



Poppet type valves are two-way, normally open or normally closed, load holding or blocking valves for applications requiring low internal leakage. Models are available for flows up to 150 lpm (40 gpm).

Spool type valves are two-way, normally open or normally closed, three-way, four-way, four-way three-position, and six-way. The four-way three-position valves are available in tandem center, open center, closed center or “motor spool” configurations. Models are available for flows up to 75 lpm (20 gpm).

Blocking/low flow valves are two-way normally-closed, load-holding or venting valves, and two-position three-way blocking valves.

Integral position sensing is now available on select solenoid valves. The sensing option is a Hall Effect sensor known for its proven reliability in the field. Sensing options are designed to be easily applied to numerous valves, are interchangeable with existing cartridge valves, use standard cavities and are compatible with manual override options. See Section 3 for more details on sensor options. Complete information on sensor options can be found in the master catalog on the HydraForce web site, www.HydraForce.com.

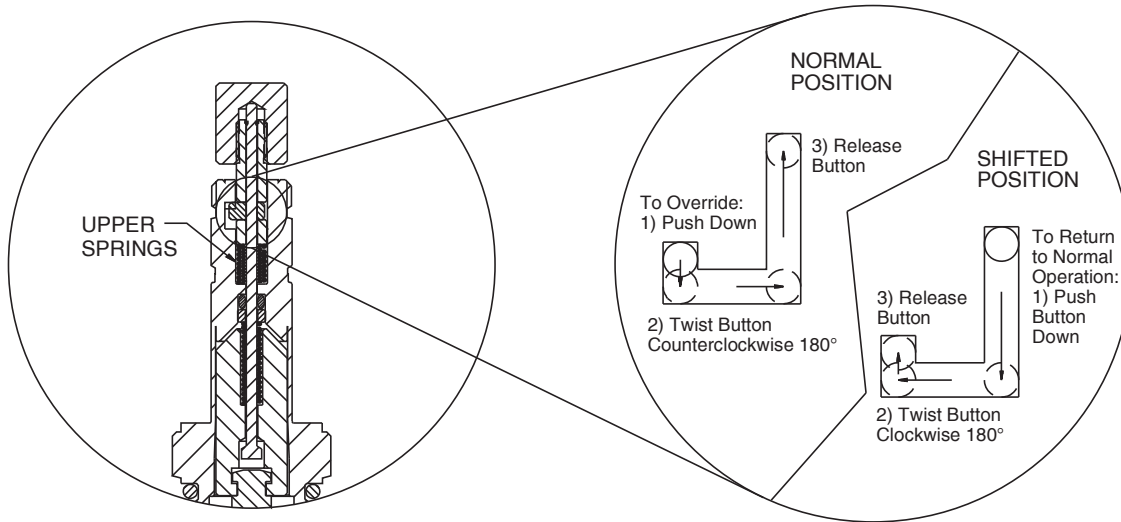
- Poppet or spool types.
- Operating pressures to 345 bar (5000 psi).
- Hardened precision poppets, seats, spools and cages for long life and low leakage.
- Durable, unitized, molded coils.
- Water/weather resistant coils are available with IP65 and IP69 rated connectors for most valves.
- Manual override available on most models.
- Industry common cavities—compact sizes.
- Cartridges are voltage interchangeable.
- Wide variety of voltage and connector options.
- Low voltage pull-in characteristics.
- Coils are rated for continuous duty operation.
- Integral position-sensing options, dual sensor output, configurable as high to low and low to high.

Manual Override Options

Manual Override “M” Option for Two-Position Pull-Type Solenoid Valves

Note: This option is not available along with the Waterproofing option.

Note: The manual override feature is intended for emergency use, not for continuous-duty operation.



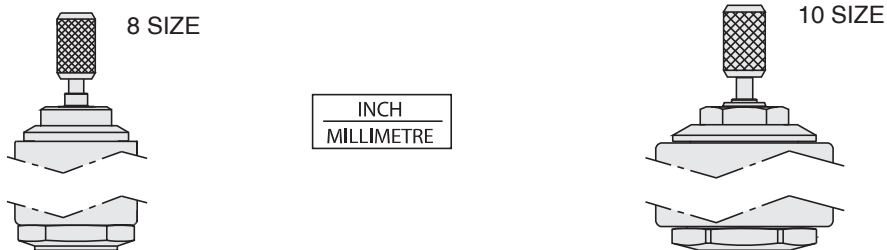
Exaggerated illustration of operation of Manual Override “M” option

Manual Override “M” Option for Three-Position Push/Pull-Type Solenoid Valves

Note: The manual override feature is intended for emergency use, not for continuous-duty operation.

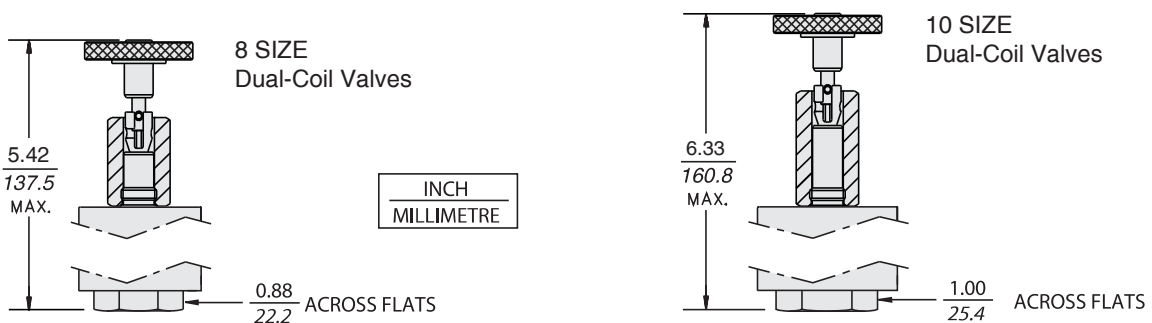
Note: This option is provided with the Waterproofing option.

Note: See individual valve catalog pages for MAX weights of 08 and 10-size valves with the “M”- Manual Override option.



Manual Override “K” Option for Three-Position Push/Pull-Type Solenoid Valves

Note: The manual override feature is intended for emergency use, not for continuous-duty operation.

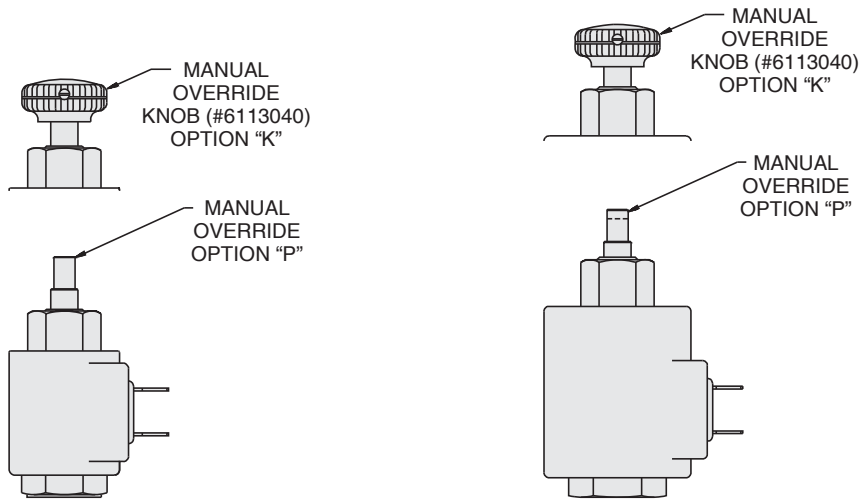


Manual Override Options

Manual Override “P” and “K” Options for Two-Position Push-Type Solenoid Valves

Note: The manual override feature is intended for emergency use, not for continuous-duty operation.

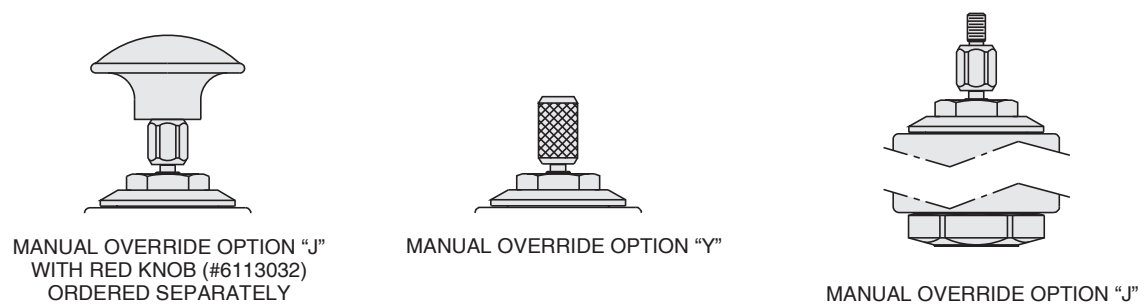
Note: This option is not available along with the Waterproofing option.



Manual Override “J” and “Y” Options for Pull-Type Solenoid Valves

Sizes: -38 (for -08 cavities), -10, -12, -16

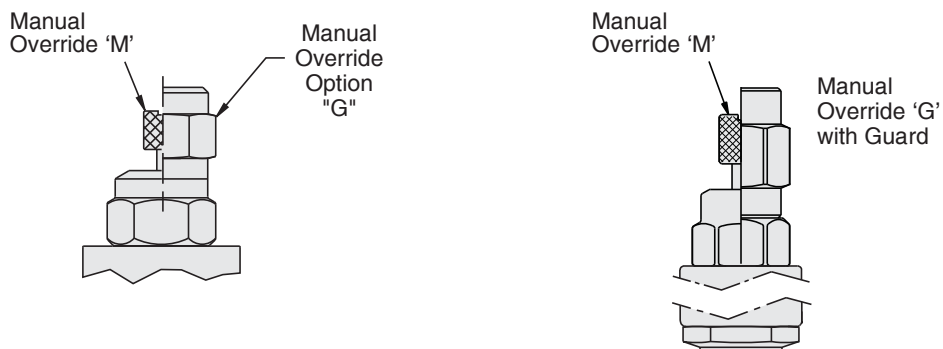
Note: The manual override feature is intended for emergency use, not for continuous-duty operation.



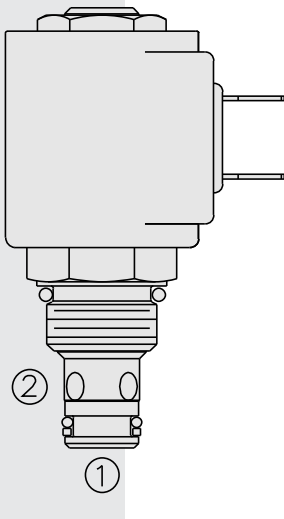
Manual Override “M” and “G” Options for PV and ZL Proportional Valves

Sizes: -23, -30, -31 (for -08 and -16 cavities), -30 (for -42 cavity), -20, -21, -30, -31, -33, -34, -35 (for -72 cavity)

Note: The manual override feature is intended for emergency use, not for continuous-duty operation.



SV08-20 Poppet, 2-Way, Normally Closed



DESCRIPTION

A solenoid-operated, 2-way, normally closed, piloted poppet-type, screw-in hydraulic cartridge valve, intended to act as a blocking or load-holding device for low flow circuits.

OPERATION

When de-energized, the **SV08-20** acts as a check valve, allowing flow from 1 to 2, while blocking flow from 2 to 1.

When energized, the cartridge's poppet lifts to open the 2 to 1 flow path. In this mode, flow from 1 to 2 is severely restricted. If this path is required, see model SV08-22, page 1.041.1.

Operation of Manual Override Option: To override, push button in, twist counter-clockwise 180°, and release. In this position, the valve will remain open.

To return to normal operation, push button in, twist clockwise 180°, and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated coil.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Industry common cavity.
- Compact size.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Proof Pressure: 255 bar (3700 psi)

Flow: See Performance Chart

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 40 msec. De-energized: 46 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC; 0.13 amps at 115 VAC (full wave rectified).
E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-2; See page 9.108.1

Cavity Tool: CT08-2XX; See page 8.600.1

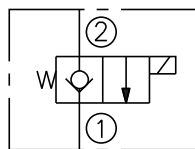
Seal Kit: SK08-2X-T; See page 8.650.1

Coil Nut: Part No. 7004400;

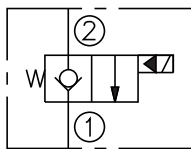
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SYMBOLS

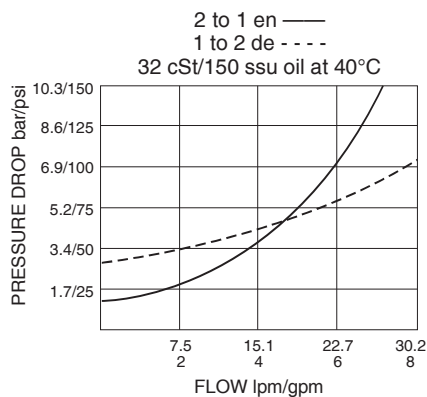
USASI:



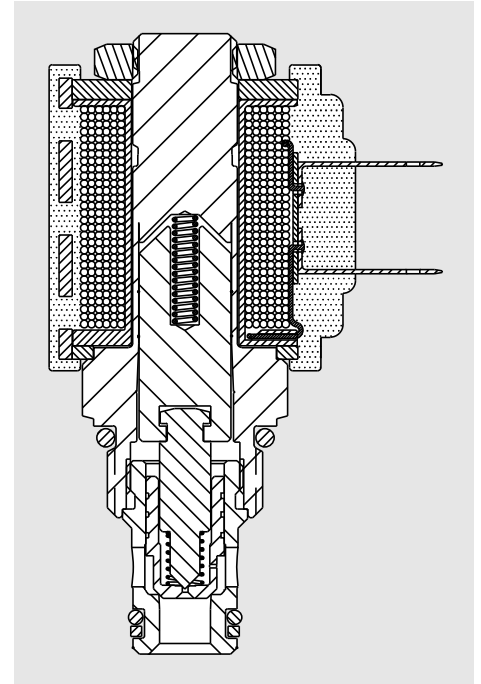
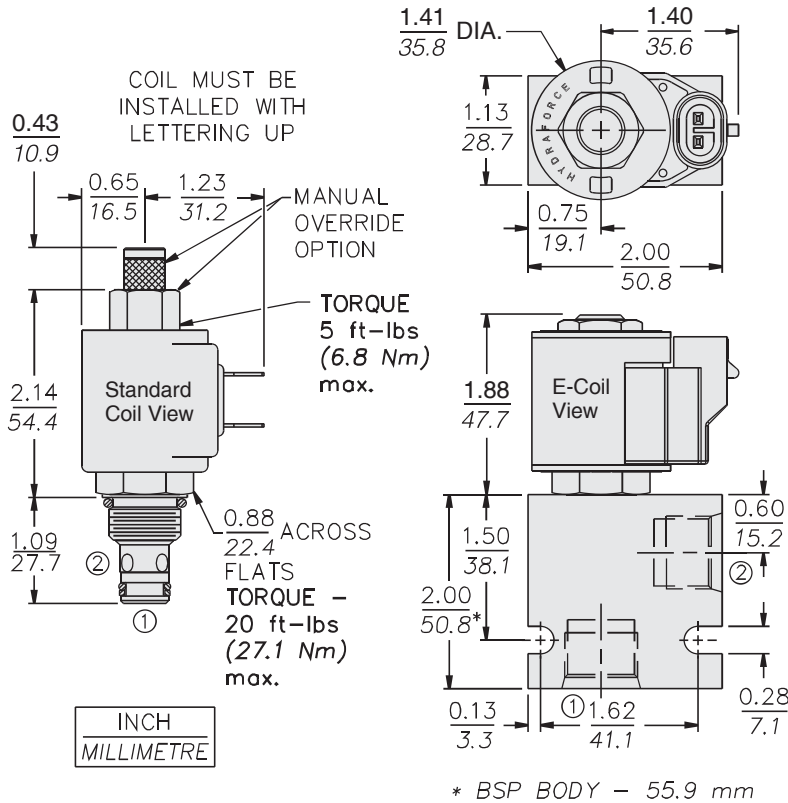
ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.09 kg. (0.20 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

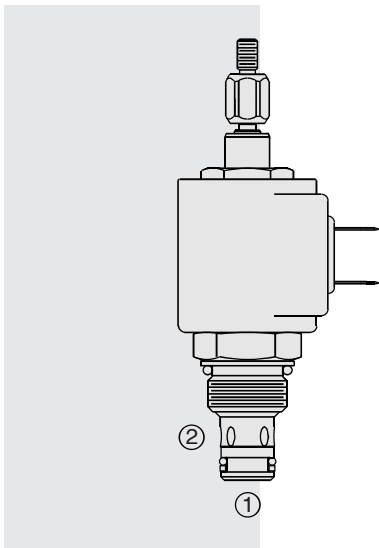
Note: See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV08-20		-	-	-	-	-
Option						
None (Blank)						
150µ Screen	S					
Manual Override	M					
Porting						
Cartridge Only	0					
SAE 4	4T					
SAE 6	6T					
1/4 in. BSP*	2B					
3/8 in. BSP*	3B					
*BSP Body; U.K. Mfr. Only						
Seals						
Buna N (Std.)	N					
Fluorocarbon	V					
Voltage						
Std. Coil						
0	Less Coil**					
10	10 VDC†					
12	12 VDC					
24	24 VDC					
36	36 VDC					
48	48 VDC					
24	24 VAC					
115	115 VAC					
230	230 VAC					
**Includes Std. Coil Nut						
† DS, DW or DL terminations only.						
Termination (VDC)						
Std. Coil						
DS	Dual Spades					
DG	DIN 43650					
DL	Leadwires (2)					
DL/W	Leads w/Weatherpak® Connectors					
DR	Deutsch DT04-2P					
Termination (VAC)						
Std. Coil						
AG	DIN 43650					
AP	1/2 in. Conduit					
Termination (VDC)						
E-Coil						
ER	Deutsch DT04-2P (IP69K Rated)					
EY	Metri-Pack® 150 (IP69K Rated)					

Coils with internal diode are available. Consult factory.

SV08-20J Poppet, 2-Way, Normally Closed,



DESCRIPTION

A solenoid-operated, 2-way, normally closed, poppet-type, screw-in hydraulic cartridge valve, with either “J” or “Y” type manual override standard. This valve is intended as a blocking or load holding device for low flow circuits having pull-only manual override requirements for handles or cable linkage.

OPERATION

When de-energized, the **SV08-20J/Y** acts as a check valve, allowing flow from 1 to 2, while blocking flow from 2 to 1.

When energized, the valve’s poppet lifts to open the 2 to 1 flow path, while flow from 1 to 2 is severely restricted.

Operation of Manual Override Option: To manually override, pull and hold the knurled knob. This override is not detented. The pull force required is approximately 24 lbs. The “J” option includes a male 10-32 thread for a cable attachment. If a cable is used, the internal valve spring may not provide enough force to overcome internal cable friction. An external means of returning the cable must be provided by the user.

FEATURES

- Continuous-duty rated coil.
- Hardened parts for long life.
- Optional coil voltages and terminations.
- Optional waterproof E-Coils rated up to IP69K.
- Manual override standard.
- Industry common cavity.
- Compact size.

RATINGS

Maximum Operating Pressure: 207 bar (3000 psi)

Proof Pressure: 255 bar (3700 psi)

Flow: See Performance Chart

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified);

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 40°C; Drop Out 5%

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-2; See page 9.108.1

Cavity Tool: CT08-2XX; See page 8.600.1

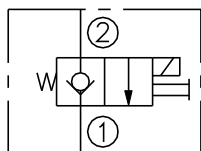
Seal Kit: SK08-2X-T; See page 8.650.1

Coil Nut: Part No. 7004400;

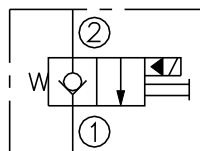
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SYMBOLS

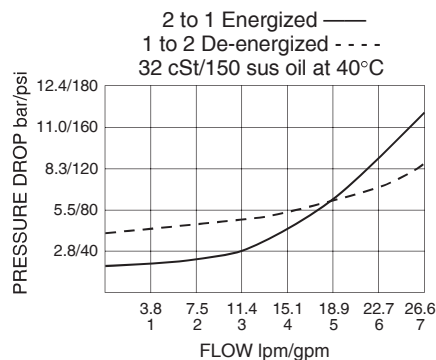
USASI:



ISO:



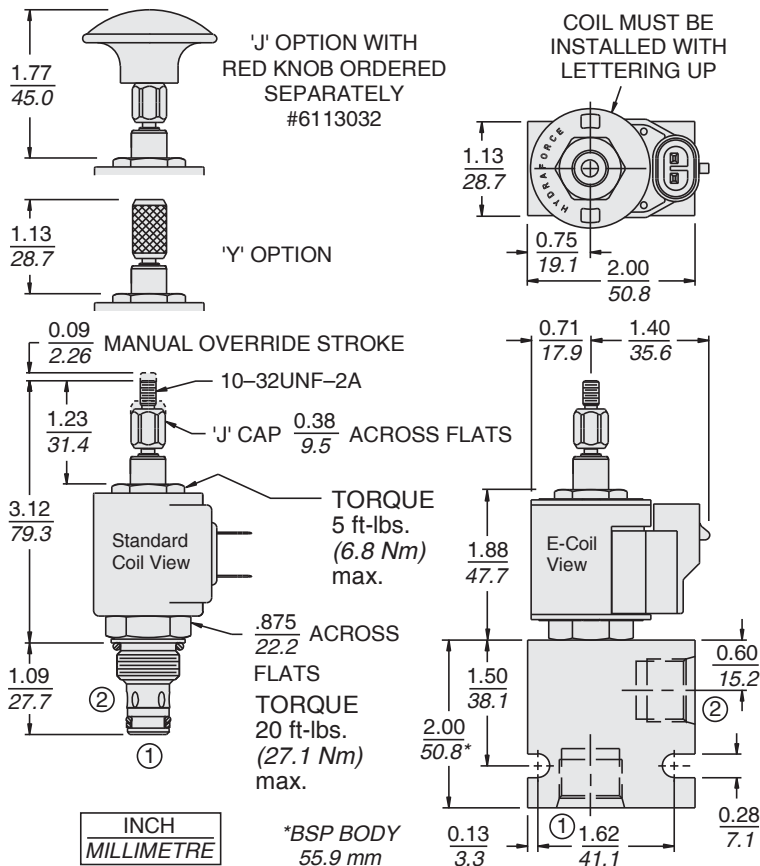
PERFORMANCE (Cartridge Only)



with Pull Only Manual Override

SV08-20J

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.15 kg. (0.33 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors.

Note: See page 3.400.1 for all E-Coil retrofit applications.

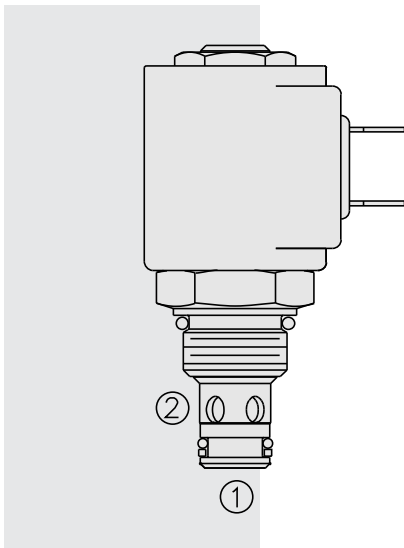
TO ORDER

SV08-20 J - - -			
Option		Voltage Std. Coil	Termination (VDC) Std. Coil
Cable Adapter J		0 Less Coil**	DS Dual Spades
Knurled Knob Y		10 10 VDC†	DG DIN 43650
		12 12 VDC	DL Leadwires (2)
		24 24 VDC	DL/W Leads w/Weatherpak® Connectors
Porting		36 36 VD	DR Deutsch DT04-2P
Cartridge Only 0		48 48 VDC	Termination (VAC) Std. Coil
SAE 4 4T		24 24 VAC	AG DIN 43650
SAE 6 6T		115 115 VAC	AP 1/2 in. Conduit
1/4 in. BSP* 2B		230 230 VAC	Termination (VDC) E-Coil
3/8 in. BSP* 3B			ER Deutsch DT04-2P (IP69K Rated)
*BSP Body; U.K. Mfr. Only			EY Metri-Pack® 150 (IP69K Rated)
Seals		E-Coil	
Buna N (Std.) N		10 10 VDC	
Fluorocarbon V		12 12 VDC	
		20 20 VDC	
		24 24 VDC	

**Includes Std. Coil Nut
 † DS, DW or DL terminations only

Coils with internal diode are available. Consult factory.

SF08-20 Poppet, 2-Way, N.C., High Pressure



DESCRIPTION

A solenoid-operated, 2-way, normally closed, piloted poppet-type, screw-in hydraulic cartridge valve, intended to act as a blocking or load-holding device for low flow circuits.

OPERATION

When de-energized, the SF08-20 acts as a check valve, allowing flow from 1 to 2, while blocking flow from 2 to 1.

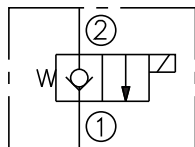
When energized, the cartridge's poppet lifts to open the 2 to 1 flow path. In this mode, flow from 1 to 2 is severely restricted. If this path is required, see model SF08-22, page 1.042.1.

FEATURES

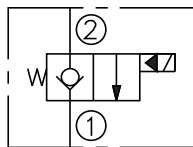
- Continuous-duty rated coil.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Optional waterproof E-Coils rated up to IP69K.
- Industry common cavity.
- Compact size.

