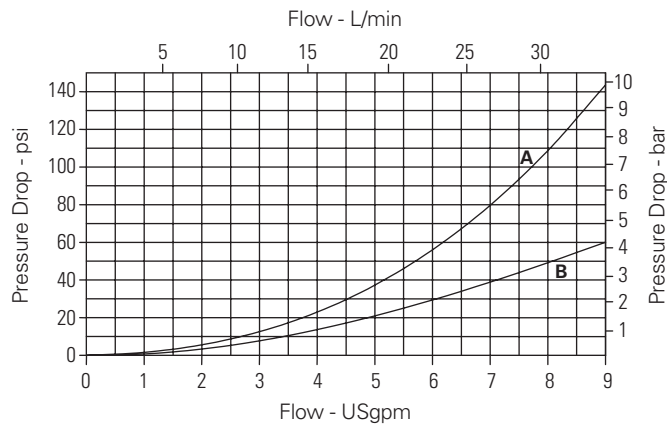
Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)

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 <sup>3</sup> /min (21.5 in <sup>3</sup> /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.

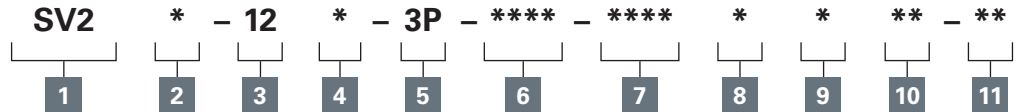


# SV2M-12-3P - Solenoid valve

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

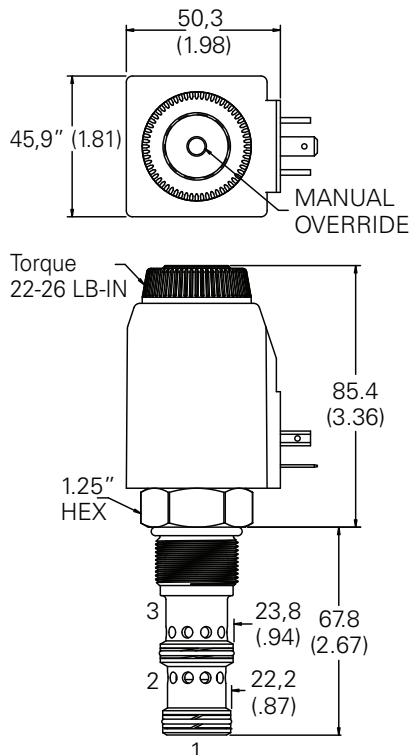
## 11 Special features

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

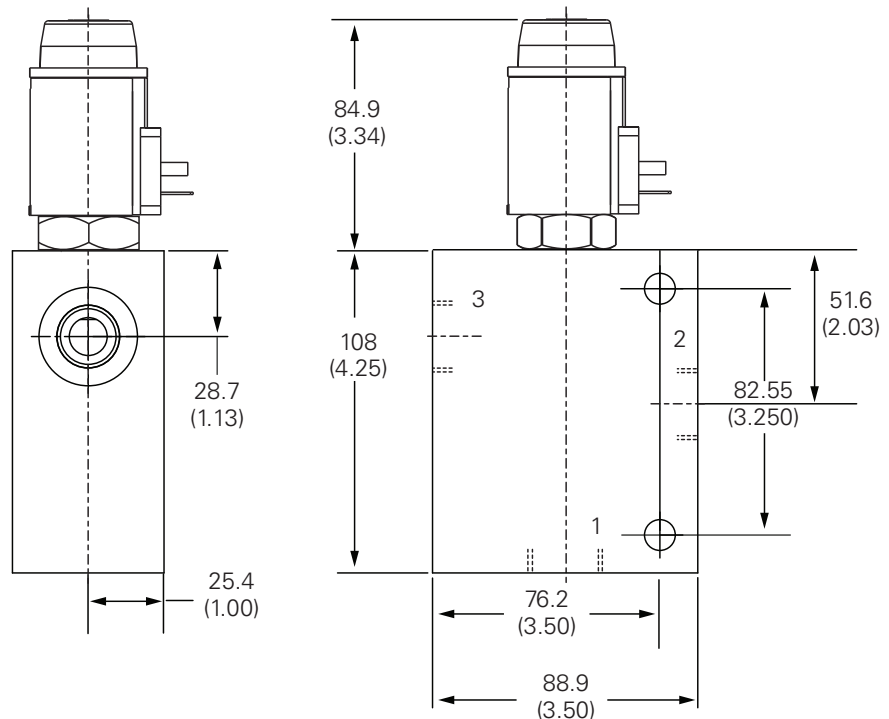
SF - Soft shift

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

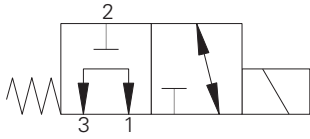


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

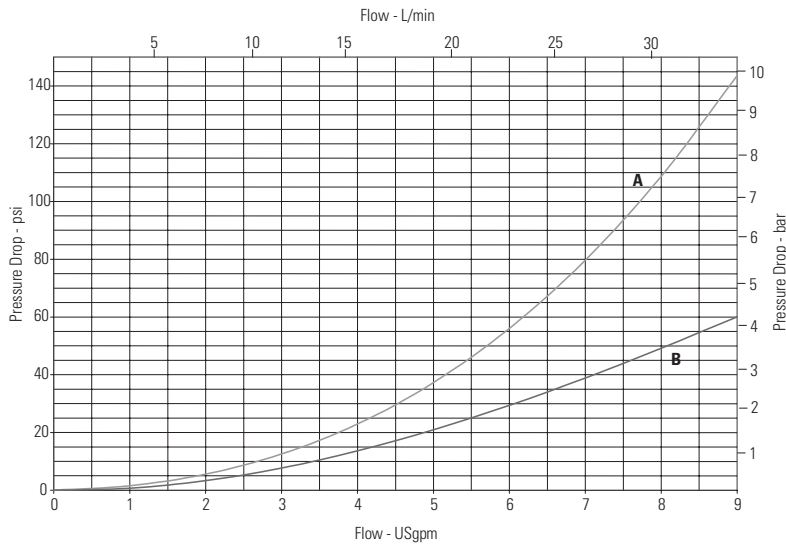
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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 <sup>3</sup> /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



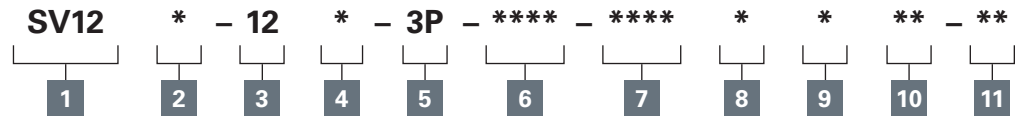
- A** - Port 2 to port 1 energized
- B** - Port 1 to port 3 de-energized

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

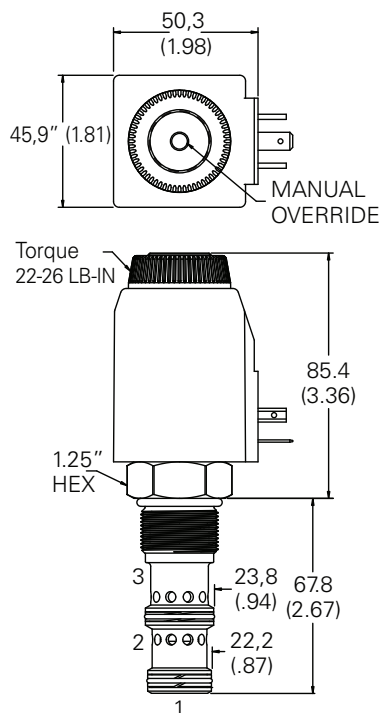
### 11 Special features

00 - None

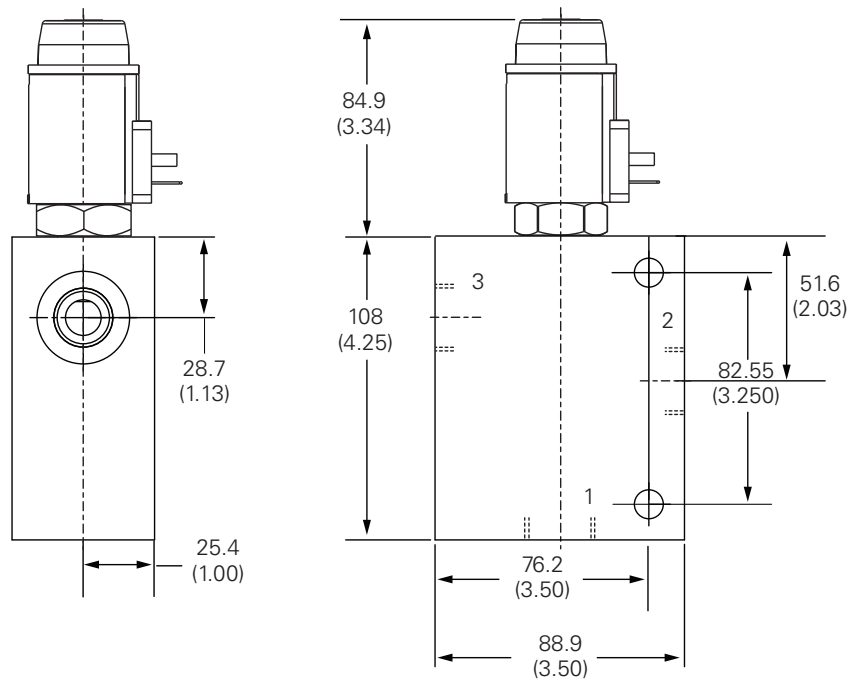
(Only required if valve has Special features, omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing (Steel)

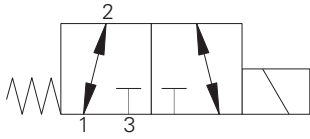


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

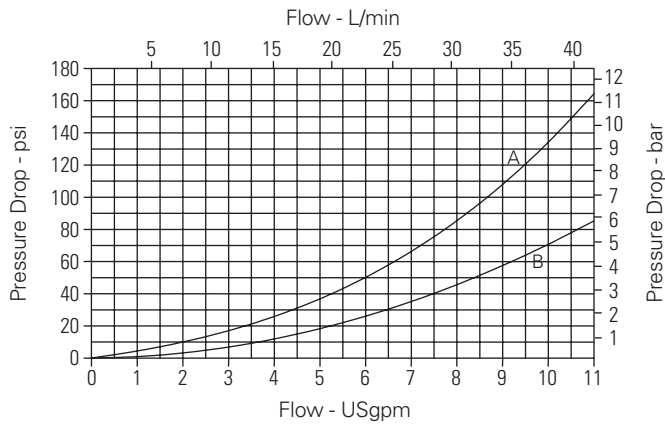
Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)

Typical application pressure	210 bar (3000 psi)
Rated flow	42 L/min (11 USgpm)
Internal leakage	300 cm <sup>3</sup> /min (21.5 in <sup>3</sup> /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



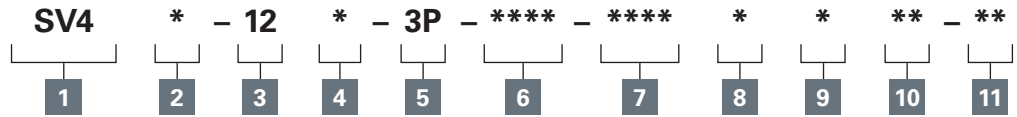
- A** - Port 3 to port 2 energized
- B** - Port 2 to port 1 de-energized

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)

## Model code



A

**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

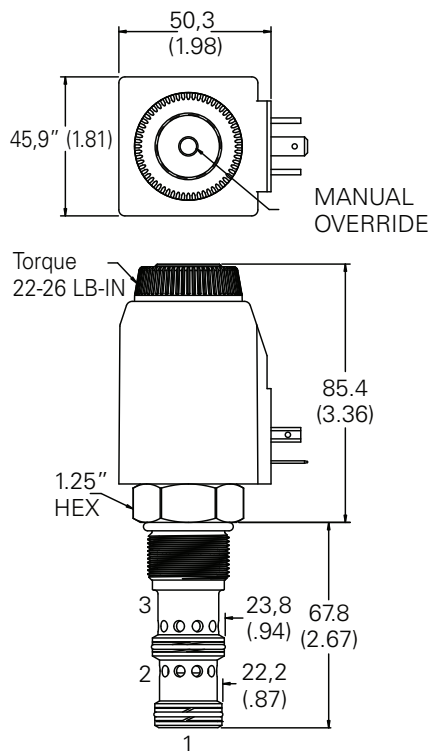
## 11 Special features

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

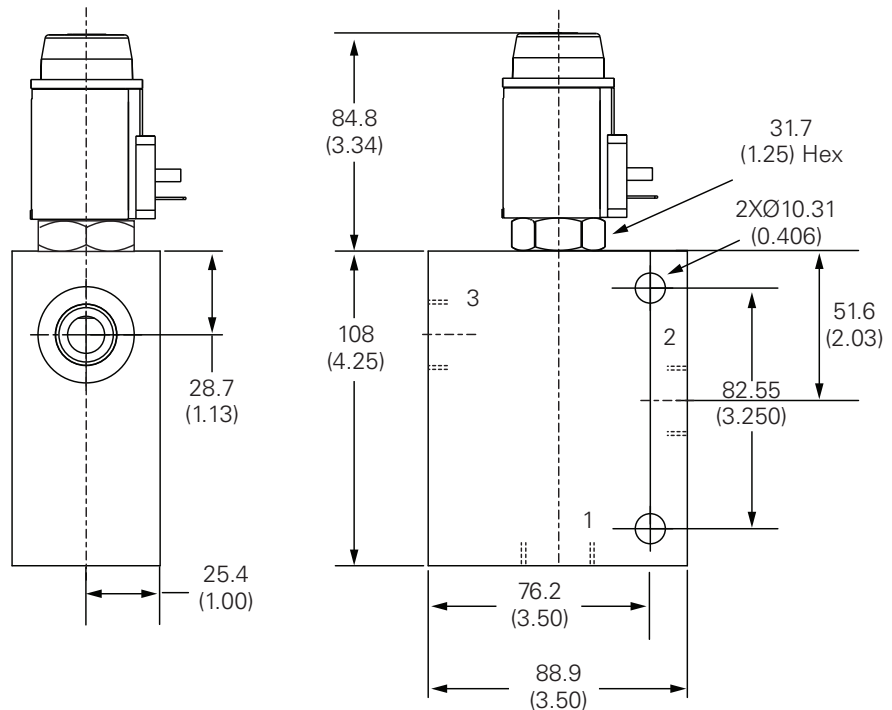
SF - Soft shift

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

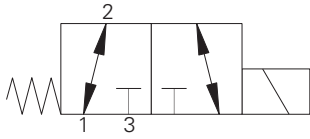


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

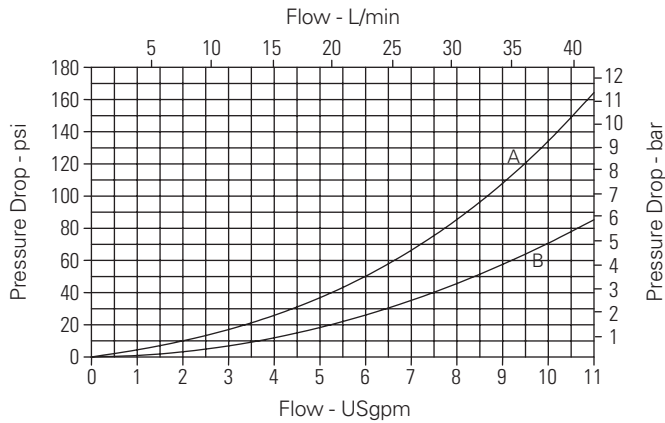
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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

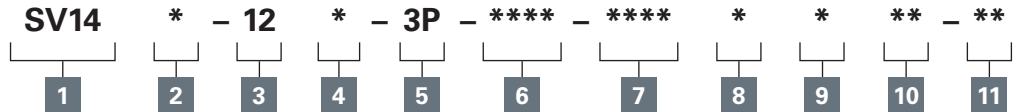
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

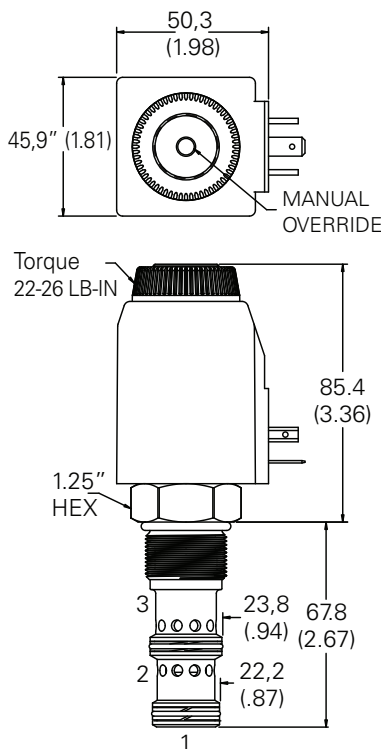
### 11 Special features

00 - None

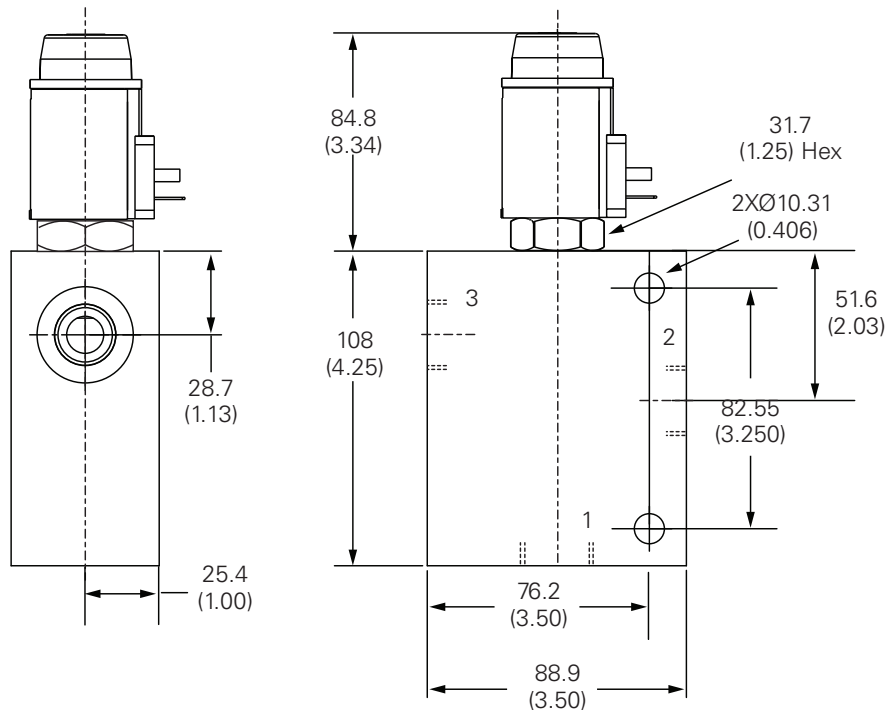
(Only required if valve has Special features, omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing (Steel)

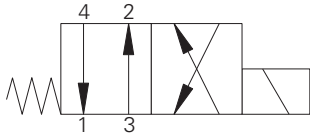


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

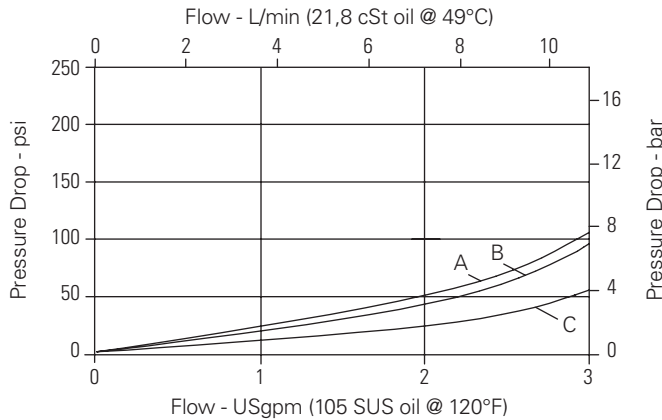
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	11 L/min (3 USgpm)
Internal leakage (per land)	82 cm <sup>3</sup> /min (5 in <sup>3</sup> /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.

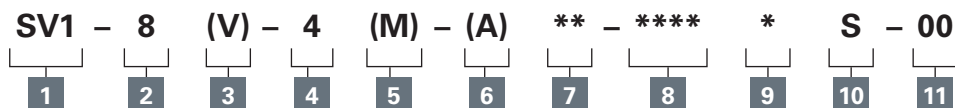


# SV1-8-4/4M - Solenoid valve

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.

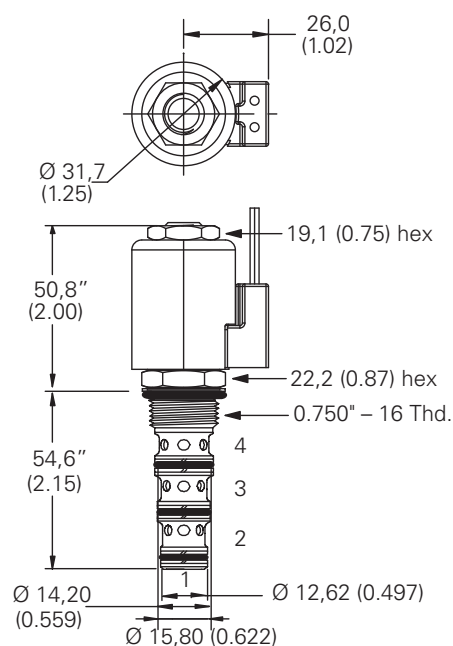
### 11 Special features

00 - None

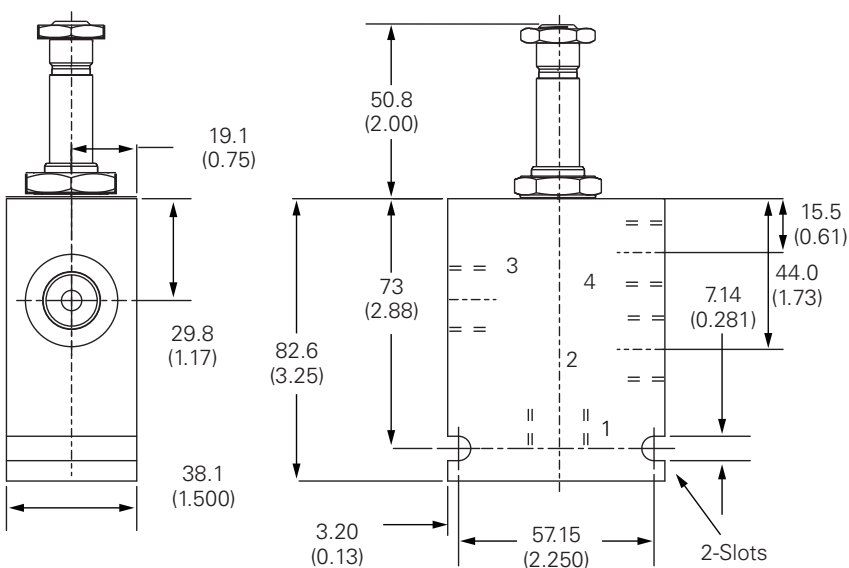
(Only required if valve has Special features omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

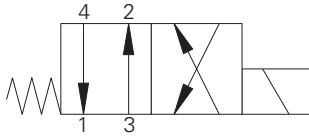


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

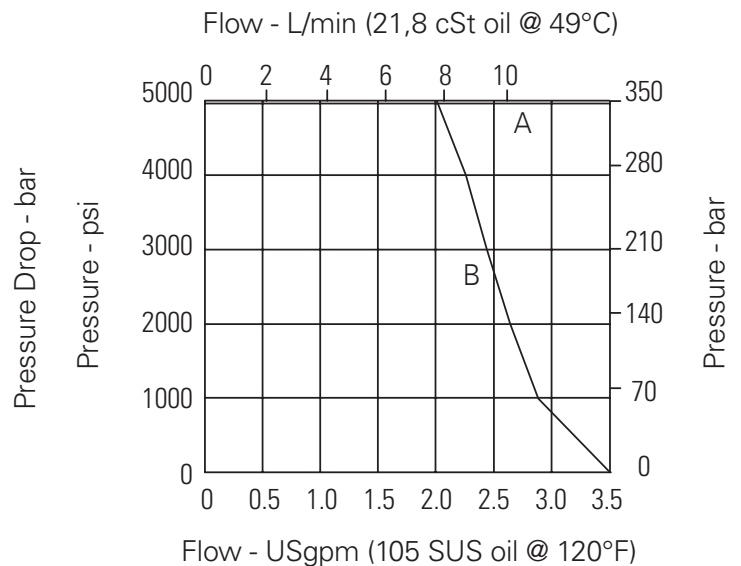
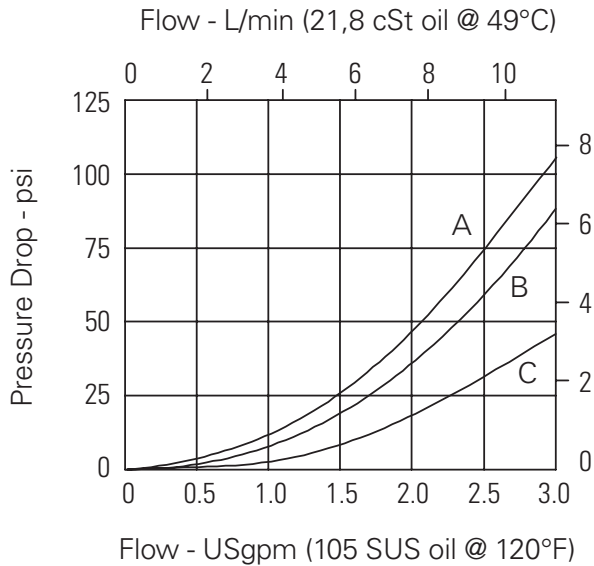
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	350 bar (5000 psi)
Rated flow	11 L/min (3 USgpm)
Internal leakage (per land)	82 cm <sup>3</sup> /min (5 in <sup>3</sup> /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

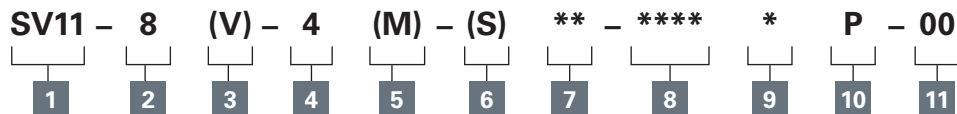
- A** - Port 2 to port 1, 4 to 1, and 3 to 2
- B** - Port 3 to port 4

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.

