Solenoid valves Poppet and Spool type ON/OFF 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/0	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/0	SV4-10-C/0	SV5-8-C/0		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/0			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/0	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/0	SV14-10-C/0	SV15-10-0	SV17M-10-4	SBV1-10-C	SBV11-10-C/0	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/0							SV1E-16-C
	SV13M-12-4							SV2E-20-C
								SV3E-10-C
								SV3E-10-0
								SV3E-16-0
								SV3E20-0
								SV4E-10-0

Section contents/valve locator













Model	Cavity	Flow rating	Typical pressure	Page
Solenoid 2/2, NC & NO, poppet		L/min (USgpm)	bar (psi)	
SV5-8-C/0	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
Solenoid 2/2, NC, bi-directional, poppet		L/min (USgpm)	bar (psi)	
SBV2-8-C	C-8-2	1 (0.25)	210 (3000)	A-12
SBV12-8-C	C-8-2	1 (0.25)	350 (5000)	A-14
S519A	A879	12 (3)	210 (3000)	A-16
Model	Cavity	Flow rating	Typical pressure	Page
Solenoid 2/2, NC & NO, bi-directional, pop	pet	L/min (USgpm)	bar (psi)	
Solenoid 2/2, NC & NO, bi-directional, pop SBV11-8-C/O	ppet C-8-2	Ŭ	•	A-18
	1	L/min (USgpm)	bar (psi)	
SBV11-8-C/0	C-8-2	L/min (USgpm) 60 (15)	bar (psi) 350 (5000)	A-18
SBV11-8-C/0 SBV1-8-C	C-8-2 C-8-2	L/min (USgpm) 60 (15) 60 (15)	bar (psi) 350 (5000) 210 (3000)	A-18 A-20
SBV11-8-C/0 SBV1-8-C SBV1-10-C	C-8-2 C-8-2 C-10-2	L/min (USgpm) 60 (15) 60 (15) 76 (20)	bar (psi) 350 (5000) 210 (3000) 210 (3000)	A-18 A-20 A-32

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

Model	Cavity	Flow rating	Typical pressure	Page
Solenoid 2/2, NC 7 NO, poppet		L/min (USgpm)	bar (psi)	
SV3-8-C/0	C-8-2	23 (6)	210 (3000)	A-26
SV3-10-C/0	C-10-2	45 (12)	210 (3000)	A-28
SV13-10-C/0	C-10-2	45 (12)	350 (5000)	A-30
SV3-12-C/0	C-12-2	114 (30)	210 (3000)	A-36
SV13-12-C/0	C-12-2	114 (30)	350 (5000)	A-38
SV1-16-C	C-16-2	132 (35)	210 (3000)	A-46
SV13-16-C/0	C-16-2	132 (35)	350 (5000)	A-48
SV2-20-C	C-20-2	227 (60)	210 (3000)	A-50
SV13-20-C/0	C-20-2	227 (60)	350 (5000)	A-52
Model	Cavity	Flow rating	Typical pressure	Page
Solenoid 2/2, NC & NO, spool		L/min (USgpm)	bar (psi)	
SV4-8-C/0	C-8-2	11 (3)	210 (3000)	A-54
SV14-8-C/0	C-8-2	11 (3)	350 (5000)	A-55
SV4-10-C/0	C-10-2	23 (6)	210 (3000)	A-58
SV14-10-C/0	C-10-2	23 (6)	350 (5000)	A-60

Valve locator



















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

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

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

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

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

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

Cavity	Flow rating	Typical pressure	Page
	L/min (USgpm)	bar (psi)	
C-10-3	40 (10)	210 (3000)	A-84
		L/min (USgpm)	Cavity rating prèssure L/min (USgpm) bar (psi)

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

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



Valve locator















Model	Cavity	Flow rating	Typical pressure	Page
Solenoid 3/2, spool		L/min (USgpm)	bar (psi)	
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
Solenoid 3/2, spool		L/min (USgpm)	bar (psi)	
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
Solenoid 4/2, spool		L/min (USgpm)	bar (psi)	
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
Solenoid 4/2, spool		L/min (USgpm)	bar (psi)	
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
Solenoid 4/2, spool		L/min (USgpm)	bar (psi)	
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
		Flow	Typical	

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

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

Valve locator



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

Model	Cavity	Flow rating	Typical pressure	Page
Solenoid 4/3, spool		L/min (USgpm)	bar (psi)	
SV9-8-E	C-8-4	13 (4)	210 (3000)	A-160
SV9-10-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
Solenoid 4/3, spool		L/min (USgpm)	bar (psi)	
SV9-8-F	C-8-4	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
Solenoid 4/3, spool		L/min (USgpm)	bar (psi)	
SV9-8-B	C-8-4	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
Solenoid 4/3, spool		L/min (USgpm)	bar (psi)	
SV9-8-A	C-8-4	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
Solenoid 4/3, spool		L/min (USgpm)	bar (psi)	
S272	A6951	14 (3.7)	210 (3000)	A-172

Model	Cavity	Flow rating	Typical pressure	Page
Explosion Proof Valves				
SV*E Series	Product specific	ation per base valves		A-174

Application Data

Installation Information

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.

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).

N I - I	Torque For	Torque For Cartridge in Body	
Model	Aluminum Housing	Steel Housing	Torque on valve tube nut (Max.)
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 / 0	47-54 Nm (35-40 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SV13-10-C / 0	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 / 0	81-95 Nm (60-70 ft lbs)	102-115 Nm (75-85 ft lbs)	5-8 Nm (4-6 ft lbs)
SV13-12-C / 0	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 / 0	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 / 0	128-155 Nm (95-115 ft lbs)	163-183 Nm (120-135 ft lbs)	5-8 Nm (4-6 ft lbs)
SV4-8-C / 0	34-41 Nm (25-30 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SV14-8-C / 0	34-41 Nm (25-30 ft lbs)	34-41 Nm (25-30 ft lbs)	5-8 Nm (4-6 ft lbs)
SV4-10-C / 0	45-54 Nm (35-40 ft lbs)	-	5-8 Nm (4-6 ft lbs)
SV14-10-C / 0	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)
SV3-16-0/0P/0S	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

Madal	Torque For Cartridge in Body		Torque on valve	
Model	Aluminum Housing	Steel Housing	tube nut (Max.)	
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)	



Powering Business Worldwide

- 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

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.

SV5-8-C/O

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

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.

SV5-8-0 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.

210 bar (3000 psi)

Energize: 18 ms

23 L/min (6 USgpm)

De-Energize: 46 ms

less than 5 drops/min @ 210 bar (3000 psi)

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) Rated flow Internal leakage Response times for normally closed (100% rated voltage and flow) Response time for normally open

Energize: 24 ms (100% rated voltage and flow) De-Energize: 25 ms -40° to 120°C (-40° to 248°F) Temperature range Cavity C-8-2 All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc. Fluids Filtration Cleanliness code 18/16/13 Weight including coil 0,28 kg (0.62 lbs) 02-165875 (Buna-N), 02-165877 (Viton®)

SV5-8-0

Pressure drop

Seal kit

Viton is a registered trademark of E.I. DuPont

SV5-8-C **Pressure drop**

Cartridge only



SV5-8-C/O

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

Function SV5 - Solenoid valve Size	6 Filter opt Blank - None F - Filter screen	tion	 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
3 - 8 size	8 Port size			N - Deutsch (DC only) Y - Amp JR (DC only)
	Code	Port size	Housing number	D - Metripack 150 male (DC only)
Seal material	0	Cartridge only		J - Metripack 280 male
ank - Buna-N	2G	1/4" BSPP	02-160727	(DC only)
- Viton®	3G	3/8" BSPP	02-160728	E - Weather–Pack (Packard)
	4T	SAE 4	02-160730	female F - Weather–Pack (Packard)
4 Style	6T	SAE 6	02-160731	male
- Normally closed	8T	SAE 8	02-160732	
- Normally Open	See section J for housin	ng details.		11 Coil series
1 - Knob type - Push type - Screw type imensions - mm (inch)	12D - 12VDC 24D - 24VDC 115A - 115VAC		12B - 12VDC/w diode* 24B - 24VDC/w diode* *Optional arc suppression diode.	12 Special features 00 - None (Only required if valve has special features, omitted if "00".)
Cartridge only		ation drawing		
	50.8 (2.00)			
Ø 31,7 (1.25)				

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)



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

Α

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



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)



6 Port size

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
Bla	nk - Cartridge only
	A losses to some

A - Aluminum

S - Steel

Dimensions - mm (inch)

Cartridge only

Port size	ort size Housing number	
	Aluminium	Steel
Cartridge only		
1/4" BSPP	02-160727	02-160733
3/8" BSPP	02-160728	02-160734
SAE 4	02-160730	02-160736
SAE 6	02-160731	02-160737
SAE 8	02-160732	02-160738
	Cartridge only 1/4" BSPP 3/8" BSPP SAE 4 SAE 6	Aluminium Cartridge only 1/4" BSPP 02-160727 3/8" BSPP 02-160728 SAE 4 02-160730 SAE 6 02-160731

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* *0ptional 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".)





Installation drawing (Aluminum)



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)



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

Α

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



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)



7 Port size

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

Cartridge only

Dimensions - mm (inch)



Installation drawing (Steel)



8 Voltage rating

50.8

(2.00)

50.8

(2.00)

3.4

(0.13)

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

9 Connector types

Blank - No coil

- **G** ISO 4400 DIN 43650
- 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.