SYMBOLS

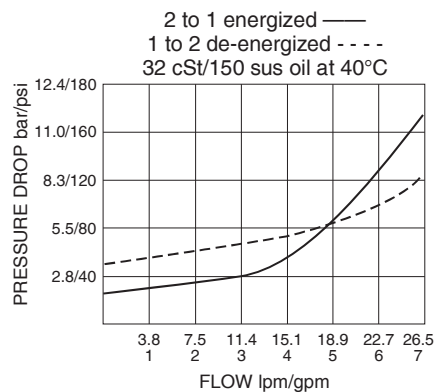
USASI:



ISO:



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 345 bar (5000 psi)

Flow: See Performance Chart

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 345 bar (5000 psi)

Temperature: -40 to 120°C with standard polyurethane seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC; 0.13 amps at 115 VAC (full wave rectified); E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 345 bar (5000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-2; See page 9.108.1

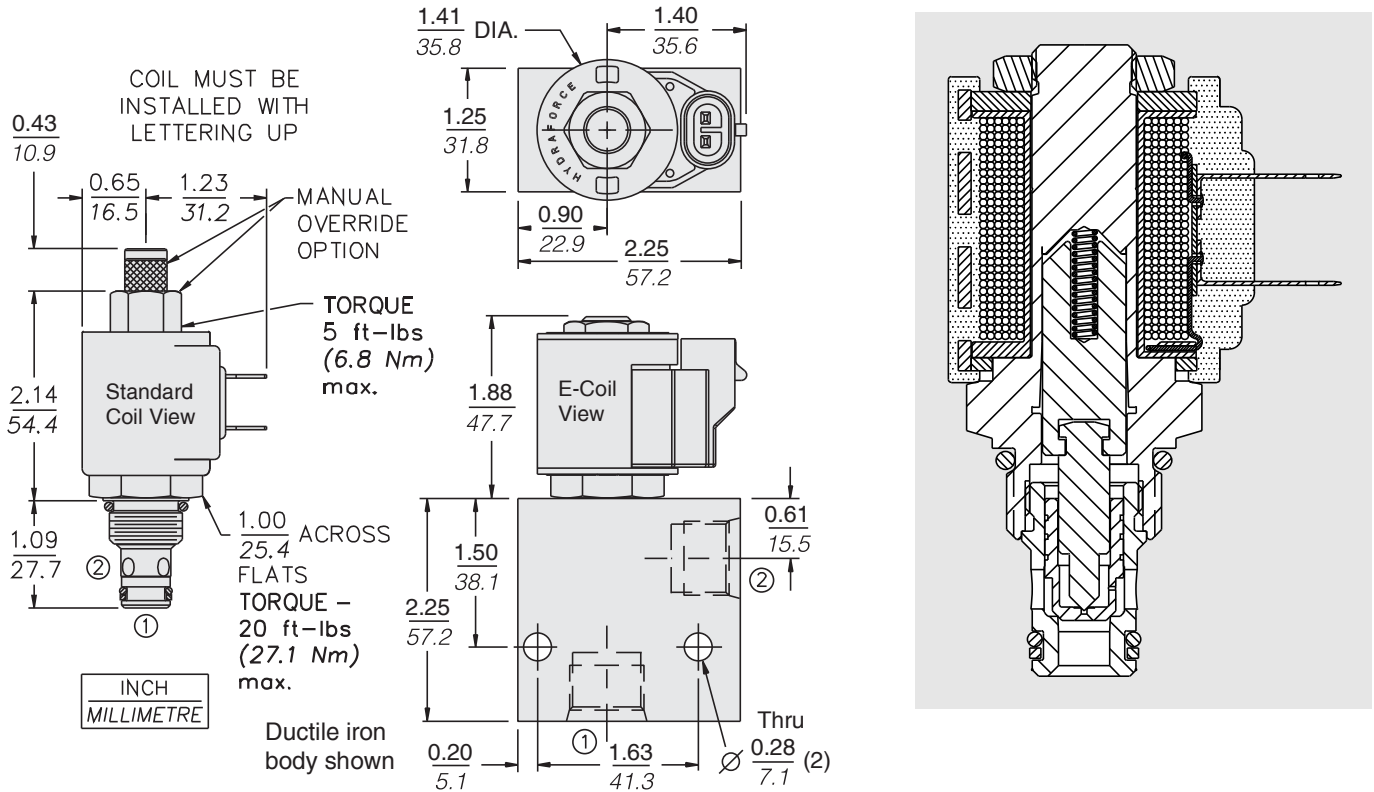
Cavity Tool: CT08-2XX; See page 8.600.1

Seal Kit: SK08-2P-T; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.09 kg. (0.20 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Polyurethane cast O-rings and Fluorocarbon back-up standard.

Ported Body: Weight: 0.54 kg. (1.2 lbs.); Ductile iron standard; rated to 345 bar (5000 psi); See page 8.008.1.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire; See page 3.200.1.

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors; **Note: See page 3.400.1 for all E-Coil retrofit applications.**

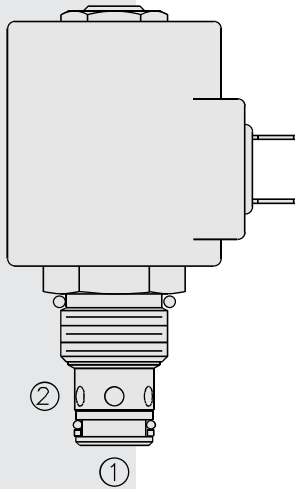
TO ORDER

SF08-20

Option	None (Blank)				
	Manual Override	M			
Porting	Cartridge Only	0			
	SAE 6	6TD			
	SAE 8	8TD			
	1/4 in. BSP*	2BD			
	3/8 in. BSP*	3BD			
	*BSP Body; U.K. Mfr. Only				
Seals	Polyurethane (Std.)	P			
Voltage Std. Coil	0	Less Coil**			
	10	10 VDC†			
	12	12 VDC			
	24	24 VDC			
	36	36 VDC			
	48	48 VDC			
	24	24 VAC			
	115	115 VAC			
	230	230 VAC			
	**Includes Std. Coil Nut				
	† DS, DW or DL terminations only				
Termination (VDC) Std. Coil	DS	Dual Spades			
	DG	DIN 43650			
	DL	Leadwires (2)			
	DL/W	Leads w/Weatherpak® Connectors			
	DR	Deutsch DT04-2P			
Termination (VAC) Std. Coil	AG	DIN 43650			
	AP	1/2 in. Conduit			
Termination (VDC) E-Coil	ER	Deutsch DT04-2P (IP69K Rated)			
	EY	Metri-Pack® 150 (IP69K Rated)			
E-Coil	10	10 VDC			
	12	12 VDC			
	20	20 VDC			
	24	24 VDC			

Coils with internal diode are available. Consult factory.

SV10-20 Poppet, 2-Way, Normally Closed



DESCRIPTION

A solenoid-operated, 2-way, normally closed, poppet-type, screw-in hydraulic cartridge valve, designed to function as a load holding or blocking valve in applications requiring low internal leakage.

OPERATION

When de-energized, the **SV10-20** acts as a check valve, allowing flow to pass from 1 to 2, while blocking flow in the reverse direction. With the sensor option, the neutral sensor will signal ON or HIGH.

When energized, the poppet lifts to open the 2 to 1 flow path. In this mode, flow from 1 to 2 is severely restricted. (If this path is required, see model SV10-22, page 1.044.1.) With the sensor option, the neutral sensor will signal LOW or OFF.

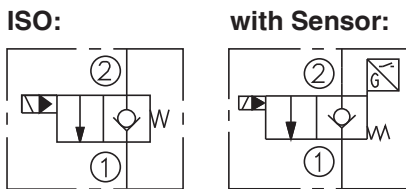
Operation of Manual Override Option: To override, push button in, twist counter-clockwise 180° and release. In this position, the valve will remain open.

To return to normal operation, push button in, twist clockwise 180° and release. Override will be detented in this position.

FEATURES

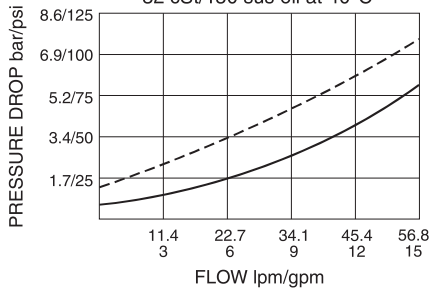
- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Manual override option.
- Unitized, molded coil design.
- Industry common cavity.

SYMBOLS

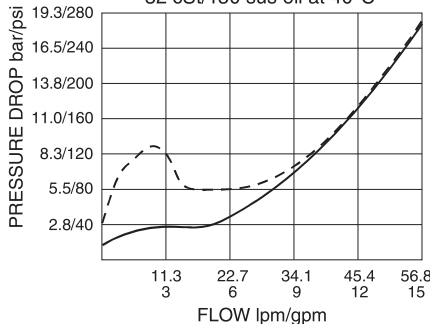


PERFORMANCE (Cartridge Only)

SV10-20 without Sensor
 2 to 1 energized ———
 1 to 2 de-energized - - - -
 32 cSt/150 sus oil at 40°C



SV10-20 with Sensor
 Port 2 to 1 Energized ———
 Port 1 to 2 De-energized - - - -
 32 cSt/150 sus oil at 40°C



RATINGS

Operating Pressure: 241 bar (3500 psi)

Proof Pressure: 345 bar (5000 psi)

Flow: Up to 56.8 lpm (15 gpm); see performance chart

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 207 bar (3000 psi)

Temperature: -40 to 100°C (-40° to 212°F) with standard Buna N seals
 -26 to 204°C (-15°F to 400°F) with Fluorocarbon seals
 Sensor Option: -40°C to 110°C (-40°F to 230°F)

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 40 msec.; De-energized: 32 msec.
 Response Time with Sensor: 53 ms pull-in, 110 ms drop-out

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;
 0.18 amps at 115 VAC (full wave rectified).
 E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

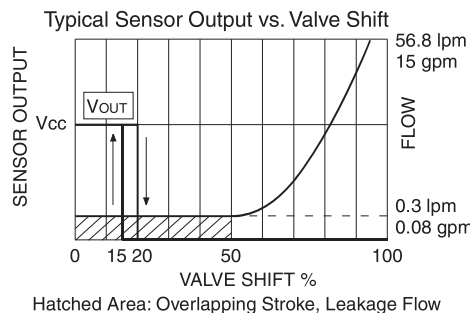
Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

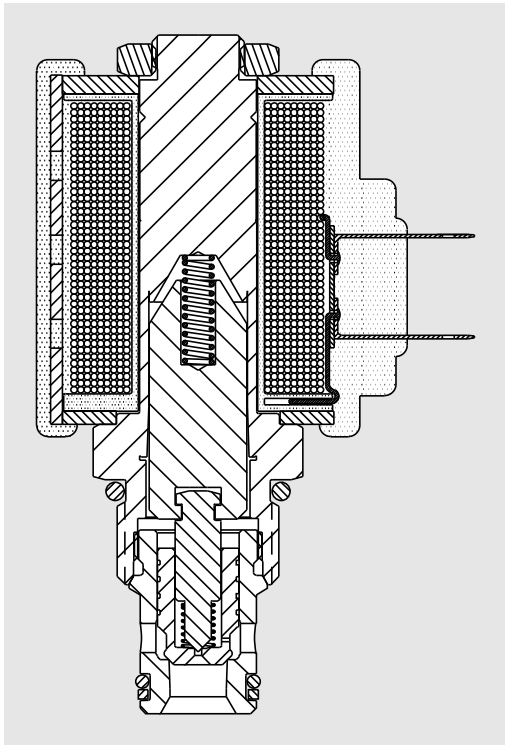
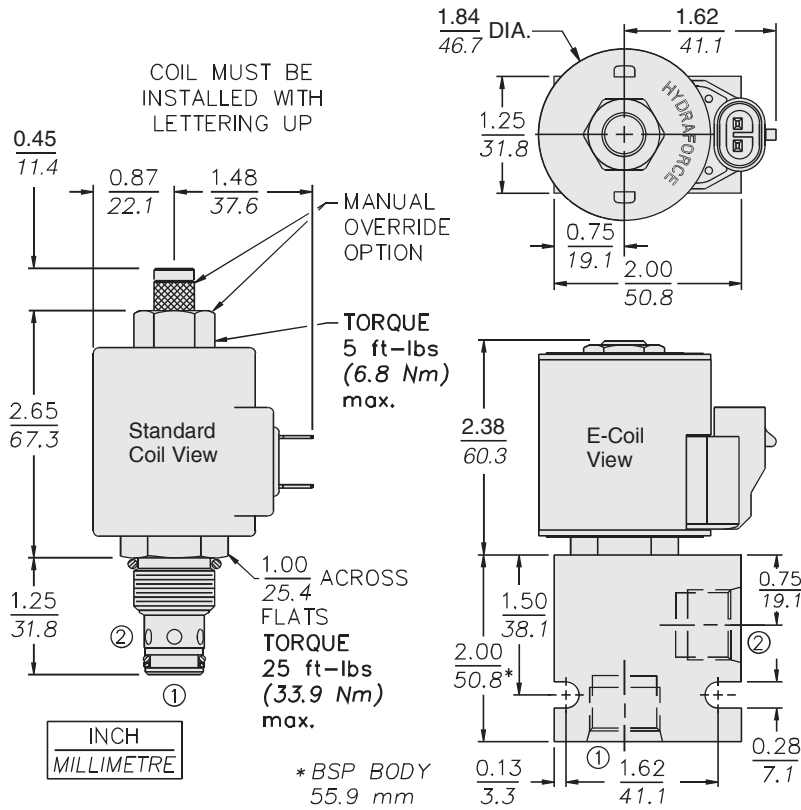
Cavity: VC10-2; See page 9.110.1; **Cavity Tool:** CT10-2XX; See page 8.600.1

Seal Kit: SK10-2X-T; See page 8.650.1

Coil Nut: Part No. 7004400



DIMENSIONS



Dimensions will differ significantly with Sensor Option; see page 3.010.1.

MATERIALS

Cartridge: Weight: 0.16 kg. (0.35 lbs.); Weight with Sensor option: 0.45 kg. (1.0 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1.

D-Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1.

TO ORDER

SV10-(P)20(A)

With sensor option, use model code SV10-P20A . . . See page 3.010.1
Without sensor option, use model code SV10-20 . . .

Option

None (Blank)	
Screen	S
Manual Override	M
Manual Override	Y
Manual Override	J

Porting

Cartridge Only	0
SAE 6	6T
SAE 8	8T
1/4 in. BSP*	2B
3/8 in. BSP*	3B
1/2 in. BSP*	4B

*BSP Body; U.K. Mfr. Only

Voltage Std. Coil

0	Less Coil**
10	10 VDC†
12	12 VDC
24	24 VDC
36	36 VDC
48	48 VDC
24	24 VAC
115	115 VAC
230	230 VAC

**Includes D-Coil Nut

† DS, DW or DL terminations only
E-Coils: 10,12,20 or 24 VDC only.

Seals

N	Buna N (Std.)
V	Fluorocarbon

- Sensor Option: See page 3.010.1

3 **Sensor Type**
Dual Output, N.C./N.O.

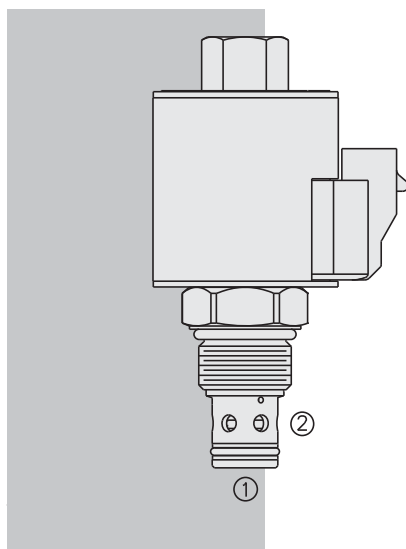
Sensor/Connector
N Neutral Sense/DT04-4P
M Neutral Sense/M12-4P

Mating Connectors:
DT06-4S: Part No. 4001953
M12-4S: available at www.turck.com or www.binder-usa.com

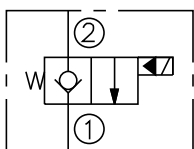
Coil Termination	E-Coil	D-Coil
Deutsch DT04-2P	ER (IP69K)	DR (IP65)
Metri-Pack® 150	EY (IP69K)	DY (IP65)
Dual Lead Wires	EL (IP69K)	DL (IP65)
Amp Jr. Timer	EJ (IP67)	—
DIN 43650	EG (IP65)	DG (IP65)
Dual Spades	—	DS (IP65)

For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1

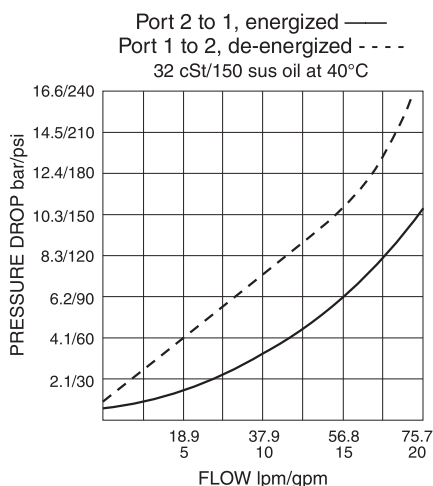
HSV10-20 HyPerformance™ Poppet, 2-Way, N.C.



ISO SYMBOL



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, 2-way, normally closed, poppet-type, screw-in hydraulic cartridge valve, designed to function as a load holding or blocking valve in high pressure applications requiring low internal leakage.

OPERATION

When de-energized, the HSV10-20 acts as a check valve, allowing flow to pass from 1 to 2 while blocking flow in the reverse direction

When energized, the valve's poppet lifts to open the 2 to 1 flow path. In this mode, flow from 1 to 2 is severely restricted.

Operation of Manual Override Option: For normal operation (de-energized) the manual override pin must be seated in the lower detent groove. To shift the valve manually, the operator pushes down on the knob and rotates 180° in either direction. When the manual override is actuated, increased flow can be achieved by pulling on the knob.

FEATURES

- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Waterproof E-Coils rated up to IP69K.
- 1000-hour salt-spray rated solenoid tubes and coils.
- Unitized, molded coil design.
- All HyPerformance products are tested to the rigorous standards of the NFPA specification T2.6.1.
- All HyPerformance valves are tested at a verification level of 90% and an assurance of 99%.

RATINGS

Operating Pressure: 350 bar (5075 psi); 10% Cycle Life: 420 bar (6090 psi)

Note: All HyPerformance products are tested for 900K cycles at 350 bar and 100K cycles at 420 bar.

Burst Pressure: 1380 bar (20,000 psi)

Flow: Up to 75.7 lpm (20 gpm)

Internal Leakage: 0.25 cc/minute (5 drops/minute) max. with 350 bar (5075 psi) at port 2.

Temperature: -54° to 107°C (-65° to 225°F) with Urethane seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 40 msec.; De-energized: 32 msec.

Initial Coil Current Draw at 20°C: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

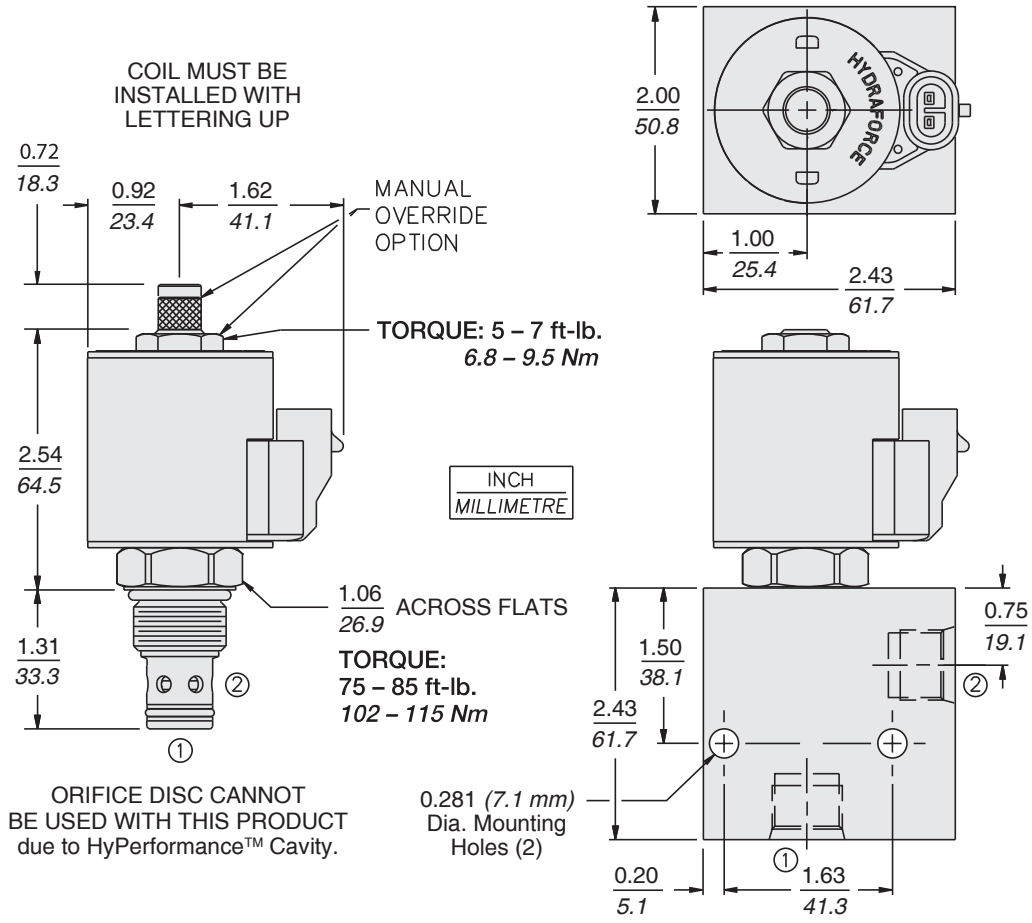
Cavity: HVC10-2; See page 9.110.1

Cavity Tool: HCT10-2xx; See page 8.600.1

Seal Kit: SK10-2U-O; See page 8.650.1

Coil Nut: Part No. 4553800

DIMENSIONS



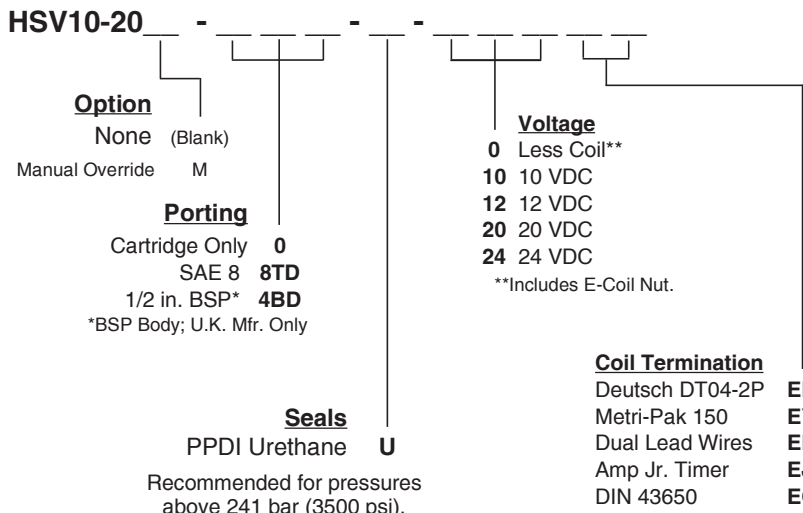
MATERIALS

Cartridge: Weight: 0.19 kg. (0.41 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Urethane seals without back-up standard.

Ported Body: Weight: 1.19 kg. (2.62 lbs.); HyPerformance™ Ductile iron (code 'D') standard. Rated to 345 bar (5000 psi).

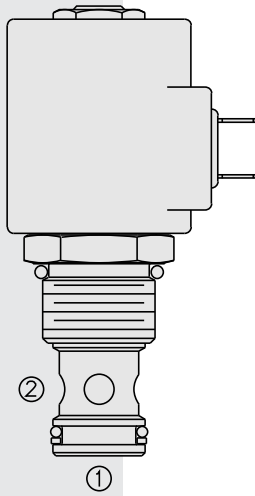
E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1.

TO ORDER



For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on page 3.400.1

SV12-20 Poppet, 2-Way, Normally Closed



DESCRIPTION

A solenoid-operated, 2-way, normally closed, poppet-type, screw-in hydraulic cartridge valve, designed to function as a load holding or blocking valve in applications requiring low internal leakage.

OPERATION

When de-energized, the **SV12-20** acts as a check valve, allowing flow to pass from 1 to 2, while blocking flow in the reverse direction.

When energized, the poppet lifts to open the 2 to 1 flow path. In this mode, flow from 1 to 2 is severely restricted. If this path is required, see model SV12-22, page 1.045.1.

Operation of Manual Override Option: To override, push button in, twist counter-clockwise 180° and release. In this position, the valve will remain open.

To return to normal operation, push button in, twist clockwise 180° and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Cost effective cavity.

RATINGS

Operating Pressure: 240 bar (3500 psi)

Proof Pressure: 345 bar (5000 psi)

Flow: See Performance Chart

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 240 bar (3500 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 40 msec.; De-energized: 80 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC; 0.18 amps at 115 VAC (full wave rectified); E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC12-2; See page 9.112.1

Cavity Tool: CT12-2XX; See page 8.600.1

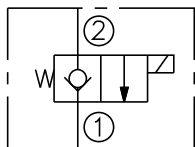
Seal Kit: SK12-2X-T; See page 8.650.1

Coil Nut: Part No: 7004400;

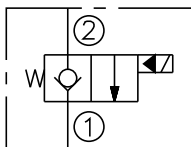
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SYMBOLS

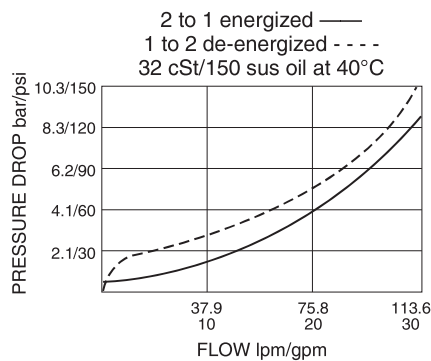
USASI:



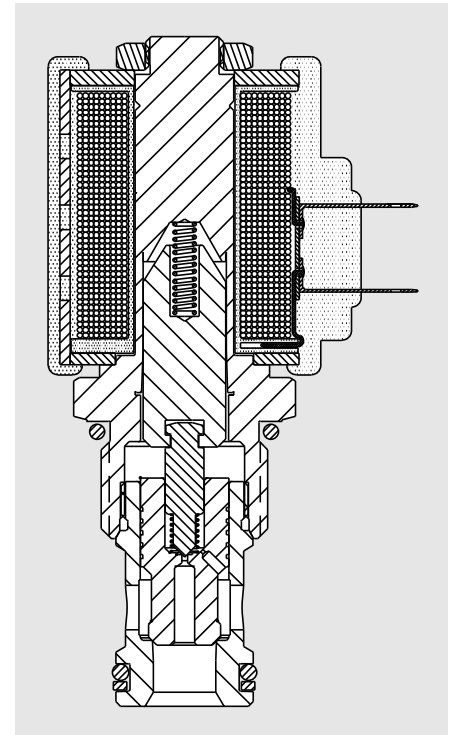
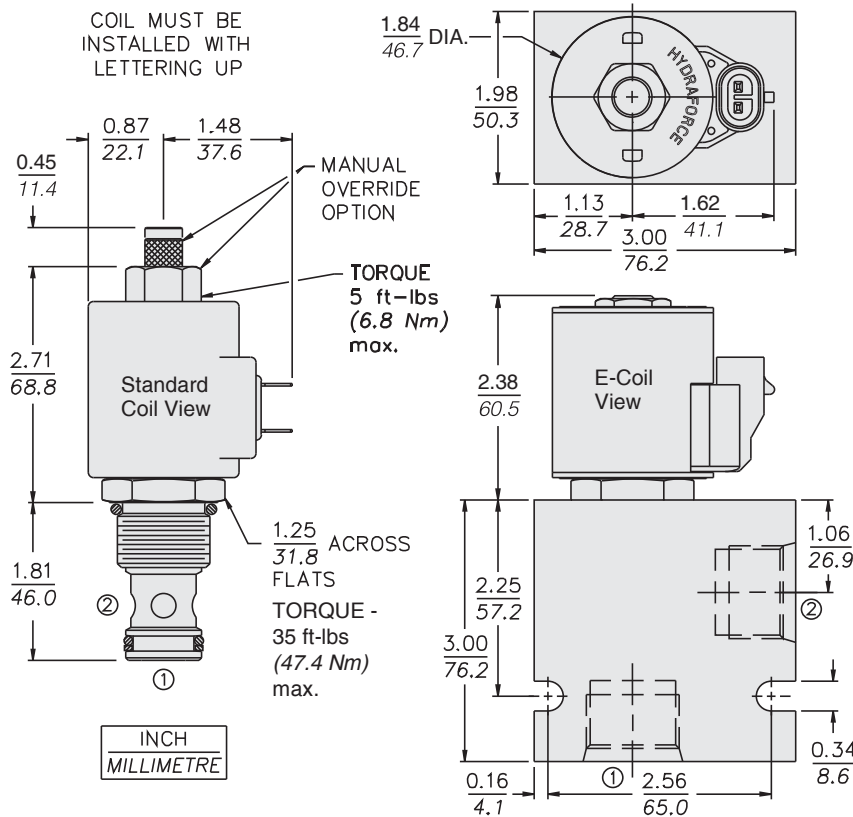
ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.25 kg. (0.55 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.57 kg. (1.25 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.012.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire; See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors.