### 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

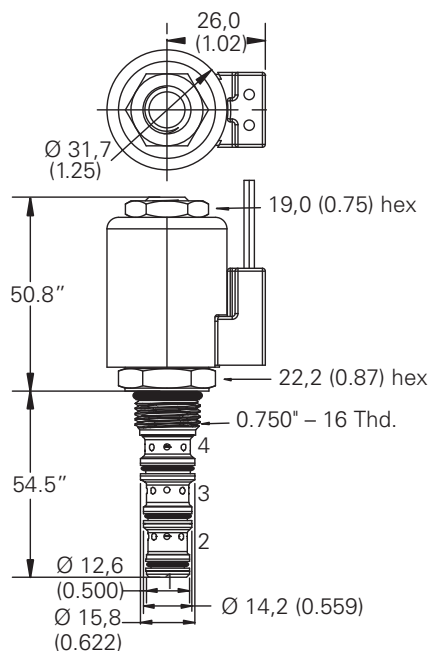
00 - None  
(Only required if valve has Special features omitted if "00".)

### 8 Voltage rating

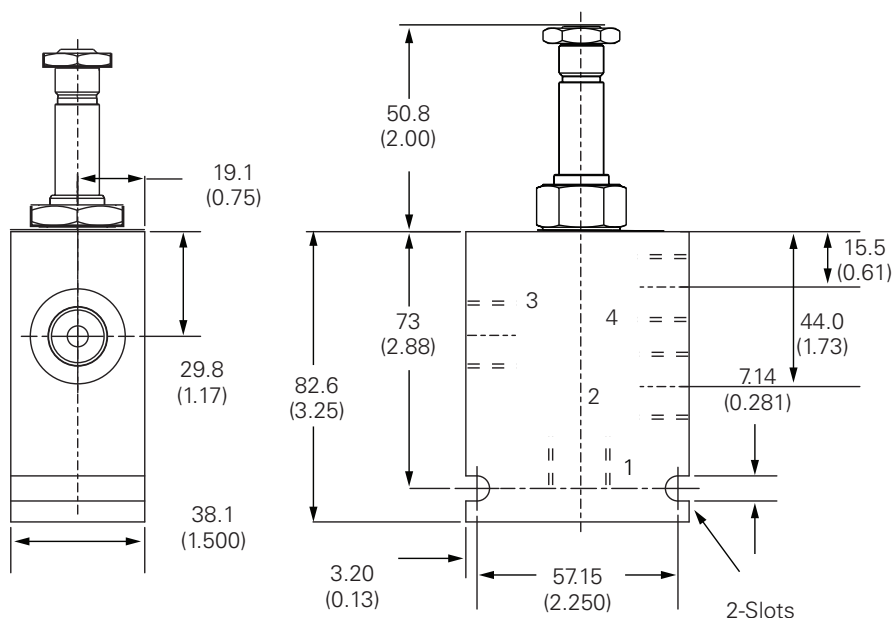
00 - No coil  
12D - 12VDC  
24D - 24VDC  
115A - 115VAC  
230A - 230VAC  
12B - 12VDC/w diode\*  
24B - 24VDC/w diode\*  
\*Optional arc suppression diode.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

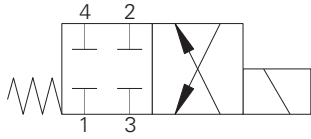


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

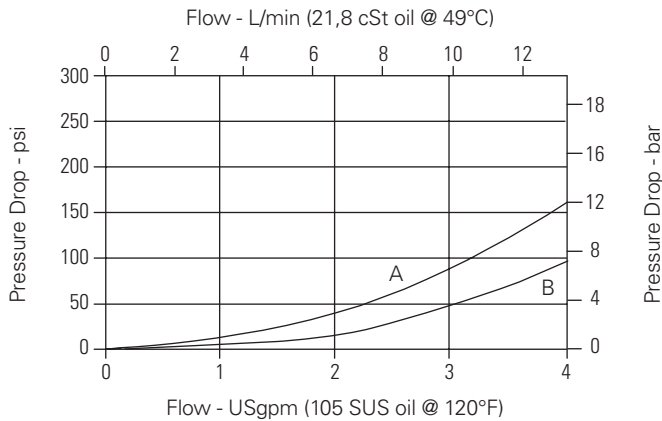
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	13 L/min (4 USgpm)
Internal leakage	82 cm <sup>3</sup> /min (5 in <sup>3</sup> /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

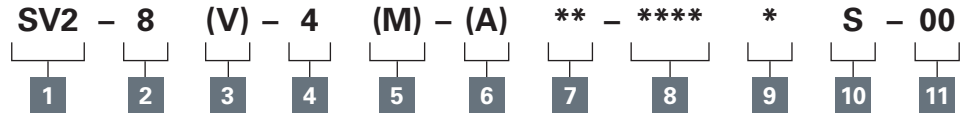
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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.

### 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

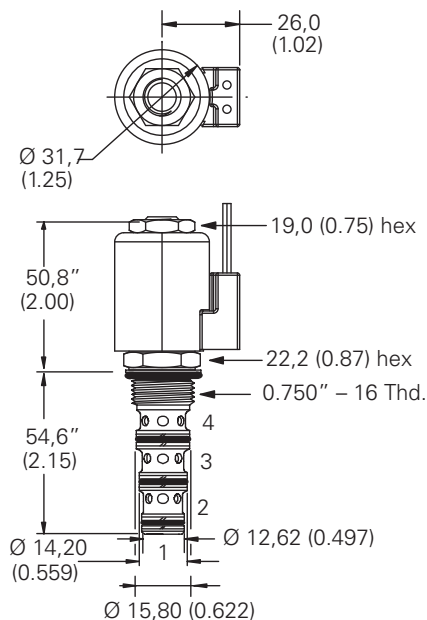
S - 8 series, 20 W  
For coil part numbers and dimensions see section C.

### 11 Special features

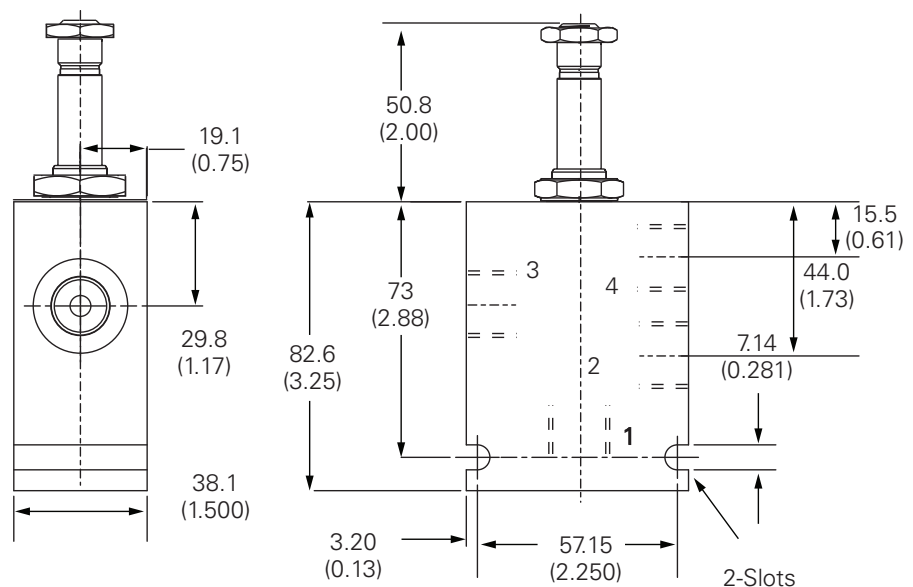
00 - None  
(Only required if valve has Special features omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

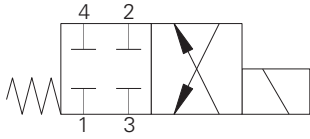


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

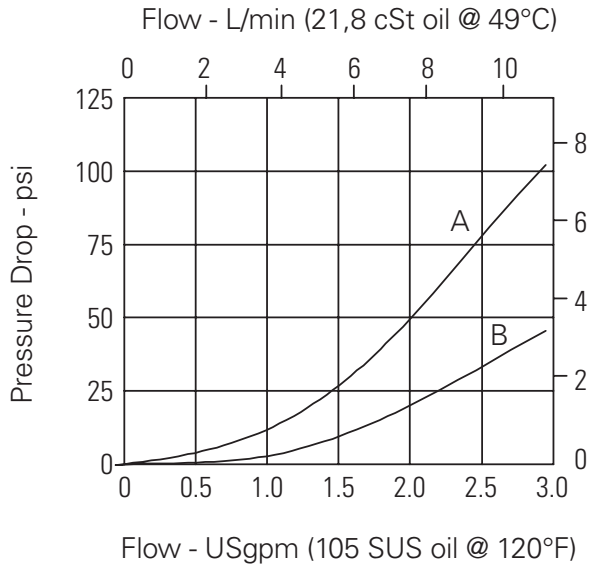
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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 <sup>3</sup> /min (5 in <sup>3</sup> /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

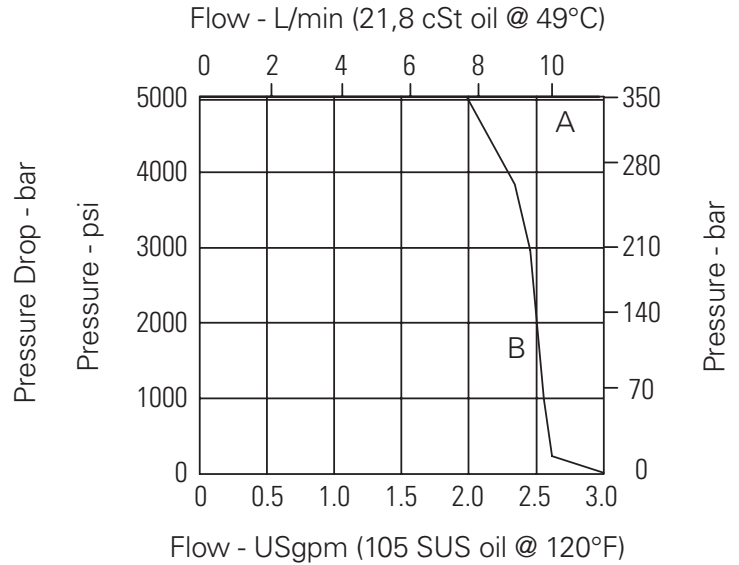
Cartridge only



### Pressure drop vs. Flow

**A** - Port 3 to port 4

**B** - Port 2 to 1



### Operating Limits

**A** - Port 2 to port 1

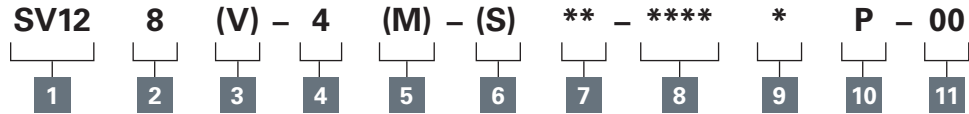
**B** - Port 3 to port 4

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)

## Model code



A

### 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.

### 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  
For coil part numbers and dimensions see section C.

### 10 Coil series

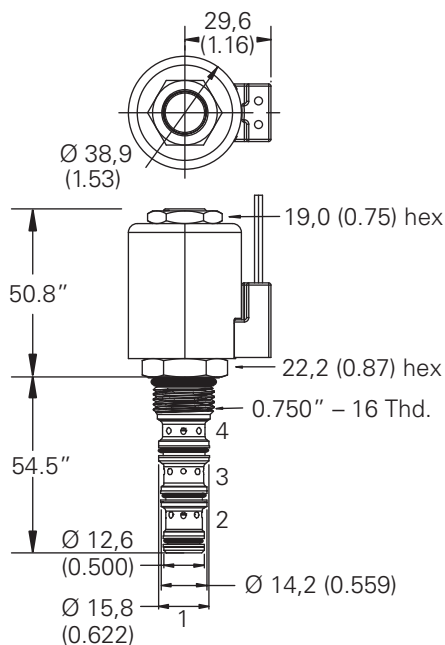
P - 8 series, 23 W  
For coil part numbers and dimensions see section C.

### 11 Special features

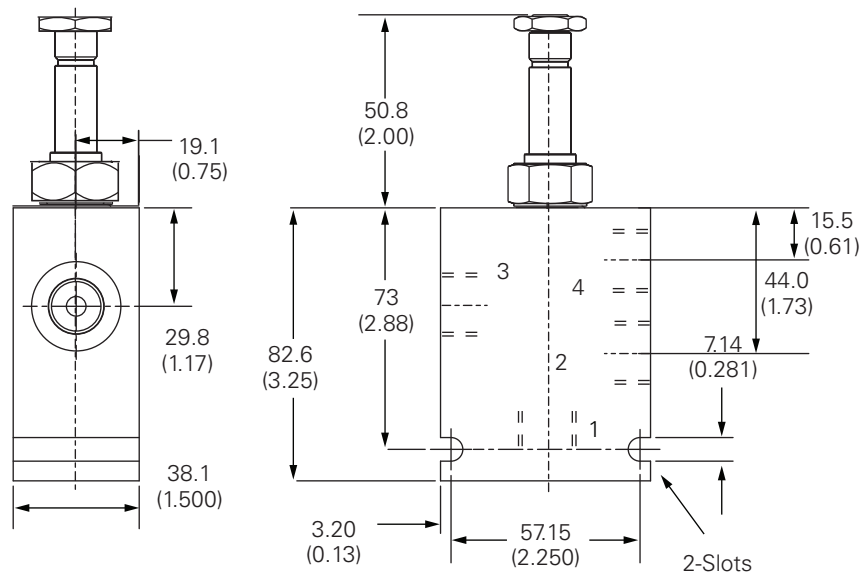
00 - None  
(Only required if valve has Special features omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

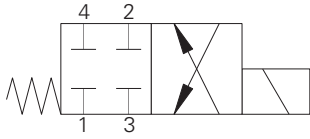


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

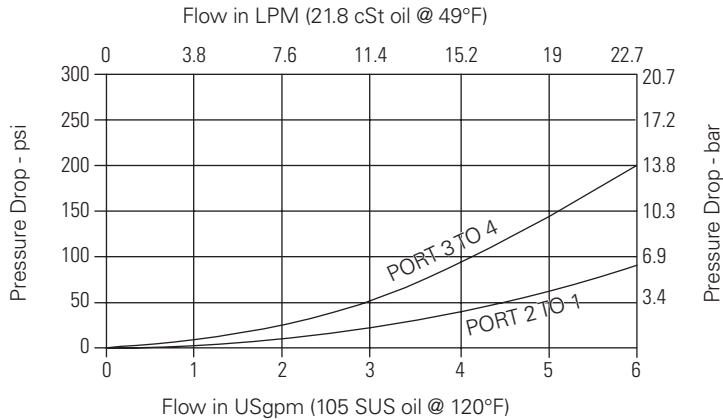
### Ratings and specifications

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



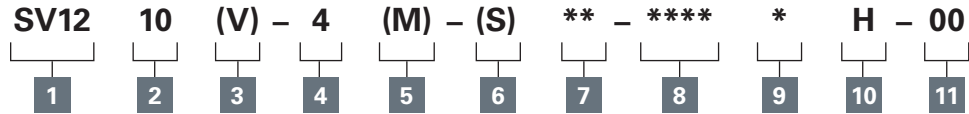
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.



# 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 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	02-175102
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

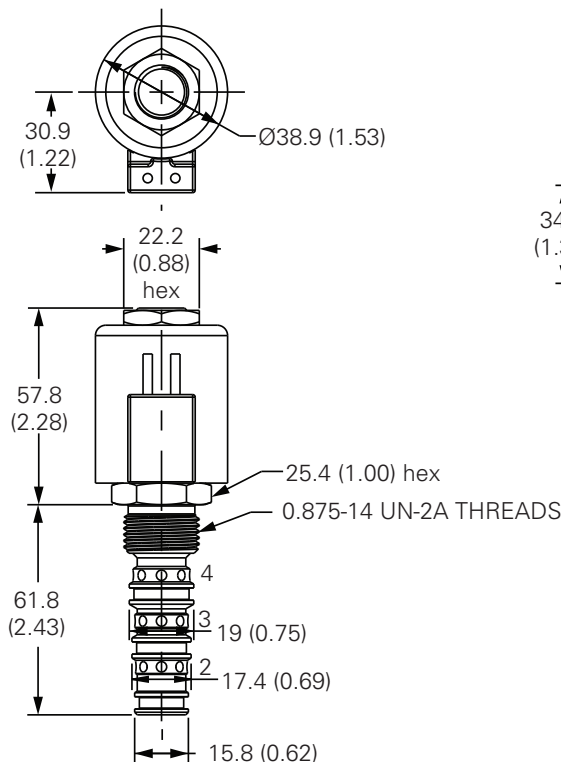
00 - None  
(Only required if valve has Special features omitted if "00".)

### 8 Voltage rating

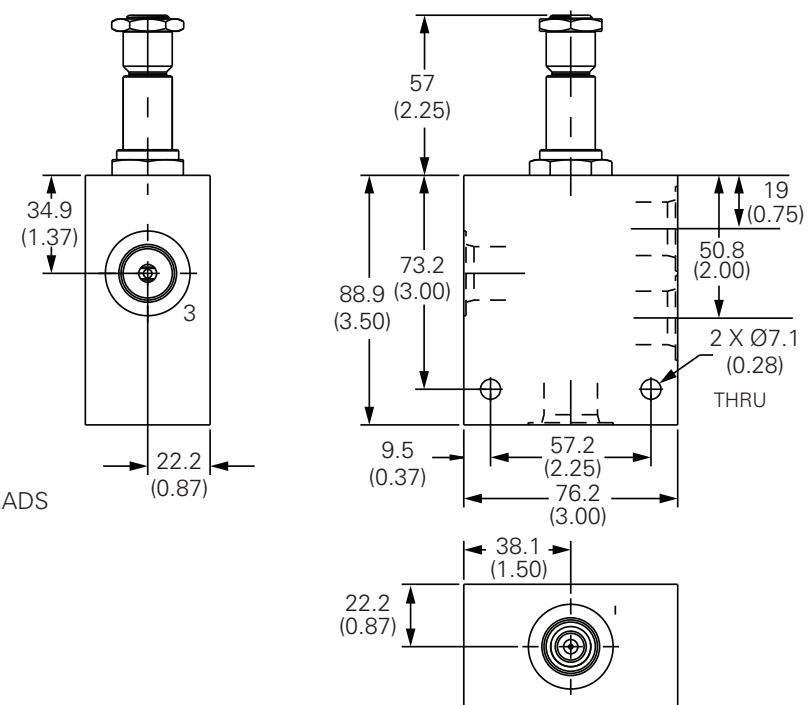
00 - No coil	230A - 230VAC
12D - 12VDC	12B - 12VDC/w diode*
24D - 24VDC	24B - 24VDC/w diode*
115A - 115VAC	*Optional arc suppression diode.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

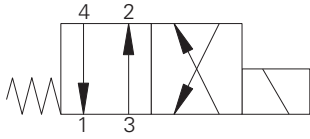


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

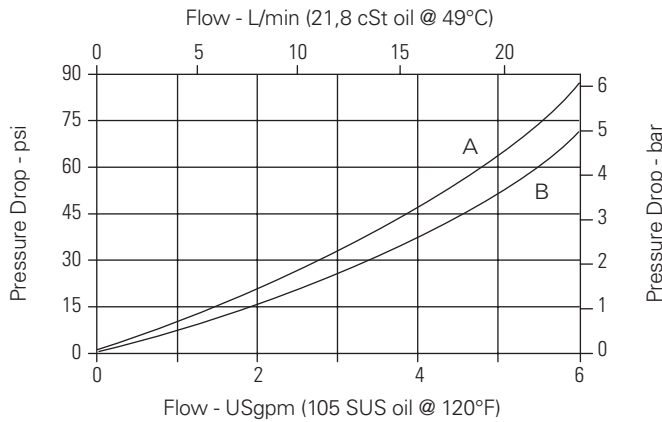
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	164 cm <sup>3</sup> /min (10 in <sup>3</sup> /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



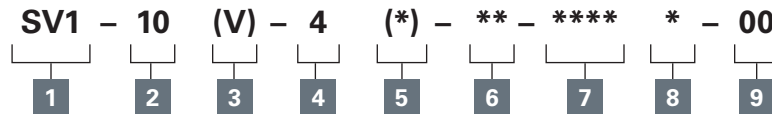
- A** - Port 4 to port 1
- B** - Port 3 to port 2

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
<b>0</b>	Cartridge only	
<b>3B</b>	3/8" BSPP	02-179705*
<b>6T</b>	SAE 6	566161*
<b>2G</b>	1/4" BSPP	876709
<b>3G</b>	3/8" BSPP	876715
<b>6H</b>	SAE 6	876708
<b>8H</b>	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