Special features00 - None

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

7.1 (0.28)

.75) hex 15.5(0.61) (1.50) 2 = 1

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

2X

" 1,"

44.0 (1.73)

50.8 (2.00)

S519 - Directional control valve

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



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) 210 bar (3000 psi) Typical application pressure Up to 11 L/Min Rated flow 10 L/min (3 USgpm) Nominal flow 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) AXP12370 (see Section M) Cavity Electrical data See coil data sheet 20 Nm (15 lbs ft) Torque cartridge into cavity 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) 15 to 250 cSt Nominal viscosity range Aluminum , Steel Standard housing materials 0.2 kg (0.4 lbs) Coil weight Cartridge weight 0.2 kg (0.4 lbs) SK1138 (Nitrile) SK1138V (Viton) Seal kit Coil part number C16*-*/19 12, 24 VDC. 110, 230, VAC* Coil voltage available

Viton is a registered trademark of E.I. DuPont *AC coils must be used with a rectifying connector

Pressure drop



S519 - Directional control valve

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



Dimensions - mm (inch)

Cartridge only Basic code S217

22.25

49.00 (1.93) (0.88)





Installation drawing



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)

SBV11-8-C Normally Closed



Operation

Α

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.

SBV11-8-0 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



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

SBV11-8-0 Pressure drop



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

SBV11-8-C - Solenoid Bi-directional valve

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



Aluminium

02-160727

02-160728

02-160730

Housing number

Steel

02-160733

02-160734

02-160736

02-160737

02-160738

1 Function

Model code

SBV11 - Solenoid valve

2 Size

8	-	8	size
ö	-	Ø	SIZE

3 Seal material

Blank - Buna-N V - Viton®

V - VILOII

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

Dimensions - mm (inch)

Cartridge only



Installation drawing (Steel)

8 Voltage rating

Port size

Port size

Cartridge only

1/4" BSPP

3/8" BSPP

SAE 4

Code

0

2G

3G

4T

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

9 Connector types

Blank - No coil

- G ISO 4400 DIN 43650
- 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.")



SBV1-8-C - Solenoid Bi-directional Valve

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



. ...

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

_

Α

210 bar (3000 psi)
210 bar (3000 psi)
60 L/min (15 USgpm)
5 drops/min, max @ 210 bar (3000 psi)
-40° to 100°C (-40° to 212°F)
Continuous from 85% to 110% of nominal voltage
C-8-2
All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Cleanliness code 18/16/13
Aluminum or steel
0,12 kg (0.26 lbs)
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

SBV1-8-C - Solenoid Bi-directional Valve

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

Blank - No coil

W - Flying lead

(DC only)

(DC only)

9



Aluminium

02-160727

02-160728

02-160730

02-160731

02-160732

230A - 230VAC

12B - 12VDC/w diode*

24B - 24VDC/w diode*

*Optional arc suppression diode.

Housing number

Steel

02-160733

02-160734

02-160736

02-160737

02-160738

Port size

Port size

Cartridge only

1/4" BSPP

3/8" BSPP

SAE 4

SAE 6

SAE 8

See section J for housing details.

Voltage rating

Code

0

2G

3G

4T

6Т

8T

8

00 - No coil

12D - 12VDC

24D - 24VDC

115A - 115VAC

Function

SBV1 - Solenoid valve

2	Size
---	------

×	_	8	CI	
U.	_	0	3	

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

Dimensions - mm (inch)

Cartridge only

Installation drawing (Steel)



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

10

P - 8 series, 23 W see section C

omitted if "00.")

male on wire leads **Coil series**

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

F - Weather-Pack (Packard)

Connector types

G - ISO 4400 DIN 43650

N - Deutsch (DC only)

Y - Amp JR (DC only)

D - Metripack 150 male

J - Metripack 280 male

For coil part numbers and dimensions

Special features 00 - None

(Only required if valve has special features

SV1-10-C - Solenoid valve

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



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

Α

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

SV1-10-C - Solenoid valve

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



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

Dimensions - mm (inch)

Cartridge only



Code	Port size	Housing number
0	Cartridge only	
3B	3/8" BSPP	02-175464*
6Т	SAE 6	566151*
2G	1/4" BSPP	876702
3G	3/8" BSPP	876703
6H	SAE 6	876700
8H	SAE 8	876701

8 Voltage rating

Port size

7

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

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.

Installation drawing





SV11-10-C - Solenoid valve

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



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

SV11-10-C/CM - Solenoid valve

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



7 Port size

1	Function	
SV1	1 - 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

Dimensions - mm (inch)

Cartridge only





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)
- Weather-Pack (Packard) Ε 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".)







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)

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.

SV3-8-0 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

210 bar (3000 psi)
23 L/min (6 USgpm)
less than 5 drops/min @ 210 bar (3000 psi)
Continuous from 85% to 110% of nominal voltage
Energize: 18 ms De-Energize: 46 ms
Energize: 24 ms De-Energize: 25 ms
-40° to 120°C (-40° to 248°F)
C-8-2
0,28 kg (0.62 lbs)
All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Cleanliness code 18/16/13
02-165875 (Buna-N), 02-165877 (Viton®)

Viton is a registered trademark of E.I. DuPont

SV3-8-0 **Pressure drop**



SV3-8-C

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)

Function V3 - Solenoid valve	6 Filter Blank - Nor F - Filter sc		7 Valve housing materialOmit for cartridge onlyA - Aluminum	10 Connector types Blank - No coil G - ISO 4400 DIN 43650
2 Size			S - Steel	₩ - Flying lead N - Deutsch (DC only)
- 8 size	8 Port	size		Y - Amp JR (DC only)
3 Seal material	Code	Port size	Housing number	D - Metripack 150 male (DC only)
lank - Buna-N	0	Cartridge only		J - Metripack 280 male
- Viton®	2G	1/4" BSPP	02-160727	(DC only)
	3G	3/8" BSPP	02-160728	E - Weather–Pack (Packard) female on wire leads
4 Style	4T	SAE 4	02-160730	F - Weather–Pack (Packard)
- Normally closed	6T	SAE 6	02-160731	male on wire leads
- Normally open	8T	SAE 8	02-160732	
5 Manual override option	_	housing details.		11 Coil series S - 8 series, 20 W For coil part numbers and dimensions
lank - No manual override	00 - No coil		230A - 230VAC	see section C.
I - Knob type	12D - 12VD		12B - 12VDC/w diode*	
- Push type	24D - 24VD		24B - 24VDC/w diode*	12 Special features
r valve dimensions with manual override tion installed see page A-980.	re dimensions with manual override 115A - 115VAC		*Optional arc suppression diode.	00 - None (Only required if valve has special feature: omitted if "00".)
imensions - mm (inch) artridge only	In	stallation drawing		
		50.8 (2.00)		

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

2X 7.1

T

(0.28)

1₁

44.0 (1.73)

50.8 (2.00)

Ш

50.8

(2.00)

3.4

(0.13)

- 0.750" - 16 Thd.

Ø 12,6 (0.500)

2

27.6'

Α

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)

SV3-10-C Normally Closed

Operation

Α

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.





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

SV3-10-0

Pressure drop

Cartridge only





SV3-10-C Pressure drop

Cartridge only



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

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)



7 Port size

Function SV3 - Solenoid valve

2	S	Size
10 -	10	size

1

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

Dimensions - mm (inch)

Cartridge only



Code	Port size	Housing number
0	Cartridge only	
3B	3/8" BSPP	02-175462*
2G	1/4" BSPP	876702
3G	3/8" BSPP	876703
6Т	SAE 6	566151*
6H	SAE 6	876700
8H	SAE 8	876701
	-	

See section J for housing details. *Light duty housing

Voltage rating 0

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 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.





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)

SV3-13-C Normally Closed

SV3-13-0 Normally Open



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.



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®)
Seal kit	565803 (Buna-N), 566086 (Viton®)

Viton is a registered trademark of E.I. DuPont

SV13-10-0 Pressure drop

Cartridge only



SV13-10-C Pressure drop

Cartridge only



A - Port 1 to port 2

B - Port 2 to port 1 energized

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

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)

Housing number

02-175102

02-175103

02-175100

02-175101

230A - 230VAC

12B - 12VDC/w diode*

24B - 24VDC/w diode*

*Optional arc suppression diode.



7 Port size

See section J for housing details.

Voltage rating

Port size

1/4" BSPP

3/8" BSPP

SAE 6

SAE 8

Cartridge only

Code

0

2G

3G

6T

8T

8

00 - No coil

12D - 12VDC

24D - 24VDC

115A - 115VAC

1	Function
SV	13 - 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

Dimensions - mm (inch)

Dimensions - mm (inch)		
Cartridge only	Installation drawing	
Ø38,9	57.9 (2.28)	
(1.53) 22,2 (0.875) hex		
57,8" (2.28) 25,4 (1.00) hex	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
31,7" (1.25) Ø15,82 (0.623)		22.2 (0.88)

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

A-31

9 Connector types

Blank - No coil

- **G** ISO 4400 DIN 43650
- W Flying lead
- $\boldsymbol{\mathsf{N}}$ 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.