Note: See page 3.400.1 for all E-Coil retrofit applications.

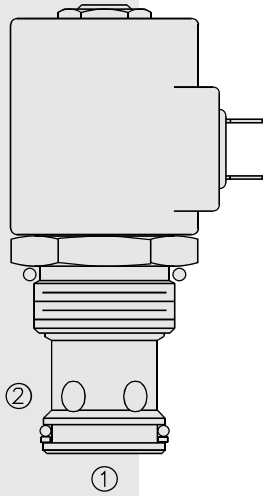
TO ORDER

SV12-20			
Option		Voltage	Termination (VDC)
None (Blank)		Std. Coil	Std. Coil
Manual Override M		0 Less Coil**	DS Dual Spades
Manual Override Y		10 10 VDC†	DG DIN 43650
Manual Override J		12 12 VDC	DL Leadwires (2)
For Manual Override options see page 1.001.1		24 24 VDC	DL/W Leads w/Weatherpak® Connectors
		36 36 VDC	DR Deutsch DT04-2P
		48 48 VDC	
Porting		24 24 VAC	Termination (VAC)
Cartridge Only 0		115 115 VAC	Std. Coil
SAE 10 10T		230 230 VAC	AG DIN 43650
SAE 12 12T			AP 1/2 in. Conduit
SAE 16 16T			Termination (VDC)
3/4 in. BSP* 6B			E-Coil
1 in. BSP* 8B			ER Deutsch DT04-2P (IP69K Rated)
*BSP Body; U.K. Mfr. Only		E-Coil	EY Metri-Pack® 150 (IP69K Rated)
Seals		10 10 VDC	
Buna N (Std.) N		12 12 VDC	
Fluorocarbon V		20 20 VDC	
		24 24 VDC	

**Includes Std. Coil Nut
†DS, DW or DL terminations only.

Coils with internal diode are available. Consult factory.

SV16-20 Poppet, 2-Way, Normally Closed



DESCRIPTION

A solenoid-operated, 2-way, normally closed, poppet-type, screw-in hydraulic cartridge valve, designed to function as a load holding or blocking valve in applications requiring low internal leakage.

OPERATION

When de-energized, the **SV16-20** acts as a check valve, allowing flow to pass from 1 to 2, while blocking flow in the reverse direction.

When energized, the poppet lifts to open the 2 to 1 flow path. In this mode, flow from 1 to 2 is severely restricted. If this path is required, see model SV16-22, page 1.046.1.

Operation of Manual Override Option: To override, push button in, twist counter-clockwise 180° and release. In this position, the valve will remain open.

To return to normal operation, push button in, twist clockwise 180° and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Industry common cavity.

RATINGS

Operating Pressure: 241 bar (3500 psi)

Proof Pressure: 350 bar (5075 psi)

Flow: See Performance Chart

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;

0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC16-2; See page 9.116.1

Cavity Tool: CT16-2XX; See page 8.600.1

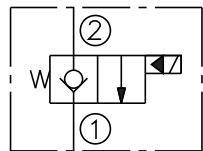
Seal Kit: SK16-2X-T; See page 8.650.1

Coil Nut: Part No. 7004400;

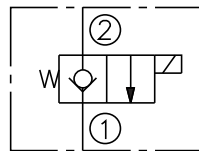
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SYMBOLS

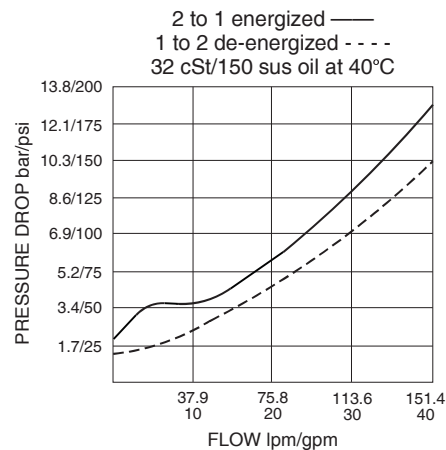
USASI:



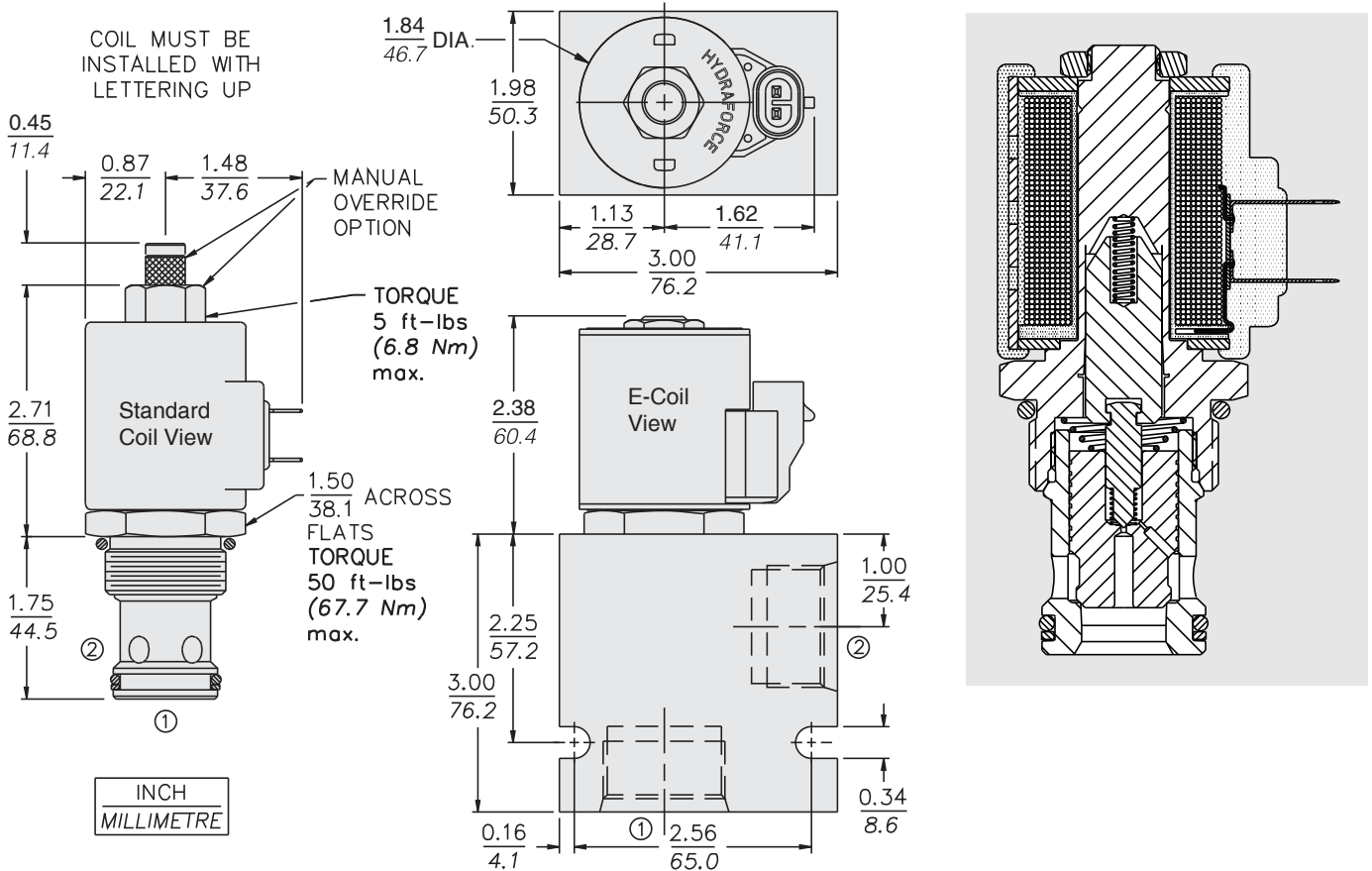
ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.31 kg. (0.69 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.57 kg. (1.25 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.016.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors.

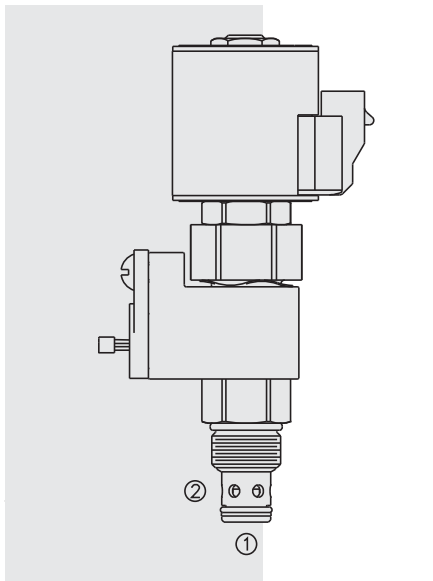
Note: See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

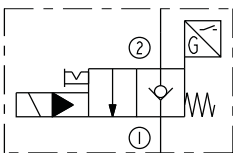
SV16-20

<p>Option</p> <p>None (Blank)</p> <p>Manual Override M</p> <p>Manual Override Y</p> <p>Manual Override J</p> <p>For Manual Override options see page 1.001.1</p> <p>Porting</p> <p>Cartridge Only 0</p> <p>SAE 12 12T</p> <p>SAE 16 16T</p> <p>3/4 in. BSP* 6B</p> <p>1 in. BSP* 8B</p> <p>*BSP Body; U.K. Mfr. Only</p> <p>Seals</p> <p>Buna N (Std.) N</p> <p>Fluorocarbon V</p>	<p>Voltage</p> <p>Std. Coil</p> <p>0 Less Coil**</p> <p>10 10 VDC†</p> <p>12 12 VDC</p> <p>24 24 VDC</p> <p>36 36 VDC</p> <p>48 48 VDC</p> <p>24 24 VAC</p> <p>115 115 VAC</p> <p>230 230 VAC</p> <p>**Includes Std. Coil Nut</p> <p>† DS, DW or DL terminations only.</p> <p>E-Coil</p> <p>10 10 VDC</p> <p>12 12 VDC</p> <p>20 20 VDC</p> <p>24 24 VDC</p>	<p>Termination (VDC)</p> <p>Std. Coil</p> <p>DS Dual Spades</p> <p>DG DIN 43650</p> <p>DL Leadwires (2)</p> <p>DL/W Leads w/Weatherpak® Connectors</p> <p>DR Deutsch DT04-2P</p> <p>Termination (VAC)</p> <p>Std. Coil</p> <p>AG DIN 43650</p> <p>AP 1/2 in. Conduit</p> <p>Termination (VDC)</p> <p>E-Coil</p> <p>ER Deutsch DT04-2P (IP69K Rated)</p> <p>EY Metri-Pack® 150 (IP69K Rated)</p> <p>Coils with internal diode are available. Consult factory.</p>
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SV58-P20A Poppet, 2-Way, Normally Closed

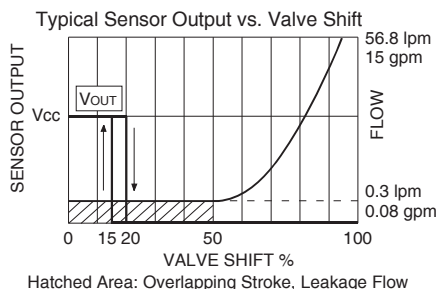
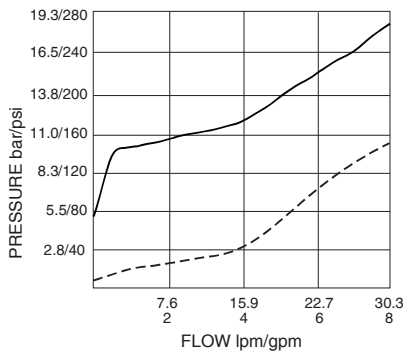


SYMBOL



PERFORMANCE (Cartridge Only)

SV58-P20A with Sensor
 1 to 2 de-energized ———
 2 to 1 energized - - - -
 32 cSt/150 sus oil at 40°C



DESCRIPTION

A solenoid-operated, 2-way, normally closed, poppet-type, screw-in hydraulic cartridge valve with integral neutral sensor, designed to function as a load holding or blocking valve in applications requiring low internal leakage.

OPERATION

When de-energized, the **SV58-P20A** acts as a check valve, allowing flow from 1 to 2, while blocking flow in the reverse direction. The neutral sensor will transmit an “Off” signal. When energized, the poppet lifts to open the 2 to 1 flow path. In this mode, flow from 1 to 2 is severely restricted. The neutral sensor will transmit an “On” signal.

FEATURES

- Continuous-duty rated solenoids with optional coil voltages and terminations.
- Hardened seat for long life and low leakage.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Integral position sensor, EMI/RFI CE-rated.
- Unitized, molded coil design — optional waterproof E-Coils rated up to IP69K.
- Industry common cavity.

RATINGS

Operating Pressure: 345 bar (5000 psi) **Proof Pressure:** 483 bar (7000 psi)

Burst Pressure: 634 bar (9200 psi)

Flow: up to 18.9 lpm (5 gpm), see Performance Chart

Internal Leakage: In Neutral: 0.15 cc/min. (5 drops/min.) max. at 345 bar (5000 psi)

Typical Flow (Leakage) in Transition: 0.3 lpm (0.8 gpm) at 345 bar (5000 psi); see Flow vs. Valve Shift graph.

Temperature: -54°C to 107°C (-65°F to 225°F) with Polyurethane seals;

Position Sensor Specifications:

Supply Voltage (Vcc): +4.5 to +28 VDC

Output Voltage with target present (Vcc)

Output Clamp Current: 40 mA Min to 65 mA Max for Vcc up to 28 VDC.

Connector: Deutsch DT04-3P, Pin A = white, Pin B = red; Pin C black wire.

IP Rating: 67

Vibration: 10 Gs 10 to 2000 Hz sinusoidal

Mechanical Shock: 50 Gs, 11 ms half-sinusoidal

ESD: Nondestructive, ± n15 KV air discharge

EMI: 20 MHz to 1 GHz; up to 100 V/m

Temperature with Sensor Option: -40°C to 110°C (-40°F to 230°F)

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Pull-In Response Time: 57 ms (first indication of change when 100% voltage is applied to the coil)

Drop-Out Response Time: 152 ms (first indication of change when voltage goes to zero)

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;

0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-2; See page 9.108.1;

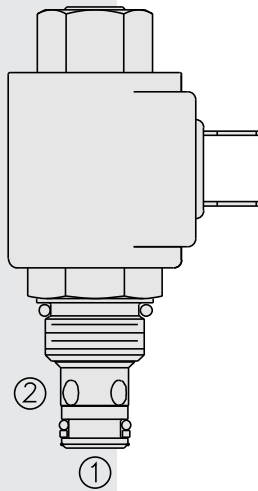
Cavity Tool: CT08-2XX; See page 8.600.1

Seal Kit: SK08-2P-T; See page 8.650.1

Coil Nut: Part No. 7004400

Position Sensor Ratings: See Sensor Option page 3.010.1

SV08-21 Poppet, 2-Way, Normally Open



DESCRIPTION

A solenoid-operated, 2-way, piloted, poppet-type, normally open, screw-in, hydraulic cartridge valve designed for low leakage in load-holding applications.

OPERATION

When de-energized, the **SV08-21** allows flow from 2 to 1. Flow from 1 to 2 is severely restricted in this mode. If the 2 to 1 path is required see model SV08-23, page 1.050.1.

When energized, the valve's poppet closes on its seat, blocking flow from 2 to 1. In this mode the cartridge will allow 1 to 2 flow after overcoming the solenoid force (requires 3.4 to 10.3 bar / 50 to 150 psi).

Operation of Manual Override Option: To override, push and hold override button.

FEATURES

- Continuous-duty rated coil.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Industry common cavity.
- Compact size.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: See Performance Chart

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 50 msec.; De-energized: 16 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC; 0.13 amps at 115 VAC (full wave rectified).
E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-2; See page 9.108.1

Cavity Tool: CT08-2XX; See page 8.600.1

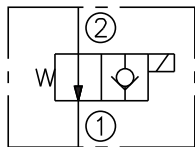
Seal Kit: SK08-2X-T; See page 8.650.1

Coil Nut: Part No. 7004410;

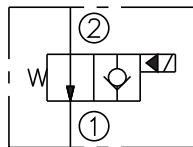
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SYMBOLS

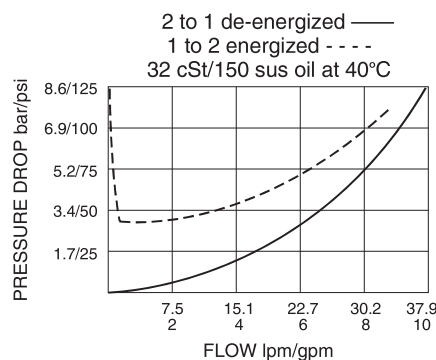
USASI:



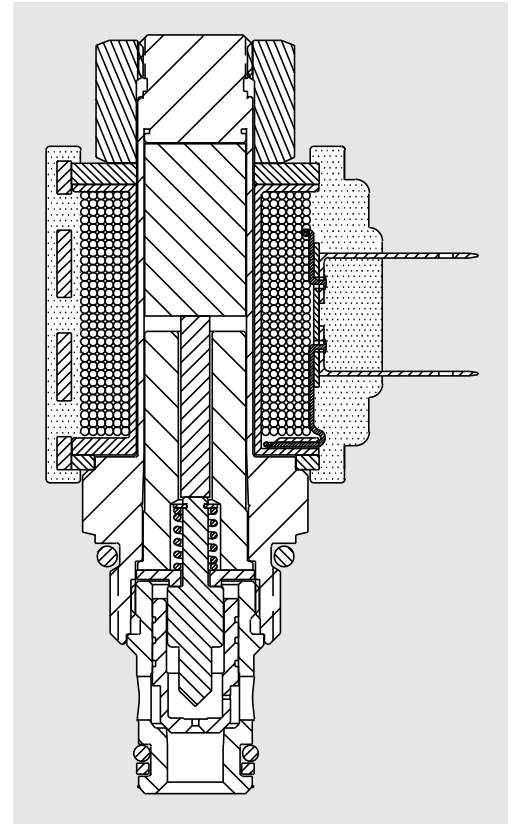
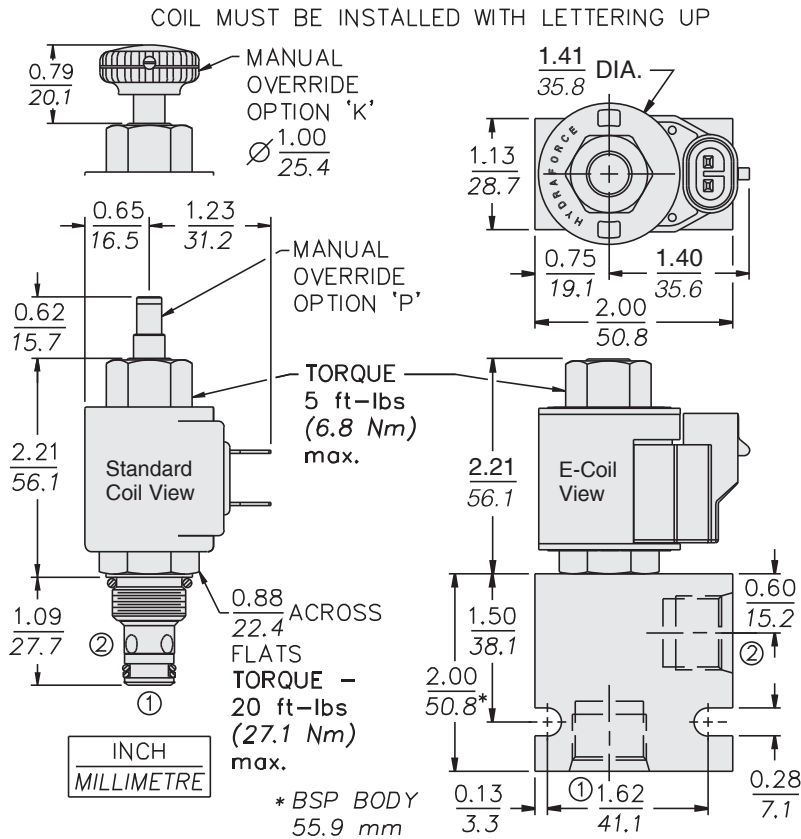
ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.09 kg. (0.20 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and back-up standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.008.1

Standard Coil: Weight: 0.11 kg. (0.25 lbs.) Unitized thermoplastic encapsulated, Class H high temperature magnetwire; See page 3.200.1

E-Coil: Weight: 0.14 kg. (0.3 lbs.) Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. **Note: See page 3.400.1 for all E-Coil retrofit applications.**

TO ORDER

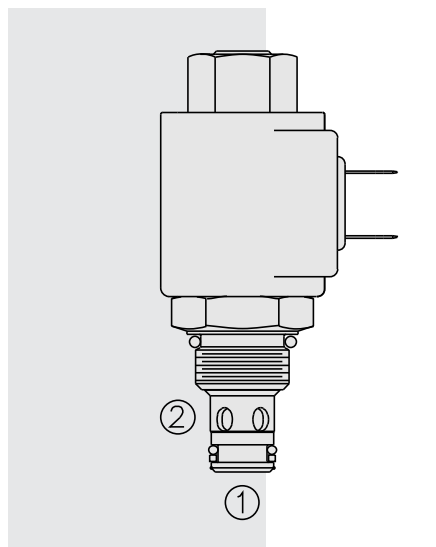
SV08-21 - - - - -

Option	Voltage	Termination (VDC)
None (Blank)	Std. Coil	Std. Coil
Manual Override without Knob P	0 Less Coil**	DS Dual Spades
Manual Override with Knob K	10 10 VDC†	DG DIN 43650
	12 12 VDC	DL Leadwires (2)
	24 24 VDC	DL/W Leads w/Weatherpak® Connectors
	36 36 VDC	DR Deutsch DT04-2P
	48 48 VDC	
Porting	24 24 VAC	Termination (VAC)
Cartridge Only 0	115 115 VAC	Std. Coil
SAE 4 4T	230 230 VAC	AG DIN 43650
SAE 6 6T		AP 1/2 in. Conduit
1/4 in. BSP* 2B		Termination (VDC)
3/8 in. BSP* 3B		E-Coil
*BSP Body; U.K. Mfr. Only		ER Deutsch DT04-2P (IP69K Rated)
	E-Coil	EY Metri-Pack® 150 (IP69K Rated)
Seals	10 10 VDC	
Buna N (Std.) N	12 12 VDC	
Fluorocarbon V	20 20 VDC	
Polyurethane P	24 24 VDC	

**Includes Std. Coil Nut
† DS, DW or DL terminations only.

Coils with internal diode are available. Consult factory.

SF08-21 Poppet, 2-Way, N.O., High Pressure



DESCRIPTION

A solenoid-operated, 2-way, piloted, poppet-type, normally open, screw-in, hydraulic cartridge valve designed for low leakage in higher pressure load-holding applications.

OPERATION

When de-energized, the SF08-21 allows flow from 2 to 1. Flow from 1 to 2 is severely restricted in this mode. If the 2 to 1 path is required see model SF08-23, page 1.051.1.

When energized, the valve's poppet closes on its seat, blocking flow from 2 to 1. In this mode the cartridge will allow 1 to 2 flow after overcoming the solenoid force (requires 3.4 to 10.3 bar / 50 to 150 psi).

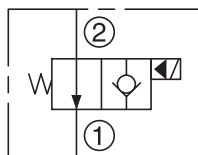
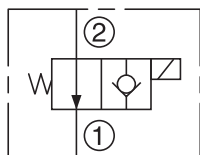
FEATURES

- Continuous-duty rated coil.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Optional waterproof E-Coils rated up to IP69K.
- Industry common cavity.
- Compact size.

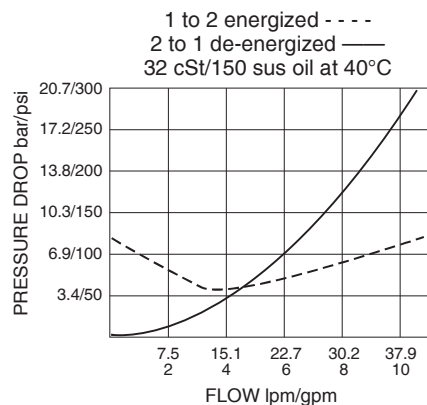
SYMBOLS

USASI:

ISO:



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 345 bar (5000 psi)

Flow: See Performance Chart

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 345 bar (5000 psi)

Temperature: -40 to 120°C with standard polyurethane seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 39 msec.; De-energized: 35 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;

0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 345 bar (5000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-2; See page 9.108.1

Cavity Tool: CT08-2XX; See page 8.600.1

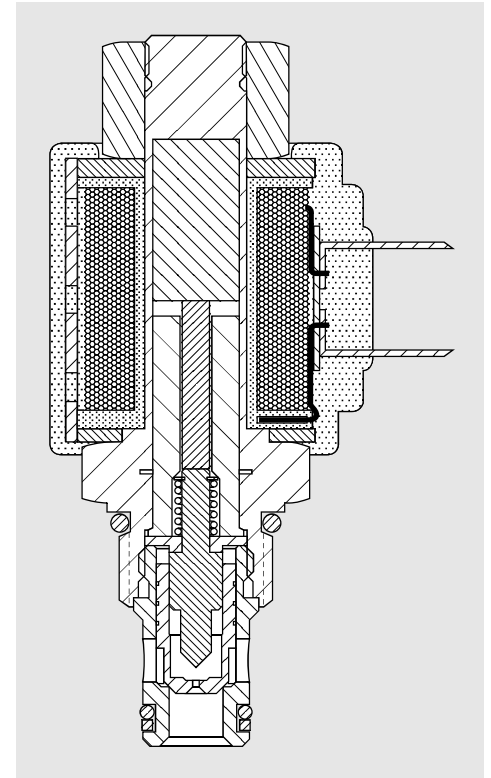
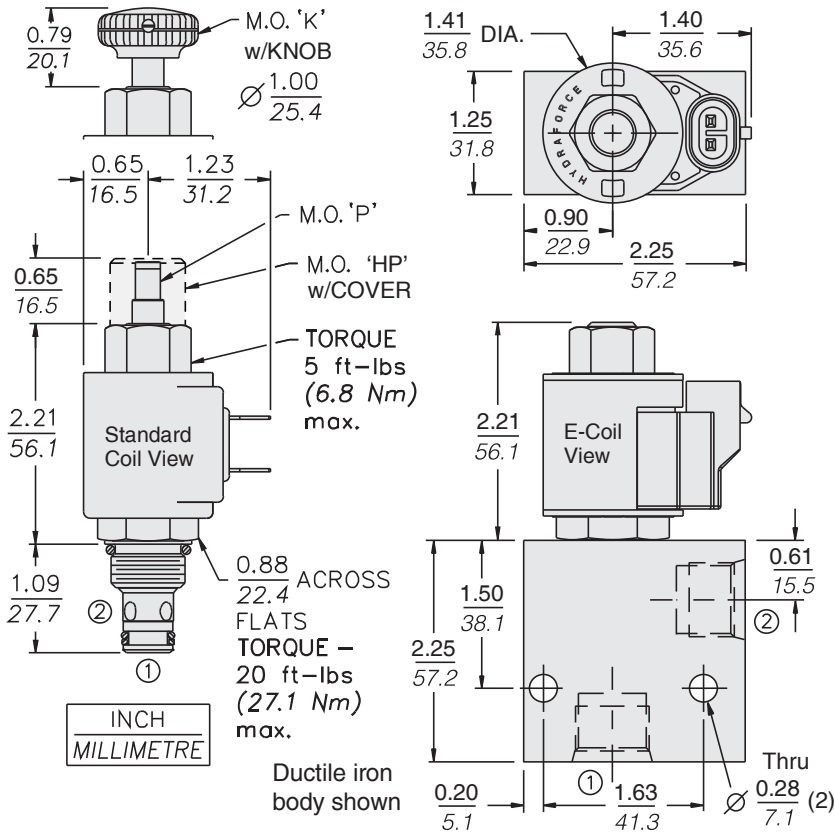
Seal Kit: SK08-2X-T; See page 8.650.1

Coil Nut: Part No. 7004410;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS

COIL MUST BE INSTALLED WITH LETTERING UP



MATERIALS

Cartridge: Weight: 0.09 kg. (0.20 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Polyurethane cast O-rings and Fluorocarbon back-up standard.