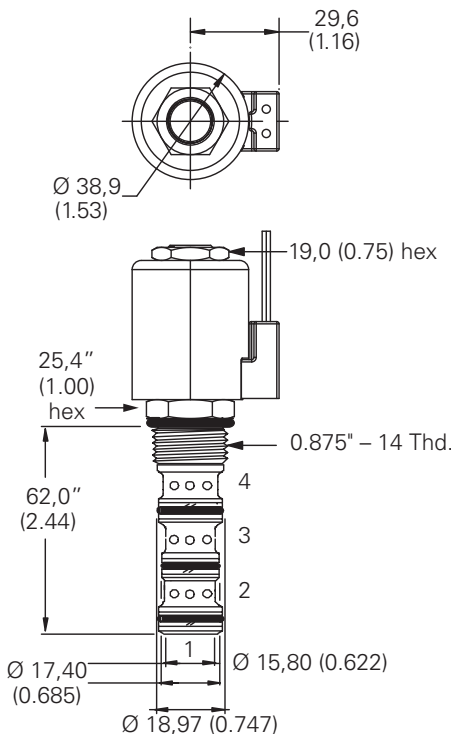
**00** - None

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

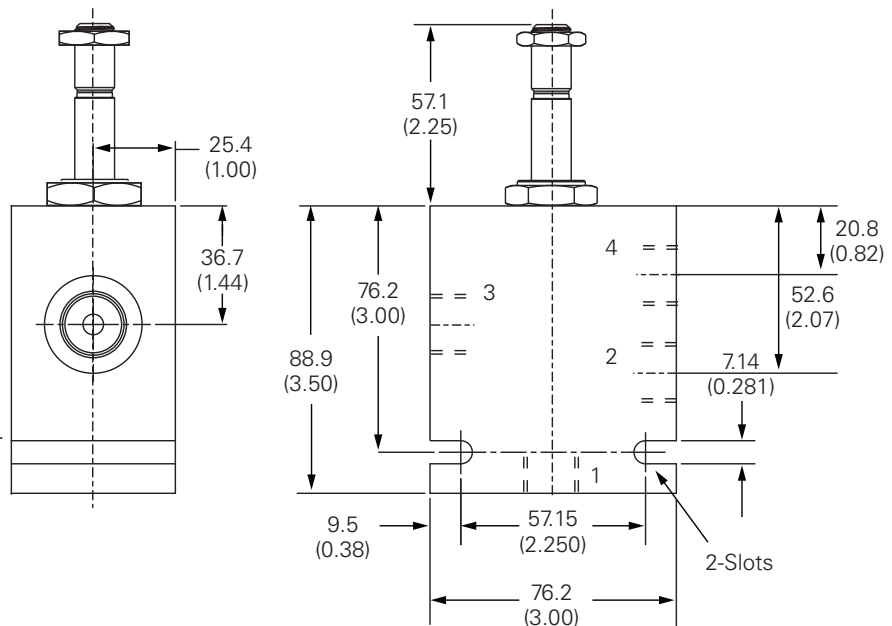
**Note:** Use J series 23W coils with this solenoid valve.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

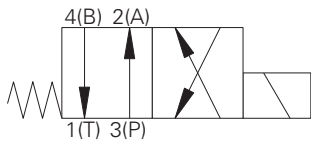


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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)

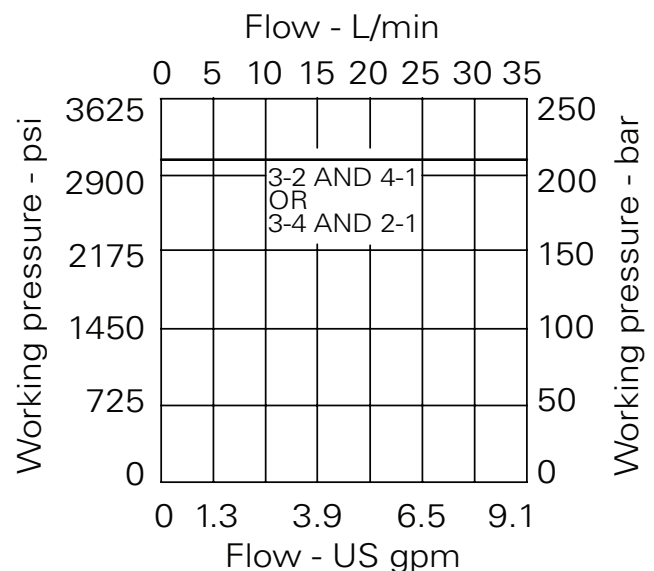
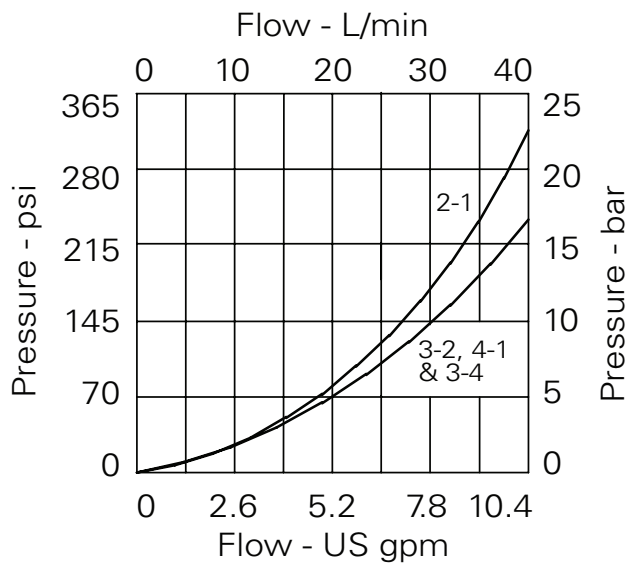
Max working pressure	210 bar (3000 psi)
Rated flow	See performance graphs
Nominal flow at $\Delta P = 5$ bar (70 psi)	20 L/min (5 USgpm)
Internal leakage	Less than 120 ml/min past each land 210 bar differential at 32 cSt
Temperature range	-30° to +120°C (-22° to +248°F)
Cavity	C-10-4 (See Section M)
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



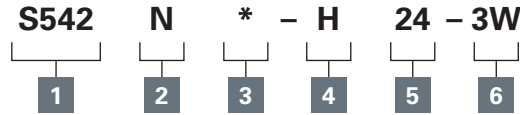
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

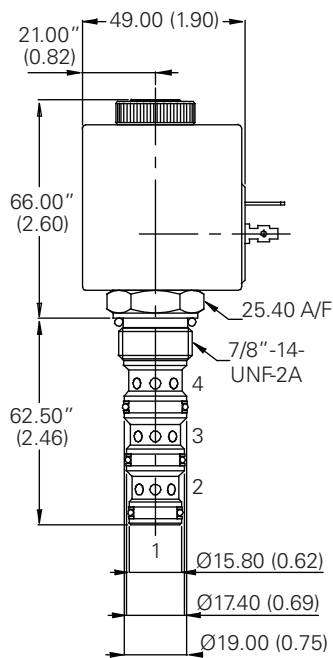
**220** - 220 VAC

### 6 Port sizes

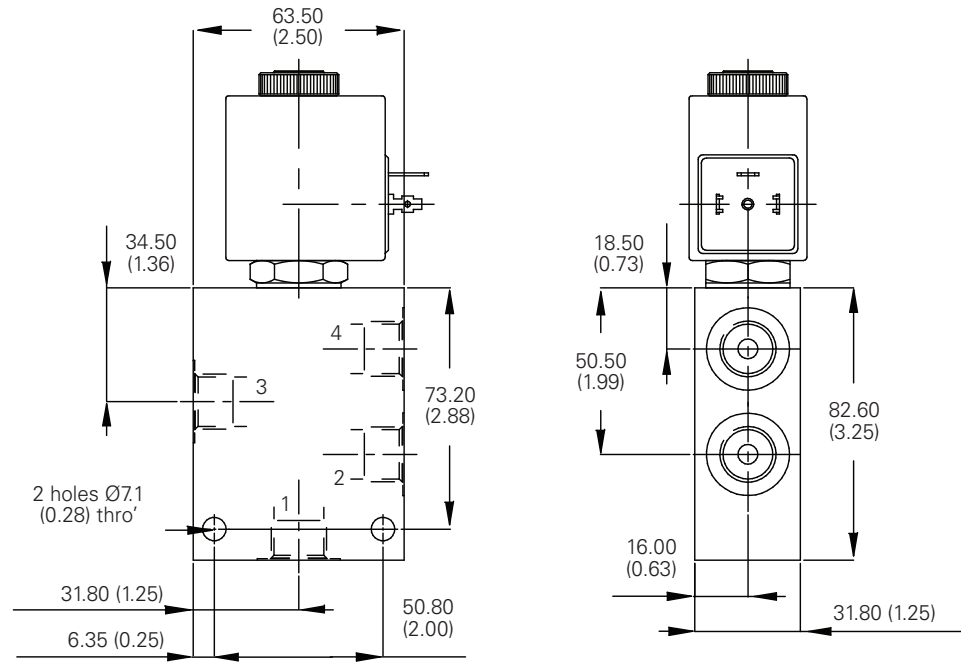
Code	Port size	Housing number - Body only
		Aluminium
<b>3W</b>	3/8" BSP	B19240
<b>4W</b>	1/2" BSP	B19228
<b>8T</b>	1/2" SAE	B19229

## Dimensions - mm (inch)

### Cartridge only Basic Code **S542**



### Installation drawing

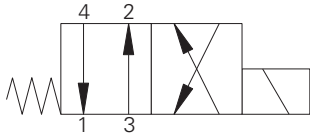


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

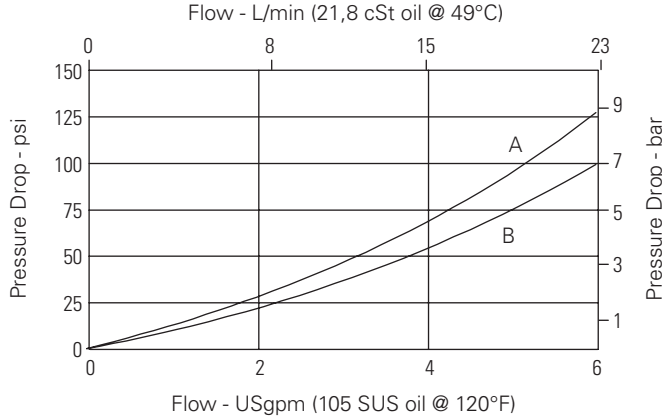
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

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 <sup>3</sup> /min. (5 in <sup>3</sup> /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®)

Viton is a registered trademark of E.I. DuPont

## Pressure drop

Cartridge only



**A** - Port 3 to port 2

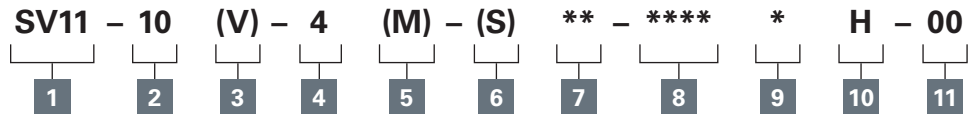
**B** - Port 4 to port 1

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

# 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\*

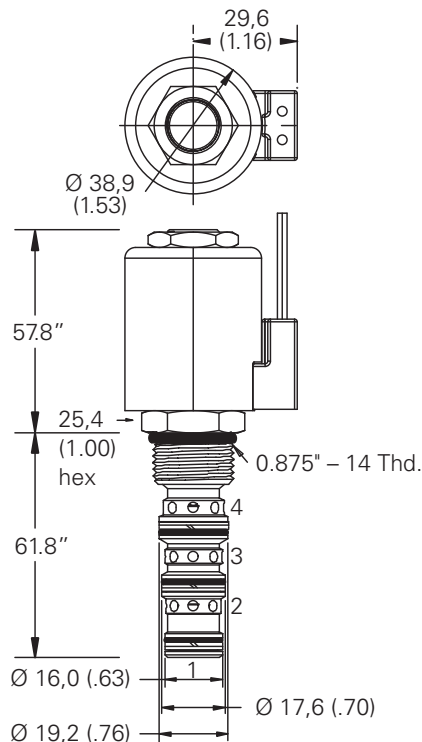
\*Optional arc suppression diode.

### 9 Coil types

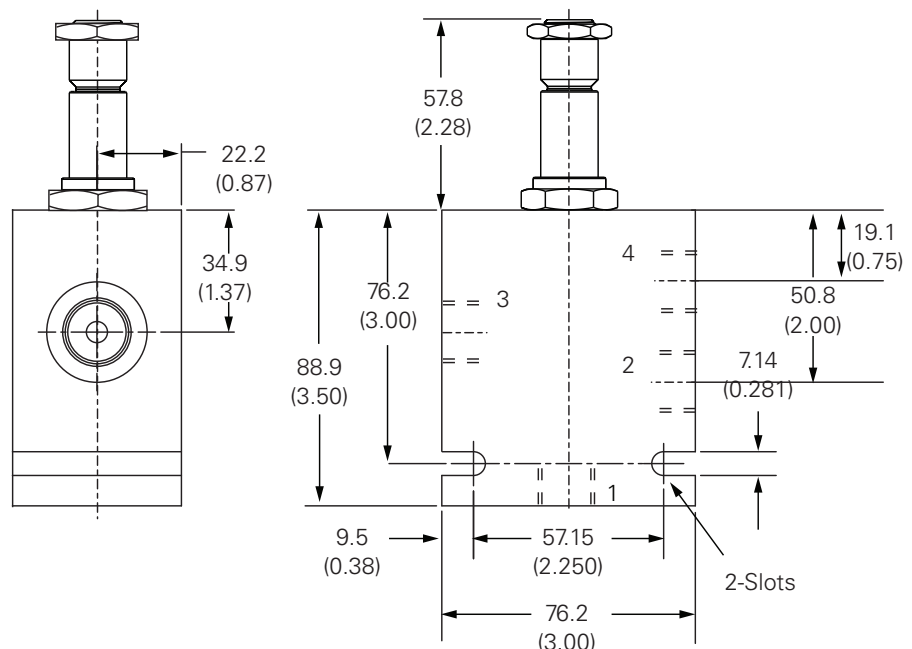
Blank - No coil  
G - ISO 4400 DIN 43650  
W - Flying lead  
N - Deutsch (DC only)  
Y - Amp JR (DC only)  
D - Metripack 150 male (DC only)  
J - Metripack 280 male (DC only)  
E - Weather-Pack female  
F - Weather-Pack male  
For coil part numbers and dimensions see section C.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

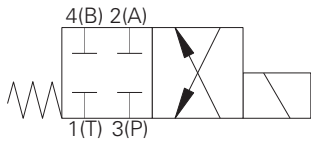


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

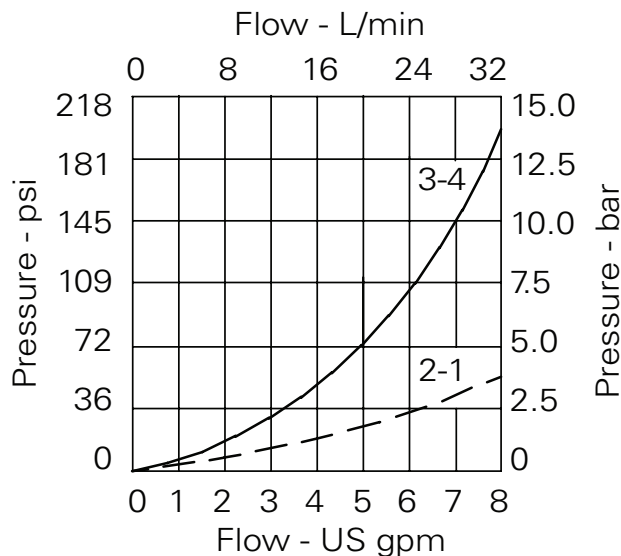
Performance data is typical with Viscosity 32 cST (150 SSU)

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*

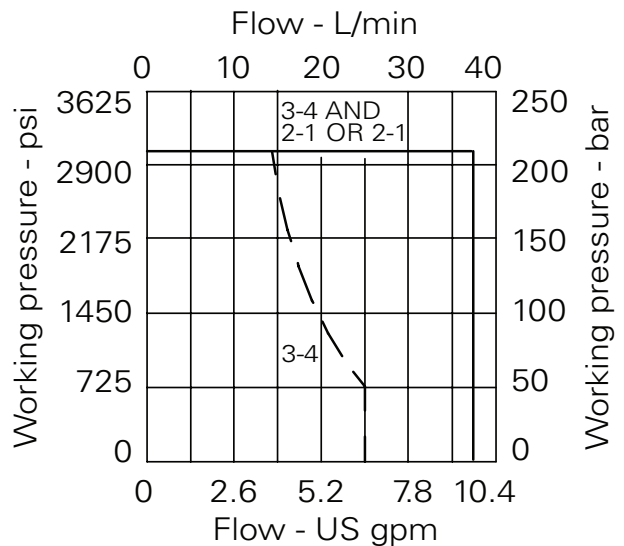
Viton is a registered trademark of E.I. DuPont

\*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.

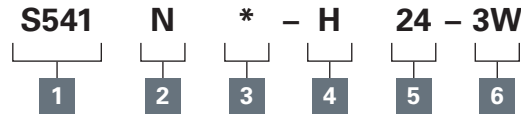


# S541 - Solenoid valve

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

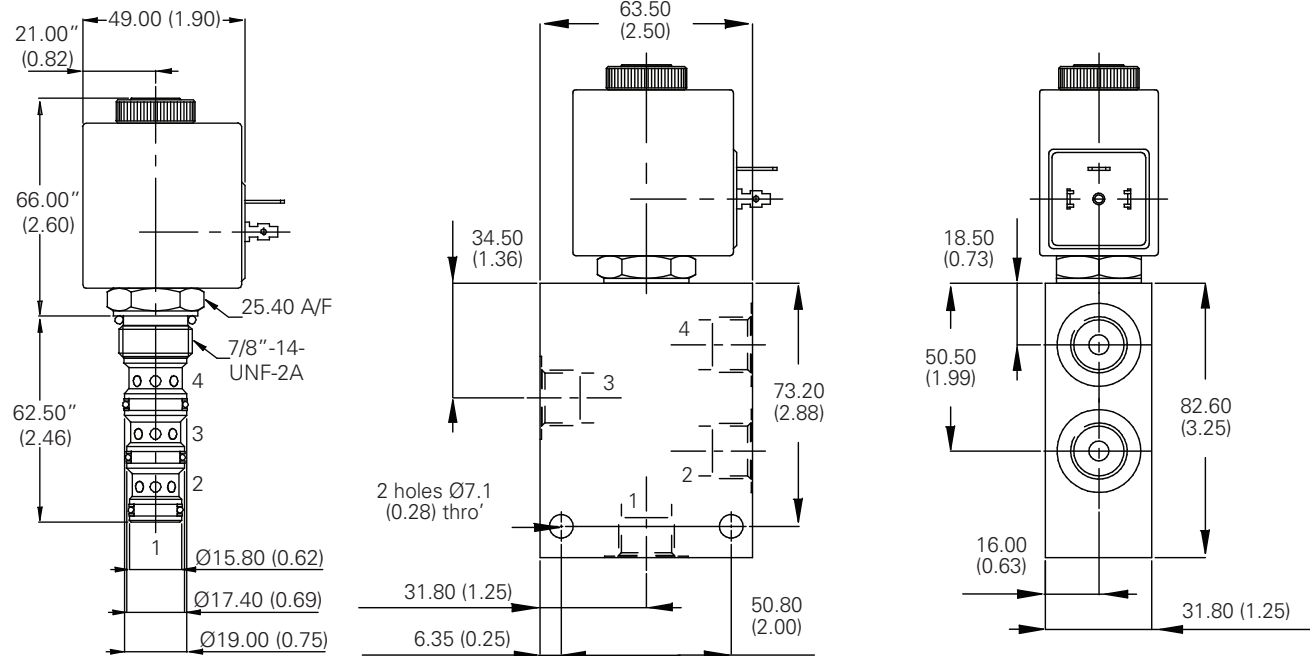
Code	Port size	Housing number - Body only
		Aluminium
<b>3W</b>	3/8" BSP	B19240
<b>4W</b>	1/2" BSP	B19228
<b>8T</b>	1/2" SAE	B19229

## Dimensions - mm (inch)

### Cartridge only

Basic Code **S541**

### Installation drawing

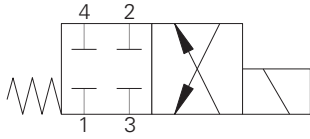


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

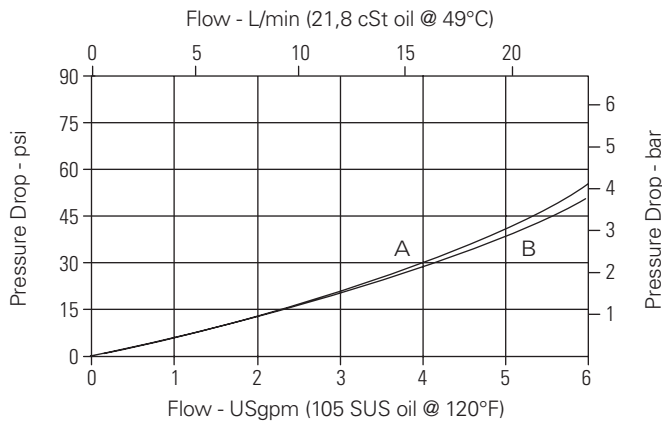
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	164 cm <sup>3</sup> /min (10 in <sup>3</sup> /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

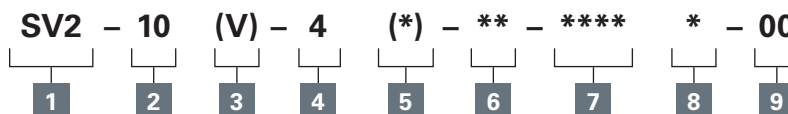
**B** - Port 1 to port 2

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.

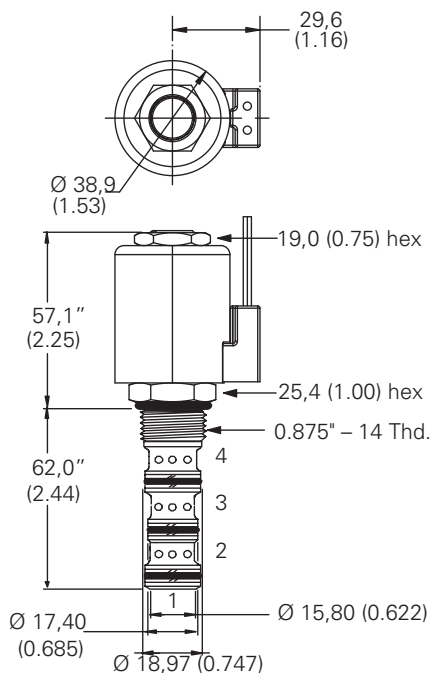
### 9 Special features

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

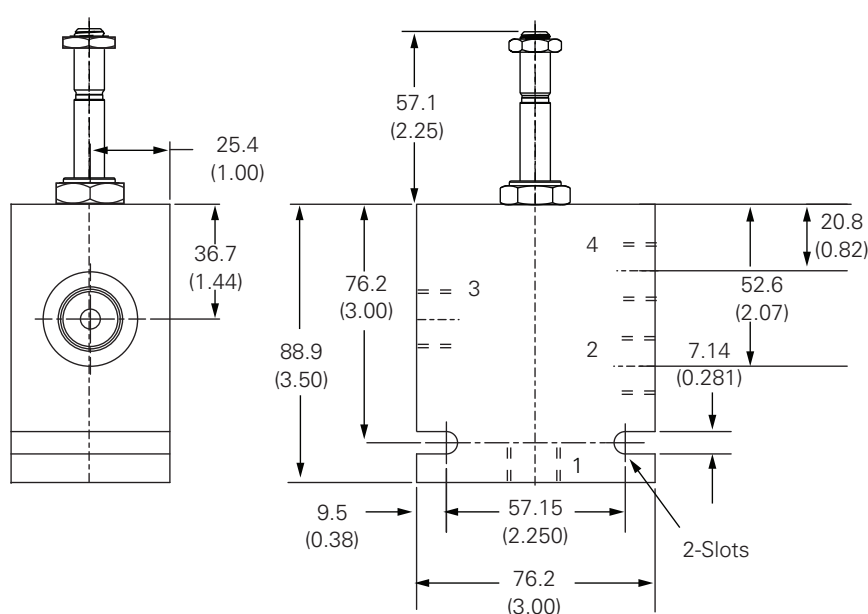
**Note:** Use J series 23, W coils with this solenoid valve.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

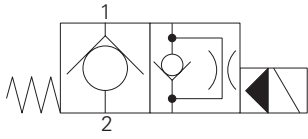


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

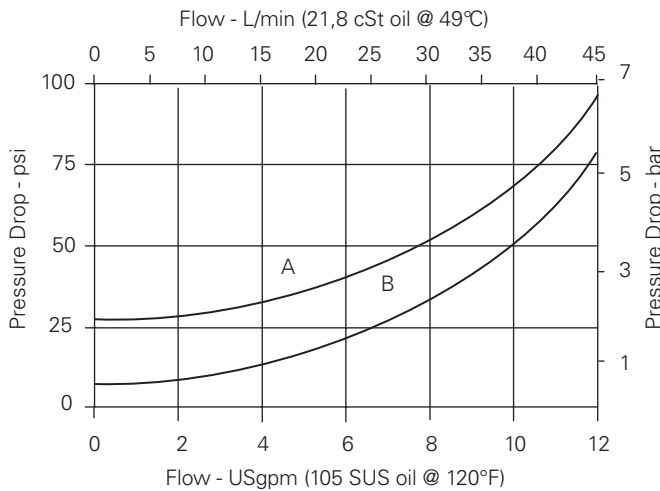
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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

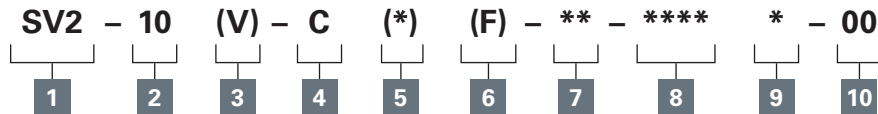
**B** - Port 2 to port 1 energized

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.