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

c only) 150 male

Α

SBV1-10-C - Solenoid valve

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



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

Α

210 bar (3000 psi
76 L/min (20 USgpm
5 drops/min, max @ 210 bar (3000 psi
-40° to 100°C (-40° to 212°F
C-10-2
0,18 kg (0.39 lbs
All general purpose hydraulic fluids such as MIL-H-5606, SAE 10, SAE 20 etc
Cleanliness code 18/16/13
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

SBV1-10-C - Solenoid valve

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



1 Function	6 Port size		
SBV1 - Solenoid	Code	Port size	
bi-directional valve			
	0	Cartridge o	
2 Size	2G	1/4" BSPP	
10 - 10 size	3G	3/8" BSPP	
	— 3B	3/8" BSPP	
	6H	SAE 6	
3 Seal material	6Т	SAE 6	
Blank - Buna-N	8H	SAE 8	
V - Viton®	8T	SAE 8	

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

Housing number

Steel

Aluminium

230A - 230VAC

12B - 12VDC/w diode*

24B - 24VDC/w diode*

*Optional arc suppression diode.

W - Leadwire N - Deutsch (DC only)

Blank - No coil

8

G - ISO 4400 DIN 43650

Connector types

- 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

Coil series 9

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

S - Steel

4 Style

C - Normally closed



Installation drawing (Aluminum)

See section J for housing details.

115A - 115VAC

Voltage rating



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)

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.

SBV11-10-0 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) C-10-2 Cavity 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



B - Port 2 to port 1

SBV11-10-0 Pressure drop

Cartridge only



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

7

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)



Function

6

Port size

SBV11 - Solenoid bi-directional valve

2	Size	
10 -	10	size

1

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

4 Style

- C Normally closed
- O Normally open

5 Valve housing material

	VUIVC	nous	mg	mater	iui
Blank	- Cart	ridae	onlv		

- A Aluminum
- S Steel

Dimensions - mm (inch)

Cartridge only



Installation drawing (Steel)



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
- \boldsymbol{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.")



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)

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.

SV3-12-0 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®)

SV3-12-0

Viton is a registered trademark of E.I. DuPont

SV3-12-C Pressure drop





B - Port 2 to port 1 energized



12

8

4

Pressure Drop - bar

A - Port 2 to port 1 de-energized

B - Port 1 to port 2 energized
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)



V3 - Solenoid valve				
	Code	Port size	Housing	number
Size			Aluminium	Steel
- 12 size	0	Cartridge only		
	4G	1/2" BSPP	02-161118	02-172062
Seal material	4GU	1/2" BSPP	02-161116	02-172512
ank - Buna-N	6G	3/4" BSPP	02-161117	02-169665
- Viton®	6GU	3/4" BSPP	02-161115	02-162922
Style	10T	SAE 10	02-160640	02-169744
- Normally closed	10TU	SAE 10	02-160641	02-169817
- Normally open	12T	SAE 12	02-160644	02-169782
	12TU	SAE 12	02-160645	02-169790
Manual override option ank - No manual override	See section .	I for housing details.		
Λ - Knob type Cable type				

Voltage rating

8

29,6 (1.16) 00 - No coil

12D - 12VDC

24D - 24VDC

115A - 115VAC

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

Ø 38,9

Dimensions - mm (inch)





Installation drawing (Aluminum)



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

N - Flying lead

- N Deutsch (DC only)
- Y Amp JR (DC only)
- D Metripack 150 male (DC only)
- I Metripack 280 male (DC only)
- E Weather–Pack female
- Weather–Pack male

10 **Special features**

0 - None

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

coils with this solenoid valve.

Note: Use J series, 23 W

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

25.4

(1.00)

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)

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.

SV13-12-0 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



B - Port 2 to port 1 energized

SV13-12-0 **Pressure drop**

Cartridge only



B - Port 2 to port 1 de-energized

SV13-12-C / O - Solenoid valve

9

Blank - No coil

W - Flying lead

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



230A - 230VAC

12B - 12VDC/w diode*

24B - 24VDC/w diode*

*Optional arc suppression diode

1 Function	7 Port size			
SV13 - Solenoid valve	Code	Port size	Housing	number
2 Size			Aluminium	Steel
2 Size 12 - 12 size	0	Cartridge only		
	4G	1/2" BSPP	02-161118	02-172062
3 Seal material	4GU	1/2" BSPP	02-161116	02-172512
Blank - Buna-N	6G	3/4" BSPP	02-161117	02-169665
V - Viton®	6GU	3/4" BSPP	02-161115	02-162922
4 Style	10T	SAE 10	02-160640	02-169744
·	10TU	SAE 10	02-160641	02-169817
C - Normally closed D - Normally open	12T	SAE 12	02-160644	02-169782
	12TU	SAE 12	02-160645	02-169790

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)

Dimensions - mm (inch)

Cartridge only



Installation drawing (Steel)

Voltage rating

8

00 - No coil

12D - 12VDC

24D - 24VDC

115A - 115VAC





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

Connector types

G - ISO 4400 DIN 43650

N - Deutsch (DC only)

Y - Amp JR (DC only)

10 **Coil series**

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



00 - None

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



Α

SBV1-12-C - Solenoid valve

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



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

Α

Ratings and specifications	
Performance data is typical with fluid at 21,8 cST (105 SUS) a	nd 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

SBV1-12-C - Solenoid valve

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



....

SBV1	Solenoid	
	bi-directional valve	

Function

2	Size		
12 -	12 size		

1

3	3	S	eal	m	at	e	ri	a	
		0	Jui		u	-	•••	u	

Blank - Buna-N

V - Viton®

4 Style C - Normally closed

5 Valve housing material	(
Blank - Cartridge only	
A - Aluminum (standard)	1
S - Steel	

Dimensions - mm (inch)

Cartridge only

60.3"

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.

Installation drawing (Aluminum)

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.

Connector types Blank - No coil

- G ISO 4400 DIN 43650
- W Flying lead

8

- 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.")



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)

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.



SBV11-12-0 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 4	9°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-12-2 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®)

SBV11-12-0 **Pressure drop**

Cartridge only

Viton is a registered trademark of E.I. DuPont

SBV11-12-C **Pressure drop**

Cartridge only



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)



Function Port size SBV11 - Solenoid bi-directional valve 2 Size 12 - 12 size 3 Seal material Blank - Buna-N V - Viton® 4 Style

6

- C Normally closed
- O Normally open

5 Valve housing material Blank - Cartridge only

- A Aluminum
- S Steel

Dimensions - mm (inch)

Cartridge only

(0.935)





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	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 (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.")



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

25.4

(1.00)

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)

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) "0.3 ml/min (5 dpm) when closed 210 bar differential at 32 centistokes" Internal leakage Temperature range -20 to +120°C (-4 to +248°F) Continuous from 85% to 110% of nominal voltage Coil duty 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 0.1 kg (0.2 lbs) Weight cartridge only Seal kit SK1043 (Nitrile) SK1043V (Viton)

S205 & S206 Pressure drop

Cartridge only



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)



Dimensions - mm (inch)

Cartridge only



36.00 05 8 05 05 0 1

Installation drawing



SV1-16-C - Solenoid valve

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



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

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

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



6 Port size

1	Function
SV	1 - Solenoid valve

2	Size
16 ·	- 16 size

3 Seal material

Blank - Buna-N V - Viton®

Style 4 C - Normally closed

5	Manual override option
Bla	nk - No manual override

M - Knob type

R - Cable type

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

Dimensios - mm (inch)

Cartridge only



Port size	Housing number
Cartridge only	
3/4" BSPP	02-175463*
SAE 12	566149*
3/4" BSPP	876718
SAE 10	876717
SAE 12	566113
	Cartridge only 3/4" BSPP SAE 12 3/4" BSPP SAE 10

See section J for housing details. *Light duty housing

7 Voltage rating 00 - No coil 12D - 1

Installation drawings

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

B - 12VDC/w diode*
B - 24VDC/w diode*
ntional arc sunnression 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.")

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



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)

SV13-16-C Normally Closed

Operation

Α

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.

SV13-16-0 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



A - Port 2 to port 1 energized

SV13-16-0 Pressure drop



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

B - Port 1 to port 2 de-energized

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)



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

Dimensions - mm (inch)

Cartridge only



Code Port size Housing number n Cartridge only 4G 1/2" BSPP 02-175106 6G 3/4" BSPP 02-175107 10T SAE 10 02-175104 12T **SAE 12** 02-175105 See section J for housing details.

8 Voltage rating

7

Port size

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

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

9 Connector types

Blank - No coil

- **G** ISO 4400 DIN 43650
- 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.



00 - None

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





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)



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

Α

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

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)



6 Port size

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.

Dimensions - mm (inch)

Cartridge only



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 87673		
16H	SAE 16 876735		

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

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

Installation drawing

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.





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)

SV13-20-C Normally Closed

Operation

Α

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.

SV13-20-0 Normally Open



Operation

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

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

Performance data

Ratings and specifications

Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)	
Typical application pressure (all ports)	350 bar (5000 psi)
Rated flow	227 L/min (60 USgpm)
Internal leakage	less than 5 drops/min, max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Cavity	C-20-2
Weight cartridge only	0,62 kg (1.37 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	889615 (Buna-N), 889619 (Viton®)

Viton is a registered trademark of E.I. DuPont

SV13-20-C Pressure drop

Cartridge only



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

SV13-20-0 Pressure drop

Cartridge only



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

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)



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

Dimensions - mm (inch)

Cartridge only



Code	Port size	Housing number		
0				
6G	3/4" BSPP	02-175110		
8G	1" BSPP	02-175111		
12T	SAE 12	02-175108		
16T	SAE 16	02-175109		
See section J for housing details.				

8 Voltage rating

Port size

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

Installation drawing



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".)



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)

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.