Ported Body: Weight: 0.54 kg. (1.2 lbs.); Ductile iron standard; rated to 345 bar (5000 psi); See page 8.008.1.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire; See page 3.200.1.

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors; **Note: See page 3.400.1 for all E-Coil retrofit applications.**

TO ORDER

SF08-21

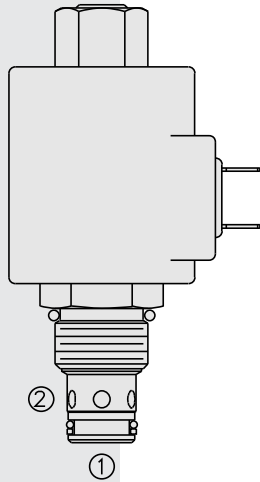
Option		Voltage Std. Coil	Termination (VDC) Std. Coil
None (Blank)		0 Less Coil**	DS Dual Spades
Manual Override	P	10 10 VDC†	DG DIN 43650
Manual Override with Cover	HP	12 12 VDC	DL Leadwires (2)
Manual Override with Knob	K	24 24 VDC	DL/W Leads w/Weatherpak® Connectors
		36 36 VDC	DR Deutsch DT04-2P
		48 48 VDC	Termination (VAC) Std. Coil
		24 24 VAC	AG DIN 43650
		115 115 VAC	AP 1/2 in. Conduit
		230 230 VAC	Termination (VDC) E-Coil
Porting			ER Deutsch DT04-2P (IP69K Rated)
Cartridge Only	0		EY Metri-Pack® 150 (IP69K Rated)
SAE 6	6TD	E-Coil	
SAE 8	8TD	10 10 VDC	
1/4 in. BSP*	2BD	12 12 VDC	
3/8 in. BSP*	3BD	20 20 VDC	
*BSP Body; U.K. Mfr. Only		24 24 VDC	
Seals			
Polyurethane (Std.)	P		

**Includes Std. Coil Nut

† DS, DW or DL terminations only

Coils with internal diode are available. Consult factory.

SV10-21 Poppet, 2-Way, Normally Open



DESCRIPTION

A solenoid-operated, 2-way, piloted, poppet-type, normally open, screw-in, hydraulic cartridge valve designed for low leakage in load-holding applications.

OPERATION

When de-energized, the **SV10-21** allows flow from 2 to 1. Flow from 1 to 2 is severely restricted in this mode. If the 1 to 2 path is required, see model SV10-23, page 1.053.1.

When energized, the valve's poppet closes on its seat, blocking flow in the 2 to 1 direction. In this mode the cartridge will allow 1 to 2 flow after overcoming the solenoid force (requires 3.4 to 10.3 bar / 50 to 150 psi).

Operation of Manual Override Option: To override, push and hold override button.

FEATURES

- Continuous duty-rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Industry common cavity.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Proof Pressure: 345 bar (5000 psi)

Flow: See Performance Chart

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 80 msec.; De-energized: 30 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC; 0.18 amps at 115 VAC (full wave rectified).
E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-2; See page 9.110.1

Cavity Tool: CT10-2XX; See page 8.600.1

Seal Kit: SK10-2X-T; See page 8.650.1

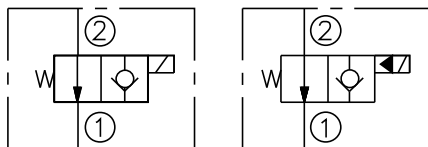
Coil Nut: Part No. 7004420;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

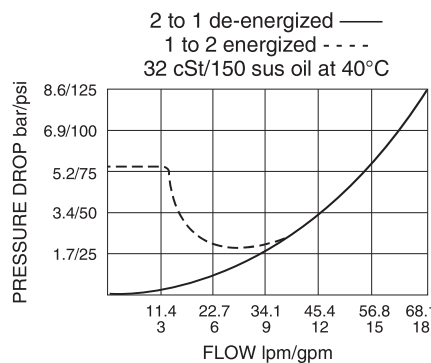
SYMBOLS

USASI:

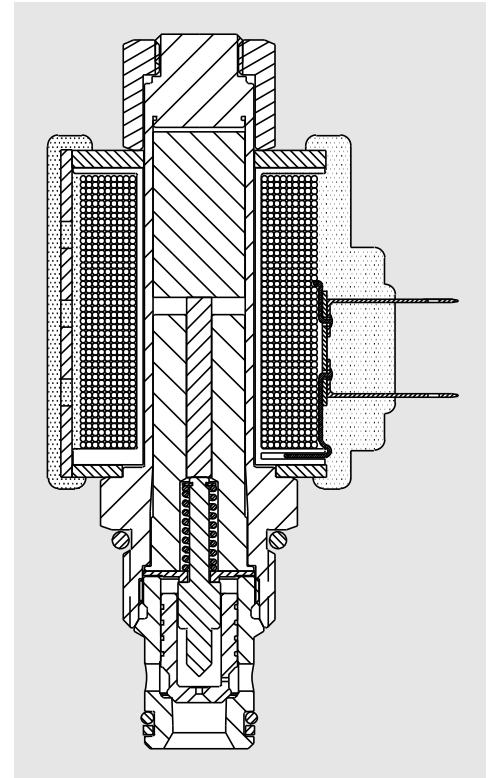
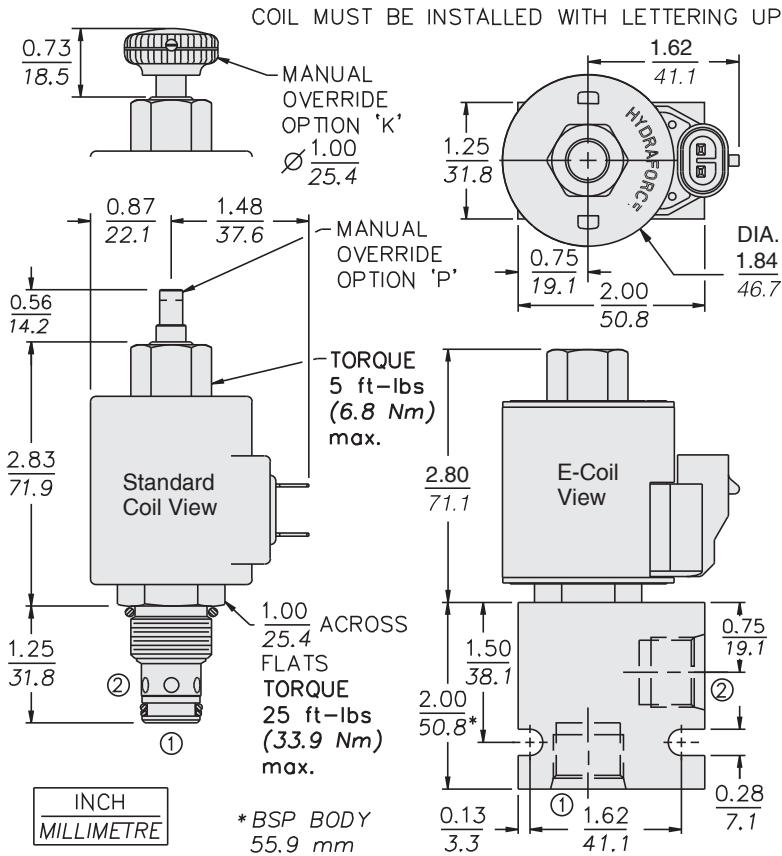
ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.16 kg. (0.35 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1

Standard Coil: Weight: 0.27 kg. (0.60 lbs.) Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.41 kg. (0.9 lbs.) Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. **Note: See page 3.400.1 for all E-Coil retrofit applications.**

TO ORDER

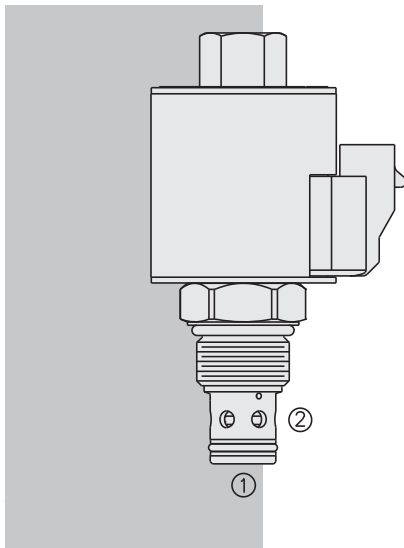
SV10-21

Option		Voltage		Termination (VDC)
None (Blank)		Std. Coil		Std. Coil
152µ Screen	S	0 Less Coil**		DS Dual Spades
Manual Override without knob	P	10 10 VDC†		DG DIN 43650
Manual Override with knob	K	12 12 VDC		DL Leadwires (2)
For Manual Override options see page 1.001.1		24 24 VDC		DL/W Leads w/Weatherpak® Connectors
		36 36 VDC		DR Deutsch DT04-2P
		48 48 VDC		
		24 24 VAC		Termination (VAC)
Porting		115 115 VAC		Std. Coil
Cartridge Only	0	230 230 VAC		AG DIN 43650
SAE 6	6T			AP 1/2 in. Conduit
SAE 8	8T			
1/4 in. BSP*	2B			Termination (VDC)
3/8 in. BSP*	3B			E-Coil
1/2 in. BSP*	4B			ER Deutsch DT04-2P (IP69K Rated)
*BSP Body; U.K. Mfr. Only		E-Coil		EY Metri-Pack® 150 (IP69K Rated)
Seals		10 10 VDC		
Buna N (Std.)	N	12 12 VDC		
Fluorocarbon	V	20 20 VDC		
		24 24 VDC		

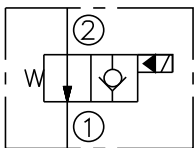
**Includes Std. Coil Nut
 † DS, DW or DL terminations only.

Coils with internal diode are available. Consult factory.

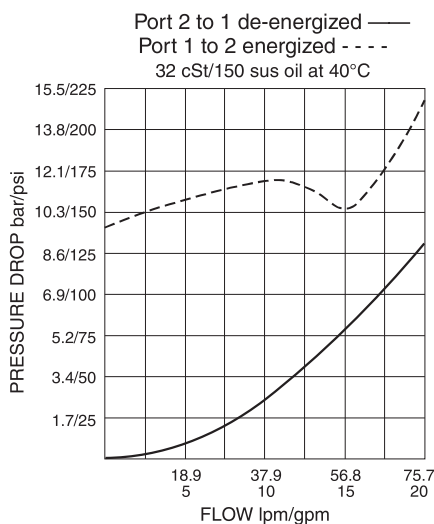
HSV10-21 HyPerformance™ Poppet, 2-Way, N.O.



SYMBOL



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, 2-way, normally open, poppet-type, screw-in hydraulic cartridge valve, designed to function as a load holding or blocking valve in high pressure applications requiring low internal leakage.

OPERATION

When de-energized, the HSV10-21 allows flow from 2 to 1 while flow from 1 to 2 is severely restricted in this mode.

When energized, the valve's poppet closes on its seat, blocking flow from 2 to 1. In this mode the cartridge will allow 1 to 2 flow after overcoming the actuator and spring forces (see performance graph).

FEATURES

- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Waterproof E-Coils rated up to IP69K.
- 1000-hour salt-spray rated solenoid tubes and coils.
- Unitized, molded coil design.
- All HyPerformance products are tested to the rigorous standards of the NFPA specification T2.6.1.
- All HyPerformance valves are tested at a verification level of 90% and an assurance of 99%.

RATINGS

Operating Pressure: 350 bar (5075 psi); 10% Cycle Life: 420 bar (6090 psi)

Note: All HyPerformance products are tested for 900K cycles at 350 bar and 100K cycles at 420 bar.

Burst Pressure: 1380 bar (20,000 psi)

Flow: Up to 75.7 lpm (20 gpm)

Internal Leakage: 0.25 cc/minute (5 drops/minute) max. with 350 bar (5075 psi) at port 2.

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Temperature: -54° to 107°C (-65° to 225°F) with Urethane seals

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

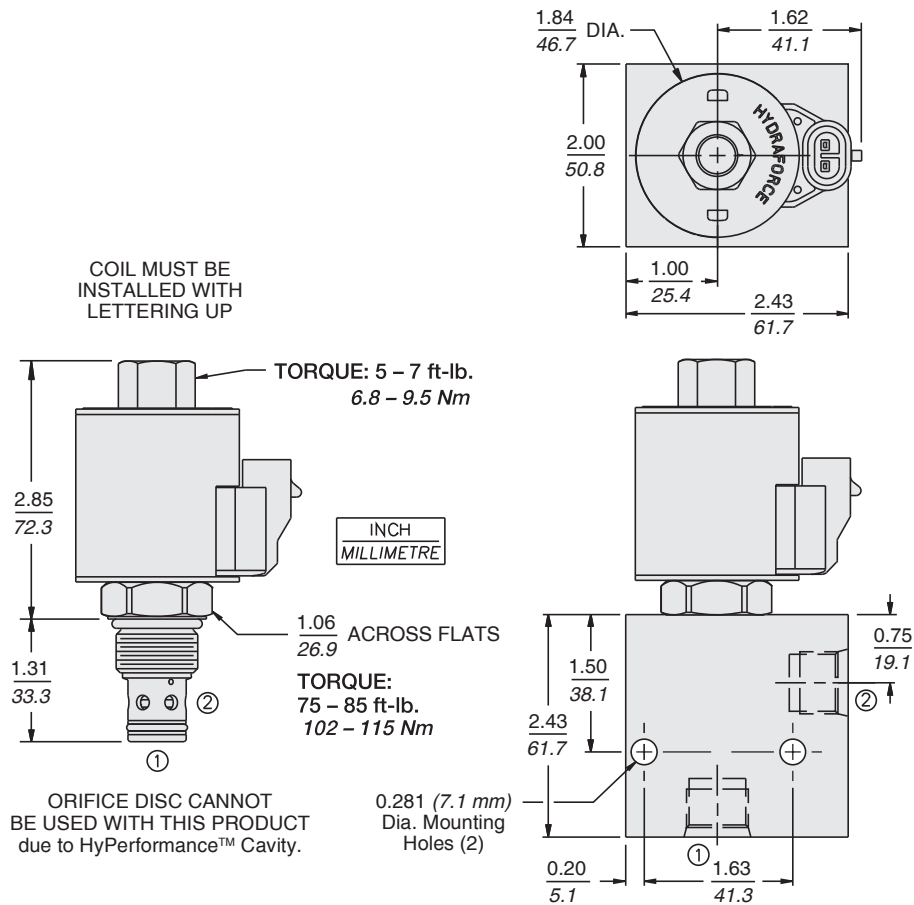
Cavity: HVC10-2; See page 9.110.1

Cavity Tool: HCT10-2xx; See page 8.600.1

Seal Kit: SK10-2U-O; See page 8.650.1

Coil Nut: Part No. 4555250

DIMENSIONS



MATERIALS

- Cartridge:** Weight: 0.19 kg. (0.41 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Urethane O-rings without back-up standard.
- Ported Body:** Weight: 1.19 kg. (2.62 lbs.); HyPerformance™ Ductile iron (code 'D') standard. Rated to 345 bar (5000 psi).
- E-Coil:** Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1.

TO ORDER

HSV10-21

Option

None (Blank)

Porting

Cartridge Only **0**
 SAE 8 **8TD**
 1/2 in. BSP* **4BD**
 *BSP Body; U.K. Mfr. Only

Seals

PPDI Urethane **U**
 Recommended for pressures above 241 bar (3500 psi).

Voltage

0 Less Coil**
10 10 VDC
12 12 VDC
20 20 VDC
24 24 VDC

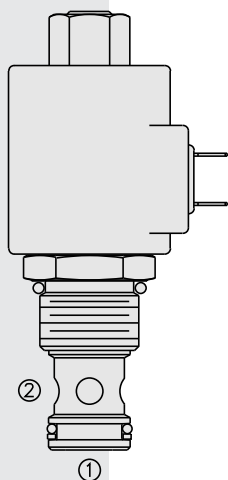
**Includes E-Coil Nut.

Coil Termination

Deutsch DT04-2P **ER** (IP69K)
 Metri-Pak 150 **EY** (IP69K)
 Dual Lead Wires **EL** (IP69K)
 Amp Jr. Timer **EJ** (IP67)
 DIN 43650 **EG** (IP65)

For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on page 3.400.1

SV12-21 Poppet, 2-Way, Normally Open



DESCRIPTION

A solenoid-operated, 2-way, normally open, poppet-type, screw-in hydraulic cartridge valve, designed to function as a load holding or blocking valve in applications requiring low internal leakage.

OPERATION

When energized, the **SV12-21** acts as a check valve, allowing flow to pass from 1 to 2, while blocking flow in the reverse direction.

When de-energized, the poppet lifts to open the 2 to 1 flow path after overcoming the solenoid force (requires 3.4 to 10.3 bar / 50 to 150 psi). In this mode, flow from 1 to 2 is severely restricted. If this path is required, see model SV12-23, page 1.054.1.

Operation of Manual Override Option: To override, push and hold override button.

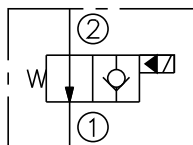
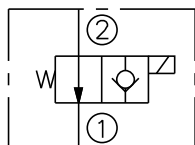
FEATURES

- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Cost effective cavity.

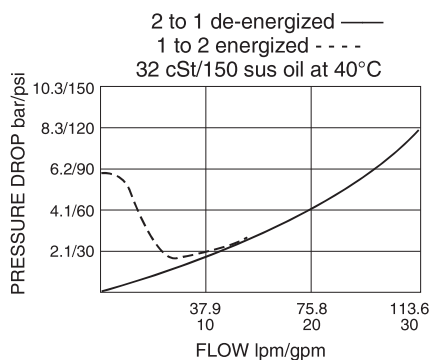
SYMBOLS

USASI:

ISO:



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 240 bar (3500 psi)

Flow: See Performance Chart

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 240 bar (3500 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 110 msec.; De-energized: 40 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC; 0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC12-2; See page 9.112.1

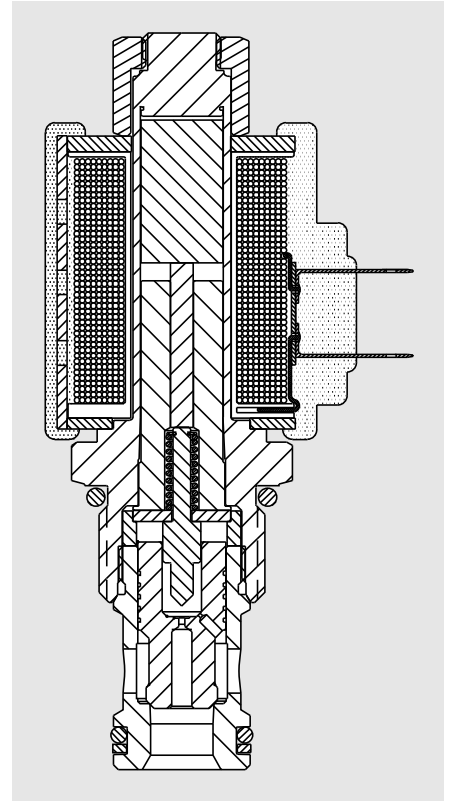
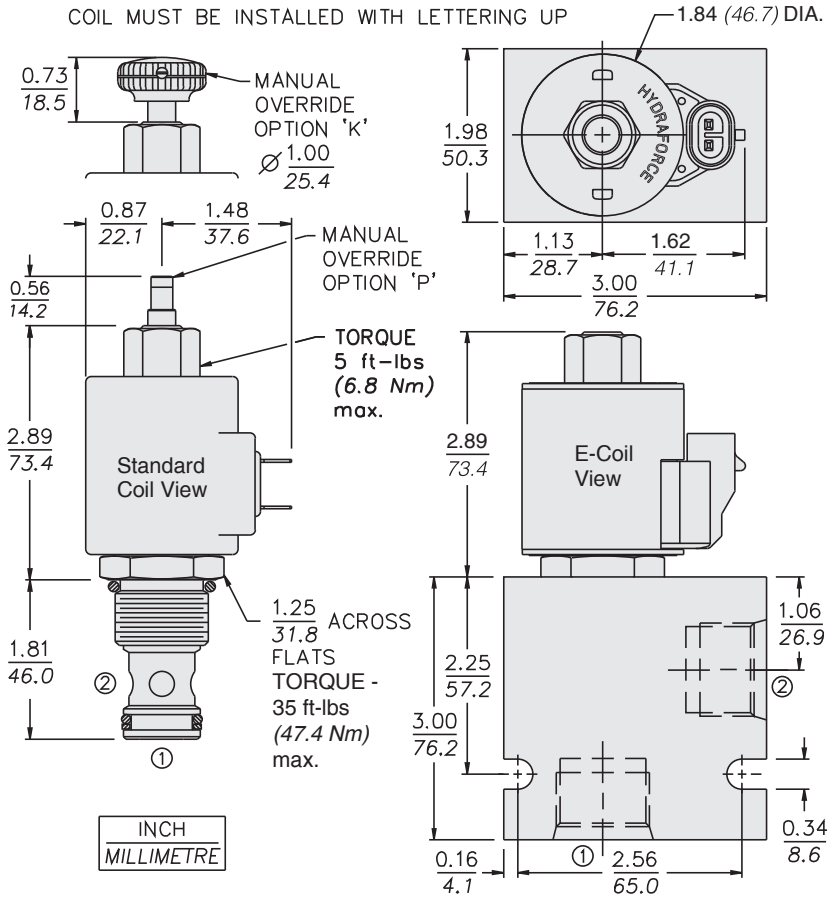
Cavity Tool: CT12-2XX; See page 8.600.1

Seal Kit: SK12-2X-T; See page 8.650.1

Coil Nut: Part No. 7004420;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.25 kg. (0.55 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.57 kg. (1.25 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.012.1

Standard Coil: Weight: 0.27 kg. (0.60 lbs.) Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

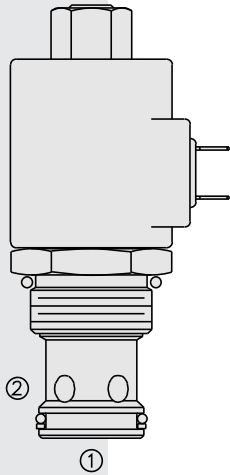
E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors.

Note: See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV12-21 - - - - -			
Option		Voltage	Termination (VDC)
None (Blank)		Std. Coil	Std. Coil
Manual Override without knob	P	0 Less Coil**	DS Dual Spades
Manual Override with knob	K	10 10 VDC†	DG DIN 43650
		12 12 VDC	DL Leadwires (2)
		24 24 VDC	DL/W Leads w/Weatherpak® Connectors
		36 36 VDC	DR Deutsch DT04-2P
		48 48 VDC	
		24 24 VAC	Termination (VAC)
		115 115 VAC	Std. Coil
		230 230 VAC	AG DIN 43650
			AP 1/2 in. Conduit
			Termination (VDC)
			E-Coil
			ER Deutsch DT04-2P (IP69K Rated)
			EY Metri-Pack® 150 (IP69K Rated)
			Coils with internal diode are available. Consult factory.
Porting		E-Coil	
Cartridge Only	0	10 10 VDC	
SAE 10	10T	12 12 VDC	
SAE 12	12T	20 20 VDC	
SAE 16	16T	24 24 VDC	
3/4 in. BSP*	6B		
1 in. BSP*	8B		
*BSP Body; U.K. Mfr. Only			
Seals			
Buna N (Std.)	N		
Fluorocarbon	V		

SV16-21 Poppet, 2-Way, Normally Open



DESCRIPTION

A solenoid-operated, 2-way, normally open, poppet-type, screw-in hydraulic cartridge valve, designed to function as a load-holding or blocking valve in applications requiring low internal leakage.

OPERATION

When de-energized, the SV16-21 poppet lifts to open the 2 to 1 flow path. In this mode, flow from 1 to 2 is severely restricted. If this path is required, see model SV16-23, page 1.055.1.

When energized, the 2 to 1 flow path is closed. In this mode, the valve acts as a check valve, allowing flow to pass from 1 to 2 after overcoming the solenoid force (requires 3.4 to 10.3 bar / 50 to 500 psi).

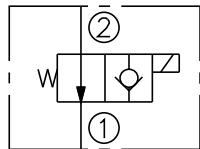
Operation of Manual Override Option: To override, push and hold override button.

FEATURES

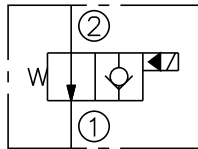
- Continuous duty-rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Industry common cavity.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.

SYMBOLS

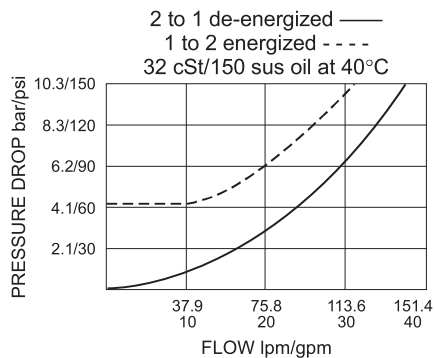
USASI:



ISO:



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 207 bar (3000 psi); Under certain operating conditions, this valve may be used at higher pressures; consult factory.