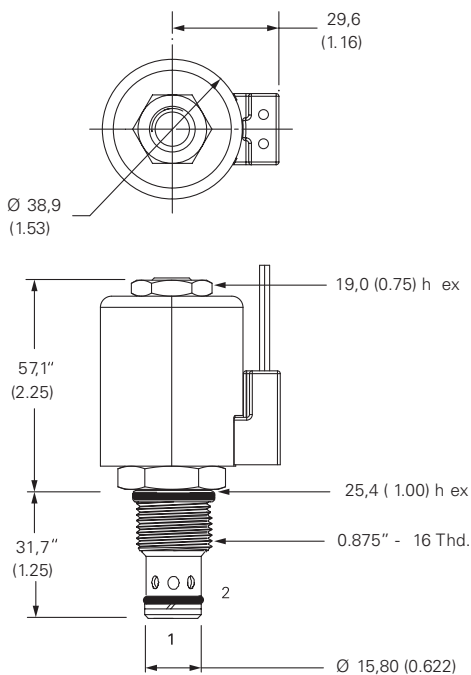
### 10 Special features

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

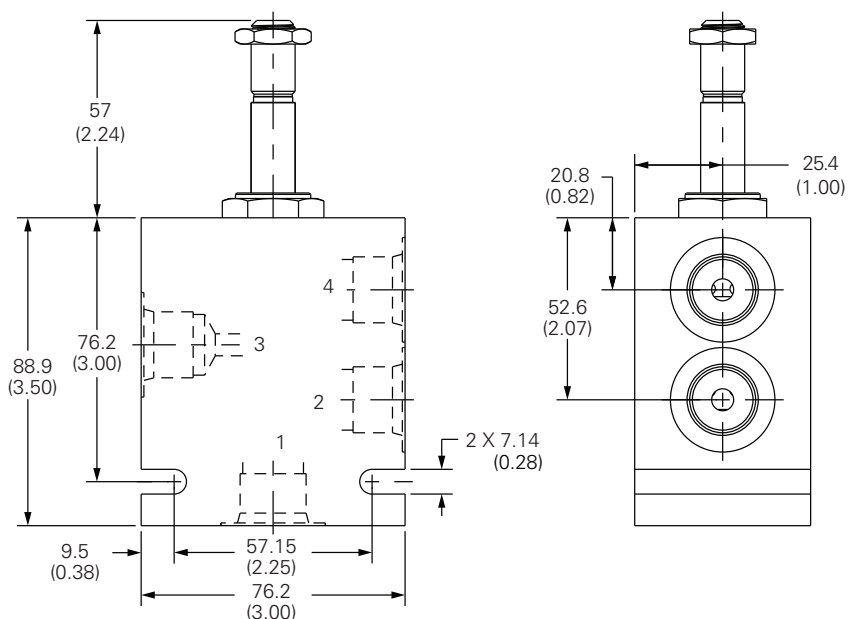
**Note:** Use J series 23, W coils with this solenoid valve.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

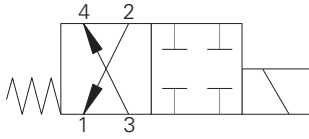


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

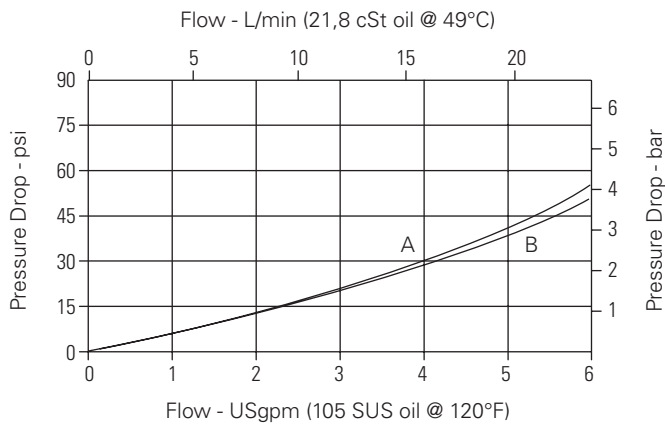
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	164 cm <sup>3</sup> /min (10 in <sup>3</sup> /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



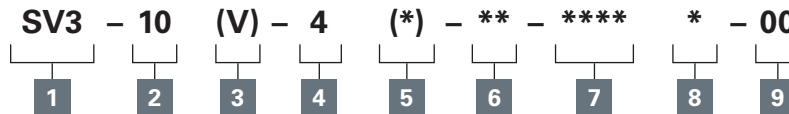
A - Port 3 to port 4  
B - Port 1 to port 2

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

# 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

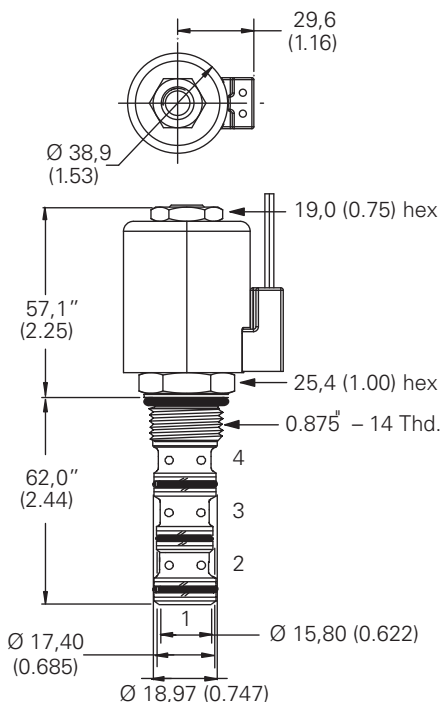
00 - None

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

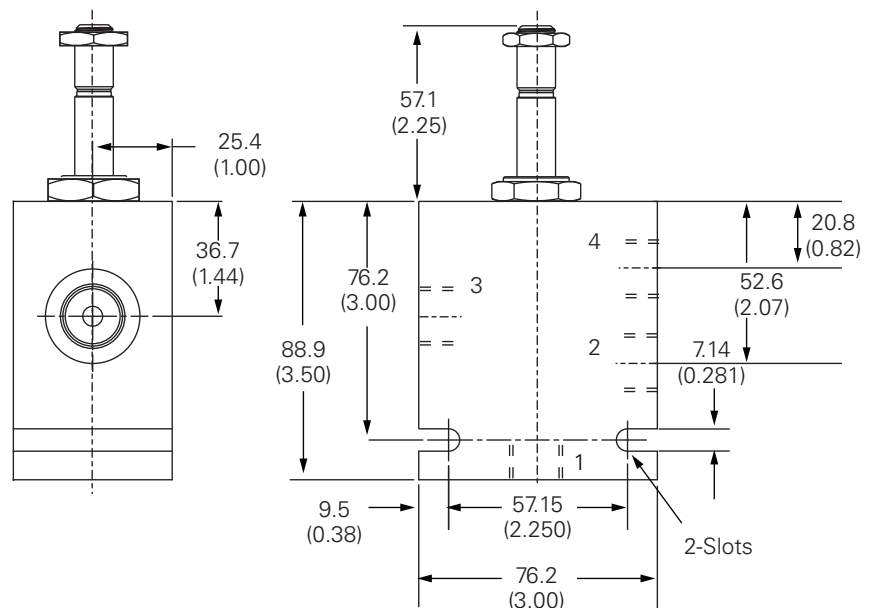
**Note:** Use J series 23, W coils with this solenoid valve.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

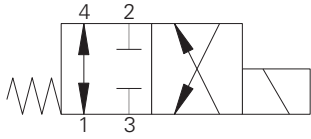


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

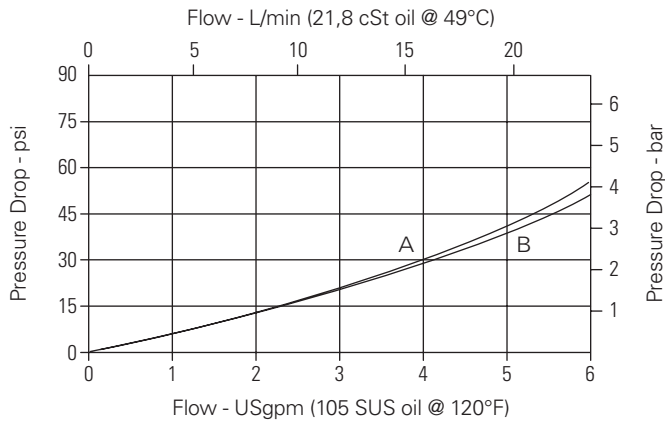
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	164 cm <sup>3</sup> /min (10 in <sup>3</sup> /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

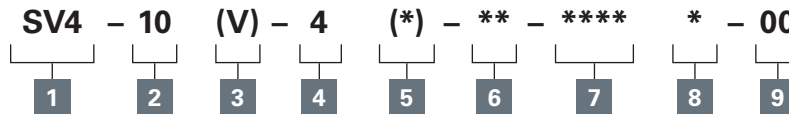
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.



# 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

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

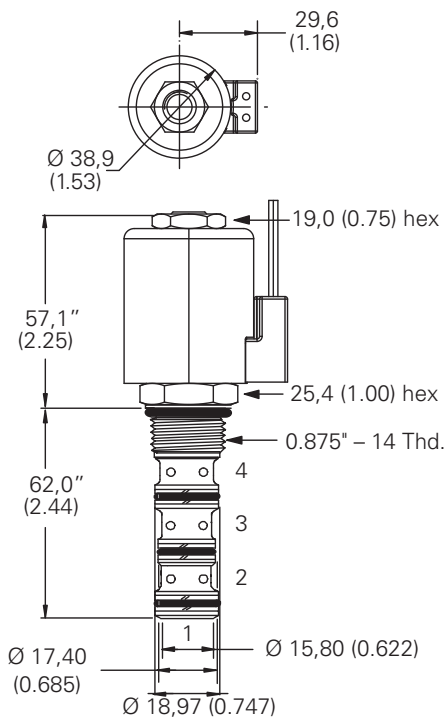
00 - None

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

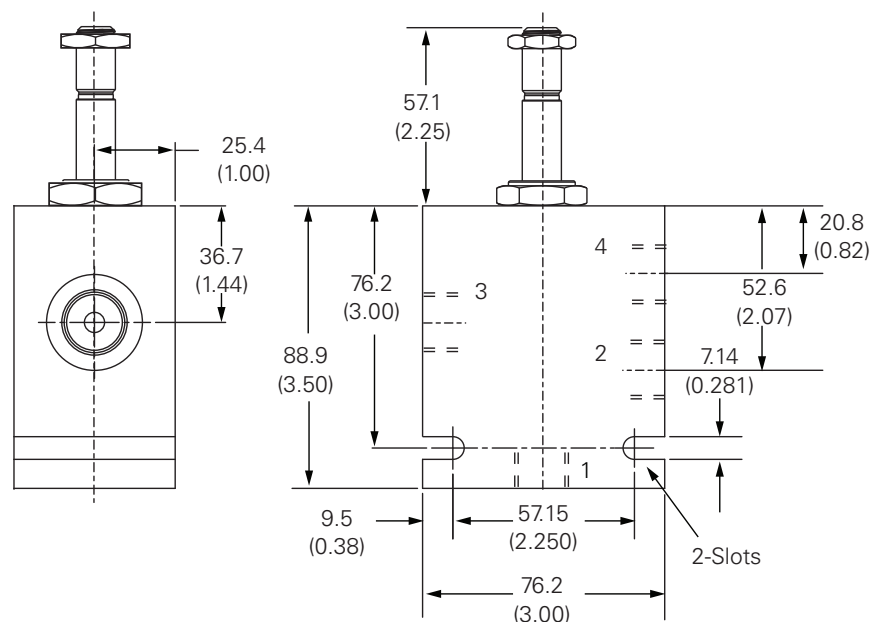
**Note:** Use J series 23, W coils with this solenoid valve.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

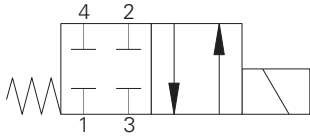


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

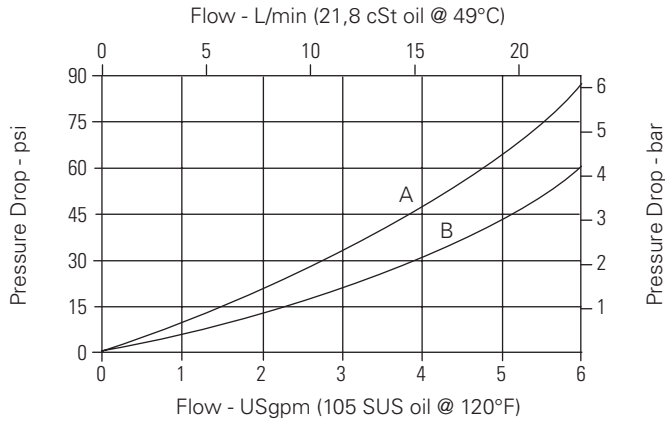
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	164 cm <sup>3</sup> /min (10 in <sup>3</sup> /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

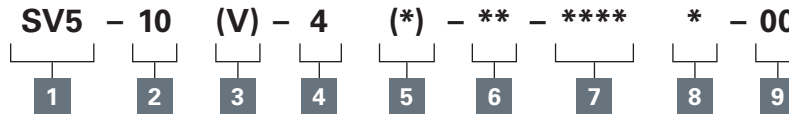
**B** - Port 3 to port 2

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

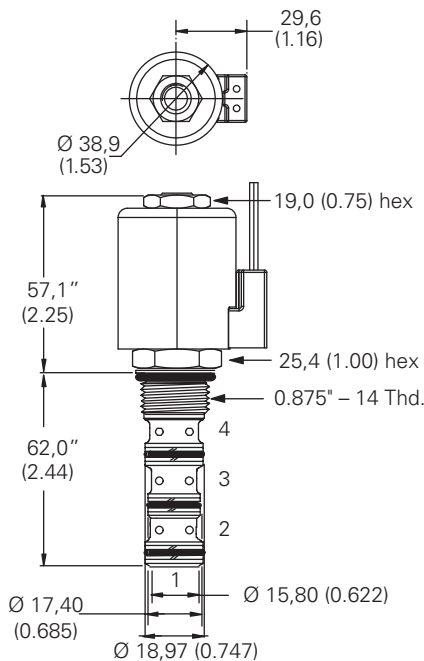
00 - None

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

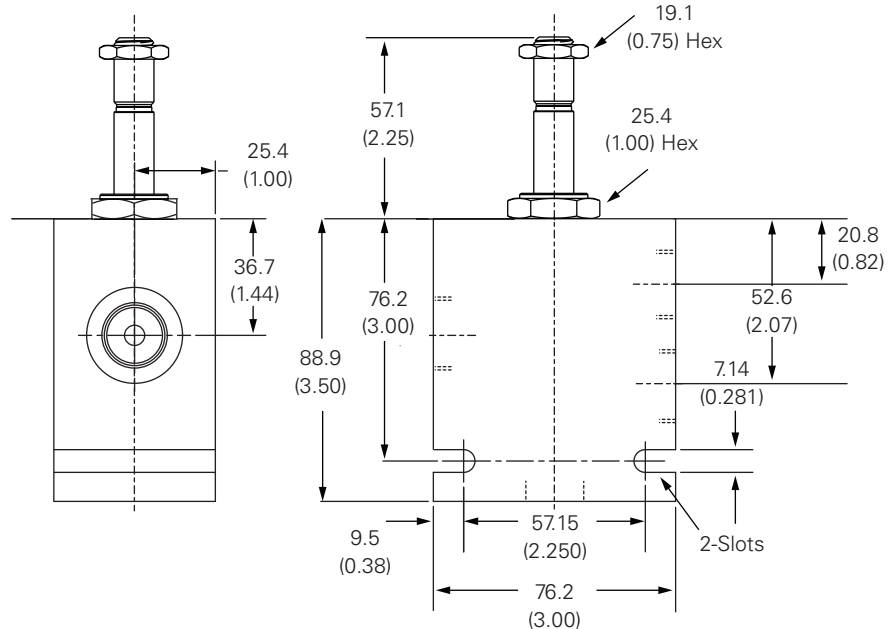
**Note:** Use J series 23 W coils with this solenoid valve.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

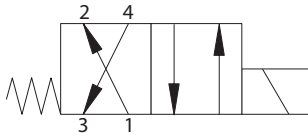


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

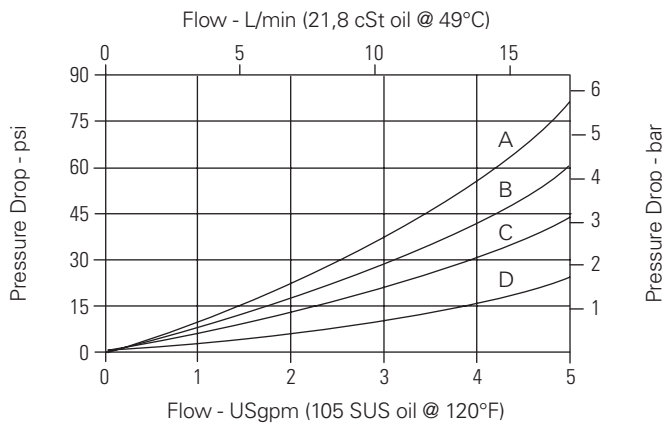
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	17 L/min (5 USgpm)
Internal leakage	164 cm <sup>3</sup> /min (10 in <sup>3</sup> /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



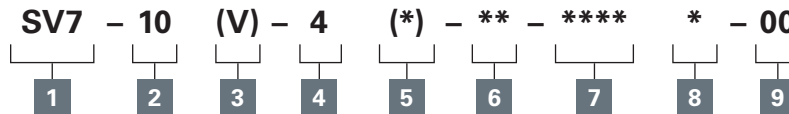
- A** - Port 4 to port 1 energized
- B** - Port 3 to port 2 energized
- C** - Port 3 to port 4 de-energized
- D** - Port 2 to port 1 de-energized

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

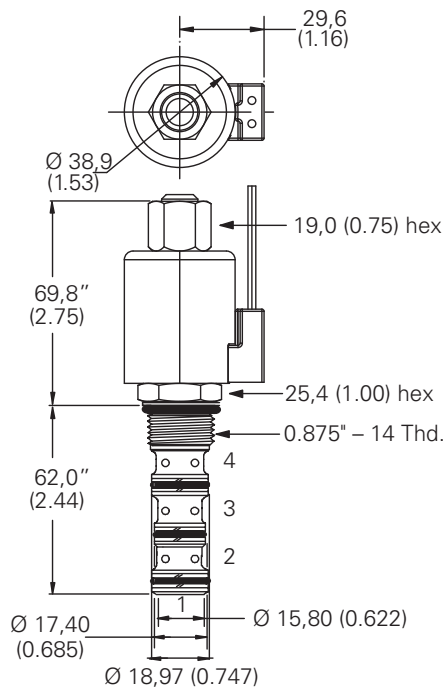
00 - None

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

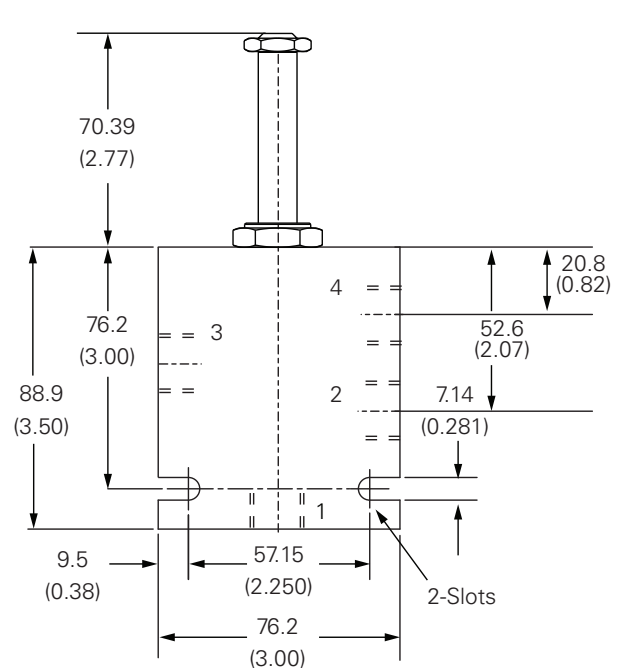
**Note:** Use J series 23 W coils with this solenoid valve.