SV4-8-0 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

210 bar (3000 psi)
11 L/min (3 USgpm)
82 cm³/min (5 in³/min) max @ 210 bar (3000 psi)
-40° to 120°C (-40° to 248°F)
Energize: 27 ms. De-Energize: 24 ms
Energize: 21 ms. De-Energize: 38 ms
C-8-2
0,27 kg (0.60 lbs)
All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Cleanliness code 18/16/13
02-160777 (Buna-N), 02-160778 (Viton®)

Viton is a registered trademark of E.I. DuPont

SV4-8-C Pressure drop



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





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

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	SV4 – 8	(V) – * 3 4	(M) (F) – (A) ** - 5 6 7 8	- **** * S – 00 9 10 11 12
1 Function SV4 - Solenoid valve	6 Filter op Blank - None F - Filter scree		7 Valve housing material Omit for cartridge only A - Aluminum	10 Connector types Blank - No coil G - ISO 4400 DIN 43650
2 Size 8 - 8 size	8 Port siz		Housing number	 W - Flying lead N - Deutsch (DC only) Y - Amp JR (DC only) D - Metripack 150 male
3 Seal material Blank - Buna-N V - Viton®	0 2G 3G 4T	Cartridge only 1/4" BSPP 3/8" BSPP SAE 4	02-160727 02-160728 02-160730	(DC only) J - Metripack 280 male (DC only) E - Weather–Pack (Packard) female on wire leads F - Weather–Pack (Packard)
4 Style C - Normally closed	6T 8T See section J for hou	SAE 6 SAE 8 sing details.	02-160731 02-160732	male on wire leads
 O - Normally open 5 Manual override option Blank - No manual override 	9 Voltage 00 - No coil 12D - 12VDC	e rating	230A - 230VAC 12B - 12VDC/w diode*	Coil series S - 8 series, 20 W For coil part numbers and dimensions see section C. Special features
M - Knob type For valve dimensions with manual override option installed see page A-980.	24D - 24VDC 115A - 115VAC	2	24B - 24VDC/w diode* *Optional arc suppression diode.	00 - None (Only required if valve has special features, omitted if "00".)
Dimensions - mm (inch) Cartridge only	Installation d	lrawing		







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)

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.

SV14-8-0 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

350 bar (5000 psi)
11 L/min (3 USgpm)
140cm³ (8.5in³/min) max @ 350 bar (5000 psi)
-40° to 100°C (-40° to 212°F)
C-8-2
0,11 kg (.25 lbs)
All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Cleanliness code 18/16/13
02-165875 (Buna-N), 02-165877 (Viton®)

Viton is a registered trademark of E.I. DuPont

SV14-8-C Pressure drop

Cartridge only





SV14-8-0 Pressure drop



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

Α

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)



Port size

Function SV14 - Solenoid valve

2	Size
8 - 8	8 size

1

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

Dimensions - mm (inch)

Cartridge only



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
6Т	SAE 6	02-160737
8T	SAE 8	02-160738
See section 1 for	r housing details	

See section J for housing de

8 Voltage rating 00 - No coil



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

Installation drawing



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".)

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)

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.

SV4-10-0 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 cm³/min (5 in³/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

SV4-10-0 Pressure drop

Cartridge only



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

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)



Port size

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

Dimensions - mm (inch)

Cartridge only



Code	Port size	Housing number
0	Cartridge only	
3B	3/8" BSPP	02-175464*
6Т	SAE 6	566151*
2G	1/4" BSPP	876702
3G	3/8" BSPP	876703
6H	SAE 6	876700
8H	SAE 8	876701

8	Voltage rating
00 -	· No coil
12D	- 12VDC
24C	- 24VDC
115	A - 115VAC

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

Installation drawing



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.



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)

SV14-10-C Normally Closed



Operation

Α

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.

SV14-10-0 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 cm³/min (8.5 in³/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



A - Port 2 to port 1 energized

B - Port 1 to port 2 de-energized

SV14-10-0 Pressure drop

Cartridge only

0

100

Flow - L/min (21,8 cSt oil @ 49°C) 8 15

23

7



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

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)



7 Port size

Function SV14 - Solenoid valve

2	Size
10 -	10 size

1

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

Dimensions - mm (inch)

Cartridge only



Code	Port size	Housing number
0	Cartridge only	
2G	1/4" BSPP	02-175102
3G	3/8" BSPP	02-175103
6Т	SAE 6	02-175100
8T	SAE 8	02-175101

Installation drawing

8 Voltage rating

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

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

9 **Connector types**

Blank - No coil

- G ISO 4400 DIN 43650
- W Flying lead
- **N** Deutsch (DC only)
- Y Amp JR (DC only)
- D Metripack 150 male (DC only)
- J Metripack 280 male (DC only)
- E Weather-Pack (Packard) female on wire leads
- F Weather-Pack (Packard) male on wire leads

10 **Coil series**

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



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



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)

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

Α

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



S207 - Solenoid valve

Housing number - Body only

Steel

A14175

A14843

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)

Aluminium

A1485

A1043

A15676



H - DIN43650

F - Flying lead

Coil Termination

DM - Deutsch moulded

Other terminations available on request.

5

Code

2W

3W

6T

Port sizes

Port size

1/4" BSP

3/8" BSP

3/8" SAE

4

1	Func	tion

S207 - Normally open

2	Seal material
V -	Viton®

3	Voltage
12 -	- 12 VDC
24 -	- 24 VDC
440	110 \/AC

110 - 110 VAC

220 - 220 VAC

Dimensions - mm (inch)

Cartridge only







Α

SV5-10-O - Solenoid valve

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



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

Α

Ratings and specifications	
Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)	
Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	45 L/min (12 USgpm)
Internal leakage, port 2 to port 1	Less than 5 drops/min max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-10-2
Weight including coil	0,4 kg (0.087 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc.
Filtration	Cleanliness code 18/16/13
Seal kit	565806 (Buna-N), 566086 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



Port 2 to port 1 de-energized

SV5-10-O - Solenoid valve

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



Port size 7

Function SV5 - Solenoid valve

2 Size

10 - 10 size

3 Seal material

Blank - Buna-N V - Viton®

4 Style

O - Normally open

5 Manual overide 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

Dimensions - mm (inch)

Cartridge only

Code	Port size	Housing number
0	Cartridge only	
3B	3/8" BSPP	02-175464*
6Т	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	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 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.



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

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



Operation

In the de-energized position the valve allows free >ow from port 2 to 1 and a restricted >ow through the pilot ori@ce from port 1 to 2.

When the solenoid is energized the pilot poppet closes the ori@ce and the valve closes blocking >ow from port 2 to 1 while allowing free >ow from port 1 to 2.

Performance data

Α

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 et
Filtration	Cleanliness code 18/16/13
Housing material (standard)	Stee
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

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

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



Port size

1/4" BSPP

3/8" BSPP

SAE 4

SAE 6

SAE 8

See section J for housing details.

8 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

115A - 115VAC

Cartridge only

7 Port size

Code

0

2G

3G

4T

6T

8T

1FunctionSV15- Solenoid value

2 Size

10 - 10 size

3 Seal material Blank - Buna-N

V - Viton®

4 Style

O - Normally open

5 Manual overide 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

Dimensions - mm (inch)

Cartridge only



Installation drawing





G - ISO 4400 DIN 43650

W - Flying lead

02-160733

02-160734

02-160736

02-160737

02-160738

230A - 230VAC

12B - 12VDC/w diode*

24B - 24VDC/w diode*

*Optional arc suppression diode.

- 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".)



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

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



Operation

In the de-energized position the valve allows free 4ow from port 2 to 1 and a restricted 4ow through the pilot orice from port 1 to 2.

When the solenoid is energized the pilot poppet closes the ori:ce and the valve closes blocking 4ow from port 2 to 1 while allowing free 4ow from port 1 to 2.

Performance data

Α

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)	Stee
Weight cartridge only	0,18 kg (0.39 lbs
Seal kit	565803 (Buna-N), 566086 (Viton®

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Pressure drop

Cartridge only



Port 2 to port 1 de-energized

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

Housing number

02-175102

02-175103

02-175100

02-175101

230A - 230VAC

12B - 12VDC/w diode*

24B - 24VDC/w diode*

*Optional arc suppression diode.

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



Port size

1/4" BSPP

3/8" BSPP

SAE 6

SAE 8

Cartridge only

7

Code

0

2G

3G

6Т

8T

Port size

See section J for housing details.

8 Voltage rating

00 - No coil

12D - 12VDC

24D - 24VDC

115A - 115VAC

1FunctionSV15- Solenoid value

2 Size

10 - 10 size

3 Seal material Blank - Buna-N

V - Viton[®]

4 Style

O - Normally open

5 Manual overide 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

Dimensions - mm (inch)

Cartridge only



Installation drawing



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

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".)

Eaton Hydraulic Screw-in Cartridge Valves (SiCV) E-VLSC-MC001-E7-December 2019 www.eaton.com

SV3-16-O - Solenoid valve

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



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

Α

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®)
Vite a service and the demonstrate of C.L. Du Denot	

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Pressure drop

Cartridge only



A - Port 1 to port 2 energized

B - Port 2 to port 1 de-energized

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)



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

Dimensions - mm (inch)

Cartridge only



Code	Port size	Housing number
0	Cartridge only	
6B	3/4" BSPP	02-175463*
12T	SAE 12	566149*
6G	3/4" BSPP	876718
10H	SAE 10	876717
12H	SAE 12	566113

*Light duty housing See section J for housings.

Port size

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.

Installation drawing

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.