Proof Pressure: 345 bar (5000 psi)

Flow: See Performance Chart

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;
0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC16-2; See page 9.116.1

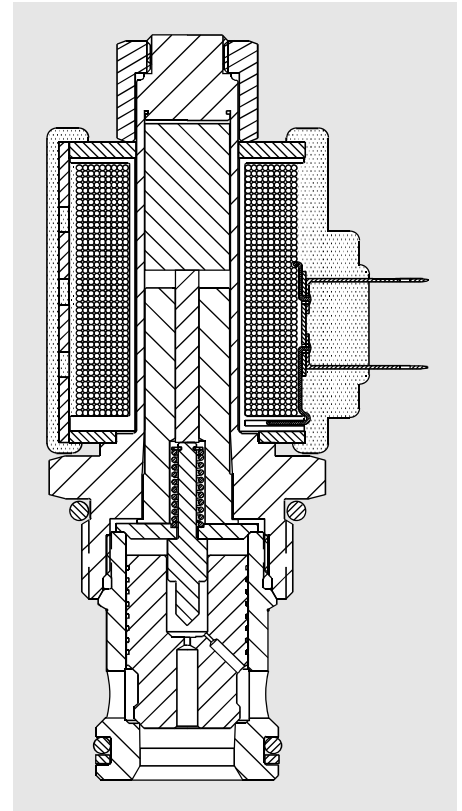
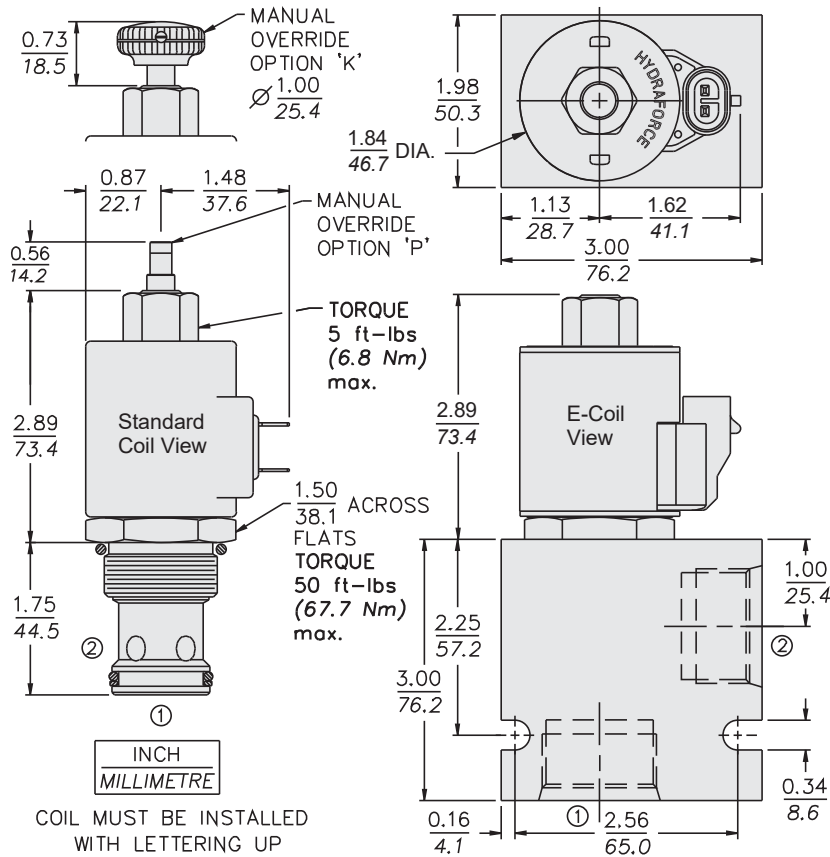
Cavity Tool: CT16-2XX; See page 8.600.1

Seal Kit: SK16-2X-T; See page 8.650.1

Coil Nut: Part No. 7004420;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.31 kg. (0.69 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.57 kg. (1.25 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.016.1

Standard Coil: Weight: 0.27 kg. (0.60 lbs.) Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.41 kg. (0.9 lbs.) Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors.

Note: See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV16-21

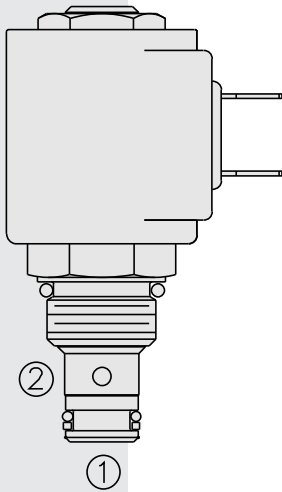
Option	
None (Blank)	
Manual Override without knob	P
Manual Override with knob	K
For Manual Override options see page 1.001.1	
Porting	
Cartridge Only	0
SAE 12	12T
SAE 16	16T
3/4 in. BSP*	6B
1 in. BSP*	8B
*BSP Body; U.K. Mfr. Only	
Seals	
Buna N (Std.)	N
Fluorocarbon	V

Voltage Std. Coil	
0 Less Coil**	
10 10 VDC [†]	
12 12 VDC	
24 24 VDC	
36 36 VDC	
48 48 VDC	
24 24 VAC	
115 115 VAC	
230 230 VAC	
**Includes Std. Coil Nut	
[†] DS, DW or DL terminations only.	
E-Coil	
10 10 VDC	
12 12 VDC	
20 20 VDC	
24 24 VDC	

Termination (VDC) Std. Coil	
DS Dual Spades	
DG DIN 43650	
DL Leadwires (2)	
DL/W Leads w/Weatherpak® Connectors	
DR Deutsch DT04-2P	
Termination (VAC) Std. Coil	
AG DIN 43650	
AP 1/2 in. Conduit	
Termination (VDC) E-Coil	
ER Deutsch DT04-2P (IP69K Rated)	
EY Metri-Pack® 150 (IP69K Rated)	

Coils with internal diode are available. Consult factory.

SL08-22 Low Flow, 2-Way, Normally Closed



DESCRIPTION

A solenoid-operated, 2-way, normally closed, direct-acting, needle-type, screw-in hydraulic cartridge valve, designed to function as a load-holding device for low flow circuits requiring extremely low leakage.

OPERATION

When de-energized, the **SL08-22** blocks flow from 2 to 1.

When energized, the needle point lifts to open the valve bidirectionally.

Operation of Manual Override Option: To override, push button in, twist counter-clockwise 180° and release. In this position, the valve will remain open.

To return to normal operation, push button in, twist clockwise 180° and release.

Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Industry common cavity.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Compact size.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating (2 to 1 direction):

Energized: 22 msec.; De-energized: 40 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC; 0.13 amps at 115 VAC (full wave rectified). E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-2; See page 9.108.1

Cavity Tool: CT08-2XX; See page 8.600.1

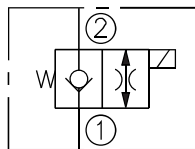
Seal Kit: SK08-2X-T; See page 8.650.1

Coil Nut: Part No. 7004400;

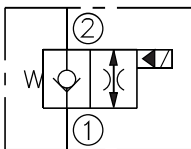
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SYMBOLS

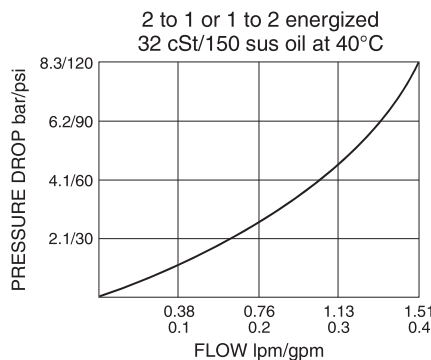
USASI:



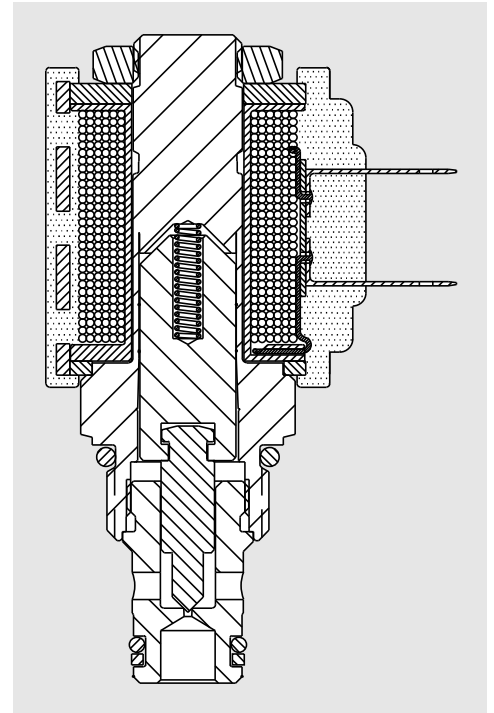
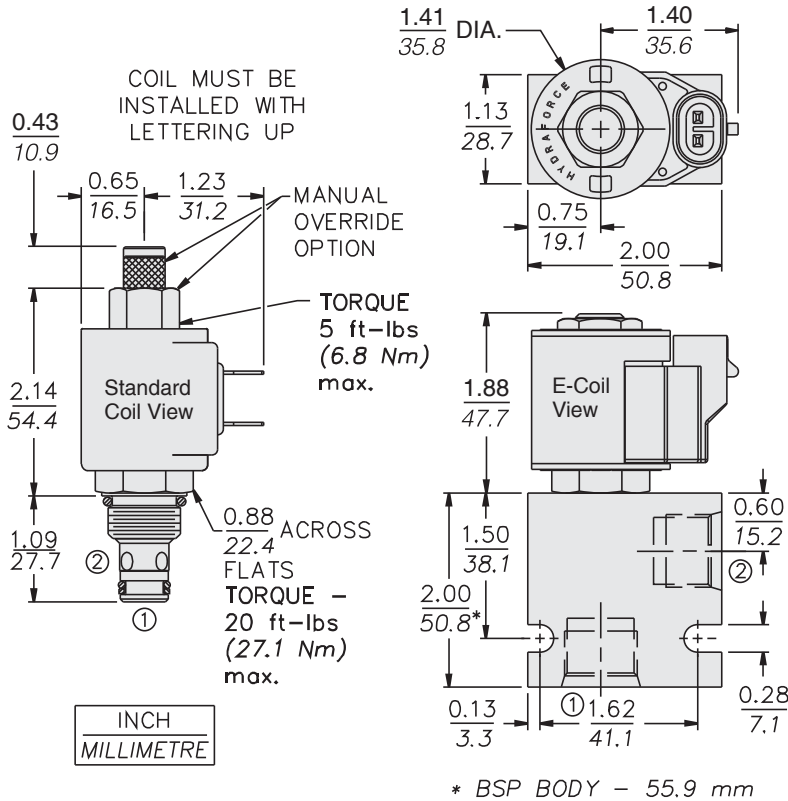
ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.09 kg. (0.20 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

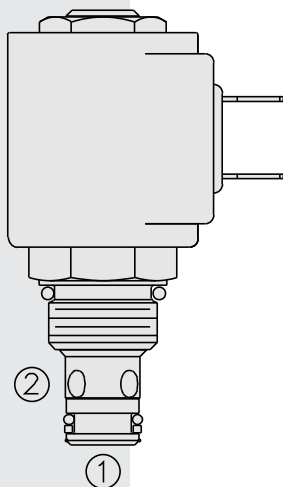
Note: See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SL08-22		-	-	-	-	-	-
Option							
None (Blank)							
152µ Screen	S						
Manual Override	M						
Porting							
Cartridge Only	0						
SAE 4	4T						
SAE 6	6T						
1/4 in. BSP*	2B						
3/8 in. BSP*	3B						
*BSP Body; U.K. Mfr. Only							
Seals							
Buna N (Std.)	N						
Fluorocarbon	V						
Voltage							
Std. Coil							
0 Less Coil**	0						
10 10 VDC†	10						
12 12 VDC	12						
24 24 VDC	24						
36 36 VDC	36						
48 48 VDC	48						
24 24 VAC	24						
115 115 VAC	115						
230 230 VAC	230						
**Includes Std. Coil Nut							
† DS, DW or DL terminations only.							
E-Coil							
10 10 VDC	10						
12 12 VDC	12						
20 20 VDC	20						
24 24 VDC	24						
Termination (VDC)							
Std. Coil							
DS Dual Spades	DS						
DIN 43650	DG						
Leadwires (2)	DL						
Leads w/Weatherpak® Connectors	DL/W						
Deutsch DT04-2P	DR						
Termination (VAC)							
Std. Coil							
DIN 43650	AG						
1/2 in. Conduit	AP						
Termination (VDC)							
E-Coil							
Deutsch DT04-2P (IP69K Rated)	ER						
Metri-Pack® 150 (IP69K Rated)	EY						

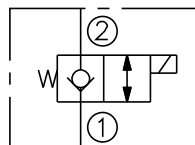
Coils with internal diode are available. Consult factory.

SV08-22 Poppet, 2-Way, Normally Closed

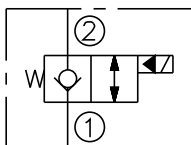


SYMBOLS

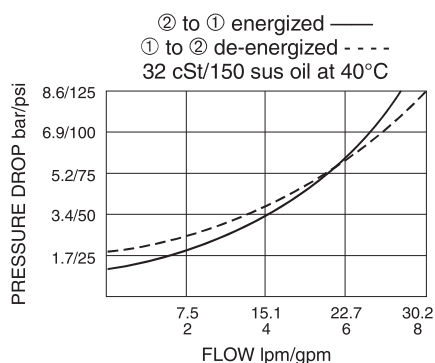
USASI:



ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, 2-way, normally closed, poppet-type, screw-in hydraulic cartridge valve, designed for low leakage blocking and load holding applications.

OPERATION

When de-energized, the **SV08-22** acts as a check valve, allowing flow from 1 to 2, while blocking flow from 2 to 1.

When energized, the poppet lifts to open the 2 to 1 flow path. In this mode, bidirectional flow is allowed.

Operation of Manual Override Option: To override, push button in, twist counter-clockwise 180° and release. In this position, the valve will remain open.

To return to normal operation, push button in, twist clockwise 180° and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Industry common cavity.
- Compact size.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: See Performance Chart

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-2; See page 9.108.1

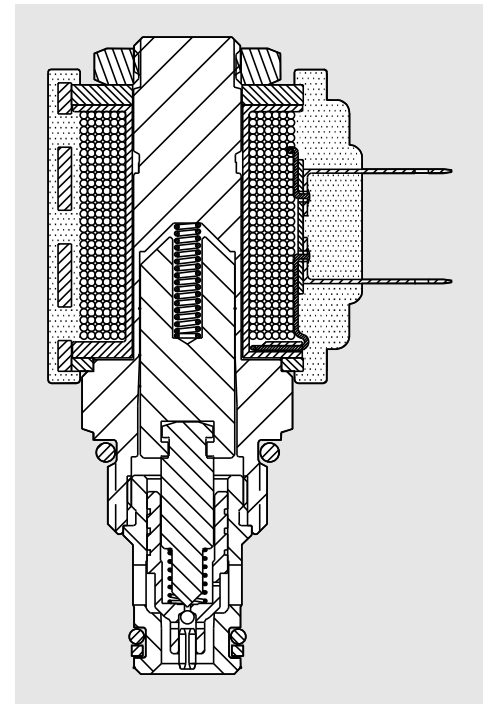
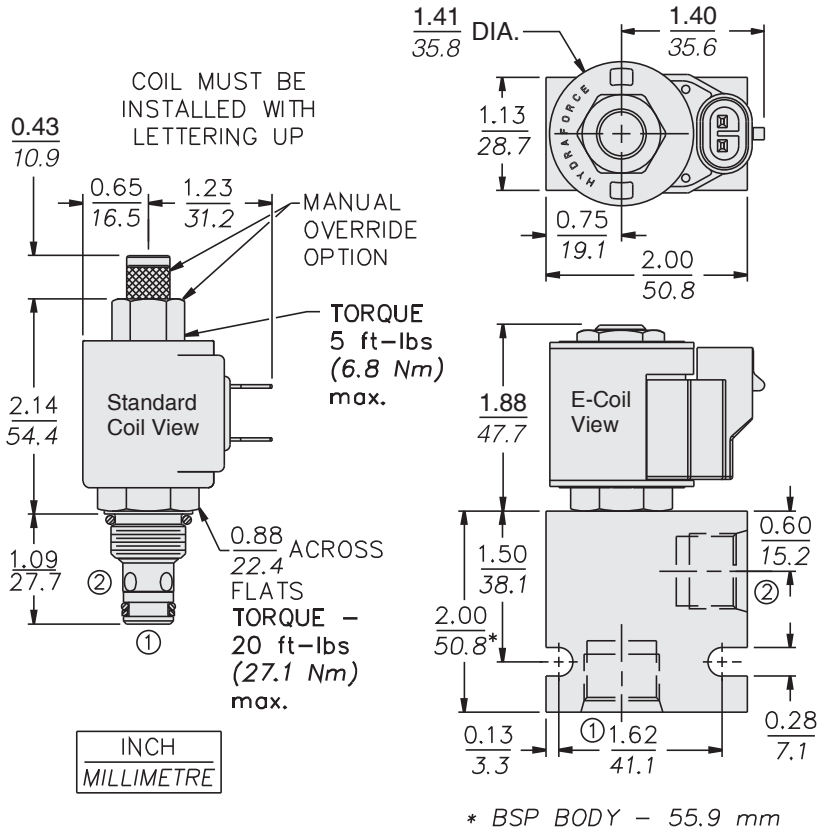
Cavity Tool: CT08-2XX; See page 8.600.1

Seal Kit: SK08-2X-T; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.09 kg. (0.20 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

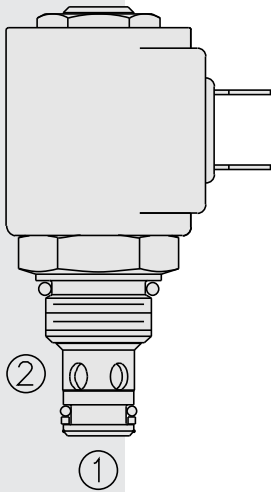
E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

Note: See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV08-22		-	-	-	-	-
Option						
None (Blank)						
Screen	S					
Manual Override	M					
Porting						
Cartridge Only	0					
SAE 4	4T					
SAE 6	6T					
1/4 in. BSP*	2B					
3/8 in. BSP*	3B					
*BSP Body; U.K. Mfr. Only						
Seals						
Buna N (Std.)	N					
Fluorocarbon	V					
Voltage						
Std. Coil						
0	Less Coil**					
10	10 VDC†					
12	12 VDC					
24	24 VDC					
36	36 VDC					
48	48 VDC					
24	24 VAC					
115	115 VAC					
230	230 VAC					
**Includes Std. Coil Nut						
† DS, DW or DL terminations only.						
Termination (VDC)						
Std. Coil						
DS	Dual Spades					
DG	DIN 43650					
DL	Leadwires (2)					
DL/W	Leads w/Weatherpak® Connectors					
DR	Deutsch DT04-2P					
Termination (VAC)						
Std. Coil						
AG	DIN 43650					
AP	1/2 in. Conduit					
Termination (VDC)						
E-Coil						
ER	Deutsch DT04-2P (IP69K Rated)					
EY	Metri-Pack® 150 (IP69K Rated)					
Coils with internal diode are available. Consult factory.						

SF08-22 Poppet, 2-Way, N.C., High Pressure



DESCRIPTION

A solenoid-operated, 2-way, normally closed, piloted poppet-type, screw-in hydraulic cartridge valve, intended to act as a blocking or load-holding device for low flow circuits.

OPERATION

When de-energized, the SF08-22 acts as a check valve, allowing flow from 1 to 2, while blocking flow from 2 to 1.

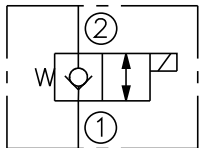
When energized, the cartridge's poppet lifts to open the 2 to 1 flow path. In this mode, bidirectional flow is allowed.

FEATURES

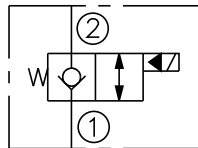
- Continuous-duty rated coil.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Optional waterproof E-Coils rated up to IP69K.
- Industry common cavity.
- Compact size.

SYMBOLS

USASI:

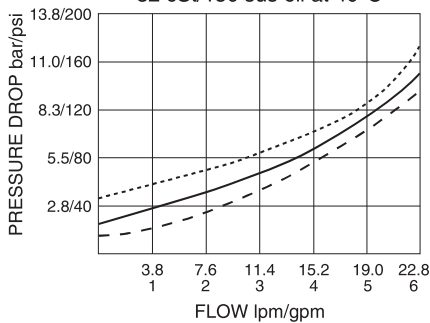


ISO:



PERFORMANCE (Cartridge Only)

2 to 1 energized —
 1 to 2 energized - - -
 1 to 2 de-energized - - - -
 32 cSt/150 sus oil at 40°C



RATINGS

Operating Pressure: 345 bar (5000 psi)

Flow: See Performance Chart

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 345 bar (5000 psi)

Temperature: -40 to 120°C with standard polyurethane seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;

0.13 amps at 115 VAC (full wave rectified);

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 345 bar (5000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of

7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-2; See page 9.108.1

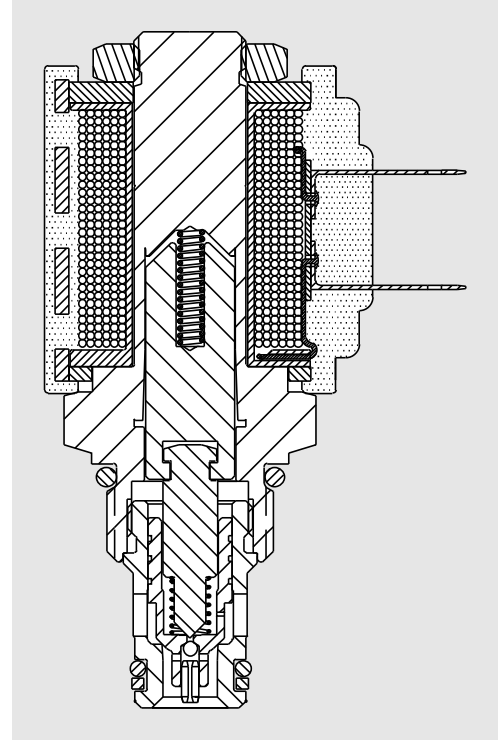
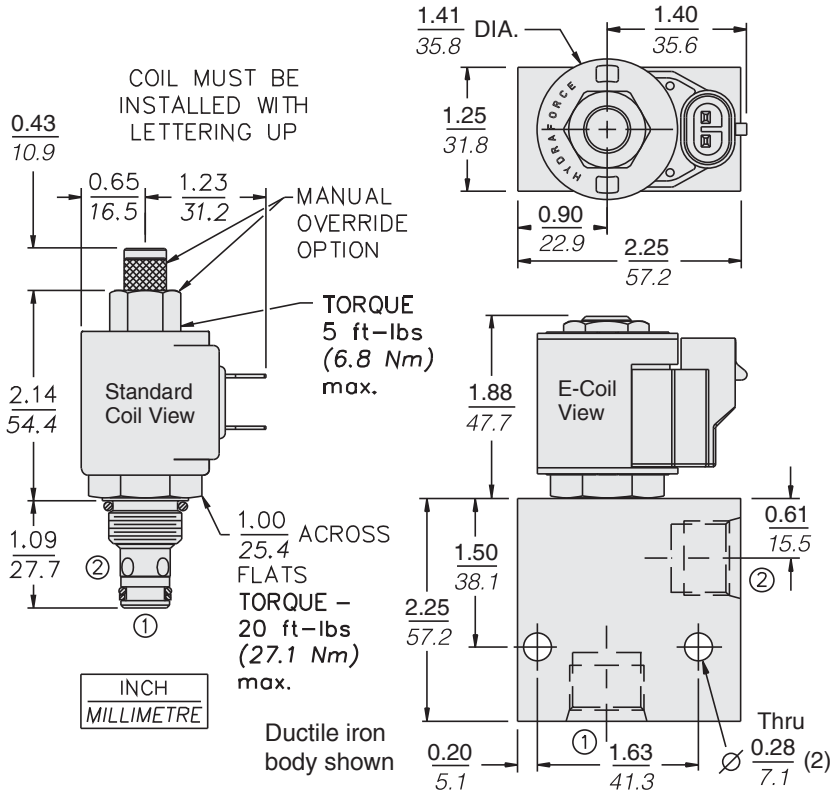
Cavity Tool: CT08-2XX; See page 8.600.1

Seal Kit: SK08-2P-T; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.09 kg. (0.20 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Polyurethane cast O-rings and Fluorocarbon back-up standard.

Ported Body: Weight: 0.54 kg. (1.2 lbs.); Ductile iron standard; rated to 345 bar (5000 psi); See page 8.008.1.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire; See page 3.200.1.

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors; **Note: See page 3.400.1 for all E-Coil retrofit applications.**

TO ORDER

SF08-22

Option
None (Blank)
Manual Override **M**

Porting
Cartridge Only **0**
SAE 6 **6TD**
SAE 8 **8TD**
1/4 in. BSP* **2BD**
3/8 in. BSP* **3BD**
*BSP Body; U.K. Mfr. Only

Seals
Polyurethane (Std.) **P**

Voltage Std. Coil
0 Less Coil**
10 10 VDC†
12 12 VDC
24 24 VDC
36 36 VDC
48 48 VDC
24 24 VAC
115 115 VAC
230 230 VAC

**Includes Std. Coil Nut

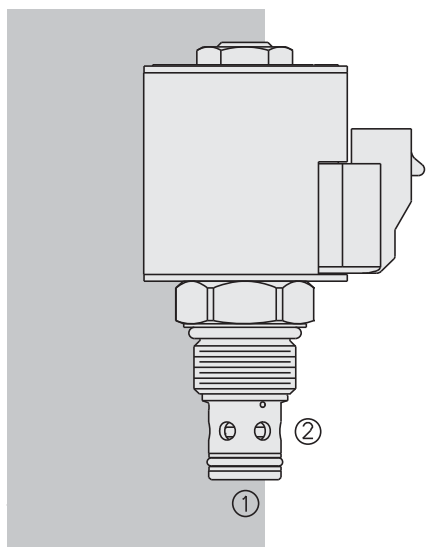
† DS, DW or DL terminations only

E-Coil
10 10 VDC
12 12 VDC
20 20 VDC
24 24 VDC

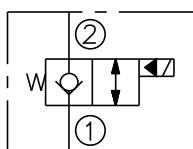
Termination (VDC) Std. Coil
DS Dual Spades
DG DIN 43650
DL Leadwires (2)
DL/W Leads w/Weatherpak® Connectors
DR Deutsch DT04-2P
Termination (VAC) Std. Coil
AG DIN 43650
AP 1/2 in. Conduit
Termination (VDC) E-Coil
ER Deutsch DT04-2P (IP69K Rated)
EY Metri-Pack® 150 (IP69K Rated)

Coils with internal diode are available. Consult factory.

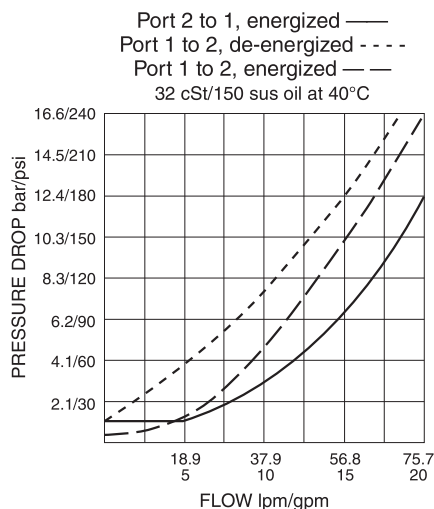
HSV10-22 HyPerformance™ Poppet, 2-Way, N.C.



SYMBOL



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, 2-way, normally closed, piloted, poppet-type, screw-in hydraulic cartridge valve, designed for load holding in high pressure applications requiring low internal leakage.

OPERATION

When de-energized, the HSV10-22 blocks flow from 2 to 1. In this mode the valve will allow flow from 1 to 2 after overcoming the spring forces. When energized, the valve will allow flow bi-directionally.

Operation of Manual Override Option: For normal operation (de-energized) the manual override pin must be seated in the lower detent groove. To shift the valve manually, the operator pushes down on the knob and rotates 180° in either direction. When the manual override is actuated, increased flow can be achieved by pulling on the knob.

FEATURES

- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Waterproof E-Coils rated up to IP69K.
- 1000-hour salt-spray rated solenoid tubes and coils.
- Unitized, molded coil design.
- All HyPerformance products are tested to the rigorous standards of the NFPA specification T2.6.1.
- All HyPerformance valves are tested at a verification level of 90% and an assurance of 99%.

RATINGS

Operating Pressure: 350 bar (5075 psi); 10% Cycle Life: 420 bar (6090 psi)
 Note: All HyPerformance products are tested for 900K cycles at 350 bar and 100K cycles at 420 bar.

Burst Pressure: 1380 bar (20,000 psi)

Flow: Up to 75.7 lpm (20 gpm)

Internal Leakage: 0.25 cc/minute (5 drops/minute) max. with 350 bar (5075 psi) at port 2.

Temperature: -54° to 107°C (-65° to 225°F) with Urethane seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 40 msec.; De-energized: 32 msec.