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

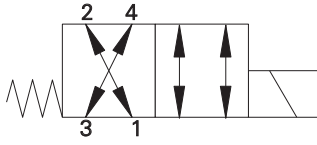


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

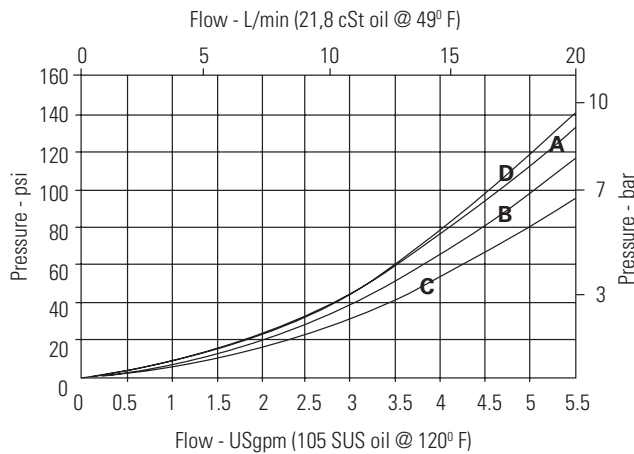
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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 <sup>3</sup> /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

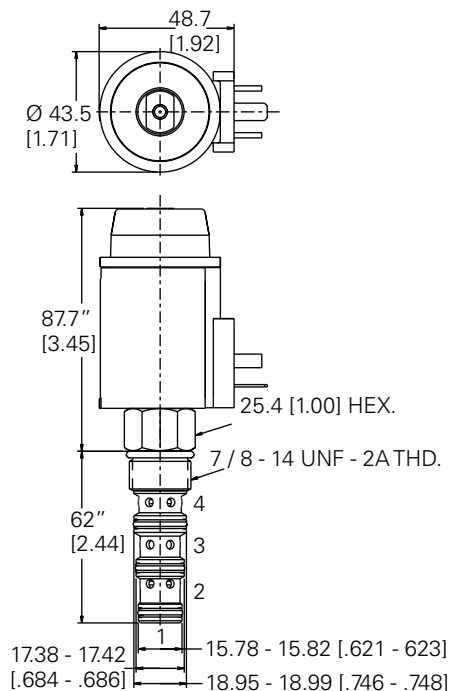
Blank - No coil  
00 - No special feature

### 11 Special features

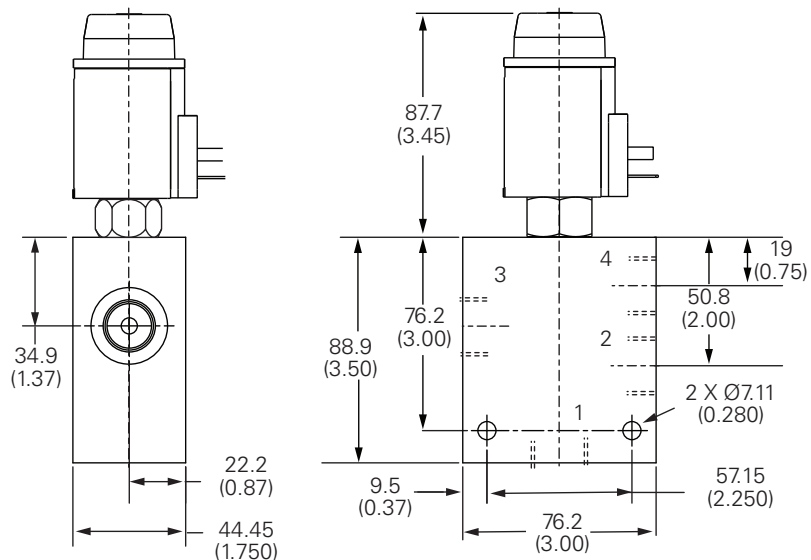
00 - None  
(Only required if valve has Special features omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing (Steel)

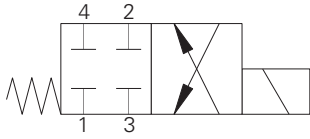


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

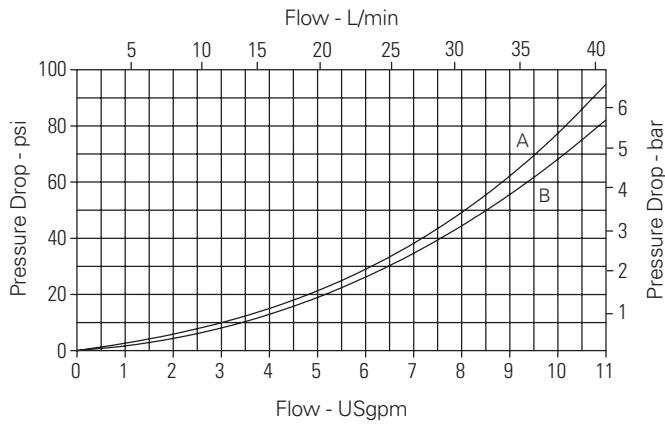
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

Typical application pressure	210 bar (3000 psi)
Rated flow	42 L/min (11 USgpm)
Internal leakage	300 cm <sup>3</sup> /min (21.5 in <sup>3</sup> /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.

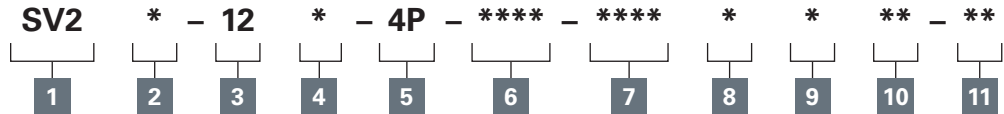


# SV2M-12-4 - Solenoid valve

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
<b>0</b>	Cartridge only	
<b>A6G</b>	3/4" BSPF	5986432-001
<b>A10T</b>	SAE 10	6030517-001
<b>A12H</b>	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

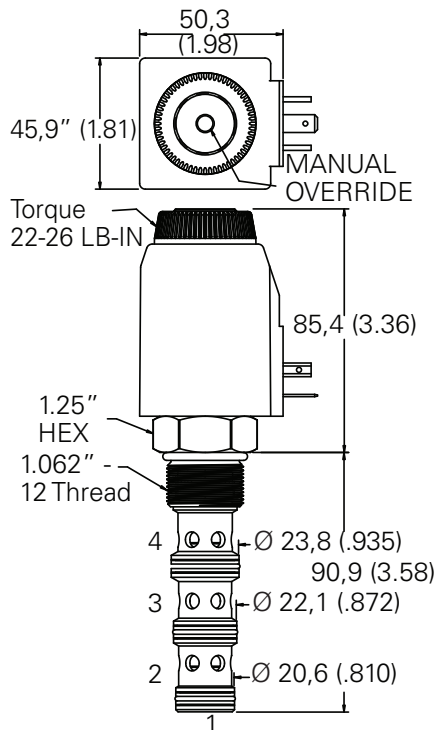
**00** - None

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

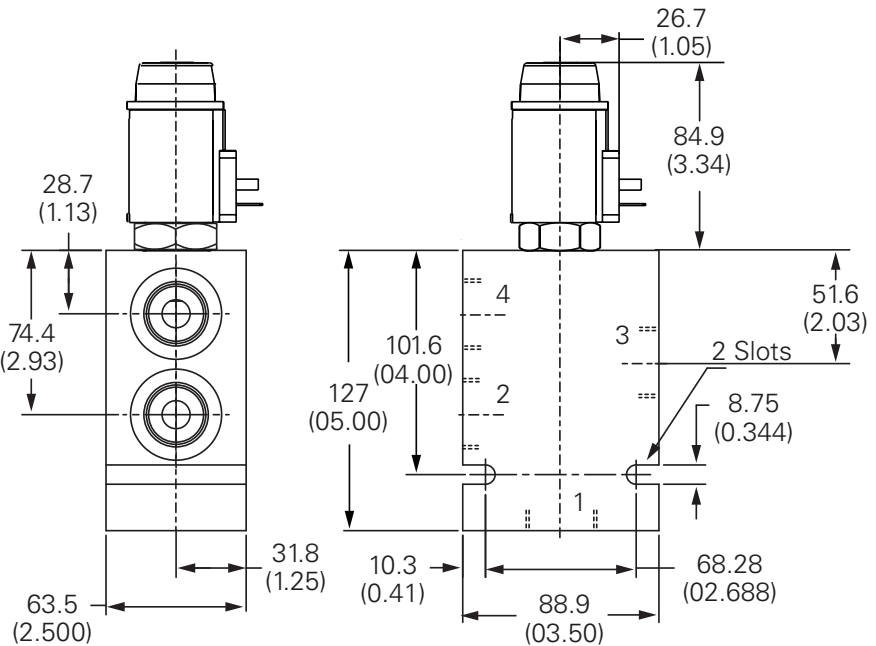
**SF** - Soft shift

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

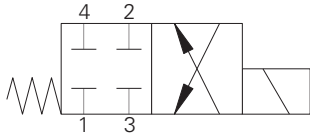


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

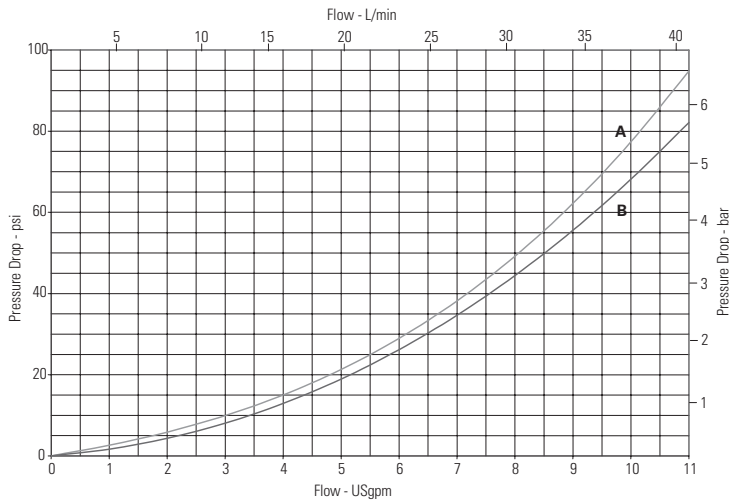
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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 in <sup>3</sup> /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

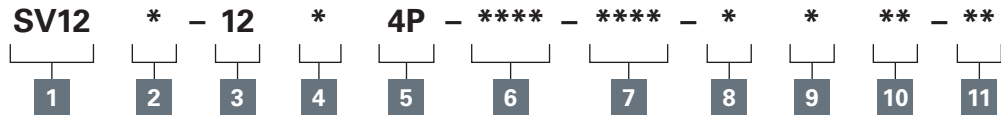
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

---

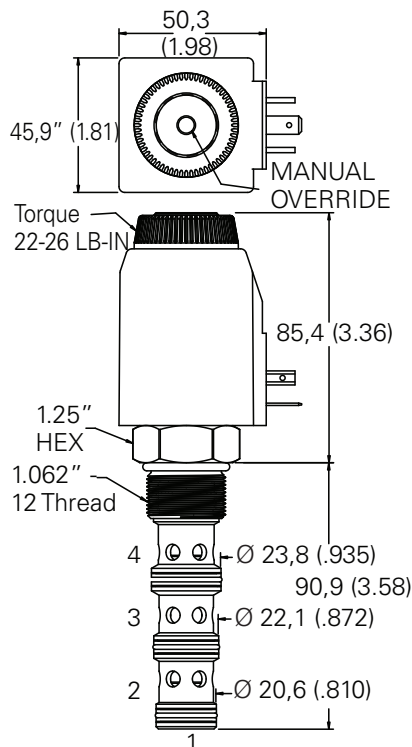
- 10 Coil special features**  
Blank - No coil  
00 - No special feature

---

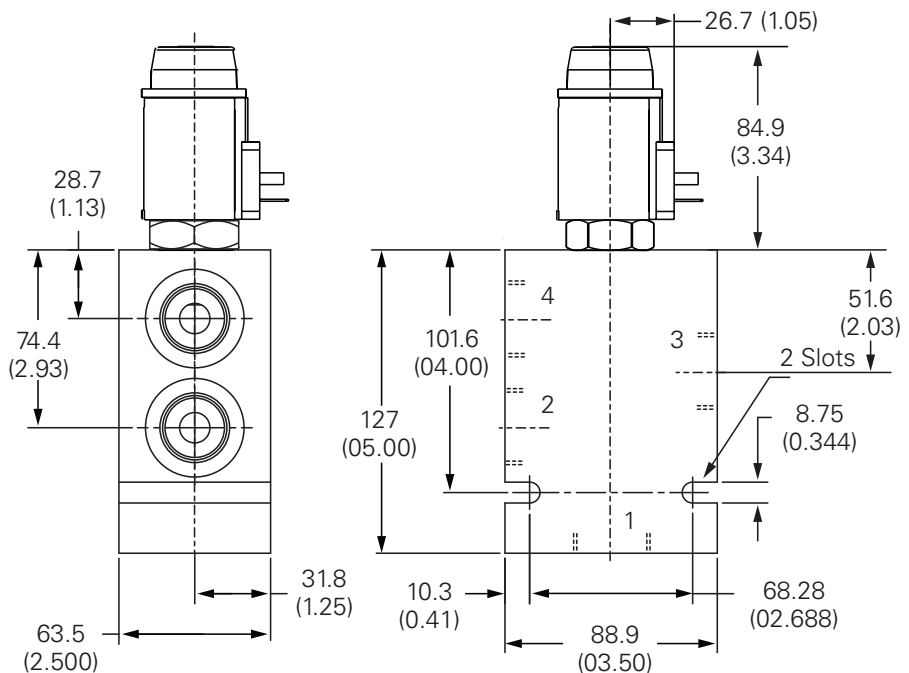
- 11 Special features**  
00 - None  
(Only required if valve has Special features omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing (Steel)

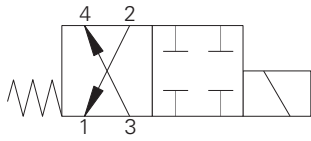


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

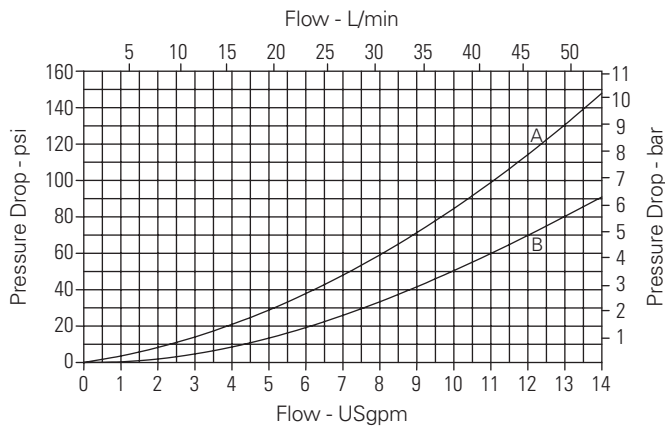
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

Typical application pressure	210 bar (3000 psi)
Rated flow	53 L/min (14 USgpm)
Internal leakage	300 cm <sup>3</sup> /min (21.5 in <sup>3</sup> /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

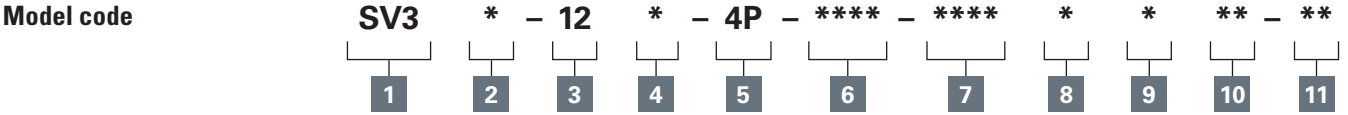
**B** - Port 2 to port 1

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**

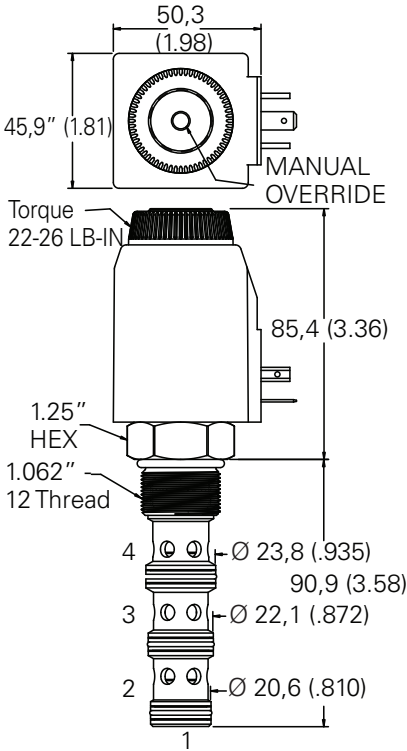
00 - None

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

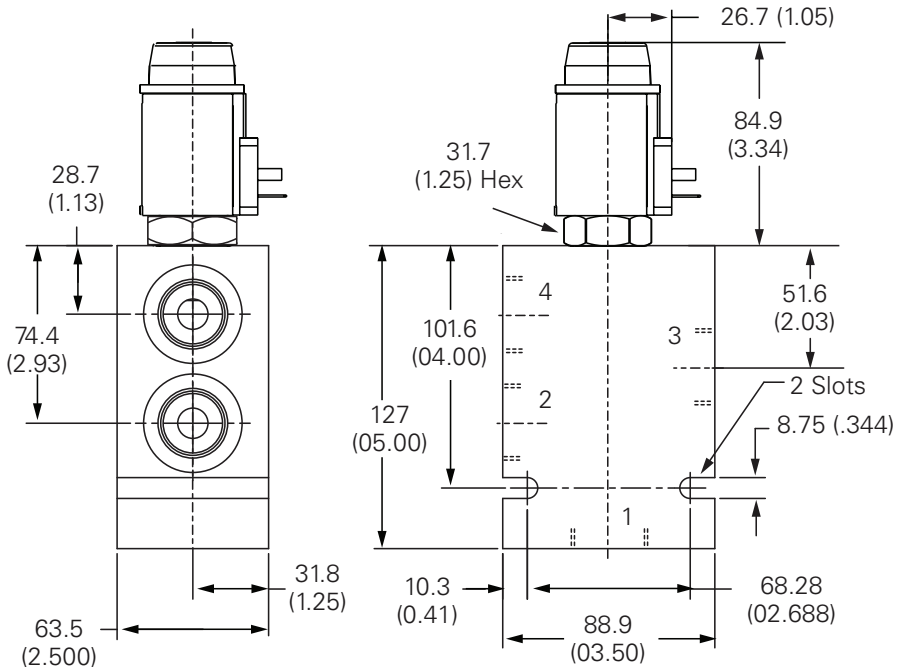
SF - Soft shift

**Dimensions - mm (inch)**

**Cartridge only**



**Installation drawing**

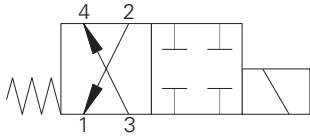


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

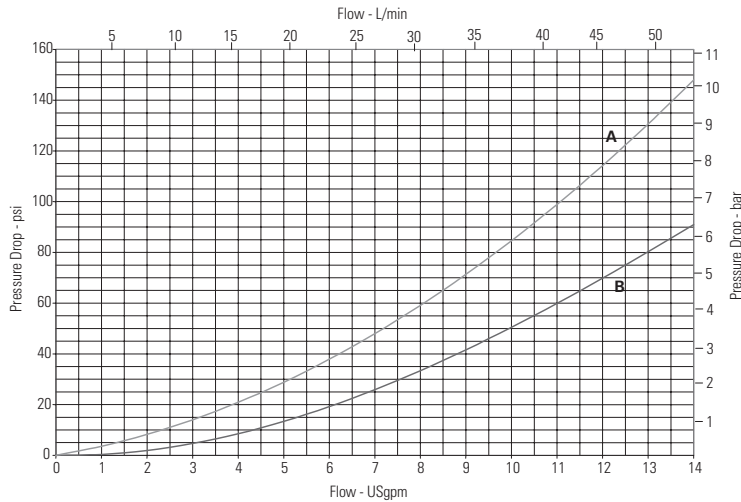
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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 <sup>3</sup> /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

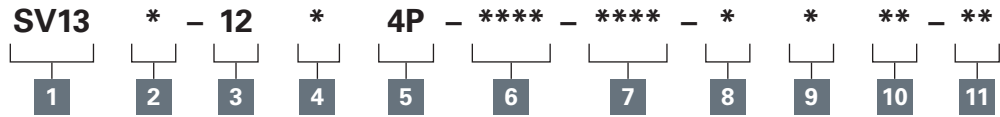
B - Port 2 to port 1

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

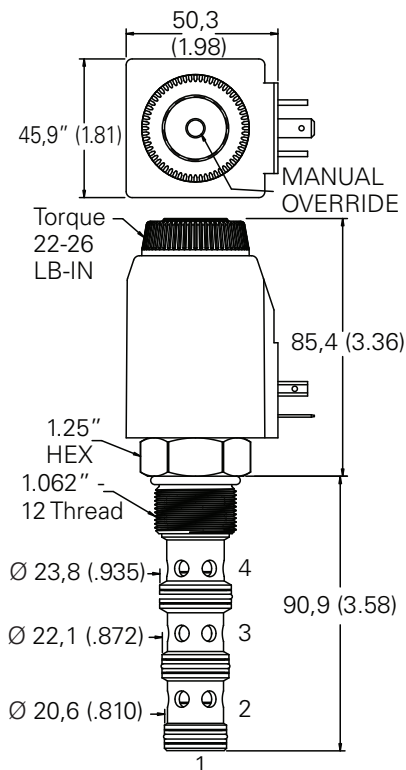
**7 Voltage rating**  
00 - No coil  
12D - 12VDC  
24D - 24VDC  
12B - 12VDC/w diode\*  
24B - 24VDC/w diode\*  
\*Optional arc suppression diode.

**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.

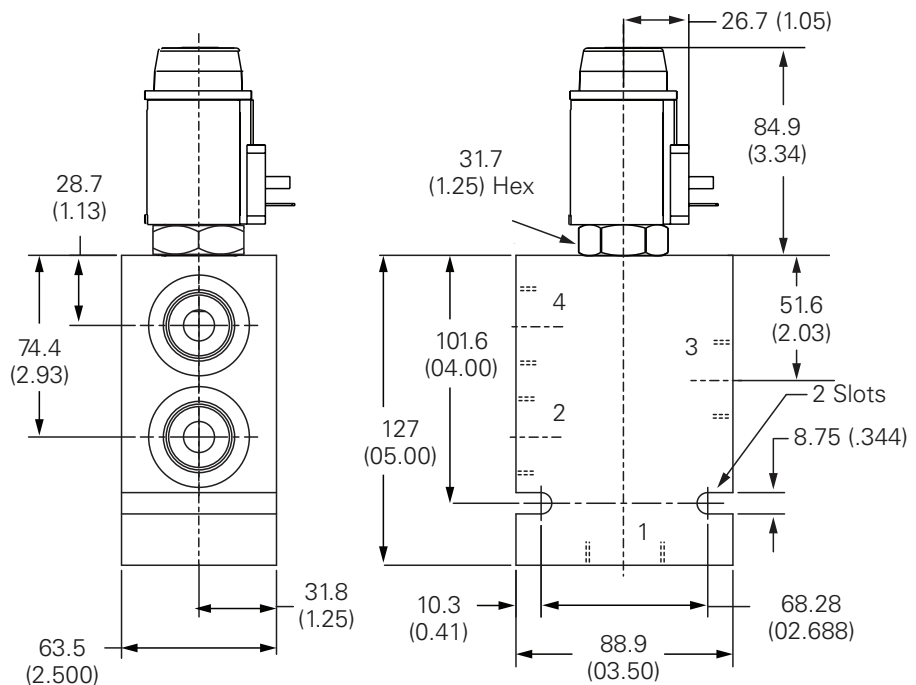
**11 Special features**  
00 - None  
(Only required if valve has Special features, omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing (Steel)

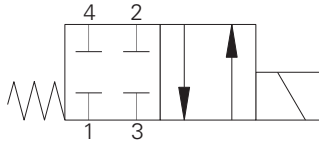


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

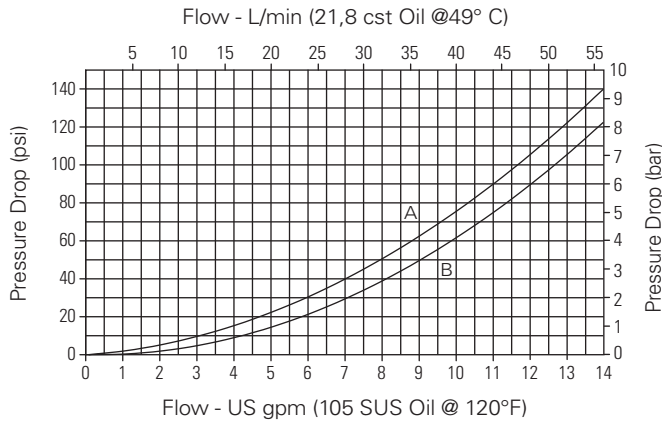
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)

Typical application pressure	210 bar (3000 psi)
Rated flow	53 L/min (14 USgpm)
Internal leakage	300 cm <sup>3</sup> /min (21.5 in <sup>3</sup> /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.