SV3-20-O - Solenoid valve

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



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

Α

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®

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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
SV3-20-O - Solenoid valve

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



6 Port size

Function SV3 - Solenoid valve

2	S	ize
20 -	- 20	size

1

3 Seal material Blank - Buna-N

V - Viton®

4 Style

O - Normally open

Manual override option 5 Blank - No manual override

P - Push type S - Screw type For valve dimensions with manual override option installed see page A-980

Dimensions - mm (inch)

Cartridge only

Code	Port size	Housing numbe	
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	

See section J for housing details.

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

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.

Special features 9 00 - None

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

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





S222 - Solenoid valves

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



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

Α

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



S222 - Solenoid valves

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



Installation drawing

Cartridge only



SV1-8-3/3M - Solenoid valve

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



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

Α

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 cm3/min (5 in3/min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-8-3
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





Operating Limits

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

SV1-8-3/3M - Solenoid valve

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



Port size 7

Function SV1 - Solenoid valve

2	Size	
8 - 8	3 size	

1

Seal material 3 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

Dimensions - mm (inch)

Cartridge only



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	
6Т	SAE 6	02-160742	

See section J for housing details

8 Voltage rating Blank - No coil

Installation drawing

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".)



SV11-8-3/3M - Solenoid valve

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



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

Α

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 cm3/min (8.5 in3/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



A - Normally open & closed

B - Selector 1 to 2 and 1 to 3

SV11-8-3/3M - Solenoid valve

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



7 Port size

Function SV11 - Solenoid valve

2 Size	
8 - 8	3 size

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

4 Style 3 - 3-way, 2 position

Manual override option 5

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

Dimensions - mm (inch)

Cartridge only



Code Port size **Housing number** 0 Cartridge only 2G 1/4" BSPP 02-160743 3G 3/8" BSPP 02-160744 **4**T SAE 4 02-160745 6Т SAE 6 02-160746 See section J for housing details.

Voltage rating 8

00 - No coil 12D - 12VDC

24D - 24VDC

115A - 115VAC

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

iode* iode*

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".)



SV4-8-3/3P - Solenoid valve

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



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

Α

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 cm3/min (5 in3/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



Port 2 to 1 and port 2 to port 3

A - Normally open port 1 to port 2

Load pressure - bar

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

SV4-8-3/3P - Solenoid valve

9

F

10

11

00 - None

omitted if "00".)

Blank - No coil

W - Flying lead N - Deutsch (DC only)

(DC only)

(DC only)

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

Connector types

G - ISO 4400 DIN 43650

Y - Amp JR (DC only)

D - Metripack 150 male

J - Metripack 280 male

E - Weather-Pack (Packard)

female on wire leads

male on wire leads

Coil series

S - 8 series, 20 W

For coil part numbers and

dimensions see section C.

- Weather-Pack (Packard)

Special features

(Only required if valve has special features,



7 Port size

Function SV4 - Solenoid valve

2	Size
8 - 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

Dimensions - mm (inch)

Cartridge only



8 Voltage rating No coil 00

12D - 12VDC	12
24D - 24VDC	24
115A - 115VAC	*Op

Installation drawing

230A - 230VAC 2B - 12VDC/w diode* B - 24VDC/w diode*

ptional arc suppression diode.



S229 - Solenoid valve

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

.

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 .

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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 $\Box P = 5$ 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



S229 - Solenoid valve

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



2	Seal material
N -	Nitrile
V -	Viton®

F - Flying lead DM - Deutsch moulded Other terminations available on request.

3 **Manual Override**

2 - Screw 3 - Push

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

Dimensions - mm (inch)

Cartridge only

Basic Code S229



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

220 - 220 VAC

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

Installation drawing



S520(H) - Solenoid valve

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



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

Figures based on Viscosity 32 cST (150 SSU)	
Actuator port location	Port 1
Max working pressure	210 bar (3000 psi)
Rated flow at $\Box P = 5$ 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	\$520: C16-*-*/19 \$520(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







S520(H) - Solenoid valve

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



Coil Termination

Function 1

Model code

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.		

Dimensions - mm (inch)

Cartridge only



4

on request.

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

H - DIN43650

F - Flying leads

DM - Deutsch moulded Other terminations available

Voltage

6 Port size

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

Installation drawing





Α

S521(H) - Solenoid valve

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



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

Α

Figures based on Viscosity 32 cST (150 SSU)
Actuator port location
Max working pressure
Rated flow
Nominal flow at $\Box P = 5$ bar (70 psi)
Internal leakage
Temperature range
Cavity
Electrical data
Torque cartridge into cavity
Mounting position
Fluids
Seal material
Filtration
Nominal viscosity range
Standard housing materials
Coil Weight
Weight
Seal kit
Coil part number
Coil voltage available

Viton is a registered trademark of E.I. DuPont *AC coils must be used with a rectifying connector

Pressure drop







Performance Normally closed and Normally open modes



S521(H) - Solenoid valve

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



1

2

3

000 3

000

1

2 0 <u>0 0</u>

Ø15.80 (0.62)

Ø17.40 (0.68)

47.10"

(1.85)

.7/8"-14-UNF-2A

Α

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

31.80 (1.25

6.35 (0.25)

000 3

000

1

2 0

50.80 (2.00)

66.80

(2.63)

31.80

(1.25)

S525(H) - Solenoid valve

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



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 ensoifications

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 $\Box P = 5$ 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







S525(H) - Solenoid valve

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



1 Function

Model code

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

2	Seal material
N -	Nitrile
V - \	√iton®

3 Manual override

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

Dimensions - mm (inch)

Cartridge only



Coil Termination

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

5 Voltage 12 - 2 VDC 24 - 24 VDC

4

110 - 110 VAC 220 - 220 VAC

6 Port size

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

Installation drawing





ition (psi)

Α

S526 - Solenoid valve

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



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) 210 bar (3000 psi) Max working pressure Rated flow See performance graphs Nominal flow at $\Box P = 5$ bar (70 psi) 11 L/min (3 USgpm) Less than 120 ml/min past each land 210 bar differential Internal leakage -30° to +120°C (-22° to +248°F) Temperature range Cavity C-10-3 (see Section M) Electrical data See coil data sheet 30 Nm (22 lbs ft) Torque cartridge into cavity 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) 15 to 250 cSt Nominal viscosity range Aluminium alloy Standard housing materials Coil weight 0.3 kg (0.6 lbs) Cartridge weight 0.2 kg (0.4 lbs) SK1030 (Nitrile) SK1030V (Viton®) Seal kit 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



S526 - Solenoid valve

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



Coil Termination

1	Function
S526	

2	Seal material	
N -	Nitrile	
V -	Viton®	

3 Manual override 2 - Screw (Consult factory for availability).

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

Dimensions - mm (inch)

Cartridge only



4

5	Voltage	
12 -	12 VDC	
24 -	24 VDC	
110	110 V/AC	

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

6 Port size

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







Installation drawing

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

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



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 cm³/min (10 in³/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



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

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



6 Port size

1 Function SV1 - Solenoid valve

2	Size
10 -	10 size

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

4 Style3 - 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.

Dimensions - mm (inch)

Cartridge only

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

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

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

8 Connector types

Blank - No coil

G - ISO 440 DIN 43650

- W Flying lead
- $\boldsymbol{\mathsf{N}}$ 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.





Installation drawing (Aluminum)



SV11-10-3/3M - Solenoid valve

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



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

Α

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 cm³/min (10 in³/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

SV11-10-3/3M - Solenoid valve

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



Port size

1/4" BSPP

3/8" BSPP

SAE 6

SAE 8

Cartridge only

7 Port size

See section J for housing details.

Voltage rating

Code

0

2G

3G

6T

8T

8

00 - No coil

12D - 12VDC

24D - 24VDC

115A - 115VAC

1	Function
SV	11 - 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

Dimensions - mm (inch)

Cartridge only





Installation drawing



57.15

(2.250)

76.2

9 Connector types

Blank - No coil

Housing number

02-175127

02-175128

02-175124

02-175125

230A - 230VAC

12B - 12VDC/w diode*

24B - 24VDC/w diode*

*Optional arc suppression diode

- **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".)

(300)

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

9.5

(0.38)

Eaton Hydraulic Screw-in Cartridge Valves (SiCV) E-VLSC-MC001-E7-December 2019 www.eaton.com

SV11M-10-3

Α

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



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

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	Continuos 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

SV11M-10-3

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



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 overrride

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

Dimensions - mm (inch)

Cartridge only



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.

Port size

6

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

8 **Connector types**

Blank - No coil

G0 - ISO 4400 DIN 43650

- NO 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".)





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

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



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 cm³/min (10 in³/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.

Α

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

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



6 Port size

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.

Dimensions - mm (inch)

Cartridge only

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

115A - 115VAC

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

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

8 Connector types

Blank - No coil G - ISO 4400 DIN 43650

- 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.



Installation drawing



SV1M-12-3 - Solenoid valve

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



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

Α

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 cm³/min (21.5 in³/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

SV1M-12-3 - Solenoid valve

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



3/4" BSPP

SAE 12

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

3 Size 12 - 12 size

4	Seal material
Bla	nk - Buna-N
\	\/:top®

V - Viton®

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

Dimensions - mm (inch)

Cartridge only

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

24D - 24VDC

A6G

A12H

7

0

MANUAL **OVERRIDE**

- 12B 12VDC/w diode*
- 24B 24VDC/w diode*

8 **Connector types**

Blank - No coil

G0 - ISO 4400 DIN 43650 NO - Deutsch male, DT04-2P,

02-161816

02-160646

- integrated YO - Integrated Amp DC
- D0 MetriPack® 150 Male,
- Integrated (DC Only) Mating connector : Delphi 12052641.
- For coil dimensions see section C.