Initial Coil Current Draw at 20°C: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

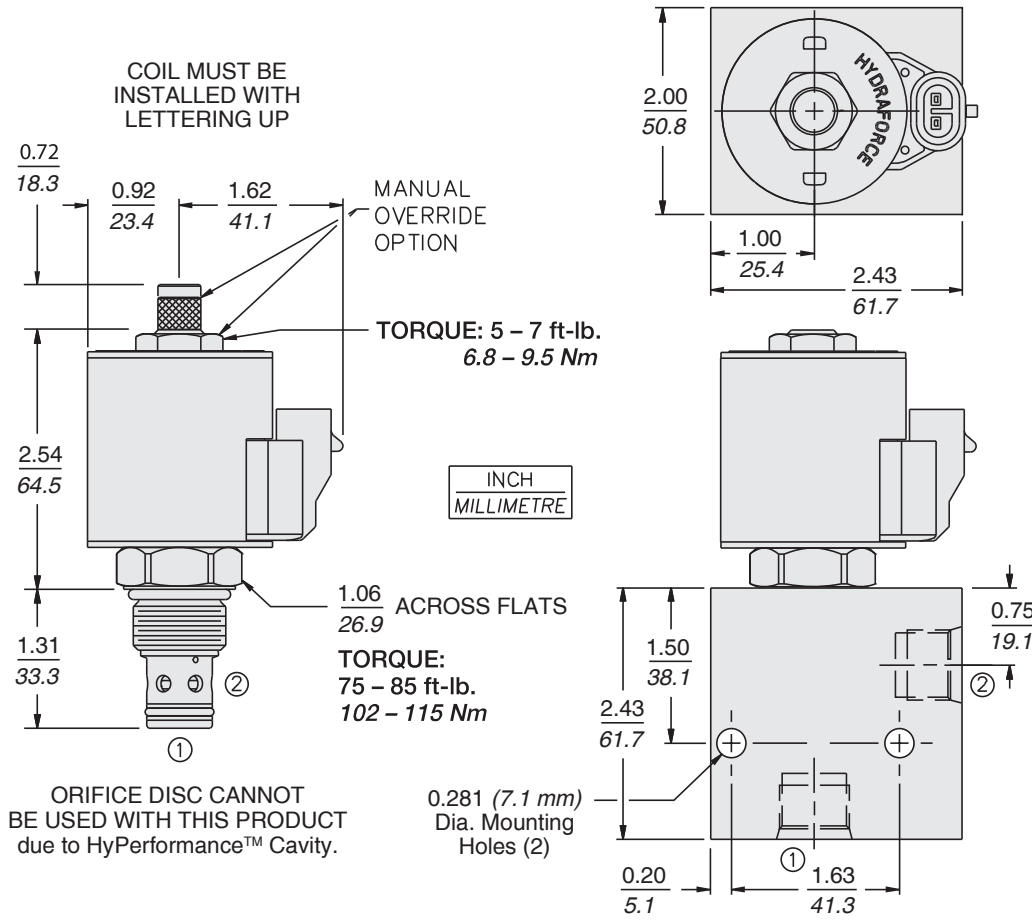
Cavity: HVC10-2; See page 9.110.1

Cavity Tool: HCT10-2xx; See page 8.600.1

Seal Kit: SK10-2U-O; See page 8.650.1

Coil Nut: Part No. 4553800

DIMENSIONS



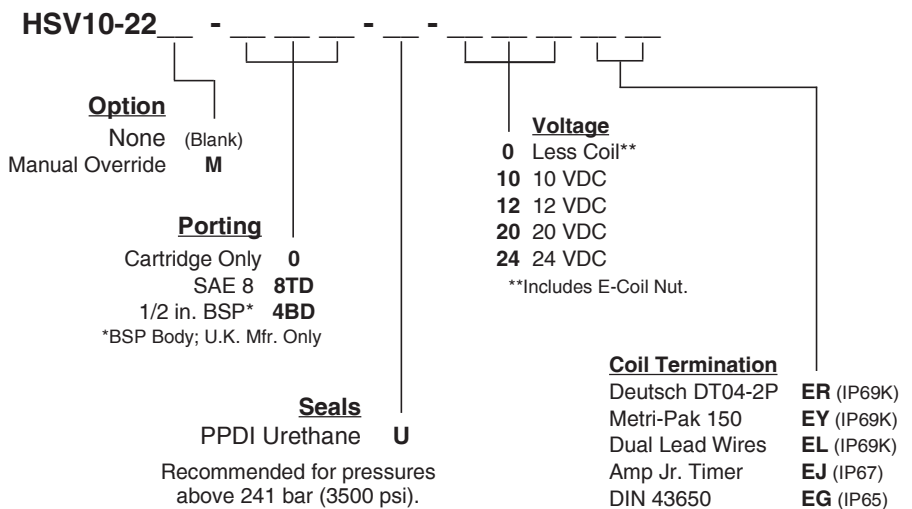
MATERIALS

Cartridge: Weight: 0.19 kg. (0.41 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Urethane O-rings without back-up standard.

Ported Body: Weight: 1.19 kg. (2.62 lbs.); HyPerformance™ Ductile iron (code 'D') standard. Rated to 345 bar (5000 psi).

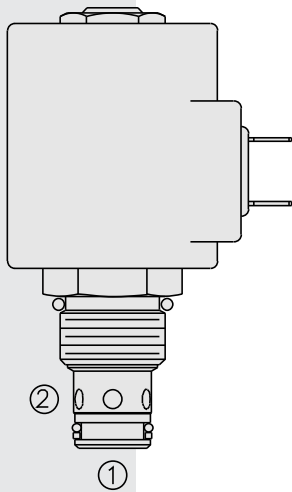
E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1.

TO ORDER



For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on page 3.400.1

SV10-22 Poppet, 2-Way, Normally Closed



DESCRIPTION

A solenoid-operated, 2-way, normally closed, poppet-type, screw-in hydraulic cartridge valve, designed for low leakage blocking and load holding applications.

OPERATION

When de-energized, the SV10-22 acts as a check valve, allowing flow to pass from 1 to 2, while blocking flow from 2 to 1. With the sensor option, the neutral sensor will signal ON or HIGH.

When energized, the 2 to 1 flow path opens. In this mode, flow is also allowed from 1 to 2. With the sensor option, the neutral sensor will signal LOW or OFF.

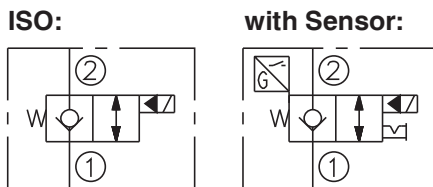
Operation of Manual Override Option: To override, push button in, twist counter-clockwise 180° and release. In this position, the valve will remain open.

To return to normal operation, push button in, twist clockwise 180° and release. Override will be detented in this position.

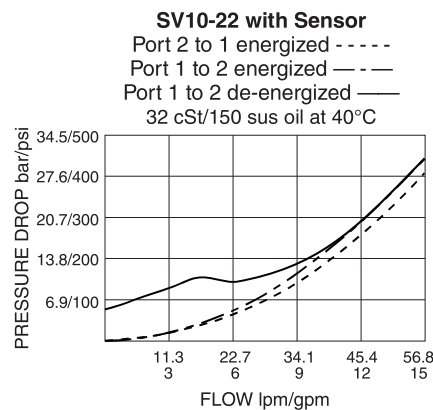
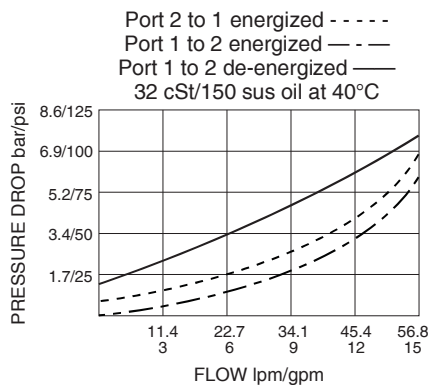
FEATURES

- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Manual override option.
- Unitized, molded coil design.
- Industry common cavity.

SYMBOLS



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 207 bar (3000 psi)

Proof Pressure: 350 bar (5075 psi)

Flow: See Performance Chart

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 207 bar (3000 psi)

Temperature: with standard Buna N seals: -40 to 100°C (-40° to 212°F);
 with Fluorocarbon seals: -26 to 204°C (-15°F to 400°F);

Sensor Option: -40°C to 110°C (-40°F to 230°F)

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 40 msec.; De-energized: 32 msec.

Response Time with Sensor: 68 ms pull-in, 50 ms drop-out

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;

0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

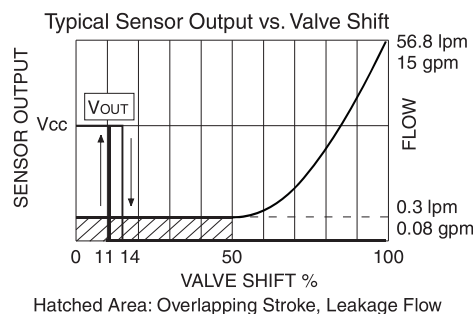
Installation: No restrictions; See page 9.020.1

Cavity: VC10-2; See page 9.110.1

Cavity Tool: CT10-2XX; See page 8.600.1

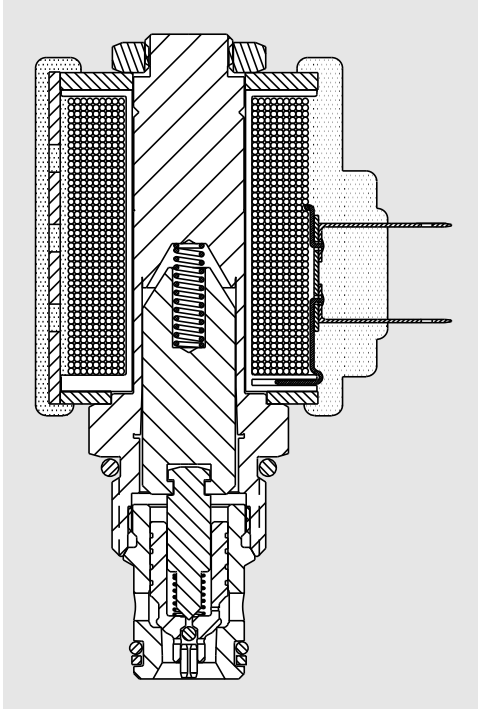
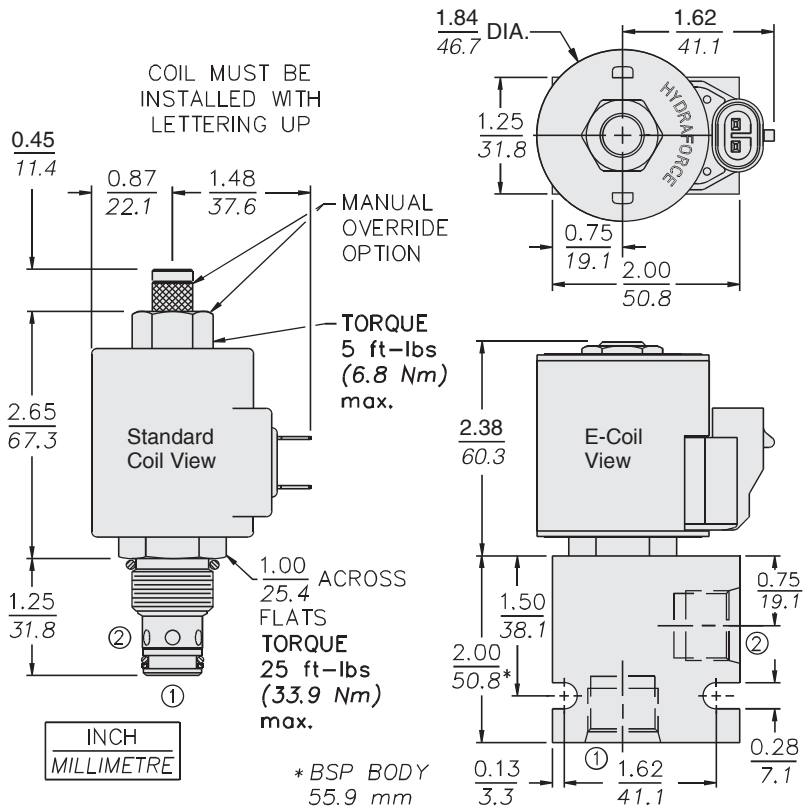
Seal Kit: SK10-2X-T; See page 8.650.1

Coil Nut: Part No. 7004400



SV10-22

DIMENSIONS



Dimensions will differ significantly with Sensor Option; see page 3.010.1.

MATERIALS

Cartridge: Weight: 0.16 kg. (0.35 lbs.); Weight with Sensor option: 0.45 kg. (1.0 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1.

D-Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermo-plastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1.

TO ORDER

SV10-(P)22(A) - - - - - Sensor Option: See page 3.010.1

With sensor option, use model code SV10-P22A . . . See page 3.010.1

Without sensor option, use model code SV10-22 . . .

Option	None (Blank)	
	Screen S	
	Manual Override M	
	Manual Override Y	
	Manual Override J	

For Manual Override options see page 1.001.1

Porting	Cartridge Only 0	
	SAE 6 6T	
	SAE 8 8T	
	1/4 in. BSP* 2B	
	3/8 in. BSP* 3B	
	1/2 in. BSP* 4B	

*BSP Body; U.K. Mfr. Only

Voltage Std. Coil	
0	Less Coil**
10	10 VDC†
12	12 VDC
24	24 VDC
36	36 VDC
48	48 VDC
24	24 VAC
115	115 VAC
230	230 VAC

**Includes D-Coil Nut

† DS, DW or DL terminations only

E-Coils: 10,12,20 or 24 VDC only.

Seals	N Buna N (Std.)
	V Fluorocarbon

Sensor Type

3 Dual Output, N.C./N.O

Sensor/Connector

N Neutral Sense/DT04-4P

M Neutral Sense/M12-4P

Mating Connectors:

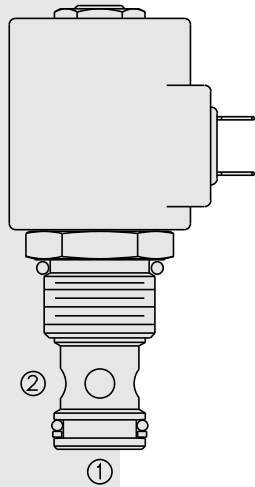
DT06-4S: Part No. 4001953

M12-4S: available at www.turck.com or www.binder-usa.com

Coil Termination	E-Coil	D-Coil
Deutsch DT04-2P	ER (IP69K)	DR (IP65)
Metri-Pack® 150	EY (IP69K)	DY (IP65)
Dual Lead Wires	EL (IP69K)	DL (IP65)
Amp Jr. Timer	EJ (IP67)	—
DIN 43650	EG (IP65)	DG (IP65)
Dual Spades	—	DS (IP65)

For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1

SV12-22 Poppet, 2-Way, Normally Closed



DESCRIPTION

A solenoid-operated, 2-way, normally closed, poppet-type, screw-in hydraulic cartridge valve, designed to function as a load-holding or blocking valve in applications requiring low internal leakage.

OPERATION

When de-energized, the **SV12-22** acts as a check valve, allowing flow to pass from 1 to 2, while blocking flow in the reverse direction.

When energized, the poppet lifts to open the 2 to 1 flow path. In this mode, flow is also allowed from 1 to 2.

Operation of Manual Override Option: To override, push button in, twist counter-clockwise 180° and release. In this position, the valve will remain open.

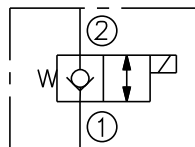
To return to normal operation, push button in, twist clockwise 180° and release. Override will be detented in this position.

FEATURES

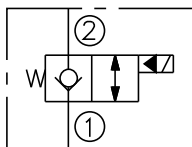
- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Cost effective cavity.

SYMBOLS

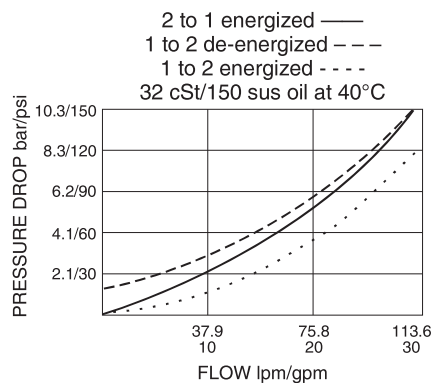
USASI:



ISO:



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 240 bar (3500 psi)

Proof Pressure: 390 bar (5700 psi)

Flow: See Performance Chart

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 240 bar (3500 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 40 msec.; De-energized: 80 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;

0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC12-2; See page 9.112.1

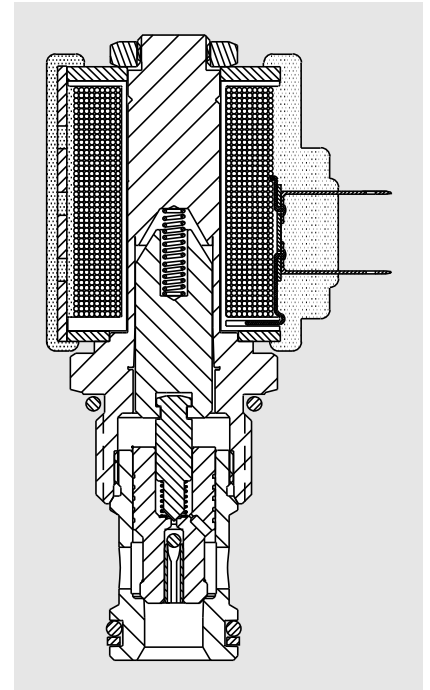
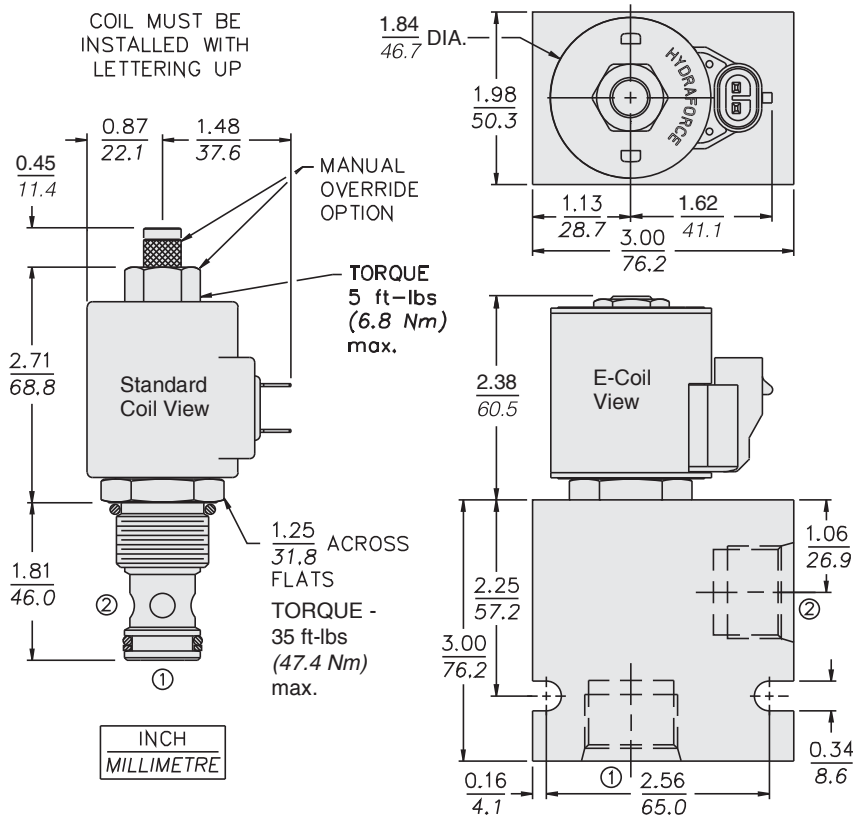
Cavity Tool: CT12-2XX; See page 8.600.1

Seal Kit: SK12-2X-T; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.25 kg. (0.55 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.57 kg. (1.25 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.012.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire; See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. **Note: See page 3.400.1 for all E-Coil retrofit applications.**

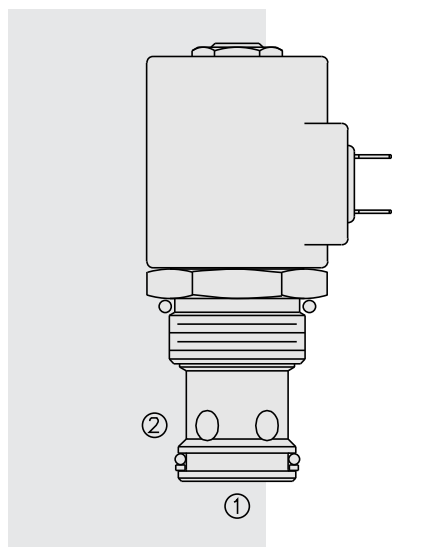
TO ORDER

SV12-22

Option	None (Blank)	Voltage	Termination (VDC)
Manual Override	M	Std. Coil	Std. Coil
Manual Override	Y	0 Less Coil**	DS Dual Spades
Manual Override	J	10 10 VDC [†]	DG DIN 43650
		12 12 VDC	DL Leadwires (2)
		24 24 VDC	DL/W Leads w/Weatherpak® Connectors
		36 36 VDC	DR Deutsch DT04-2P
		48 48 VDC	Termination (VAC)
		24 24 VAC	Std. Coil
		115 115 VAC	AG DIN 43650
		230 230 VAC	AP 1/2 in. Conduit
		**Includes Std. Coil Nut	Termination (VDC)
		[†] DS, DW or DL terminations only.	E-Coil
Porting		E-Coil	ER Deutsch DT04-2P (IP69K Rated)
Cartridge Only	0	10 10 VDC	EY Metri-Pack® 150 (IP69K Rated)
SAE 10	10T	12 12 VDC	
SAE 12	12T	20 20 VDC	
SAE 16	16T	24 24 VDC	
3/4 in. BSP*	6B		
1 in. BSP*	8B		
*BSP Body; U.K. Mfr. Only			
Seals			
Buna N (Std.)	N		
Fluorocarbon	V		

Coils with internal diode are available. Consult factory.

SV16-22 Poppet, 2-Way, Normally Closed



DESCRIPTION

A solenoid-operated, 2-way, normally closed, poppet-type, screw-in hydraulic cartridge valve, designed to function as a load-holding or blocking valve in applications requiring low internal leakage.

OPERATION

When de-energized, the **SV16-22** acts as a check valve, allowing flow from 1 to 2, while blocking flow from 2 to 1.

When energized, the poppet lifts to open the 2 to 1 flow path. In this mode, flow is also allowed from 1 to 2.

Operation of Manual Override Option: To override, push button in, twist counter-clockwise 180° and release. In this position, the valve will remain open.

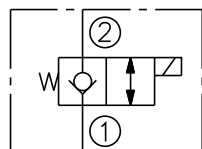
To return to normal operation, push button in, twist clockwise 180° and release. Override will be detented in this position.

FEATURES

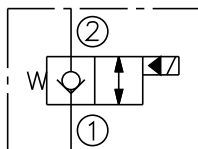
- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Industry common cavity.

SYMBOLS

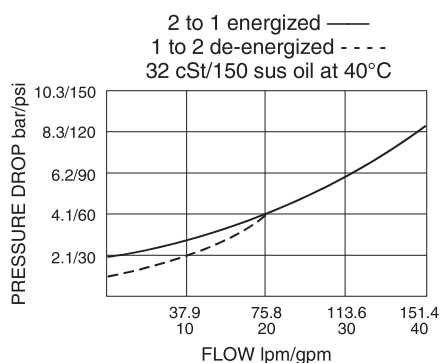
USASI:



ISO:



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 207 bar (3000 psi); Under certain operating conditions, this valve may be used at higher pressures; consult factory.

Proof Pressure: 390 bar (5700 psi)

Flow: See Performance Chart

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;
0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC16-2; See page 9.116.1

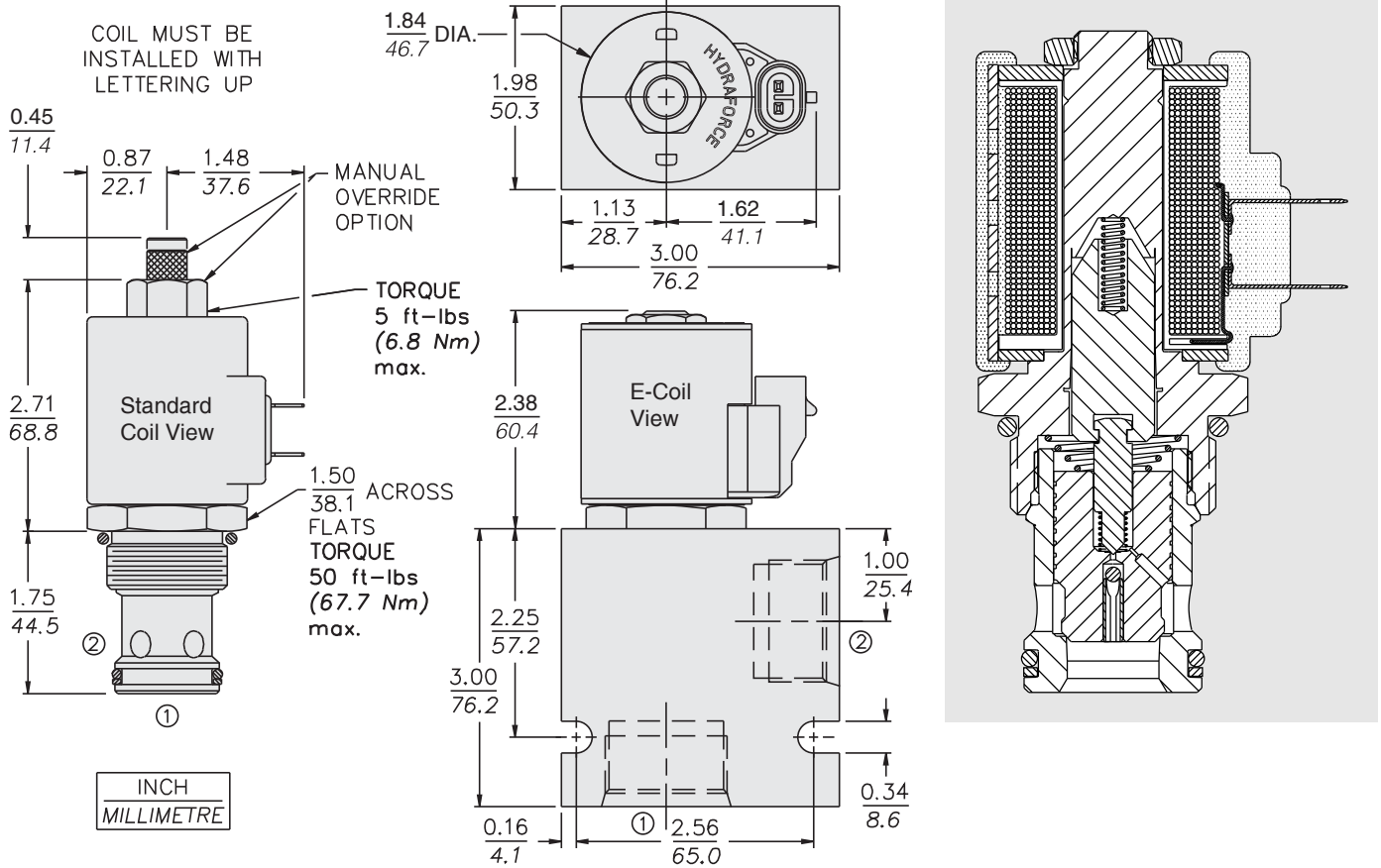
Cavity Tool: CT16-2XX; See page 8.600.1

Seal Kit: SK16-2X-T; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.31 kg. (0.69 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.57 kg. (1.25 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.016.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermo-plastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. **Note: See page 3.400.1 for all E-Coil retrofit applications.**

TO ORDER

SV16-22		-	-	-	-	-	-
Option							
None	(Blank)						
Manual Override	M	0	Less Coil**	DS	Dual Spades		
Manual Override	Y	10	10 VDC†	DG	DIN 43650		
Manual Override	J	12	12 VDC	DL	Leadwires (2)		
		24	24 VDC	DL/W	Leads w/Weatherpak® Connectors		
		36	36 VDC	DR	Deutsch DT04-2P		
		48	48 VDC				
		24	24 VAC				
		115	115 VAC				
		230	230 VAC				
Porting							
Cartridge Only	0						
SAE 12	12T						
SAE 16	16T						
3/4 in. BSP*	6B						
1 in. BSP*	8B						
Seals							
Buna N (Std.)	N	10	10 VDC	ER	Deutsch DT04-2P (IP69K Rated)		
Fluorocarbon	V	12	12 VDC	EY	Metri-Pack® 150 (IP69K Rated)		
		20	20 VDC				
		24	24 VDC				

For Manual Override options see page 1.001.1

*BSP Body; U.K. Mfr. Only

**Includes Std. Coil Nut

† DS, DW or DL terminations only.