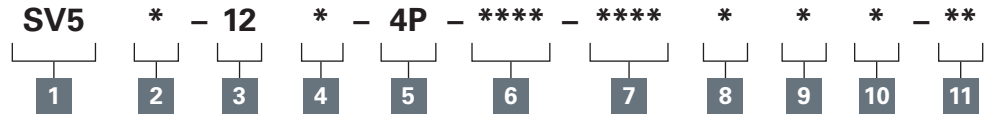


# SV5M-12-4 - Solenoid valve

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

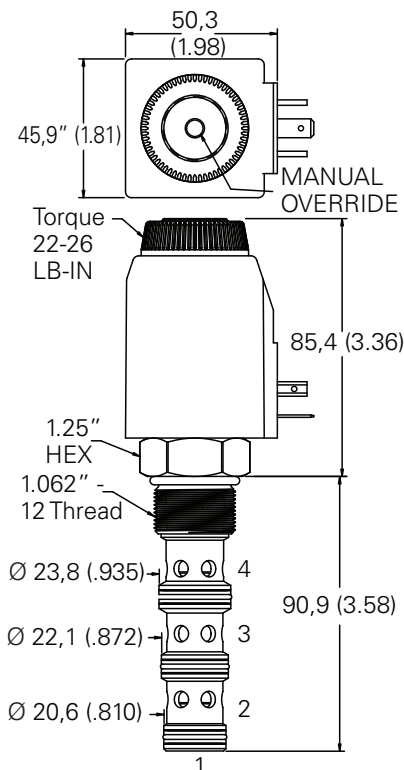
### 11 Special features

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

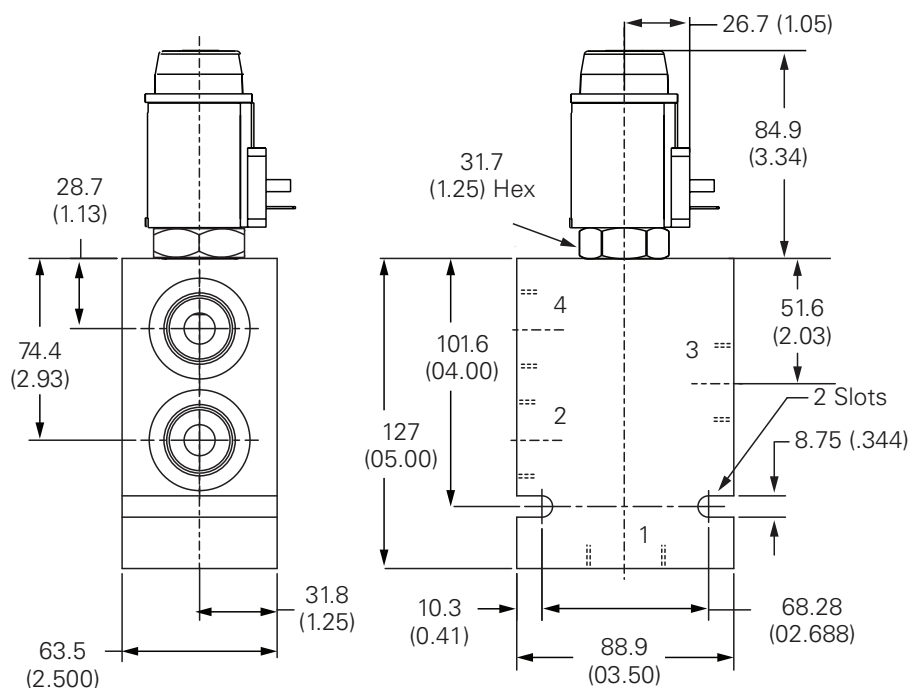
SF - Soft shift

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing



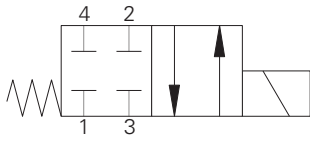
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

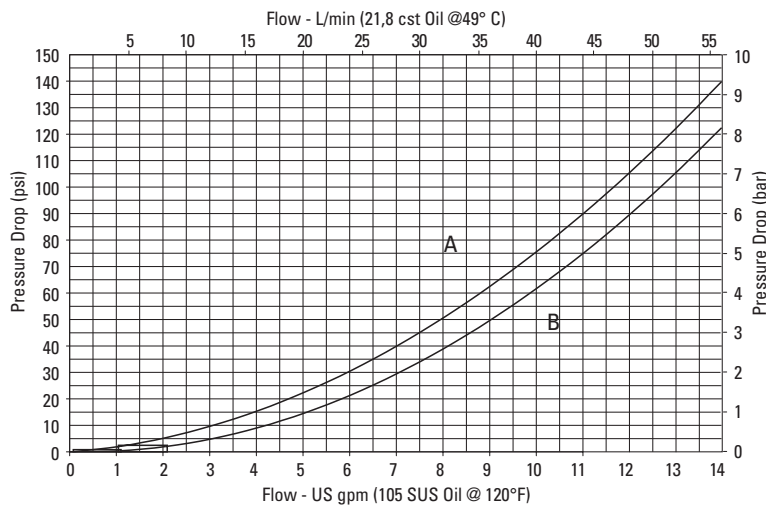
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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 <sup>3</sup> /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

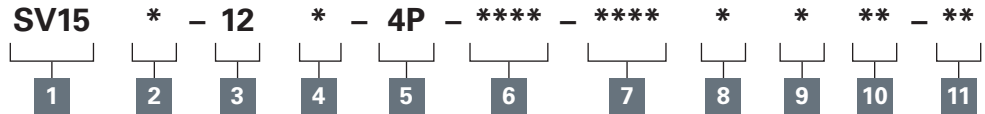
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

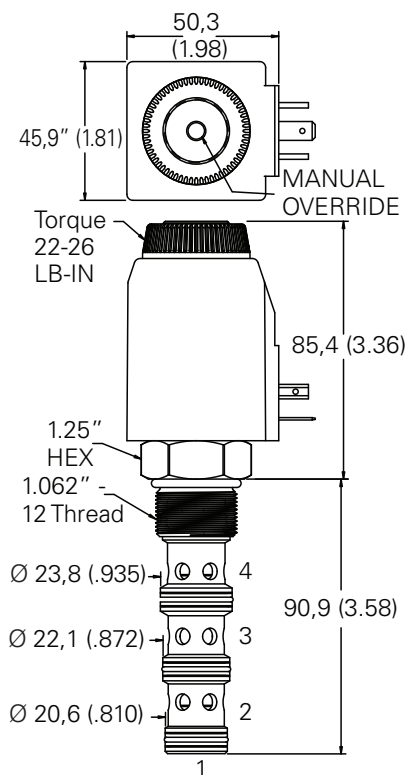
### 11 Special features

00 - None

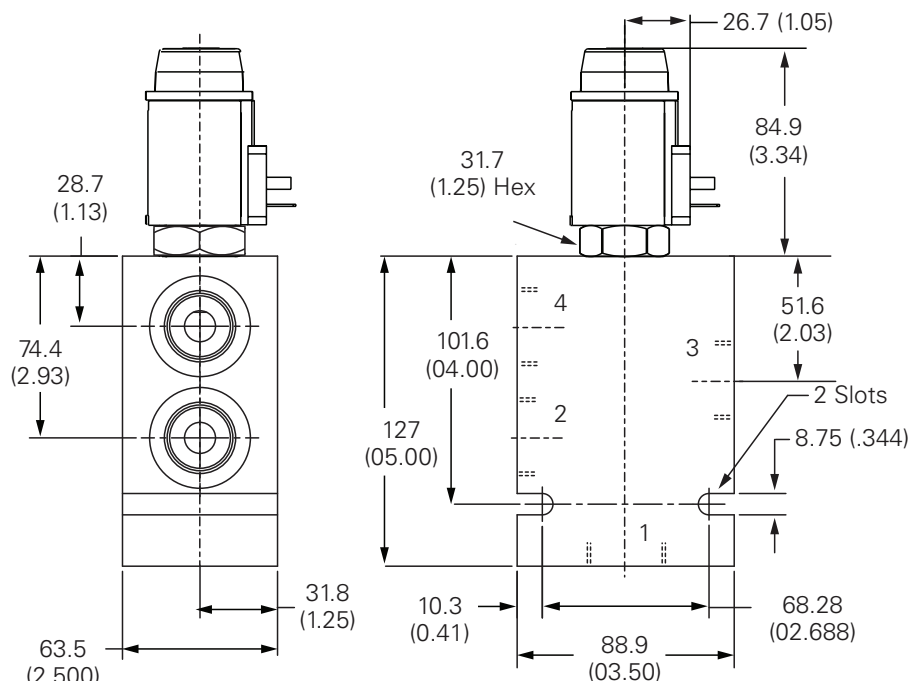
(Only required if valve has Special features omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing (Steel)

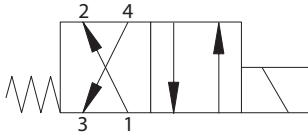


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

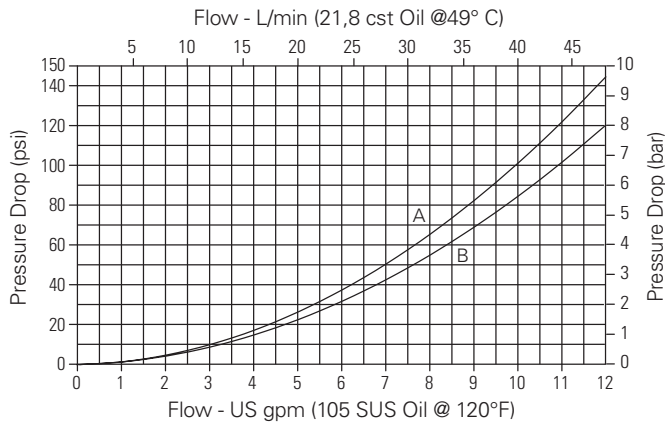
Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)

Typical application pressure	210 bar (3000 psi)
Rated flow	46 L/min (12 USgpm)
Internal leakage	300 cm <sup>3</sup> /min (21.5 in <sup>3</sup> /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

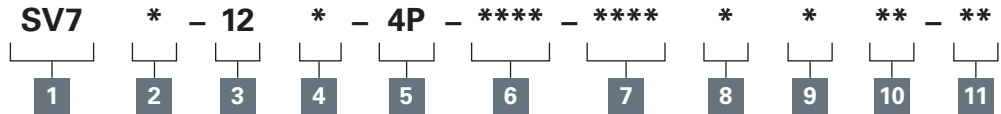
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# SV7M-12-4 - Solenoid valve

Spool type, 4-way, 2-position  
Up to 46 L/min (12 USgpm) • 210 bar (3000 psi)

A

## Model code



### 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

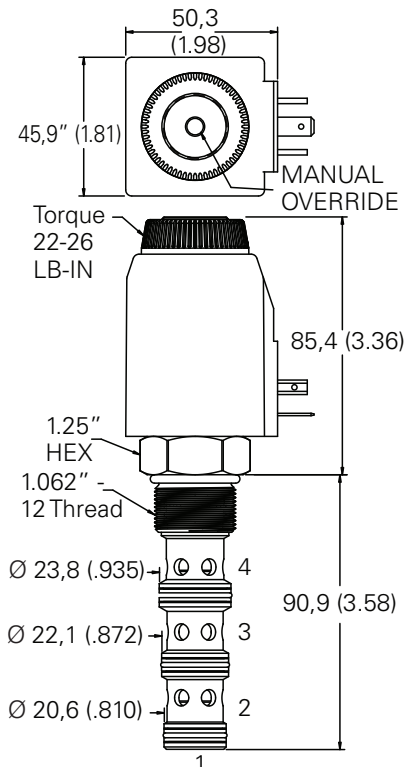
00 - None

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

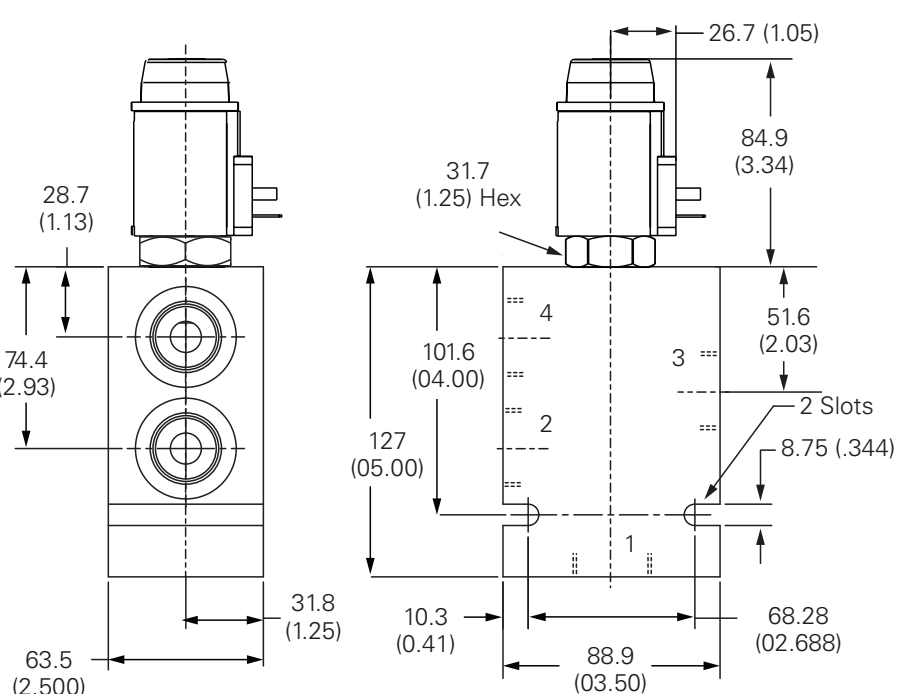
SF - Soft shift

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing

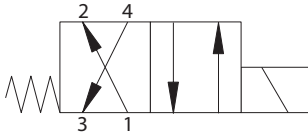


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

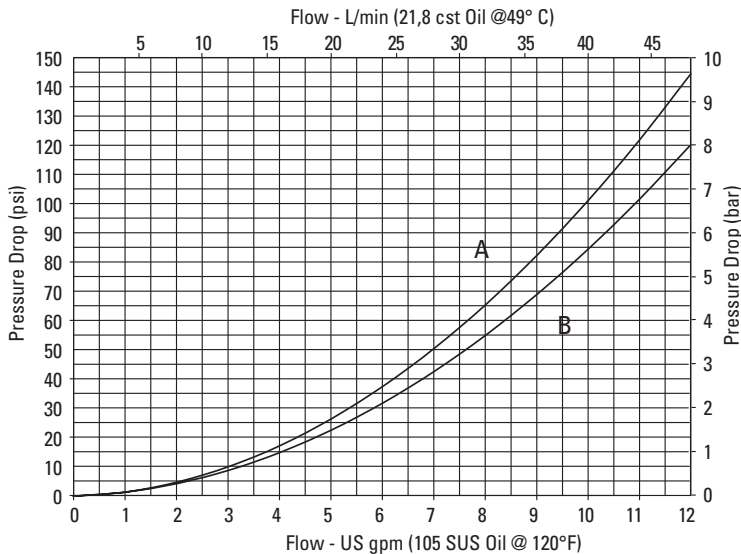
Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

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 <sup>3</sup> /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®)

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 4, port 3 to port 2

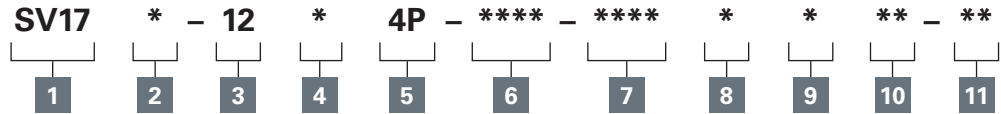
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

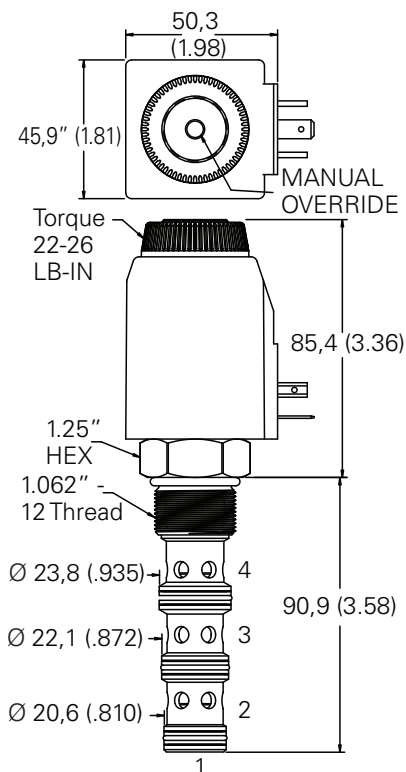
### 11 Special features

00 - None

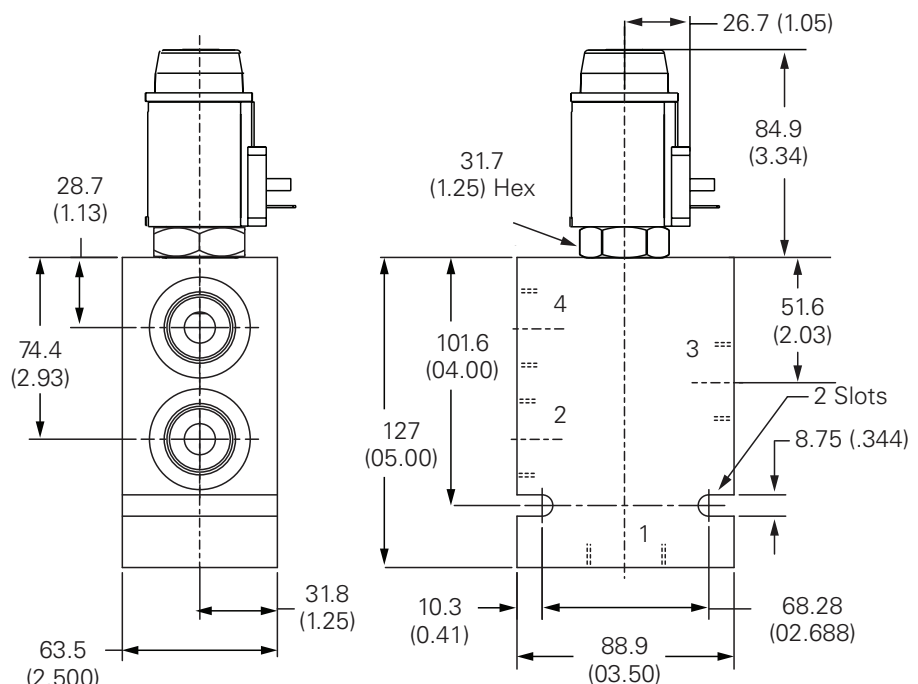
(Only required if valve has Special features omitted if "00".)

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing (Steel)



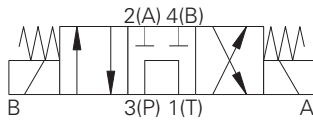
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

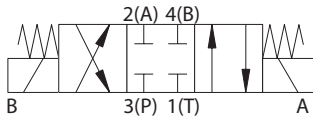


### Operation

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

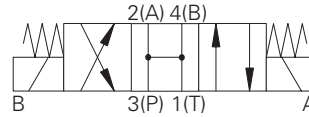


### Operation

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

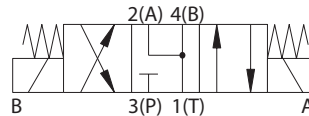


### Operation

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 <sup>3</sup> /min (10 in <sup>3</sup> /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.



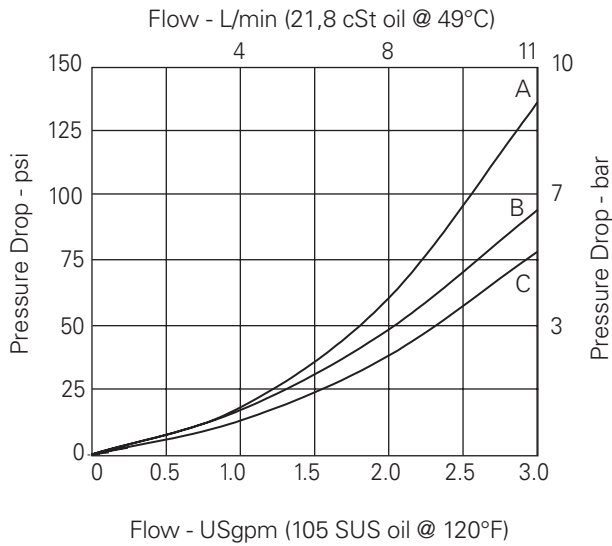
# SV9-8 - Solenoid valve

Spool type, 4-way, 2-position  
Up to 13 L/min (3.5 USgpm) • Up to 210 bar (3000 psi)

A

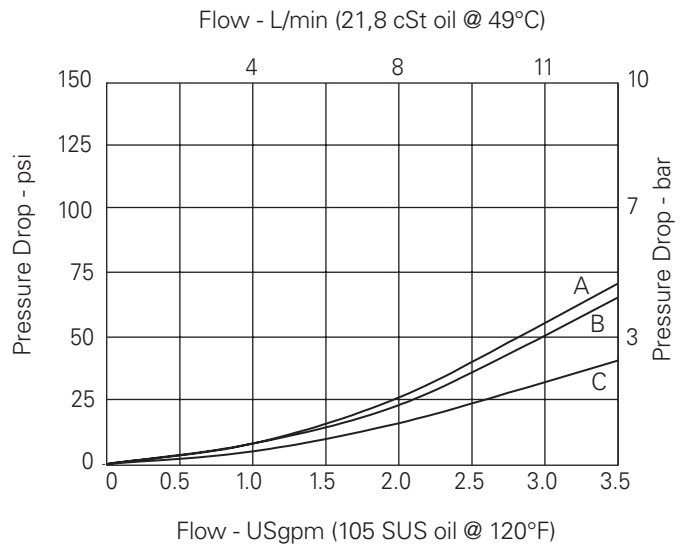
## Pressure drop

### SV9-8-A



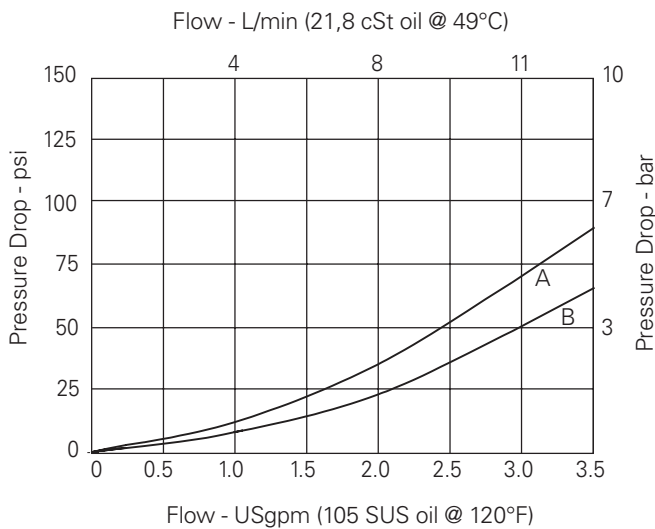
- A** - Port 3 or port 2 or port 4
- B** - Port 3 to port 1 de-energized
- C** - Port 2 or port 4 to port 1

### SV9-8-B



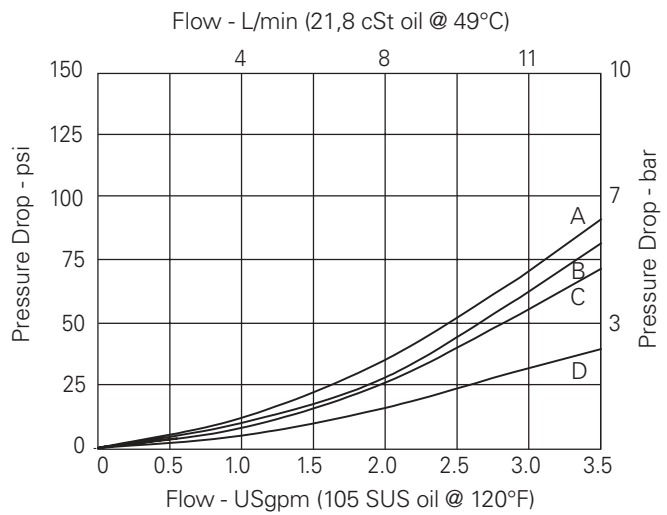
- A** - Port 4 or port 1 to port 4  
Port 3 to port 1 de-energized
- B** - Port 3 to port 2 or port 4
- C** - Port 2 or port 1  
Port 2 or 4 to 1 de-energized

### 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

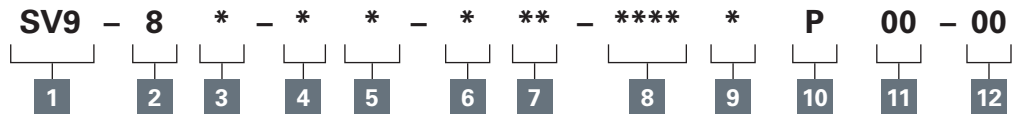
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

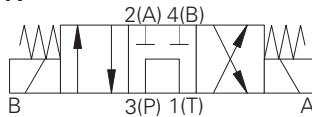
**0** - Cartridge only

**A** - Aluminum

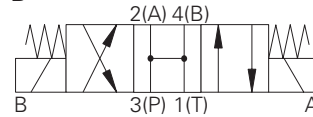
**S** - Steel

### 4 Spool center condition

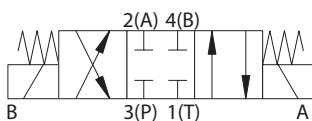
**A**



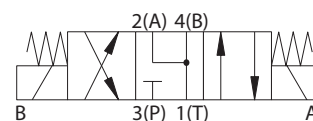
**B**



**E**



**F**



### 7 Port sizes

Code	Port size	Housing number	
		Aluminium	Steel
<b>0</b>	Cartridge only		
<b>2G</b>	1/4" BSPP	02-160747	02-160753
<b>3G</b>	3/8" BSPP	02-160748	02-160754
<b>4T</b>	SAE 4	02-160749	02-160751
<b>6T</b>	SAE 6	02-160750	02-160752

See section J for housing details.