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







Installation drawing



SV11M-12-3 - Solenoid valve

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



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

Α

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

SV11M-12-3 - Solenoid valve

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

SF - Soft shift

Α



integrated

12052641.

For coil dimensions see section C.

Y0 - Integrated Amp DC

D0 - MetriPack[®] 150 Male, Integrated (DC Only)

Mating connector : Delphi

V - Viton®

5 Style

3P - 3 way, push type manual override

Dimensions - mm (inch)

Cartridge only



28.7 (1.13)25.4 (1.00)

Installation drawing (Steel)

00 - No coil

12D - 12VDC

24D - 24VDC

12B - 12VDC/w diode*

24B - 24VDC/w diode*



SV2M-12-3P - Solenoid valve

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



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

Α

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) 38 L/min (10 USgpm) Max flow port 1 to port 3-34 L/min (9 USgpm) Rated flow Internal leakage 300 cm³/min (21.5 in³/min) max @ 210 bar (3000 psi) -40° to 120°C (-40° to 248°F) Temperature range C-12-3 Cavity 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

SV2M-12-3P - Solenoid valve

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



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

(3.50)

SV12M-12-3 - Solenoid valve

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



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

Α

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 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 2 to port 1 energized

B - Port 1 to port 3 de-energized

SV12M-12-3 - Solenoid valve

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









SV4M-12-3P - Solenoid valve

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



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

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 cm³/min (21.5 in³/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
SV4M-12-3P - Solenoid valve

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



Cartridge only





Installation drawing



SV14M-12-3 - Solenoid valve

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



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

Α

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

SV14M-12-3 - Solenoid valve

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









SV1-8-4/4M - Solenoid valve

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



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

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 cm³/min (5 in³/min) max @ 210 bar (3000 psi
Temperature range	-40° to 120°C (-40° to 248°F
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-8-4
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 2B - 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.

Α

SV1-8-4/4M - Solenoid valve

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



7 Port size

8

115A - 115VAC

Function SV1 - Solenoid valve

2	Size
8 - 8	3 size

1

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

Dimensions - mm (inch)

Cartridge only





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

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".)



SV11-8-4/4M - Solenoid valve

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



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 cm³/min (5 in³/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®

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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

SV11-8-4/4M - Solenoid valve

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



Port size

1/4" BSPP

3/8" BSPP

SAE 4

SAE 6

Cartridge only

7 Port size

Code

0

2G

3G

4T

6T

Function SV11 - Solenoid valve

2	Size
8 - 8	3 size

1

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

Dimensions - mm (inch)

Cartridge only

50.8"

54.5"



See section J for housing details.

12D - 12VDC 24D - 24VDC 115A - 115VAC

Installation drawing





9 Connector types Blank - No coil

G - ISO 4400 DIN 43650

W - Flying lead

Housing number

02-160751

02-160752

02-160753

02-160754

230A - 230VAC

12B - 12VDC/w diode*

24B - 24VDC/w diode*

*Optional arc suppression diode.

- **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".)

SV2-8-4/4M - Solenoid valve

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



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

Α

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 cm³/min (5 in³/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 m: De-Energize: 42 m:
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

SV2-8-4/4M - Solenoid valve

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



Port size

1/4" BSPP

3/8" BSPP

SAE 4

SAE 6

Cartridge only

7 Port size

See section J for housing details.

Voltage rating

Code

0

2G

3G

4T

6T

8

00 - No coil

12D - 12VDC

24D - 24VDC

115A - 115VAC

1	Function
sv:	2 - Solenoid valve

2	Size
8 - 8	3 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

Dimensions - mm (inch)

Cartridge only





Installation drawing



9 Connector types

Blank - No coil G - ISO 4400 DIN 43650

W - Flying lead

Housing number

02-160747

02-160748

02-160749

02-160750

230A - 230VAC

12B - 12VDC/w diode*

24B - 24VDC/w diode*

*Optional arc suppression diode

- **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".)

SV12-8-4/4M - Solenoid valve

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



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

Α

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 cm³/min (5 in³/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

SV12-8-4/4M - Solenoid valve

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



Port size

1/4" BSPP

3/8" BSPP

SAE 4

SAE 6

Cartridge only

Port size

See section J for housing details.

Voltage rating

Code

0

2G

3G

4T

6Т

8

00 - No coil

12D - 12VDC

24D - 24VDC

115A - 115VAC

Function SV12 - Solenoid valve

2	Size
8 - 8	8 size

1

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

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

Dimensions - mm (inch)

Cartridge only





Installation drawing



9 **Connector types**

Blank - No coil G - ISO 4400 DIN 43650

W - Flying lead

Housing number

02-160751

02-160752

02-160753

02-160754

230A - 230VAC

12B - 12VDC/w diode*

24B - 24VDC/w diode*

*Optional arc suppression diode.

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

- Weather-Pack (Packard) F 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".)

2-Slots

(2.250)

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

(0.13)

SV12-10-4 - Solenoid valve

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



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



SV12-10-4 - Solenoid valve

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



Port size

Function SV12 - Solenoid valve

2	Size
10 -	10 size

1

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

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

Dimensions - mm (inch)

Cartridge only



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 ho		02 170101

Installation drawing

8 Voltage rating 00

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)
- Weather-Pack (Packard) E 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".)



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

22.2

(0.87)

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

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



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

Α

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 cm³/min (10 in³/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

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

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



6 Port size

Function SV1 - Solenoid valve

2 Size

1

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.

Dimensions - mm (inch)

Cartridge only

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

Voltage rating 00 -

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

Installation drawing

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.





S542 - Solenoid valve

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



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

Α

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 $\Box P = 5$ 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.

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S542 - Solenoid valve

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



Cartridge only

Basic Code **S542**



2 holes Ø7.1 (0.28) thro' 31.80 (1.25) 6.35 (0.25)

Installation drawing



Α

SV11-10-4/4M - Solenoid valve

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



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 cm³/min. (5 in³/min) max @ 350 bar (5000 psi)
Temperature range	-40° to 100°C (-40° to 212°F)
Coil duty	Continuous from 85% to 110% of nominal voltage
Cavity	C-10-4
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

SV11-10-4/4M - Solenoid valve

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



7 Port size

1FunctionSV11 - Solenoid value

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

Dimensions - mm (inch)

Cartridge only

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

Code	Port size	Housing number
0	Cartridge only	
2G	1/4" BSPP	02-175139
3G	3/8" BSPP	02-175140
6Т	SAE 6	02-175137
8T	SAE 8	02-175138



For coil part numbers and dimensions see section C.

11 Special features 00 - None

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

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.





Installation drawing



S541 - Solenoid valve

Spool type, 4-way, 2-position Up to 30 L/min (8 USgpm) • 210 bar (3000 psi)



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 $\Box P$ = 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





S541 - Solenoid valve

Spool type, 4-way, 2-position Up to 30 L/min (8 USgpm) • 210 bar (3000 psi)



1	Function
S541	

Model code

2 Seal material	
N - Nitrile	
V - Viton	

3 Manual Override 2 - Screw

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

Dimensions - mm (inch)

Cartridge only Basic Code S541



4 Coil Termination H - DIN43650

F - Flying leadsDM - Deutsch moulded

Other terminations available on request

5 Voltage 12 - 12 VDC 24 - 24 VDC

110 - 110 VAC 220 - 220 VAC

Installation drawing



6 Port size

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

SV2-10-4/4M/4R - Solenoid valve

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



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 cm³/min (10 in³/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.

Α

SV2-10-4/4M/4R - Solenoid valve

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



6 Port size

Function SV2 - Solenoid valve

2	Size
10 -	10 size

1

3 Seal material Blank - Buna-N



4 - 4-way, 2-position

5	Manual override option
Bla	nk - No manual override
М -	Knob type
R -	Cable type
	alve dimensions with Manual override n installed see page A-980

Dimensions - mm (inch)

Cartridge only

Code	Port size	Housing number
0	Cartridge only	
3B	3/8" BSPP	02-179705*
6Т	SAE 6	566161*
6Т 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.

Voltage rating **00** - No coil

12D - 12VDC
24D - 24VDC
115A - 115VAC

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

*Optional arc suppression diode.

Installation drawing



Blank - No coil G - ISO 4400 DIN 43650

Connector types

W - Flying lead

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

(DC only)

8

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.



SV2-10-C - Solenoid valve

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



Operation

In the de-energized position the valve blocks !ow from port 2 to 1 and free !ow 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 !ow is restricted by the pilot orifice.

Performance data

Α

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

SV2-10-C - Solenoid valve

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



Port size

3/8" BSPP

1/4" BSPP

3/8" BSPP

SAE 6

SAE 6

SAE 8

Cartridge only

Port size

Code

0

3B

2G

3G

6T

6H

8H

*Light duty housing

See section J for housing details.

Function SV2 - Solenoid valve

2	5	Size
10 -	10	size

1

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

Dimensions - mm (inch)



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

A-133

9 Connector types

Α

Blank - No coil

G - ISO 4400 DIN 43650

Housing number

02-175462

876702

876703

566151

876700

876701

- 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.

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

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

B - 24VDC/w diode* *Optional arc suppression diode.

SV3-10-4/4M/4R - Solenoid valve

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



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

Α

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 cm³/min (10 in³/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

SV3-10-4/4M/4R - Solenoid valve

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



6 Port size

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.