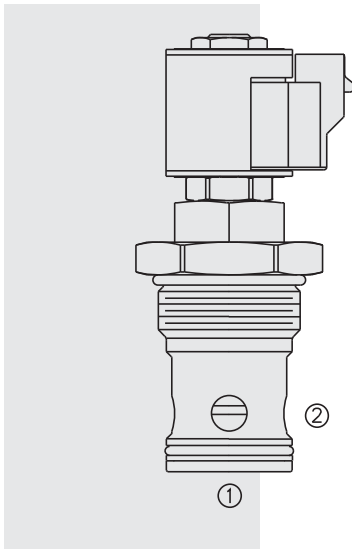
Termination (VDC) Std. Coil

Termination (VAC) Std. Coil

Termination (VDC) E-Coil

Coils with internal diode are available. Consult factory.

SF20-22 Poppet, 2-Way, N.C., High Pressure



DESCRIPTION

A solenoid-operated, 2-way, normally closed, piloted poppet-type, screw-in hydraulic cartridge valve, intended to act as a blocking or load-holding device for applications requiring low internal leakage.

OPERATION

When de-energized, the SF20-22 acts as a check valve, allowing flow from 1 to 2, while blocking flow from 2 to 1.

When energized, the cartridge's poppet lifts to open the 2 to 1 flow path. In this mode, bidirectional flow is allowed.

FEATURES

- Continuous-duty rated coil.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Optional waterproof E-Coils rated up to IP69K.
- Industry common cavity.

RATINGS

Operating Pressure: Maximum: 345 bar (5000 psi); Minimum: 1.4 bar (20 psi).
 Pressure rating established per NFPA/T2.6.1 R2-2000 using 90% assurance and 90% verification levels for 1 million cycles.

Flow: Up to 303 lpm (80 gpm)

Internal Leakage: 10 drops/minute max. at 345 bar (5000 psi)

Operating Temperature: -40 to 100°C with standard Buna N seals
 -26 to 204°C with Fluorocarbon seals
 -54 to 107°C with Polyurethane seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;
 0.13 amps at 115 VAC (full wave rectified);
 E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 345 bar (5000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 5 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC20-2; See page 9.120.1

Cavity Tool: CT20-2XX; See page 8.600.1

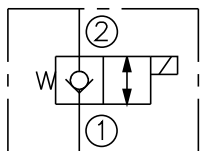
Seal Kit: SK20-2x-T; See page 8.650.1

Coil Nut: Part No. 7004400;

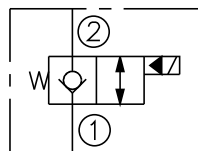
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SYMBOLS

USASI:

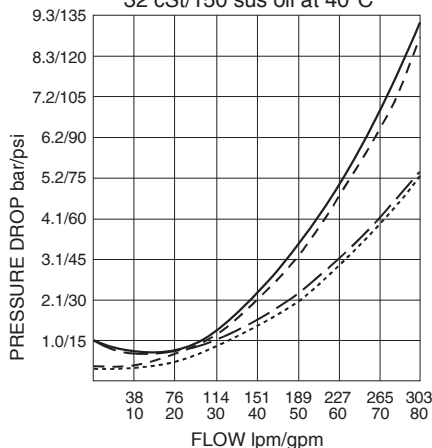


ISO:

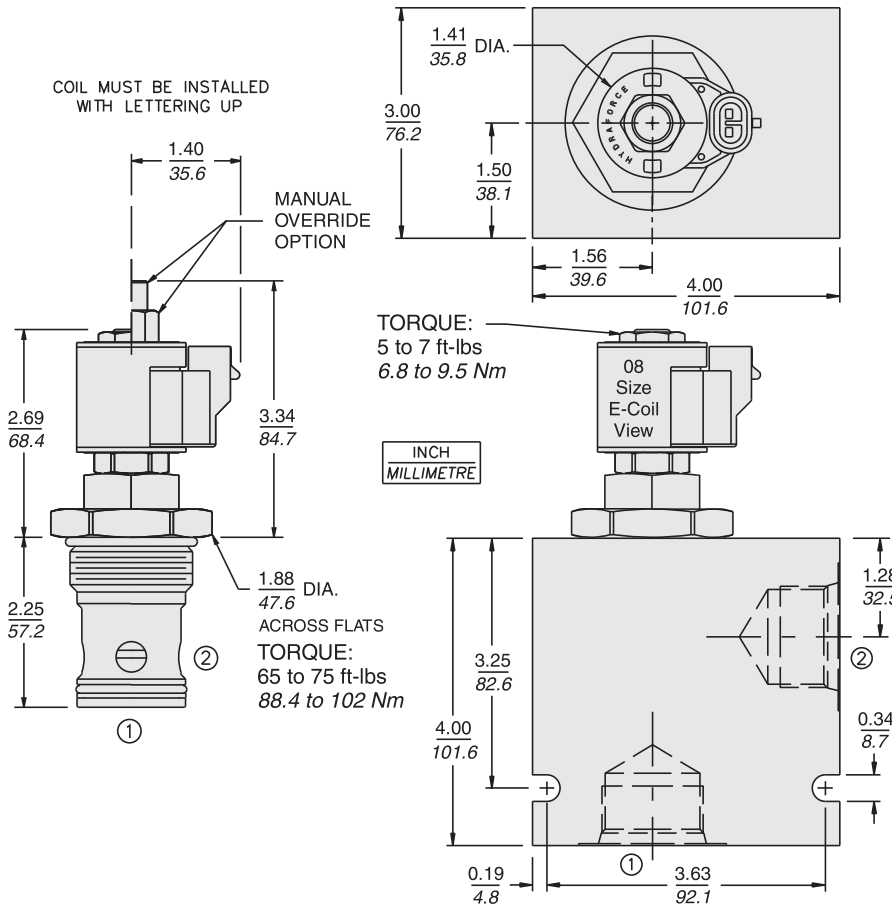


PERFORMANCE (Cartridge Only)

- 2 to 1 without cavity undercut ———
 - 2 to 1 with cavity undercut ———
 - 1 to 2 without cavity undercut - - - -
 - 1 to 2 with cavity undercut - - - -
- 32 cSt/150 sus oil at 40°C



DIMENSIONS



MATERIALS

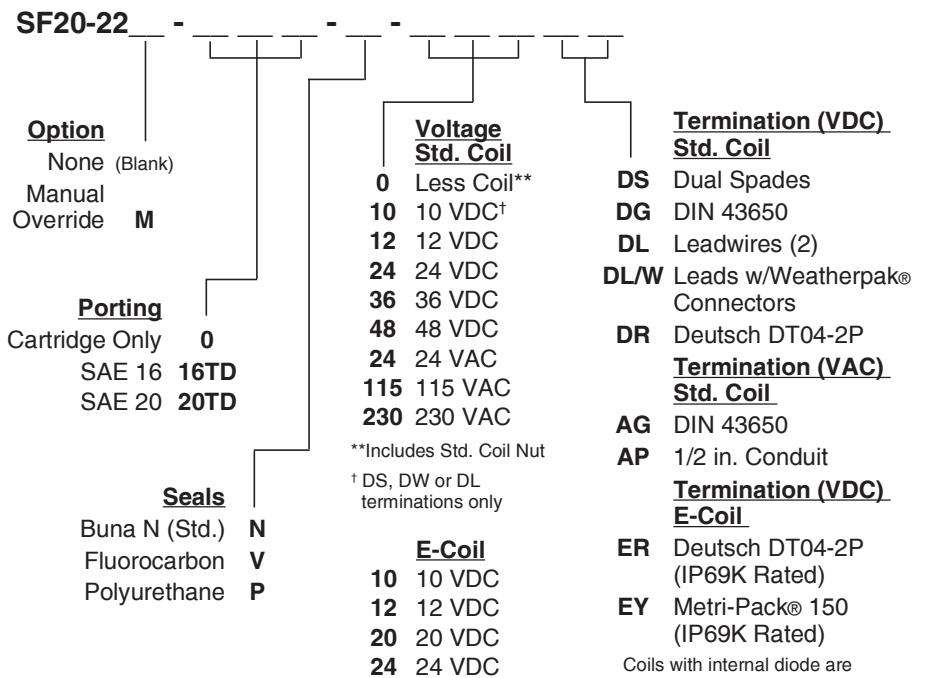
Cartridge: Weight: 0.61 kg. (1.35 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings with polyester elastomer back-up standard.

Standard Ported Body: Weight: 4.51 kg. (9.94 lbs.) Ductile iron standard; rated to 345 bar (5000 psi). See page 8.020.1.

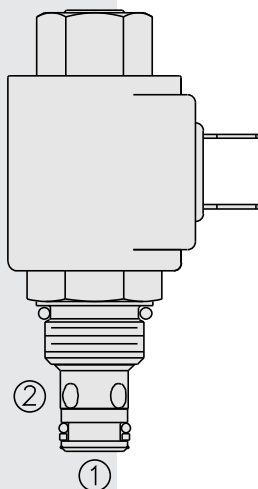
Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire; See page 3.200.1.

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors; **Note: See page 3.400.1 for all E-Coil retrofit applications.**

TO ORDER



SV08-23 Poppet, 2-Way, Normally Open



DESCRIPTION

A solenoid-operated, two-way, poppet-type, normally open, screw-in, hydraulic cartridge valve designed for low leakage in load-holding applications.

OPERATION

When de-energized, the **SV08-23** poppet lifts to open flow from 2 to 1. Flow is also open from 1 to 2.

When energized, the cartridge acts as a check valve, allowing flow from 1 to 2, while blocking flow from 2 to 1 after overcoming the solenoid force (requires 3.4 to 10.3 bar / 50 to 150 psi).

Operation of Manual Override Option: To override, push and hold override button.

FEATURES

- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Industry common cavity.
- Compact size.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: See Performance Chart

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 30 msec.; De-energized: 60 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC; 0.13 amps at 115 VAC (full wave rectified). E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-2; See page 9.108.1

Cavity Tool: CT08-2XX; See page 8.600.1

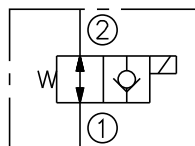
Seal Kit: SK08-2X-T; See page 8.650.1

Coil Nut: Part No. 7004410;

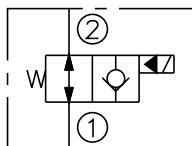
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SYMBOLS

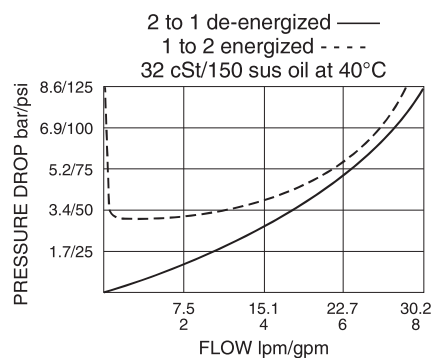
USASI:



ISO:

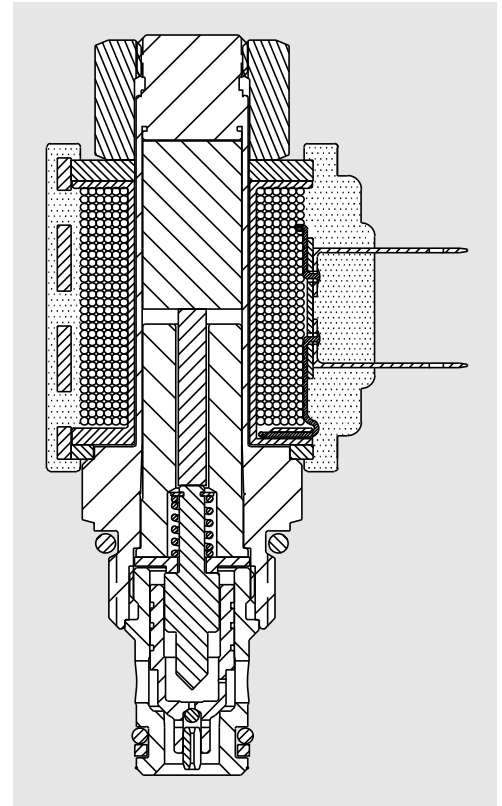
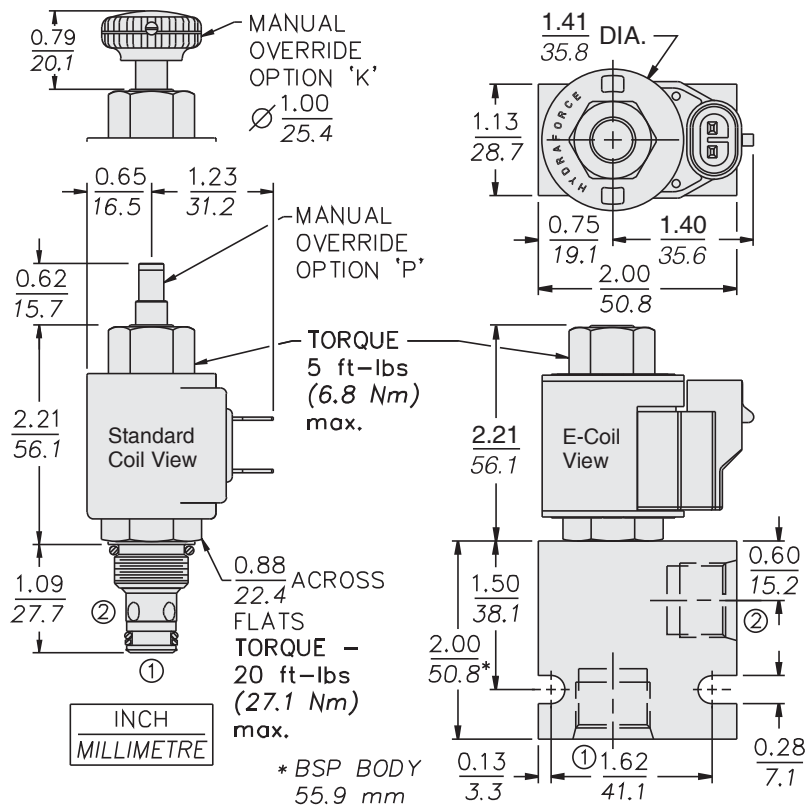


PERFORMANCE (Cartridge Only)



DIMENSIONS

COIL MUST BE INSTALLED WITH LETTERING UP



MATERIALS

Cartridge: Weight: 0.09 kg. (0.20 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.008.1

Standard Coil: Weight: 0.11 kg. (0.25 lbs.) Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.14 kg. (0.3 lbs.) Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. **Note: See page 3.400.1 for all E-Coil retrofit applications.**

TO ORDER

SV08-23

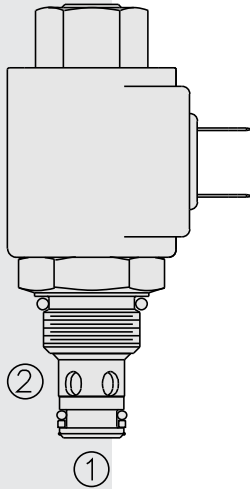
Option		Voltage		Termination (VDC)
None (Blank)		Std. Coil		Std. Coil
152 μ Screen	S	0 Less Coil**		DS Dual Spades
Manual Override without knob	P	10 10 VDC†		DG DIN 43650
Manual Override with knob	K	12 12 VDC		DL Leadwires (2)
		24 24 VDC		DL/W Leads w/Weatherpak® Connectors
		36 36 VDC		DR Deutsch DT04-2P
		48 48 VDC		
Porting		24 24 VAC		Termination (VAC)
Cartridge Only	0	115 115 VAC		Std. Coil
SAE 4	4T	230 230 VAC		AG DIN 43650
SAE 6	6T			AP 1/2 in. Conduit
1/4 in. BSP*	2B			Termination (VDC)
3/8 in. BSP*	3B			E-Coil
*BSP Body; U.K. Mfr. Only				ER Deutsch DT04-2P (IP69K Rated)
				EY Metri-Pack® 150 (IP69K Rated)
Seals		E-Coil		
Buna N (Std.)	N	10 10 VDC		
Fluorocarbon	V	12 12 VDC		
		20 20 VDC		
		24 24 VDC		

**Includes Std. Coil Nut

† DS, DW or DL terminations only.

Coils with internal diode are available. Consult factory.

SF08-23 Poppet, 2-Way, Normally Open



DESCRIPTION

A solenoid-operated, 2-way, normally open, poppet-type, screw-in hydraulic cartridge valve, designed to function as a load holding or blocking valve in applications requiring low internal leakage at high pressure.

OPERATION

When de-energized, the SF08-23 poppet lifts to open from 2 to 1. In this mode, flow is also allowed from 1 to 2.

When energized, the cartridge acts as a check valve, blocking flow from 1 to 2 after overcoming the solenoid force (requires 3.4 to 10.3 bar / 50 to 150 psi).

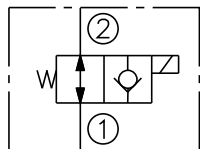
Operation of Manual Override Option: To override, push and hold override button.

FEATURES

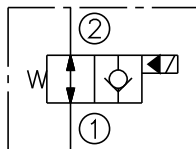
- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Industry common cavity.

SYMBOLS

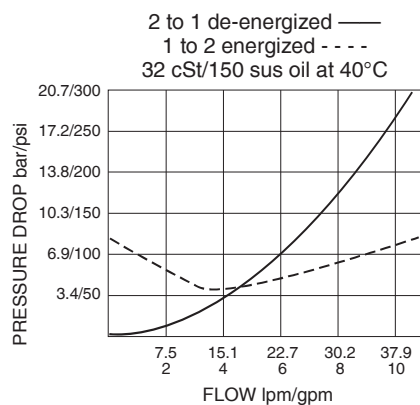
USASI:



ISO:



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 345 bar (5000 psi)

Flow: See Performance Chart

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 345 bar (5000 psi)

Temperature: -40 to 100°C with standard polyurethane seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;

0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 345 bar (5000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-2; See page 9.108.1

Cavity Tool: CT08-2XX; See page 8.600.1

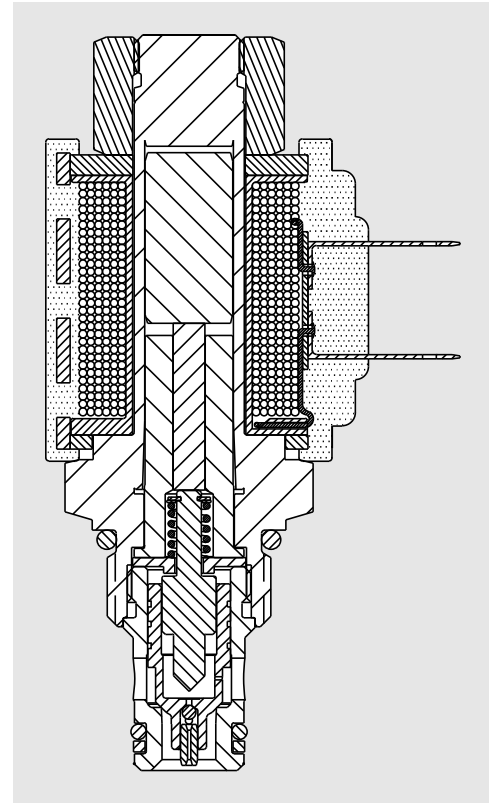
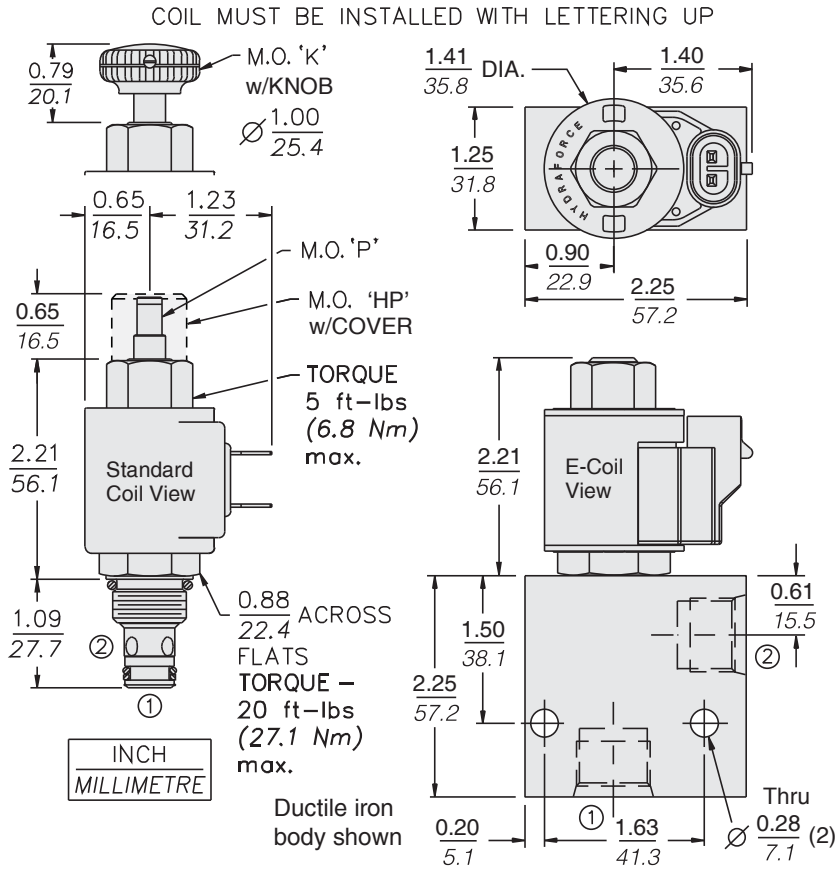
Seal Kit: SK08-2P-T; See page 8.650.1

Coil Nut: Part No. 7004410;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

Note: This valve, the SF08-23, replaces the SV58-23 which is now obsolete. For more information consult factory.

DIMENSIONS



MATERIALS

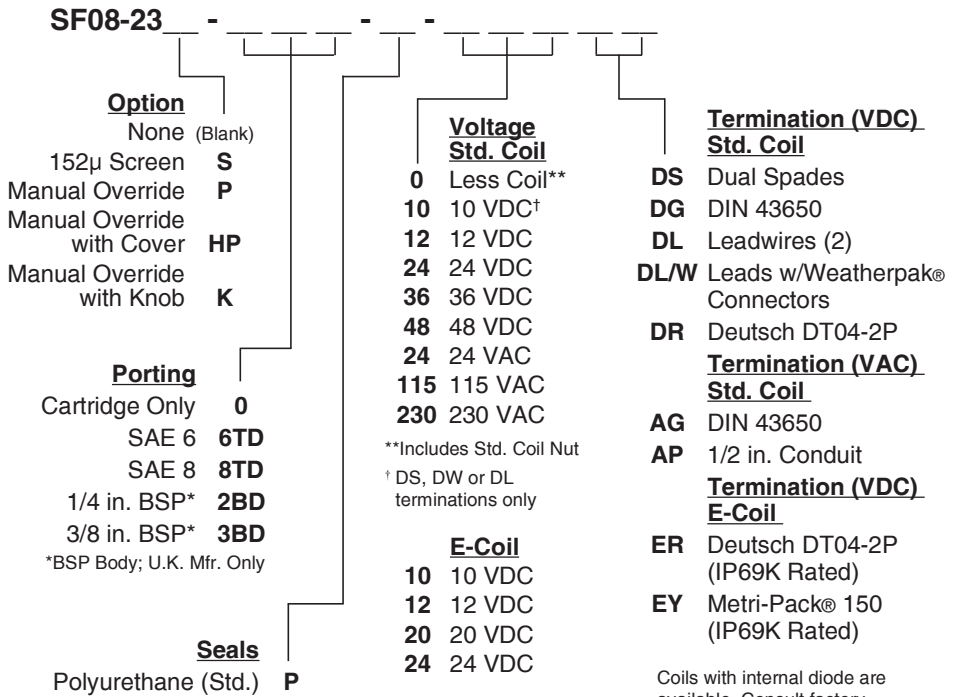
Cartridge: Weight: 0.09 kg. (0.20 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Polyurethane cast O-rings and Fluorocarbon back-up standard.

Ported Body: Weight: 0.54 kg. (1.2 lbs.), Ductile iron standard; rated to 345 bar (5000 psi); See page 8.008.1.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermo-plastic encapsulated, Class H high temperature magnetwire; See page 3.200.1.

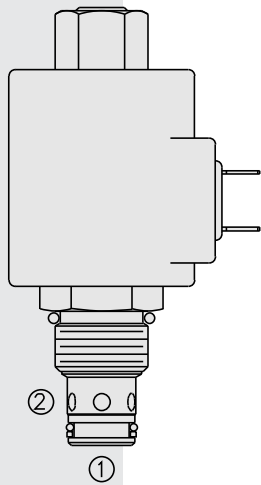
E-Coil: Weight: 0.14 kg. (0.3 lbs.); Fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors; **Note: See page 3.400.1 for all E-Coil retrofit applications.**

TO ORDER



Coils with internal diode are available. Consult factory.

SV10-23 Poppet, 2-Way, Normally Open



DESCRIPTION

A solenoid-operated, two-way, poppet-type, normally open, screw-in, hydraulic cartridge valve.

OPERATION

When de-energized, the **SV10-23** allows bidirectional flow from 2 to 1. With the sensor option, the neutral sensor will signal OFF or LOW.

When energized, the valve's poppet closes to block flow from 2 to 1. In this mode, the cartridge allows free reverse flow from 1 to 2 after overcoming the solenoid force (requires 3.4 to 10.3 bar / 50 to 150 psi). With the sensor option, the neutral sensor will signal ON or HIGH.

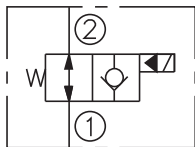
Operation of Manual Override Option: To override, push and hold override button.

FEATURES

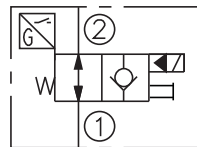
- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Manual override option.
- Unitized, molded coil design.
- Industry common cavity.