### 8 Voltage rating <sup>1</sup>

**000** - No coil

**012D** - 12VDC

**024D** - 24VDC

**012B** - 12VDC/w diode\*

**024B** - 24VDC/w diode\*

\*Optional arc suppression diode.

### 9 Connector types <sup>1</sup>

**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** - Metripack 150 male (DC only)

**J** - Metripack 280 male (DC only)

### 10 Coil series <sup>1</sup>

**0** - No Coil

**P** - 8 series, 23W

### 11 Coil special features <sup>1</sup>

**00** - None

### 12 Valve Special features <sup>1</sup>

**00** - None

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

<sup>1</sup> 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

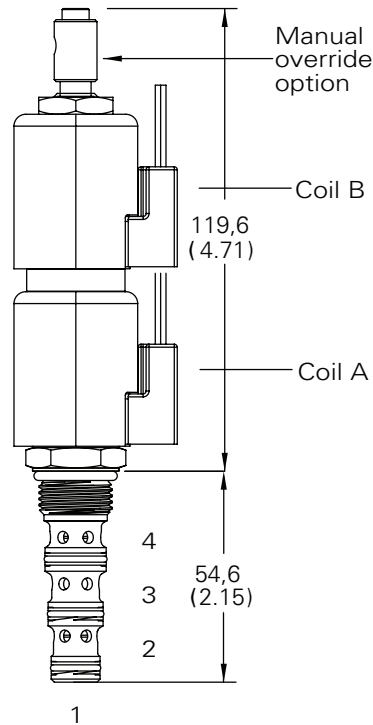
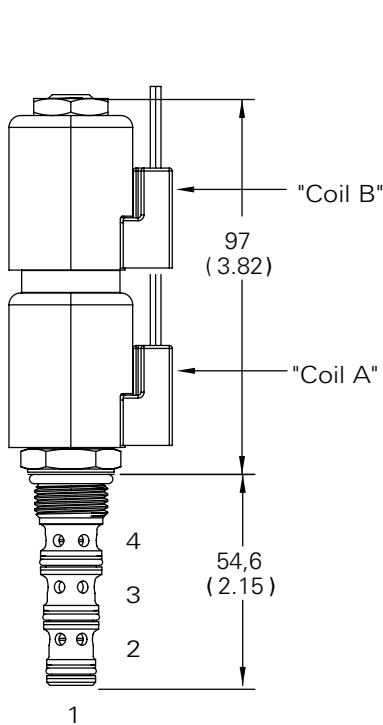
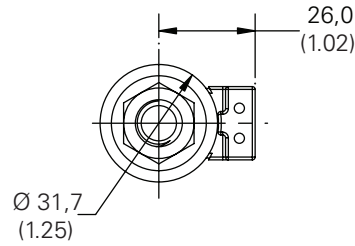
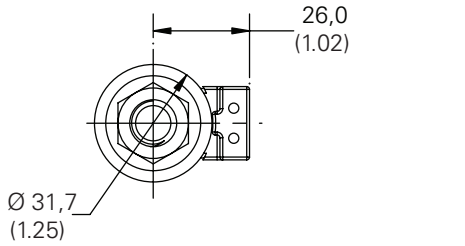
mm (inch)

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



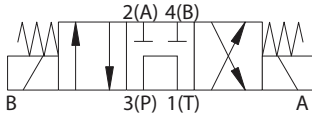
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

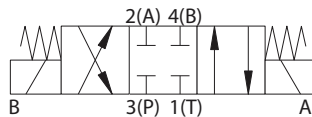


### Operation

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

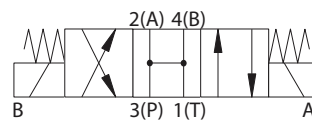


### Operation

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

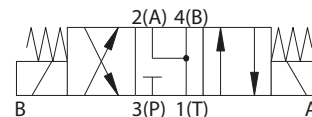


### Operation

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 <sup>3</sup> /min (15 in <sup>3</sup> /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

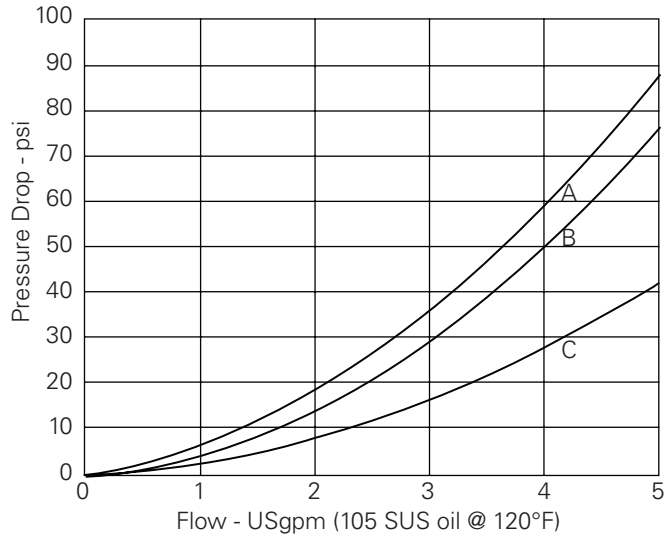
Spool type, 4-way, 2-position  
Up to 23 L/min (6 USgpm) \* 210 bar (3000 psi)

A

## Pressure drop

### SV9-10-A

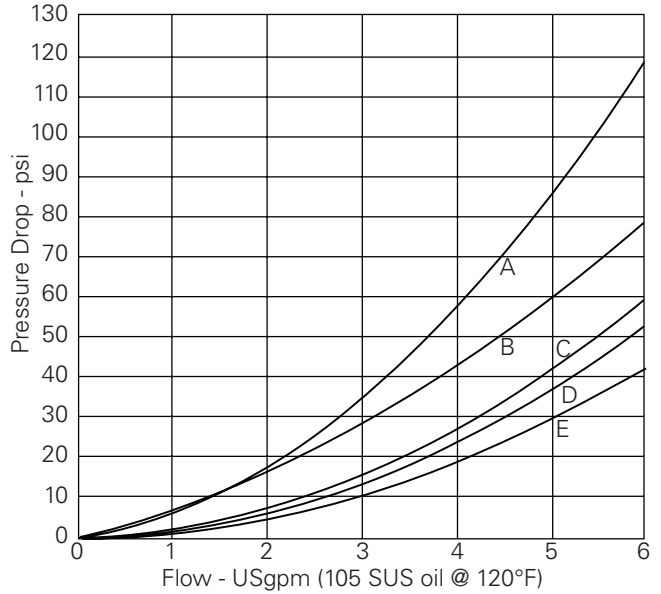
Cartridge only



- 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

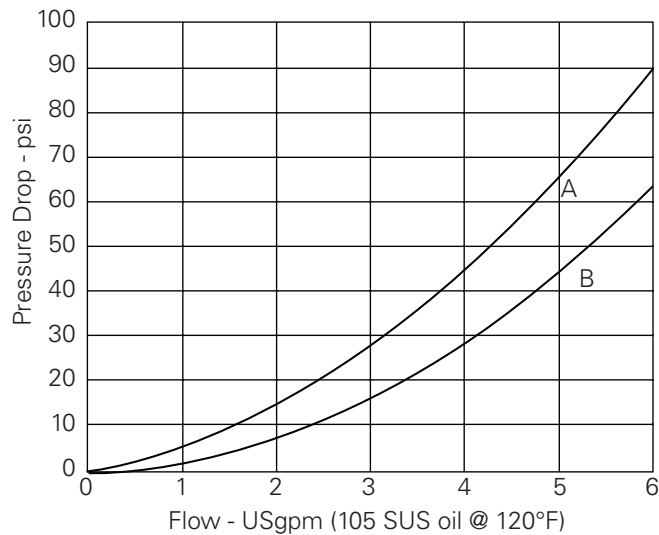
Cartridge only



- 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

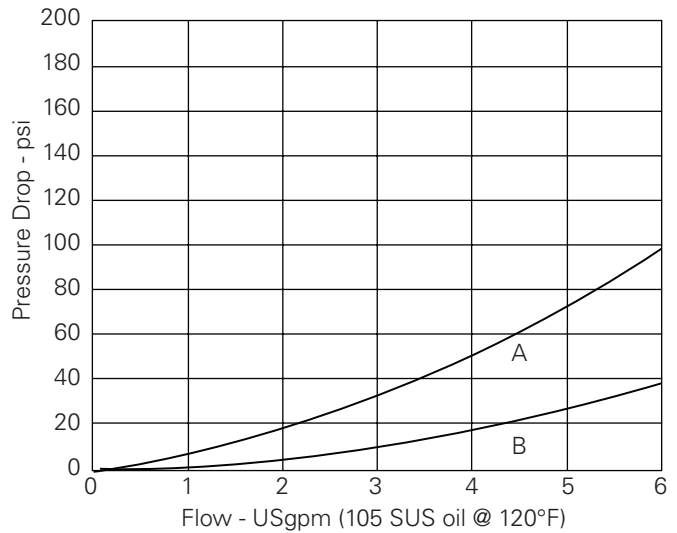
Cartridge only



- 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

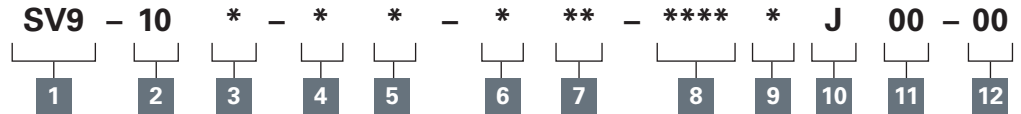
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

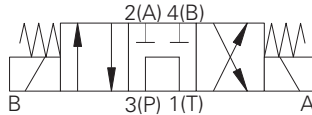
**0** - Cartridge only

**A** - Aluminum

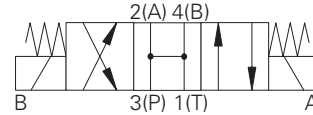
**S** - Steel

### 4 Spool center condition

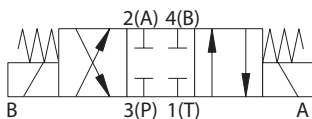
**A**



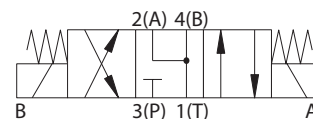
**B**



**E**



**F**



### 7 Port sizes

Code	Port size	Housing number	
		Aluminium light duty	Aluminium fatigue rated
<b>Blank</b>		Cartridge only	
<b>3B</b>	3/8" BSPP	02-179705	
<b>2G</b>	1/4" BSPP		876709
<b>3G</b>	3/8" BSPP		876715
<b>6H</b>	SAE 4		876708
<b>8H</b>	SAE 6		876713
<b>6T</b>	SAE 6	566161	

See section J for housings.

### 8 Voltage rating <sup>1</sup>

**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 <sup>1</sup>

**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 <sup>1</sup>

**Blank** - No Coil

**J** - 10 series, 23W

### 11 Coil special features <sup>1</sup>

**Blank** - None

### 12 Valve Special features <sup>1</sup>

**00** - None

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

<sup>1</sup> 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)

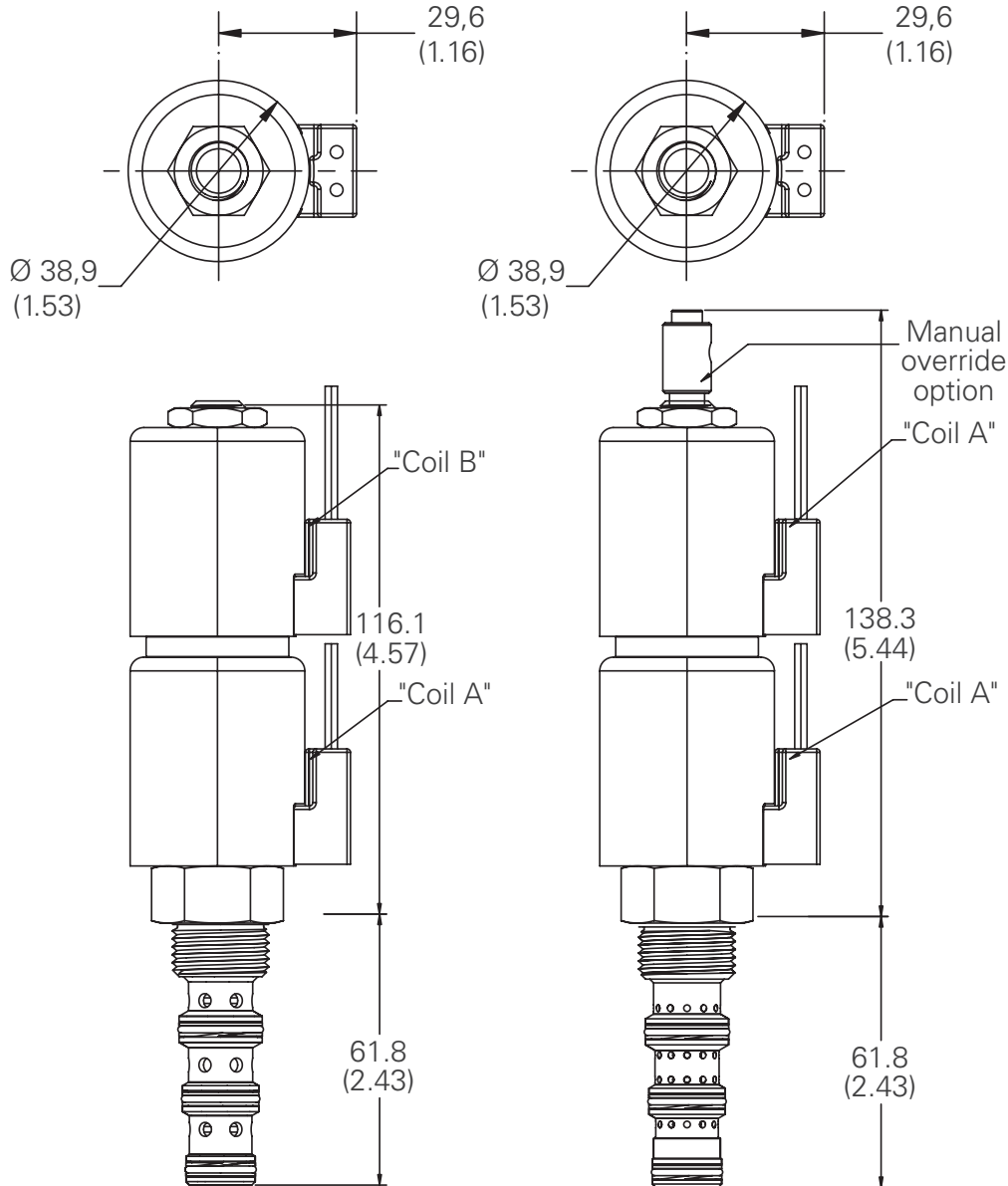
Valve is shown with "W" coil.  
See other coils in Section C.

This valve uses the J series,  
23 W coil.

**Spare parts**

Coil nut	565558
Coil spacer	02-179226

A



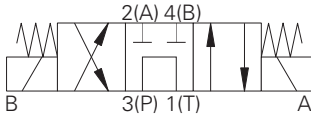
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

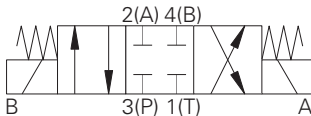


### Operation

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

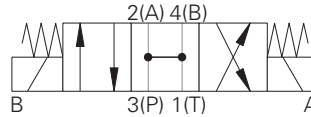


### Operation

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

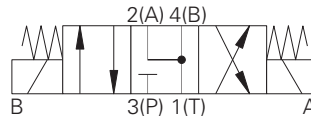


### Operation

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.



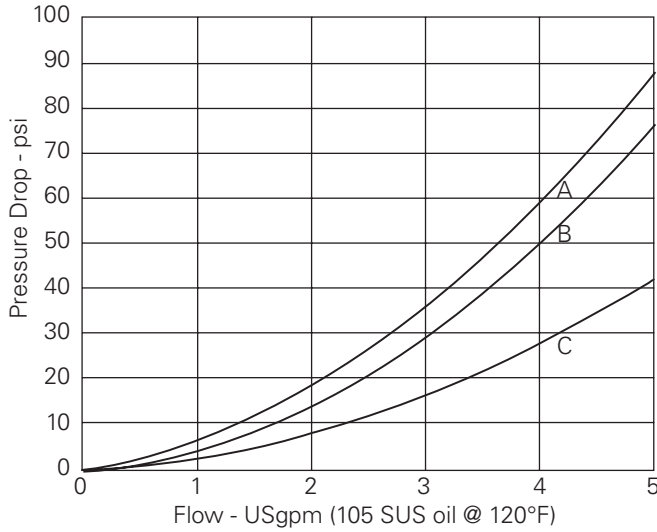
# SV9M-10 - Solenoid valve

Spool type, 4-way, 2-position  
Up to 25 L/min (6.5 USgpm) • 210 bar (3000 psi)

A

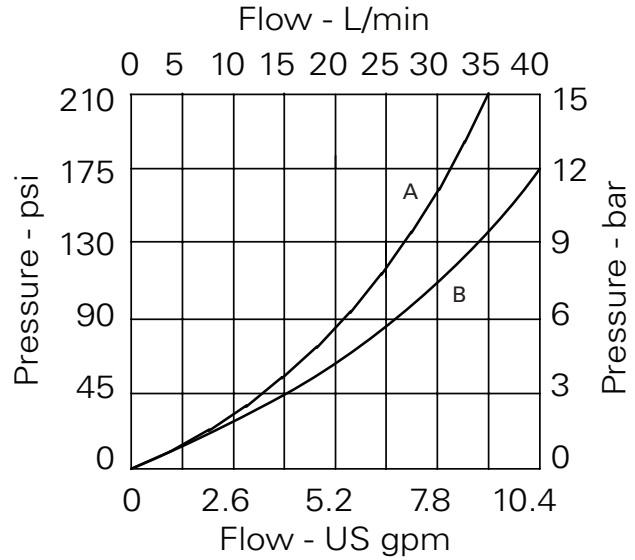
## Pressure drop

### SV9M-10-A



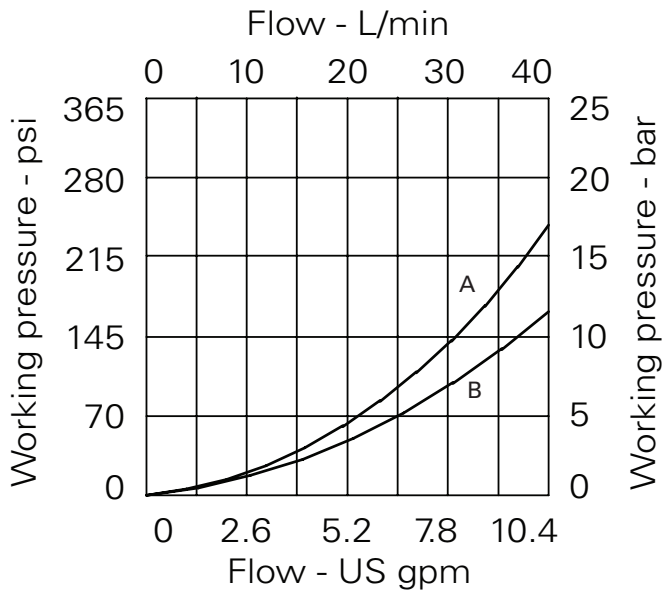
- A** - Port 3 to port 1, de-energized
- B** - Port 3 to port 2, port 3 to port 4
- C** - Port 2 to port 1, port 4 to port 1

### SV9M-10-B



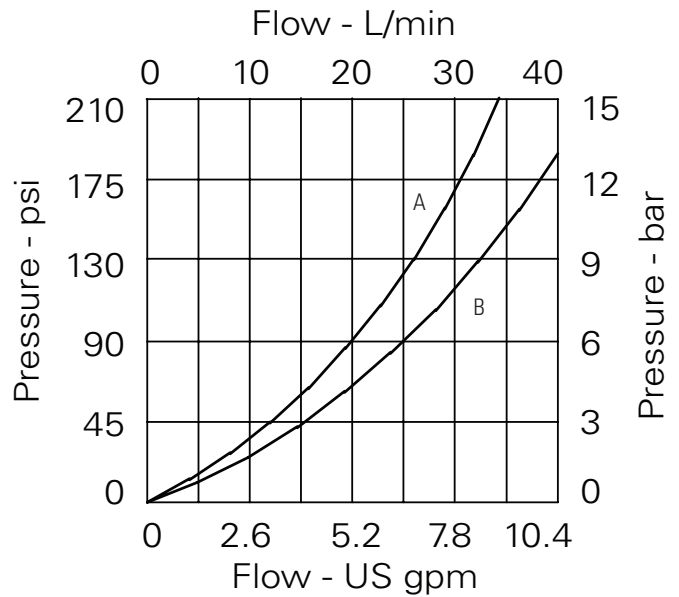
- A** - Spool shifted port 3-2, port 3-4 and port 2-1 and port 4-1
- B** - Spool centered port 2-1 and port 4-1

### 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.

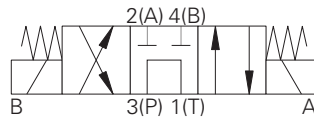
### 6 Housing material

**0** - Cartridge only

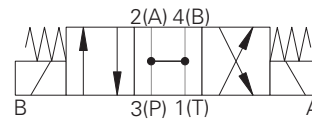
**A** - Aluminum

### 4 Spool center condition

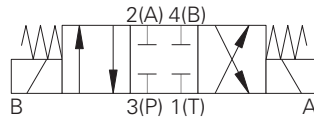
**A**



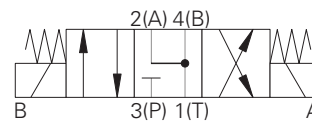
**B**



**E**



**F**



### 7 Port sizes

Code	Port size	Housing number
		Aluminium
<b>0</b>	Cartridge only	
<b>3G</b>	3/8" BSP	B19240
<b>4G</b>	1/2" BSP	B19228
<b>8T</b>	1/2" SAE	B19229

### 8 Voltage rating<sup>1</sup>

**000** - No coil

**012D** - 12VDC

**024D** - 24VDC

**012B** - 12VDC/w diode\*

**024B** - 24VDC/w diode\*

\*Optional arc suppression diode.