Dimensions - mm (inch)

Cartridge only

	29,6 (1.16)
Ø 38,9_ (1.53)	/ +
	19,0 (0.75) hex
 57,1" (2.25)	
	25,4 (1.00) hex
	0.875 – 14 Thd.
62,0″	$] \circ \circ [4]$
(2.44)	<u>o</u> o 3
	<u> </u>
Ø 17,40 (0.685)	Ø 15,80 (0.622) Ø 18,97 (0.747)

Code	Port size	Housing number
0	Cartridge only	
3B	3/8" BSPP	02-179705*
6Т	SAE 6	566161*
2G	1/4" BSPP	876709
3G	3/8" BSPP	876715
6H	SAE 6	876708
8H	SAE 8	876713

See section J for housing details.

Voltage rating 7 ^^ - - 1

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

2201/00 2204

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.



SV4-10-4/4M/4R - Solenoid valve

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



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

Α

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 cm³/min (10 in³/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

SV4-10-4/4M/4R - Solenoid valve

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



6 Port size

Function SV4 - Solenoid valve

2	S	Size
10 -	10	size

1

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



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.

Dimensions - mm (inch)

Cartridge only

Code	Port size	Housing number
0	Cartridge only	
3B	3/8" BSPP	02-179705*
6Т	SAE 6	566161*
2G	1/4" BSPP	876709
3G	3/8" BSPP	876715
6H	SAE 6	876708
8H	SAE 8	876713

3B	3/8" BSPP	02-179705*
6Т	SAE 6	566161*
2G	1/4" BSPP	876709
3G	3/8" BSPP	876715
6H	SAE 6	876708
BH	SAE 8	876713
*Light duty bousing		

Light duty housin See section J for housing details.

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.

Installation drawing



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.



SV5-10-4/4M/4R - Solenoid valve

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



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

Α

Ratings and specifications

	0101 (0000)
Typical application pressure (all ports)	210 bar (3000 psi)
Rated flow	23 L/min (6 USgpm)
Internal leakage	164 cm³/min (10 in³/min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
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

 ${\boldsymbol{B}}$ - Port 3 to port 2

SV5-10-4/4M/4R - Solenoid valve

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



6 Port size

Function SV5 - Solenoid valve

2	S	Size
10 -	- 10	size

1

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.

Dimensions - mm (inch)

Cartridge only

Code	Port size	Housing number
0	Cartridge only	
3B	3/8" BSPP	02-179705*
6Т	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

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.



SV7-10-4/4P/4S - Solenoid valve

Spool type, 4-way, 2-position 17 L/min (5 USgpm) • 210 bar (3000 psi)



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

Α

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 cm³/min (10 in³/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

SV7-10-4/4P/4S - Solenoid valve

Spool type, 4-way, 2-position 17 L/min (5 USgpm) • 210 bar (3000 psi)



6 Port size

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.

Dimensions - mm (inch)

Cartridge only

Housing number Code Port size 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 SAE 8 8H 876713

*Light duty housing See section J for housing details.

7 Voltage rating

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

Installation drawing

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.





SV17M-10-4P - Solenoid valve

Spool type, 4-way, 2-position 17 L/min (5 USgpm) • 350 bar (5000 psi)



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

Α

Ratings and specifications

350 bar (5000 psi
210 bar (3000 psi
17 L/min (5 USgpm)
350 cc/min (21.5 in ³ /min) @ 210 bar (3000 psi
-40° to 120°C (-40° to 248°F)
C-10-4
0.44 kg (0.96 lbs
All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
18/16/13
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

Spool type, 4-way, 2-position 17 L/min (5 USgpm) • 350 bar (5000 psi)



Dimensions - mm (inch)

Cartridge only



Installation drawing (Steel)



19

(0.75)

50.8

(2.00)

2 X Ø7.11 (0.280)

57.15

(2.250)

:=:

:==

SV2M-12-4 - Solenoid valve

Spool type, 4-way, 2-position Up to 42 L/min (11 USgpm) • 210 bar (3000 psi)



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 cm³/min (21.5 in³/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
SV2M-12-4 - Solenoid valve

Spool type, 4-way, 2-position



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

2

Ø 20,6 (.810)

SV12M-12-4 - Solenoid valve

Spool type, 4-way, 2-position Up to 42 L/min (11 USgpm) • 350 bar (5000 psi)



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

Α

Ratings and specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)	
Typical application pressure (all ports except port 1)	350 bar (5000 psi)
Typical application pressure at port 1	210 bar (3000 psi)
Rated flow	42 L/min (11 USgpm)
Internal leakage	350 cc/min (21.5 in3/min) @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-12-4
Weight including coil	0.86 kg (1.9 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration Cleanliness code	18/16/13
Seal kit	2160979 Buna-N), 2160980 (Viton®)
Viton is a registered trademark of F.I. DuPont	

registered trademark of E.I.

Pressure drop

Cartridge only



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

SV12M-12-4 - Solenoid valve

Spool type, 4-way, 2-position Up to 42 L/min (11 USgpm) • 350 bar (5000 psi)



2	Max flow
М -	42 L/min (11USgpm)

Size

3

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	

Installation drawing (Steel)

Connector types

8 Blank - No coil GO - ISO 4400 DIN 43650

NO - 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

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

Special features

00 - None

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



Dimensions - mm (inch)

Cartridge only





SV3M-12-4 - Solenoid valve

Spool type, 4-way, 2-position Up to 53 L/min (14 USgpm) • 210 bar (3000 psi)



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 cm³/min (21.5 in³/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)



Function 1

SV3 - Solenoid valve

2 Max flow M - 53 L/min (14USgpm)

3	Size	
12 -	12 size	

4	Seal material
	nk - Buna-N Viton®

5 Style

4P - 4-way, push type manual override

Dimensions - mm (inch)

Cartridge only

Port Size

6

Code

Coue	FUIL SIZE	Housing humber	
0	Cartridge only		
A6G	3/4" BSPP	5986432-001	
A10T	SAE 10	6030517-001	
A12H	SAE 12	5986436-001	

Port size

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 GO - ISO 4400 DIN 43650

NO - Deutsch male, DT04-2P,

Housing number

- 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".)

26.7 (1.05)

84.9

(3.34)

3 ===

4

51.6

(2.03)

¥

68.28

(02.688)

2 Slots

8.75 (.344)

SF - Soft shift



Installation drawing

SV13M-12-4 - Solenoid valve

Spool type, 4-way, 2-position Up to 53 L/min (14 USgpm) • 350 bar (5000 psi)



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

Α

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 in3/min) @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-12-4
Weight including coil	0.86 kg (1.9 lbs)
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration Cleanliness code	18/16/13
Seal kit	2160979 Buna-N), 2160980 (Viton®)

Viton is a registered trademark of E.I. DuPont

Pressure drop

Cartridge only



A - Port 3 to port 4

B - Port 2 to port 1

SV13M-12-4 - Solenoid valve

Spool type, 4-way, 2-position Up to 53 L/min (14 USgpm) • 350 bar (5000 psi)

SV13	* - 12 			- * * ** - **
6 Por	t Size			9 Coil types
Code	Port size	Housing	number	Blank - No coil
		Aluminium	Steel	R - R series (30W)
0	Cartridge only			Large ToughCoil
A6G	3/4" BSPP	5986432-001		
A10H	SAE 10	5986434-001		10 Coil special features
– <u>A12H</u>	SAE 12	5986436-001		10 Coil special features Blank - No coil
	3/4" BSPP		5991073-001	
	SAE 10			00 - No special feature
S12T	SAE 12		5991075-001	
		Blank - No coil G0 - ISO 4400	DIN 43650	11 Special features 00 - None (Only required if valve has Special features, omitted if "00".)
12D - 12V	DC			
24D - 24V	DC	0		
12B - 12VDC/w diode*		Integrated (DC Only)		
		Delphi 120	052641.	
	6 Por Code 0 A6G A10H A12H S6G S10T S12T 7 Vol 00 - No col 12D - 12V 24D - 24V 12B - 12V 24B - 24V 24B - 24V	1 2 3 6 Port Size Code Port size 0 Cartridge only A6G 3/4" BSPP A10H SAE 10 A12H SAE 12 S6G 3/4" BSPP S10T SAE 10 S12T SAE 12 7 Voltage rating 00 - No coil 12D - 12VDC 24D - 24VDC 24D - 24VDC	1 2 3 4 5 6 Port Size Housing Code Port size Housing 0 Cartridge only Aluminium 0 Cartridge only A6G A6G 3/4" BSPP 5986432-001 A10H SAE 10 5986434-001 A12H SAE 12 5986436-001 S6G 3/4" BSPP 510T SAE 10 S10T SAE 10 S12T SAE 12 7 Voltage rating Go - ISO 4400 No coil 00 - No coil Itegrated Yo - Integrated 12D - 12VDC Yo - Integrated Yo - Integrated 24D - 24VDC Do - MetriPack Integrated 12B - 12VDC/w diode* Do - MetriPack Integrated Mating co Delphi 120	3 V 13 - 12 4r - - 1 2 3 4 5 6 7 6 Port Size Housing number 0 Cartridge only A6G 3/4" BSPP 5986432-001 A10H SAE 10 5986434-001 A10H SAE 10 5986436-001 S6G 3/4" BSPP 5986436-001 S6G 5991073-001 S10T SAE 12 5991073-001 S12T SAE 10 5991075-001 S10T SAE 10 5991075-001 S12T SAE 12 5991075-001 90 - No coil 00 - No coil G0 - ISO 4400 DIN 43650 N0 - Deutsch male, DT04-2P, integrated 91 - 12VDC 24D - 24VDC D0 - MetriPack® 150 Male, Integrated Amp DC D0 - MetriPack® 150 Male, Integrated (DC Only) Mating connector : Delphi 12052641.