### 9 Connector types<sup>1</sup>

**0** - No coil

**W** - Leadwire

**N** - Deutsch male, DT04-2P, integrated

### 10 Coil series<sup>1</sup>

**0** - No Coil

**L** - 10 series, 28W Large ToughCoil

### 11 Coil special features<sup>1</sup>

**00** - None

### 12 Valve special features<sup>1</sup>

**00** - None

<sup>1</sup> 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

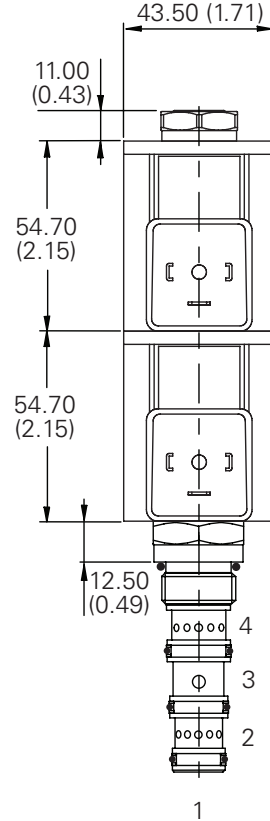
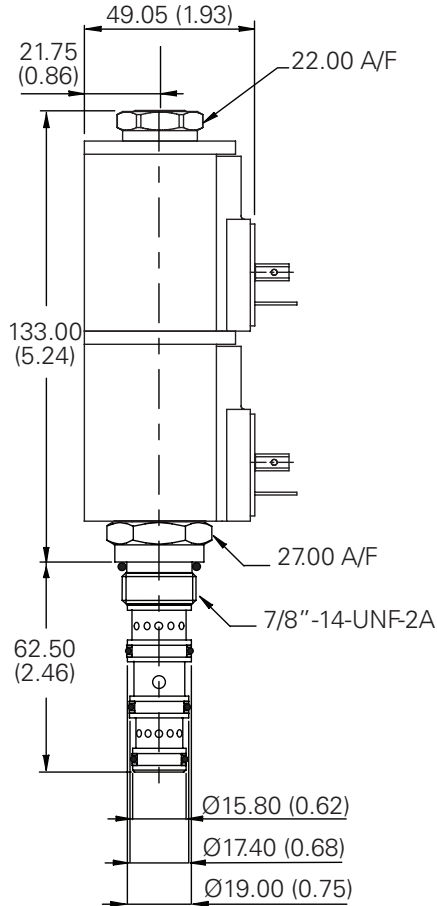
mm (inch)

This valve uses the L series, 30W coil.

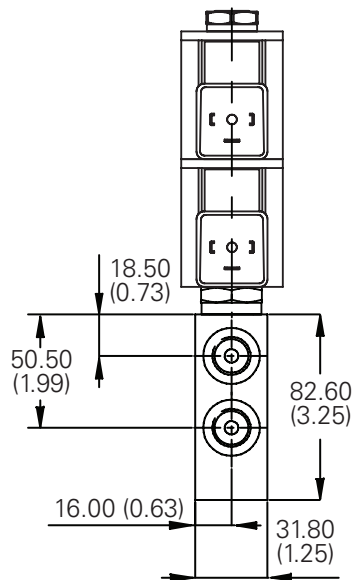
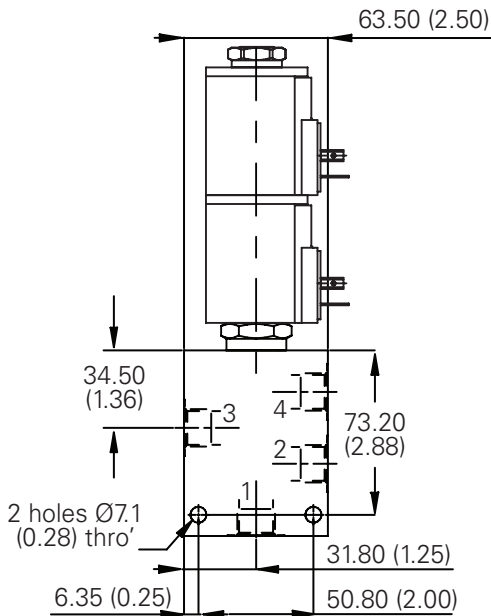
## Spare parts

Coil nut	6025028-001
----------	-------------

## Cartridge only



## Installation drawing (Steel)

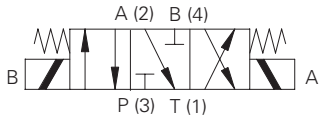


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

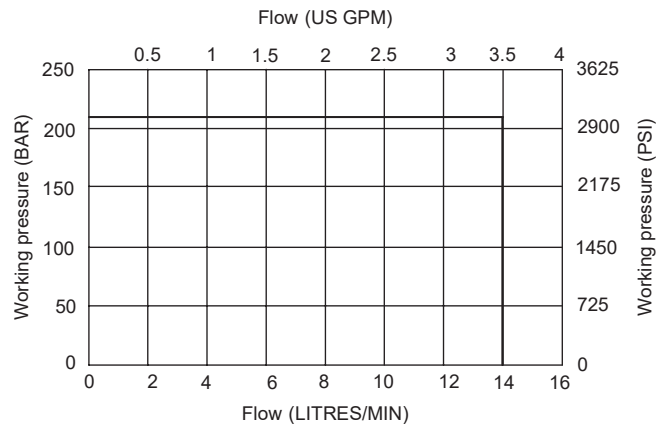
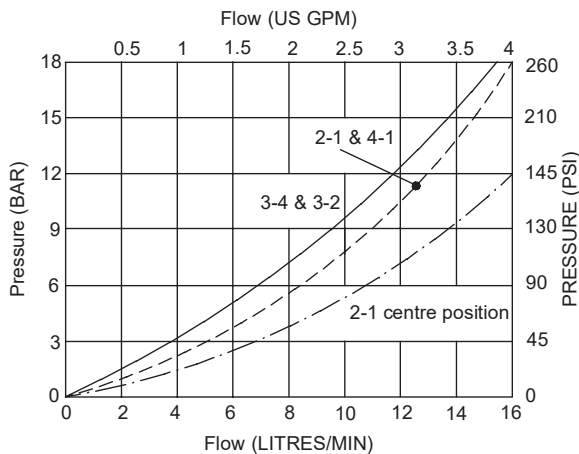
### Ratings and specifications

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

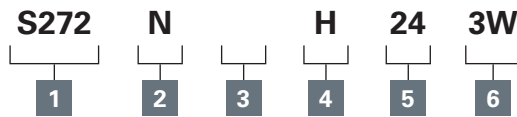


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

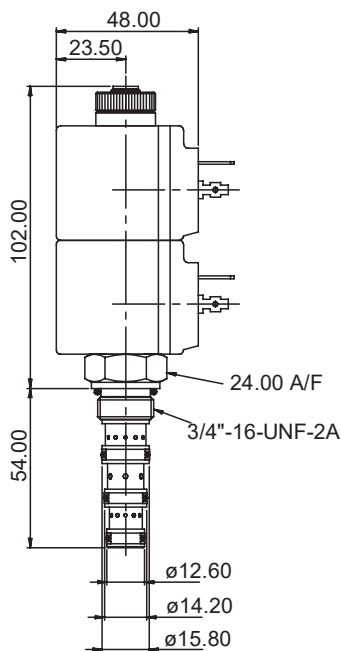
**4 Port Sizes**  
2W - 1/4" BSP  
3W - 3/8" BSP  
6T - 3/8" SAE

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

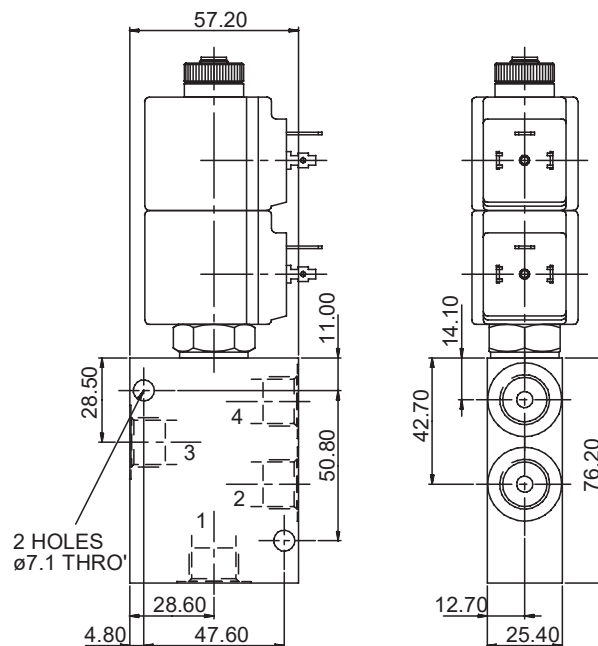
**6 Coil Termination**  
H - DIN43650  
F - Flying Leads  
DM - Deutsch Moulded  
Other terminations available on request

## Dimensions - mm (inch)

### Cartridge only



### Installation drawing



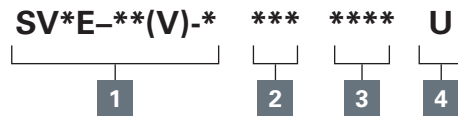
Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# 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

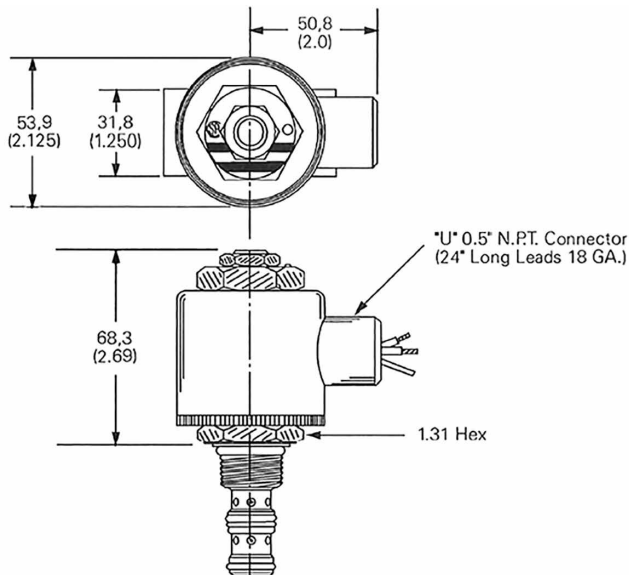
## 3 Voltage\*

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



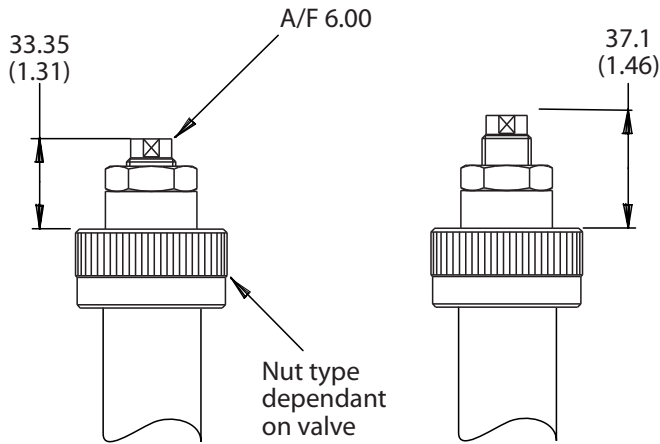
**Note:** Cartridge only or coil housing are not available as service parts. It is not possible to convert standard valves to explosion proof variants. SV1 E-10-3 shown. Dimensions of coil housing are the same for all Eaton explosion proof SiCV valves, for other dimensions please refer to base valve 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

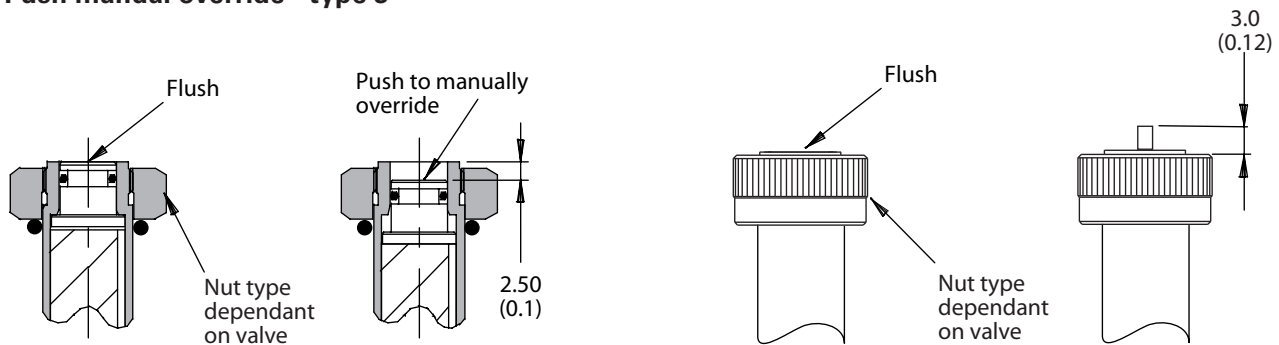


Manually operated position

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

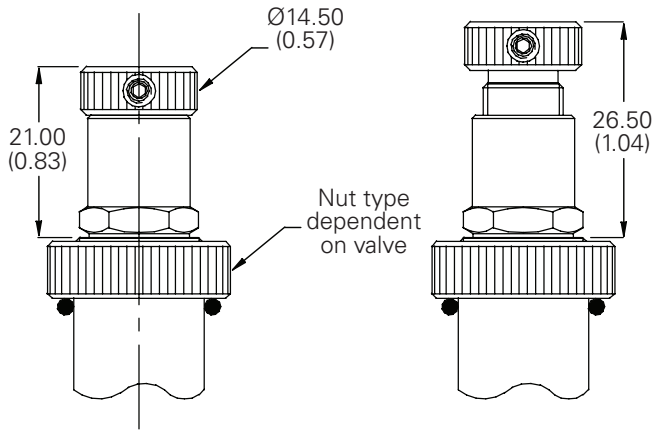
16 mm tube

A

S5 Series

Consult factory for availability

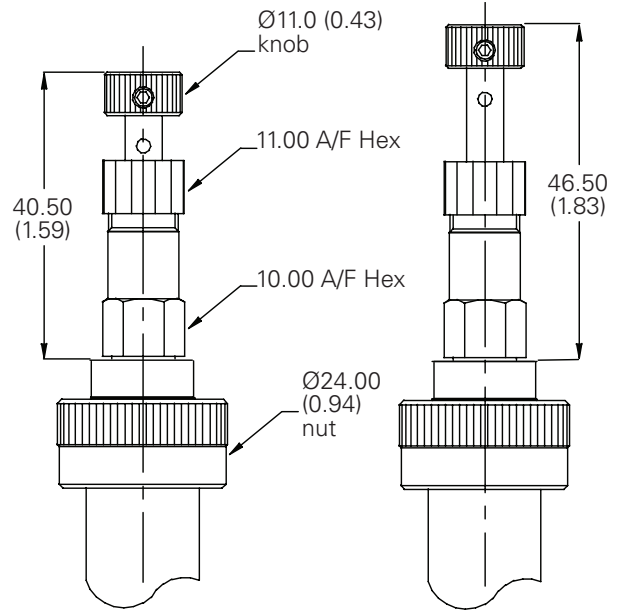
## Screw manual override - Type 2



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**

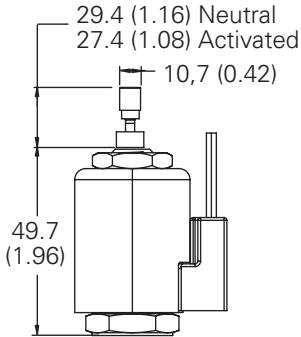
The Manual override option is intended for emergency use, not for continuous duty operation.

**Manual override options**

**Push type overrides (type P and S)**

**A**

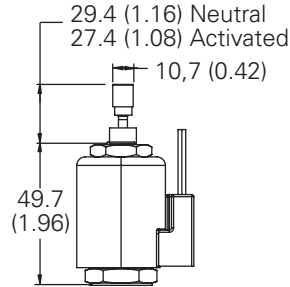
**Manual override "S" screw type**



**8-Series – 210 bar valves**

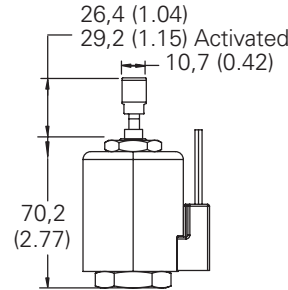
**To override:**

1. Turn the override button clockwise until it stops.



**8-Series – 350 bar valves**

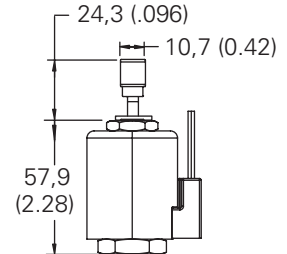
2. The override button will remain activated until the override button is turned counterclockwise.



**10, 12, 16, 20-Series – 210 bar valves**

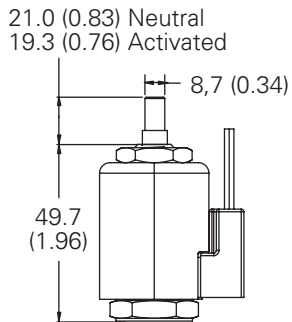
**To release:**

1. Turn the override button counterclockwise until it stops.



**10, 12, 16, 20-Series – 350 bar valves**

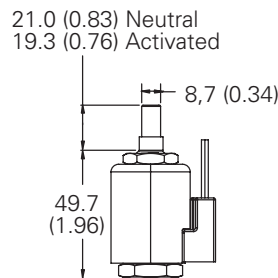
**Manual override "P" push type**



**8-Series – 210 bar valves**

**To override:**

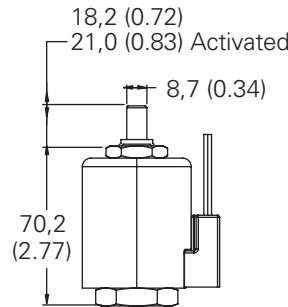
1. Push the override button to stop and hold.



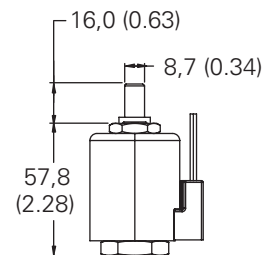
**8-Series – 350 bar valves**

**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

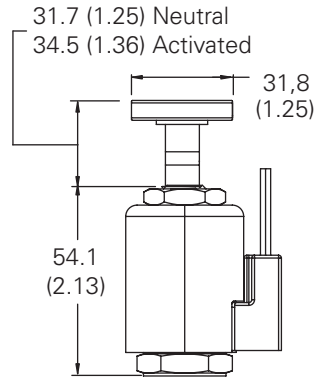
### Manual override "M" pull type

#### To override:

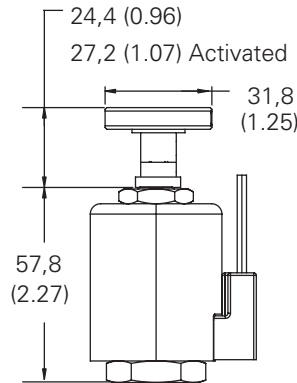
1. Pull up knob until the override tooth is completely out of the detent base.
2. Turn the knob clockwise until the override tooth is resting securely on top of the detent base slot.

#### 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.

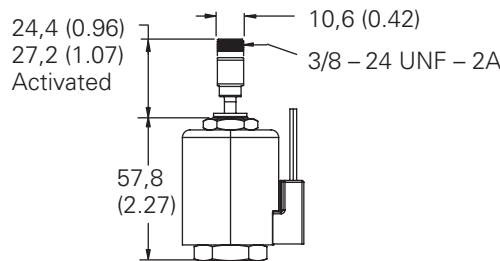


**8-Series – 210 bar and 350 bar values**



**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:

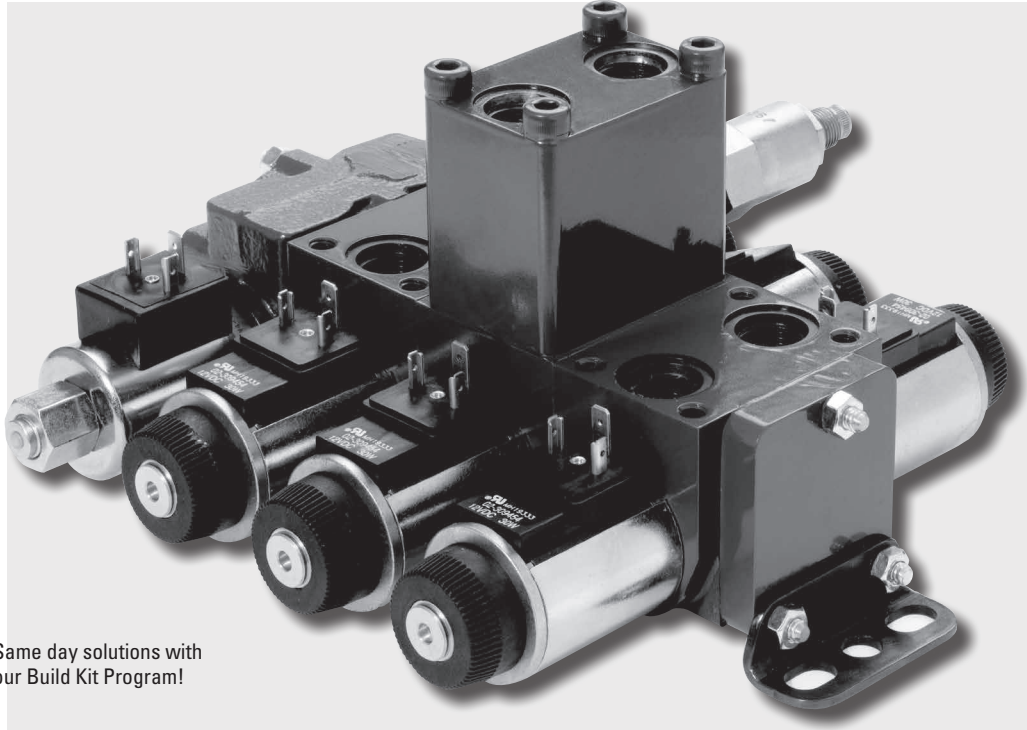
SV1-10-3R-0-00	SV2-10-4R-0-00	SV3-10-CR-0-00	SV4-10-0R-0-00	SV1-16-CR-0-00
SV1-10-4R-0-00	SV2-10-CR-0-00	SV4-10-4R-0-00	SV5-10-4R-0-00	SV2-20-CR-0-00
SV1-10-CR-0-00	SV3-10-4R-0-00	SV4-10-CR-0-00	SV3-12-CR-0-00	

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



# Versatile, Proven, Best Value

## Sectional Design for Multiple Configurations



Same day solutions with  
our Build Kit Program!



### MDG Mobile Valve

Eaton's MDG mobile directional control valve uses a modular, versatile design based on our proven Vickers® DG4V3 design.

Eaton® MDG valves, truly designed for mobile applications, offer the traditional benefits of a stackable mobile valve and provide further value as circuit options for mobile manifold

systems. This same versatility and flexibility applies to system applications, making it your best value for customized, multi-functional circuits.

For more information, contact your local Eaton distributor, call us at 800-547-7805 or visit us on the web at: [www.eaton.com/hydraulics](http://www.eaton.com/hydraulics).