Dimensions - mm (inch)

Cartridge only



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

26.7 (1.05)

84.9 (3.34)

51.6

(2.03)

¥

68.28

(02.688)

2 Slots

8.75 (.344)

3 ==

1

==:

SV5M-12-4 - Solenoid valve

Spool type, 4-way, 2-position Up to 53 L/min (14 USgpm) • 210 bar (3000 psi)



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

Α

Ratings and specifications

Tunical application program	210 bor (2000 poi)
Typical application pressure	210 bar (3000 psi)
Rated flow	53 L/min (14 USgpm)
Internal leakage	300 cm³/min (21.5 in³/min) max @ 210 bar (3000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
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

SV5M-12-4 - Solenoid valve

Spool type, 4-way, 2-position Up to 53 L/min (14 USgpm) • 210 bar (3000 psi)



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)



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

Α

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) 210 bar (3000 psi) Typical application pressure at port 1 Rated flow 53 L/min (14 USgpm) Internal leakage 350 cc/min (21.5 in³/min) @ 210 bar (3000 psi) -40° to 120°C (-40° to 248°F) Temperature range 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

SV15M-12-4 - Solenoid valve

Spool type, 4-way, 2-position Up to 53 L/min (14 USgpm) • 350 bar (5000 psi)



Dimensions - mm (inch)

Cartridge only

Installation drawing (Steel)



SV7M-12-4 - Solenoid valve

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



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 cm3/min (21.5 in3/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

SV7M-12-4 - Solenoid valve

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



Function

SV7 - Solenoid valve

2 Max flow M - 46 L/min (12 USgpm)

3 Size

12 - 12 size

4	Seal material
Bla	nk - Buna-N
M -	Viton

5 Style

4P - 4 way, push type manual override

Dimensions - mm (inch)

Cartridge only

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.

Installation drawing

8 **Connector types**

Blank - No coil GO - ISO 4400 DIN 43650

NO - 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".)

SF - Soft shift



SV17M-12-4 - Solenoid valve

Spool type, 4-way, 2-position Up to 46 L/min (12 USgpm) • 350 bar (5000 psi)



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

Α

Ratings and specifications

<u> </u>	
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 in³/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

SV17M-12-4 - Solenoid valve

Spool type, 4-way, 2-position Up to 46 L/min (12 USgpm) • 350 bar (5000 psi)



Housing number

Steel

5991073-001

5991074-001

5991075-001

Aluminium

5986432-001

5986434-001

5986436-001

R - R series (30W) Large ToughCoil

Coil Special Feature 10 Blank - Noil coil

00 - No special feature

Special features 00 - None

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



Port size

3/4" BSPP

SAE 10

SAE 12

Code

A6G

A10H

A12H

Dimensions - mm (inch)

Cartridge only

Style

2

3

4

5

V - Viton

Max flow

Size

12 - 12 size

M - 38 L/min (10 USgpm)

Installation drawing (Steel)

50,3 26.7 (1.05) (1.98)45,9" (1.81) 0 84.9 (3.34)31.7 MANUAL 28.7 (1.25) Hex **OVERRIDE** Torque (1.13)22-26 LB-IN ---4 51.6 85.4 (3.36) (2.03)101.6 3 == 74.4 ¥ (04.00)(2.93)2 Slots 2 1.25" == 127 8.75 (.344) HEX (05.00)1.062″ 12 Thread 1 $\bigcirc \bigcirc$ 4 Ø 23,8 (.935)-90,9 (3.58) 31.8 10.3 68.28 (1.25) $\bigcirc \bigcirc$ 3 Ø 22,1 (.872) -(02.688)(0.41)88.9 63.5 (03.50) (2.500)00 2 Ø 20,6 (.810)

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

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 cm³/min (10 in³/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.

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

Pressure drop



- **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



- 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



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

Α

4-way, 3-position, screw-in cartridge, solenoid valve Up to 13 L/min (3.5 USgpm) • Up to 210 bar (3000 psi)



See section J for housing details.

10 Coil series ¹

0 - No Coil

P - 8 series, 23W

11 Coil special features ¹ 00 - None



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

¹ These model digits are not stamped on the valve.

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.

26,0

(1.02)

119,6 (4.71)

54,6 (2.15)

Manual override option

Coil B

Coil A

Spare Parts	
Coil Nut	565558
Coil Spacer	02-186730





•

00

••

1

4

З

2

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

SV9-10-A

Α



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.

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) 3,000 psi per NFPA/T2-6-1 R2-2000 Fatigue pressure Rated burst pressure (626 bar) 9090 psi per NFPA/T2-6-1 R2-2000 Max Flow A Max Flow B, E, F 19 L/min (5 USgpm) 23 L/min (6 USgpm) -40° to 120°C (-40° to 248°F) Temperature range Coil power B, E, F has 26W Cavity C-10-4 Weight including coil 0.95Kg (2.1 lbs) Internal leakage 246 cm3/min (15 in3/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.

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.

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

Pressure drop

SV9-10-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



- 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
- B Port 4 to port 1

SV9-10-F

SV9-10-B





B - Port 2 to port 1, port 4 to port 1

SV9-10-E



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



10 Coil series ¹

Blank - No Coil

876713

566161

J - 10 series, 23W

11 Coil special features ¹ Blank - None

12 Valve Special features ¹ 00 - None

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

¹ These model digits are not stamped on the valve.

Α

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

8H

6Т

See section J for housings.

SAE 6

SAE 6

Dimensions

mm (inch)

This valve uses the J series, 23 W coil.

Spare parts	
Coil nut	565558
Coil spacer	02-179226



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

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

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 Nominal flow B	25 L/min (6.5USgpm) 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

379

Α

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

Pressure drop

SV9M-10-A

SV9M-10-B



C - Port 2 to port 1, port 4 to port 1



SV9M-10-F

SV9M-10-E



A - Port 3 to port 2 or port 4

B - Port 2 to port 4 or port 1

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

Spool type, 4-way, 2-position Up to 32 L/min (8.5 USgpm) • 210 bar (3000 psi)



¹ These model digits are not stamped on the valve.

00 - None

A-170

Spool type, 4-way, 2-position Up to 32 L/min (8.5 USgpm) • 210 bar (3000 psi)

Dimensions

Cartridge only

mm (inch)

This valve uses the L series, 30W coil.

Spare parts

Coil nut 6025028-001



✓ Ø15.80 (0.62) Ø17.40 (0.68) Ø19.00 (0.75) Installation drawing (Steel) G3.50 (2.50)







S272 - Solenoid valves

4-Way, 3-Position Spool 14 L/min (3.7 US GPM), 210 bar (3000 PSI)

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

Α

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





S272 - Solenoid valves

4-Way, 3-Position Spool 14 L/min (3.7 US GPM), 210 bar (3000 PSI)



Dimensions - mm (inch)

Cartridge only



Installation drawing





Explosion Proof Valves

(SV*E Series) Model Code

Α



valve data sheet. Viton® seal options are 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.

S Series - Manual overrides

13 mm Tube

S2 Series

Consult factory for availability

Screw, normally closed manual override - type 2



Manually operated position Available for S217, S229

Push manual override - type 3



Push to manually override Available for S217



Push to manually override Available for S229

S Series - Manual overrides

16 mm tube

S5 Series

Α

Consult factory for availability

Screw manual override - Type 2





Manually operated position Available for: S520, S521, S525, S526, S541, S542 Normal position



Ø11.0 (0.43)

knob

0 A/F Hex Ø24.00 (0.94) nut

Pulled out

£.

46.50

(1.83)

Normal position Available for: SV9A-10-A, SV9A-10-B, SV9A-10-E, SV9A-10-F

Push/pull manual override - Type M

Ø

Note: Manual override is available on all solenoid cartridge valves, except SBV series valves.

A 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)





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

21.0 (0.83) Neutral 19.3 (0.76) Activated



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"SV13-options are available on the
following models:SV13-SV13-SV13-

SV13-10-0P/0S-0-00 SV13-12-0P/0S-0-00 SV13-16-0P/0S-0-00 SV13-20-0P/0S-0-00 SV15-10-0P/0S-0-00 SV15-8-0P/0S-0-00 SV3-10-0P-0-00

SV3-10-0S-0-00	SV3-8-CM-0-00
SV3-12-0P-0-00	SV3-8-0P-0-00
SV3-12-0S-0-00	SV3-8-0S-0-00
SV3-16-0P-0-00	SV4-10-3P-0-00
SV3-16-0S-0-00	SV4-10-3S-0-00
SV3-20-0P-0-00	SV4-8-3P-0-00
SV3-20-0S-0-00	SV5-10-0P-0-00



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.

Manual override "M" pull type

To override:

Α

- 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



Manual override "R" cable type (not available on size 8 models)



Manual override "M"	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	
options are available on	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	
the following models:	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		
M I I "D"	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	
Manual override "R"						
options are available on	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	
the following models:	SV1-10-CR-0-00	SV3-10-4R-0-00	SV4-10-CR-0-00	SV3-12-CR-0-00		

Notes

Versatile, Proven, Best Value

Sectional Design for **Multiple Configurations**



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.