SYMBOLS

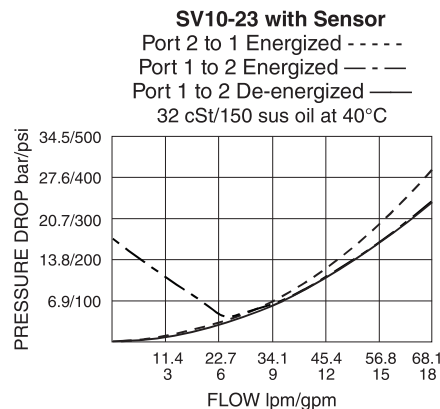
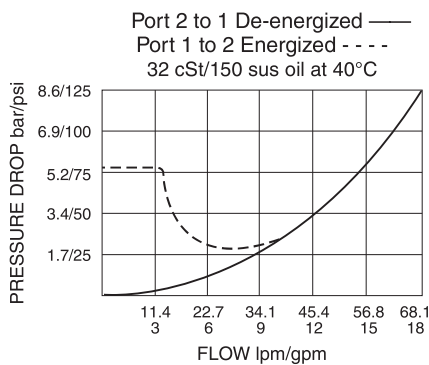
ISO:



with Sensor:



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 207 bar (3000 psi)

Proof Pressure: 345 bar (5000 psi)

Flow: See Performance Chart

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 207 bar (3000 psi)

Temperature: with standard Buna N seals: -40 to 100°C (-40° to 212°F);
with Fluorocarbon seals: -26 to 204°C (-15°F to 400°F);
Sensor Option: -40°C to 110°C (-40°F to 230°F)

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 80 msec.; De-energized: 30 msec.
Response Time with Sensor: 158 ms pull-in, 57 ms drop-out

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;
0.18 amps at 115 VAC (full wave rectified).
E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

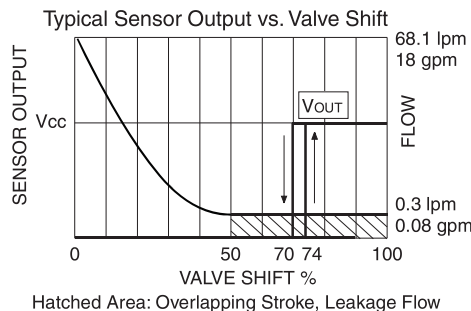
Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-2; See page 9.110.1; **Cavity Tool:** CT10-2XX; See page 8.600.1

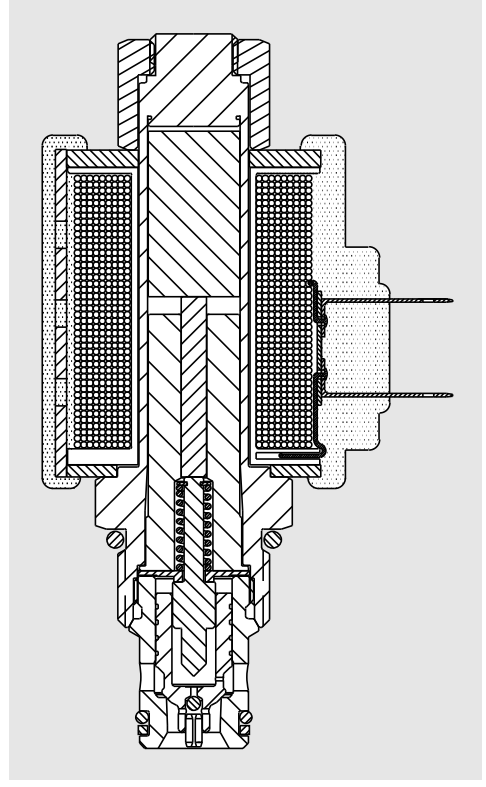
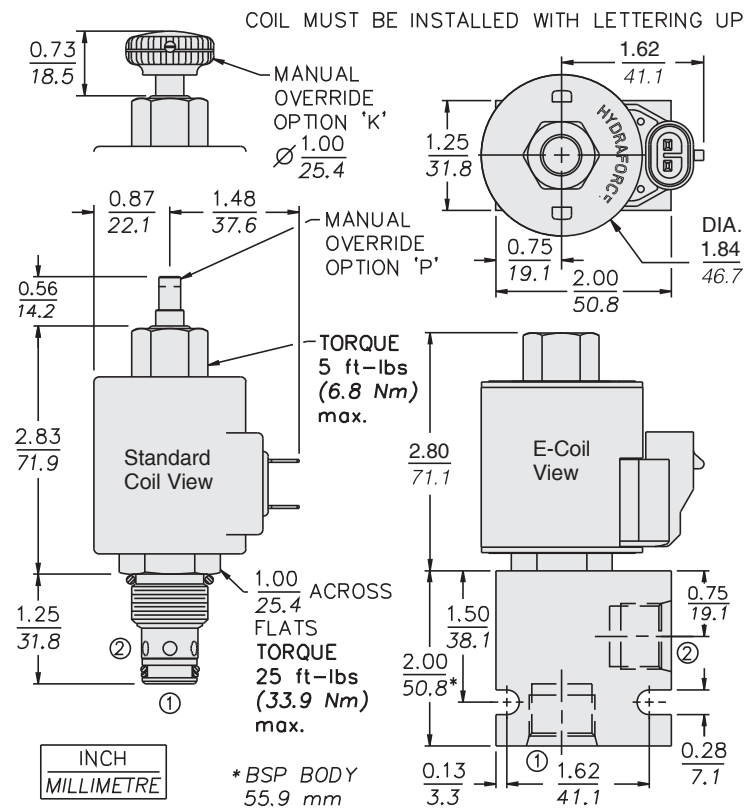
Seal Kit: SK10-2X-T; See page 8.650.1

Coil Nut: Part No. 7004420



SV10-23

DIMENSIONS



Dimensions will differ significantly with Sensor Option; see page 3.010.1.

MATERIALS

Cartridge: Weight: 0.16 kg. (0.35 lbs.); Weight with Sensor option: 0.45 kg. (1.0 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1.

D-Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermo-plastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1.

TO ORDER

SV10-(P)23(A) - - - - - Sensor Option: See page 3.010.1

With sensor option, use model code SV10-P23A . . . See page 3.010.1

Without sensor option, use model code SV10-23 . . .

Option	None (Blank)	
	152µ Screen	S
	Manual Override	P
	Manual Override	K

For Manual Override options see page 1.001.1

Porting	Cartridge Only	0
	SAE 6	6T
	SAE 8	8T
	1/4 in. BSP*	2B
	3/8 in. BSP*	3B
	1/2 in. BSP*	4B

*BSP Body; U.K. Mfr. Only

Voltage Std. Coil	
0	Less Coil**
10	10 VDC†
12	12 VDC
24	24 VDC
36	36 VDC
48	48 VDC
24	24 VAC
115	115 VAC
230	230 VAC

**Includes D-Coil Nut

† DS, DW or DL terminations only

E-Coils: 10,12,20 or 24 VDC only.

Seals

N	Buna N (Std.)
V	Fluorocarbon

Sensor Type

3 Dual Output, N.C./N.O.

Sensor/Connector

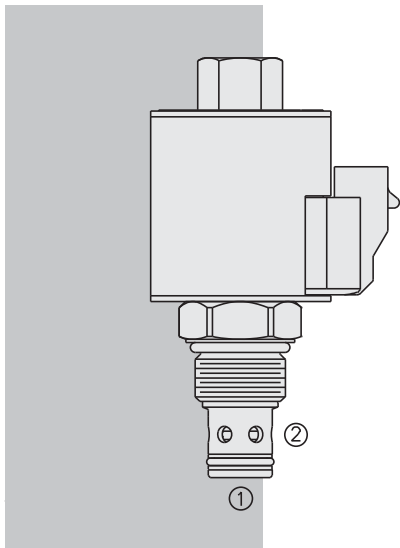
N	Neutral Sense/DT04-4P
M	Neutral Sense/M12-4P

Mating Connectors:
DT06-4S: Part No. 4001953
M12-4S: available at www.turck.com or www.binder-usa.com

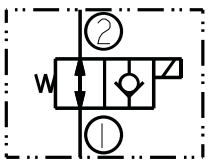
Coil Termination	E-Coil	D-Coil
Deutsch DT04-2P	ER (IP69K)	DR (IP65)
Metri-Pack® 150	EY (IP69K)	DY (IP65)
Dual Lead Wires	EL (IP69K)	DL (IP65)
Amp Jr. Timer	EJ (IP67)	—
DIN 43650	EG (IP65)	DG (IP65)
Dual Spades	—	DS (IP65)

For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1

HSV10-23 HyPerformance™ Poppet, 2-Way, Open

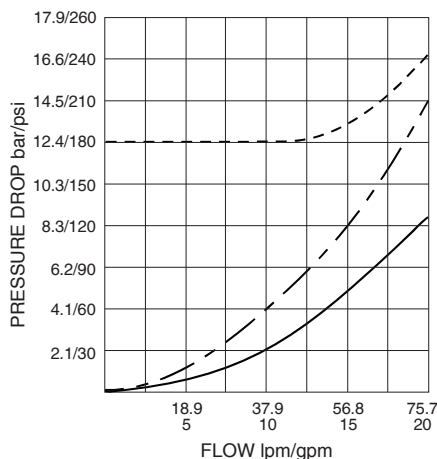


ISO SYMBOL



PERFORMANCE (Cartridge Only)

Port 1 to 2, energized - - - -
 Port 1 to 2, de-energized - - -
 Port 2 to 1, de-energized ———
 32 cSt/150 sus oil at 40°C



DESCRIPTION

A high pressure, solenoid operated, 2-way, piloted, poppet-type, normally open, screw-in hydraulic cartridge valve, designed for low leakage in load-holding applications.

OPERATION

When de-energized, the HSV10-23 allows flow bi-directionally. When energized, the valve's poppet closes on its seat, blocking flow from ports 2 to 1. In this mode, the cartridge will allow flow from ports 1 to 2 after overcoming the actuator and spring forces (see performance graph).

FEATURES

- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Waterproof E-Coils rated up to IP69K.
- 1000-hour salt-spray rated solenoid tubes and coils.
- Unitized, molded coil design.
- All HyPerformance products are tested to the rigorous standards of the NFPA specification T2.6.1.
- All HyPerformance valves are tested at a verification level of 90% and an assurance of 99%.

RATINGS

Operating Pressure: 350 bar (5075 psi); 10% Cycle Life: 420 bar (6090 psi)

Note: All HyPerformance products are tested for 900K cycles at 350 bar and 100K cycles at 420 bar.

Burst Pressure: 1380 bar (20,000 psi)

Flow: Up to 75.7 lpm (20 gpm)

Internal Leakage: 0.25 cc/minute (5 drops/minute) max. with 350 bar (5075 psi) at port 2.

Temperature: -54° to 107°C (-65° to 255° F) with PPDI Urethane seals.

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 80 msec.; De-energized: 30 msec.

Initial Coil Current Draw at 20°C: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 24 VDC

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

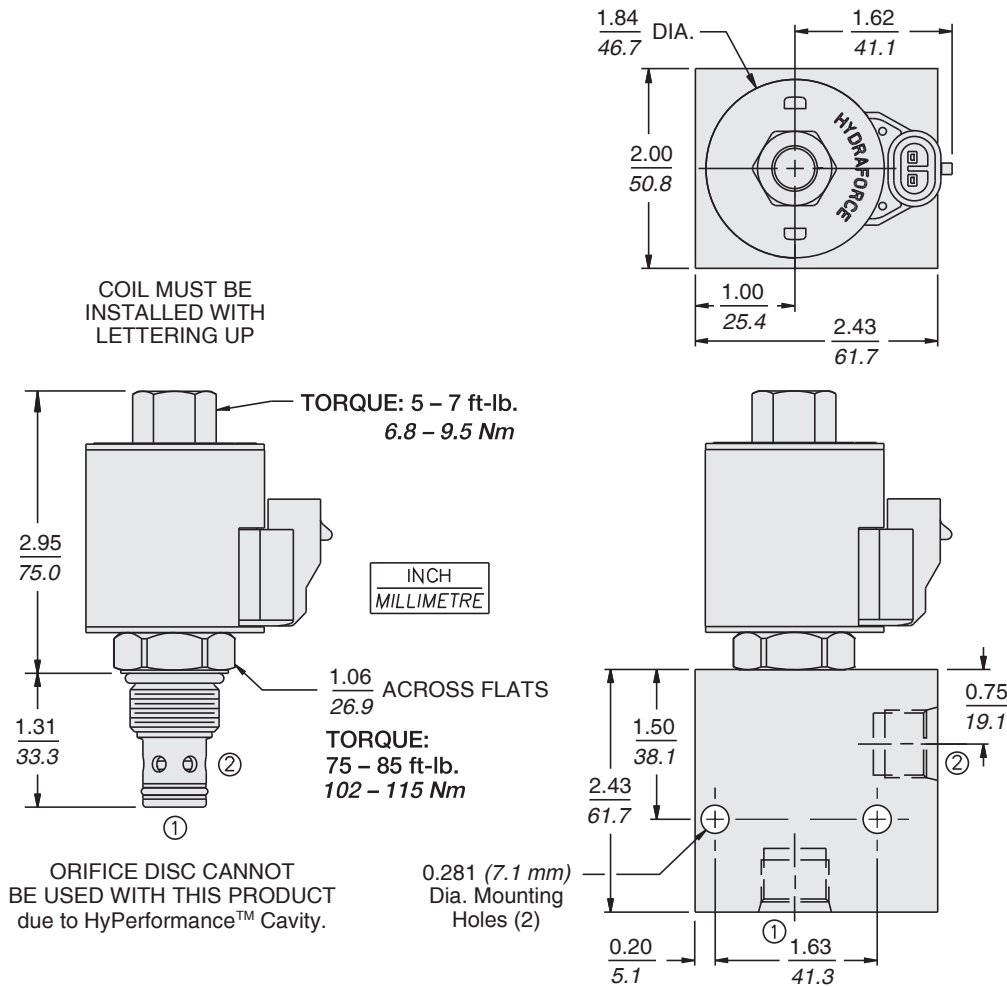
Cavity: HVC10-2; See page 9.110.1

Cavity Tool: HCT10-2xx; See page 8.600.1

Seal Kit: SK10-2N-M ; See page 8.650.1

Coil Nut: Part No. 4555250

DIMENSIONS



MATERIALS

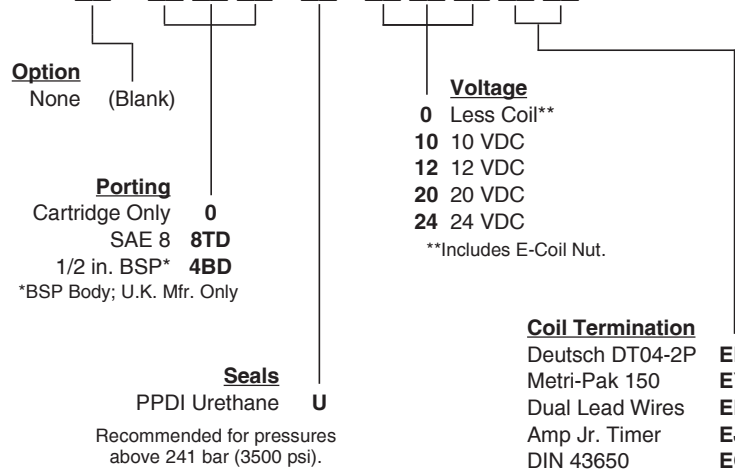
Cartridge: Weight: 0.19 kg. (0.42 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Urethane O-ring without back-up standard.

Ported Body: Weight: 1.19 kg. (2.62 lbs.); HyPerformance™ Ductile iron (code 'D') standard. Rated to 345 bar (5000 psi).

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1.

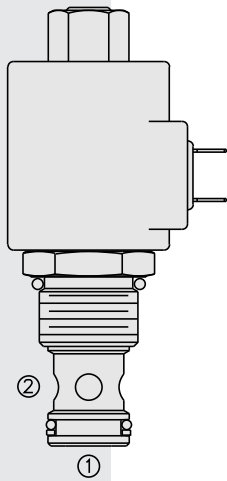
TO ORDER

HSV10-23



For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on page 3.400.1

SV12-23 Poppet, 2-Way, Normally Open



DESCRIPTION

A solenoid-operated, two-way, normally open, poppet-type, screw-in hydraulic cartridge valve, designed to function as a load holding or blocking valve in applications requiring low internal leakage.

OPERATION

When de-energized, the **SV12-23** allows bidirectional flow from 2 to 1. With the sensor option, the neutral sensor will signal OFF or LOW.

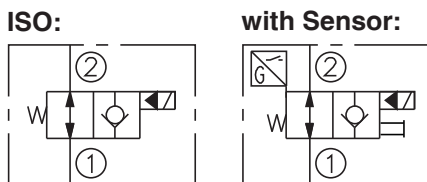
When energized, the valve's poppet closes to block flow from 2 to 1. In this mode, the cartridge allows free reverse flow from 1 to 2 after overcoming the solenoid force (requires 3.4 to 10.3 bar / 50 to 150 psi). With the sensor option, the neutral sensor will signal ON or HIGH.

Operation of Manual Override Option: To override, push and hold override button.

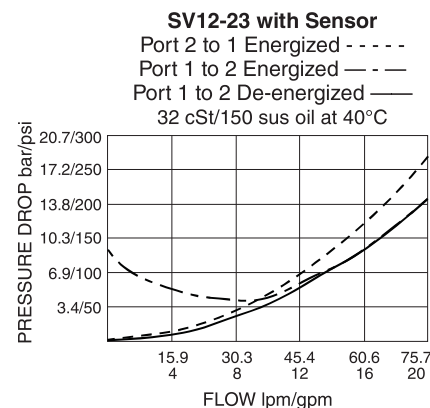
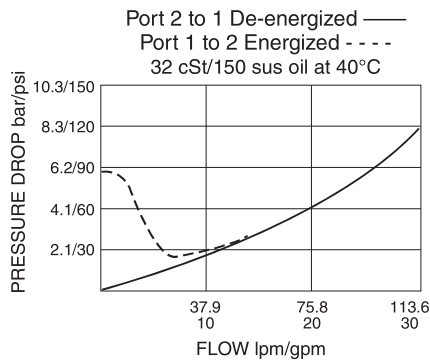
FEATURES

- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Manual override option.
- Cost effective cavity.

SYMBOLS



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 240 bar (3500 psi)

Flow: See Performance Chart

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 240 bar (3500 psi)

Temperature: with standard Buna N seals: -40 to 100°C (-40° to 212°F);
with Fluorocarbon seals: -26 to 204°C (-15°F to 400°F);
Sensor Option: -40°C to 110°C (-40°F to 230°F)

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 80 msec.; De-energized: 30 msec.
Response Time with Sensor: 158 ms pull-in, 57 ms drop-out

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;
0.18 amps at 115 VAC (full wave rectified).
E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

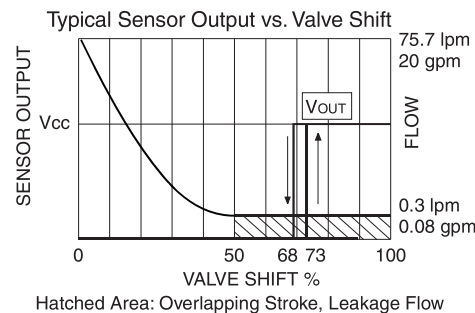
Installation: No restrictions; See page 9.020.1

Cavity: VC12-2; See page 9.112.1

Cavity Tool: CT12-2XX; See page 8.600.1

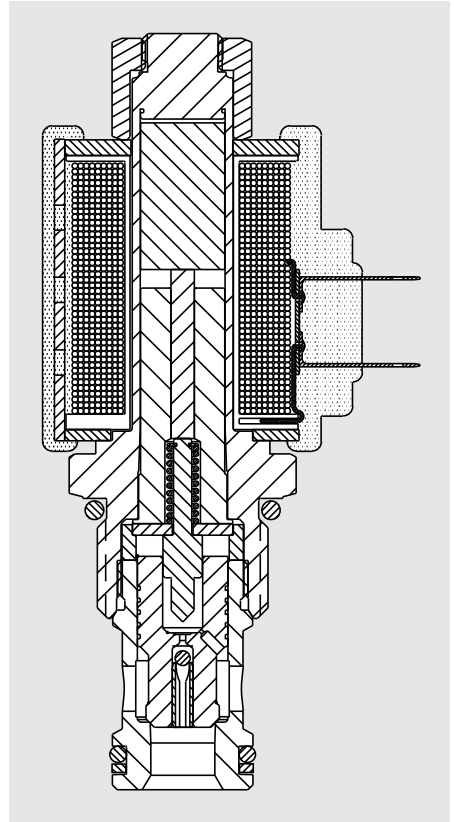
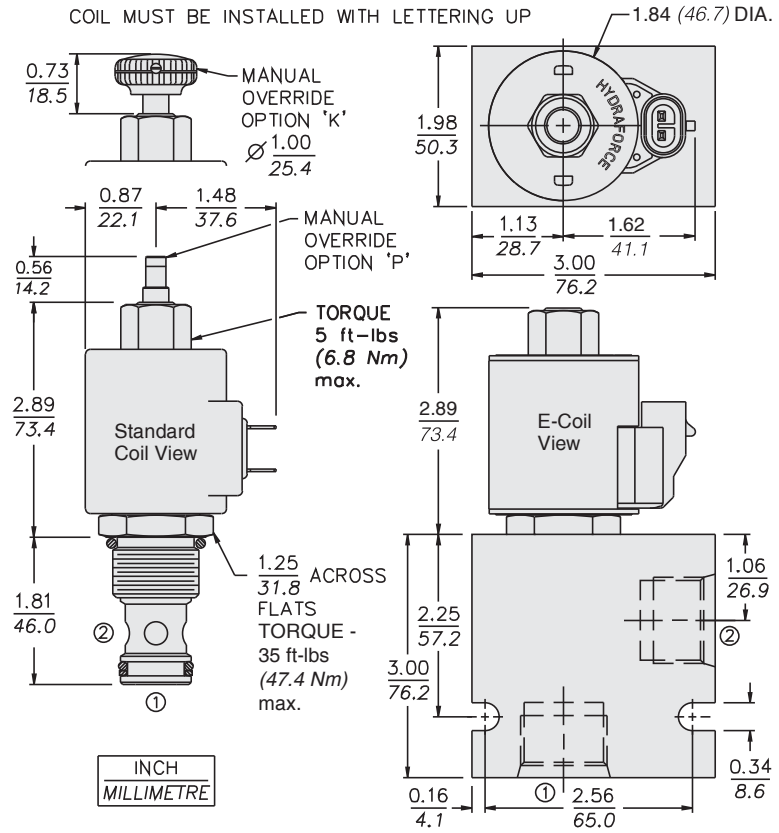
Seal Kit: SK12-2X-T; See page 8.650.1

Coil Nut: Part No. 7004420



SV12-23

DIMENSIONS



Dimensions will differ significantly with Sensor Option; see page 3.010.1.

MATERIALS

Cartridge: Weight: 0.25 kg. (0.55 lbs.); Weight with Sensor option: 0.50 kg. (1.1 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.57kg. (1.25 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.012.1.

D-Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermo-plastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1.

TO ORDER

SV12-(P)23(A) - - - - - Sensor Option: See page 3.010.1

With sensor option, use model code SV12-P23A . . . See page 3.010.1

Without sensor option, use model code SV12-23 . . .

Option

None (Blank)

Manual Override **P**

Manual Override **K**

For Manual Override options see page 1.001.1

Porting

Cartridge Only **0**

SAE 6 **10T**

SAE 8 **12T**

SAE 16 **16T**

3/4 in. BSP* **6B**

1 in. BSP* **8B**

*BSP Body; U.K. Mfr. Only

Voltage Std. Coil

0 Less Coil**

10 10 VDC†

12 12 VDC

24 24 VDC

36 36 VDC

48 48 VDC

24 24 VAC

115 115 VAC

230 230 VAC

**Includes D-Coil Nut

† DS, DW or DL terminations only

E-Coils: 10,12,20 or 24 VDC only.

Seals

N Buna N (Std.)

V Fluorocarbon

Sensor Type

3 Dual Output, N.C./N.O

Sensor/Connector

N Neutral Sense/DT04-4P

M Neutral Sense/M12-4P

Mating Connectors:

DT06-4S: Part No. 4001953

M12-4S: available at www.turck.com or www.binder-usa.com

Coil Termination

Deutsch DT04-2P

Metri-Pack® 150

Dual Lead Wires

Amp Jr. Timer

DIN 43650

Dual Spades

E-Coil

ER (IP69K)

EY (IP69K)

EL (IP69K)

EJ (IP67)

EG (IP65)

D-Coil

DR (IP65)

DY (IP65)

DL (IP65)

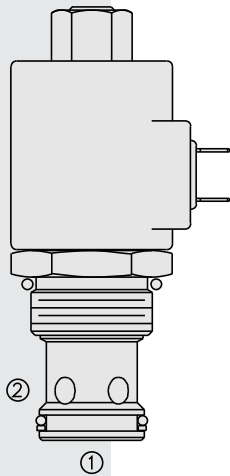
—

DG (IP65)

DS (IP65)

For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1

SV16-23 Poppet, 2-Way, Normally Open



DESCRIPTION

A solenoid-operated, two-way, normally open, poppet-type, screw-in hydraulic cartridge valve, designed to function as a load holding or blocking valve in applications requiring low internal leakage.

OPERATION

When de-energized, the **SV16-23** poppet lifts to open the 2 to 1 flow path. In this mode, flow from 1 to 2 is also allowed.

When energized, the cartridge acts as a check valve, allowing flow to pass from 1 to 2, while blocking flow in the reverse direction after overcoming the solenoid force (requires 3.4 to 10.3 bar / 50 to 150 psi).

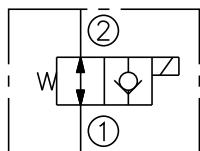
Operation of Manual Override Option: To override, push and hold override button.

FEATURES

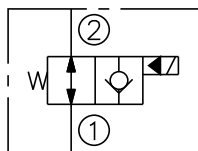
- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Industry common cavity.

SYMBOLS

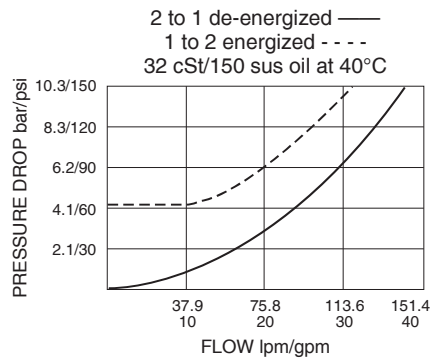
USASI:



ISO:



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 207 bar (3000 psi); Under certain operating conditions, this valve may be used at higher pressures; consult factory.

Proof Pressure: 390 bar (5700 psi)

Flow: See Performance Chart

Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;
0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC16-2; See page 9.116.1

Cavity Tool: CT16-2XX; See page 8.600.1

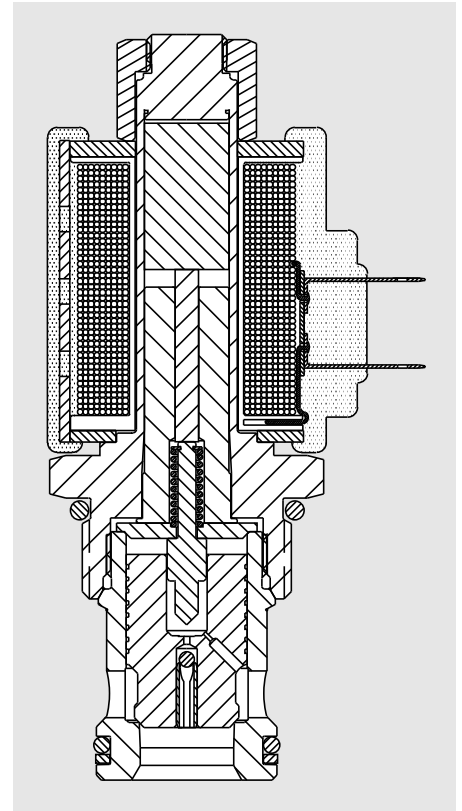
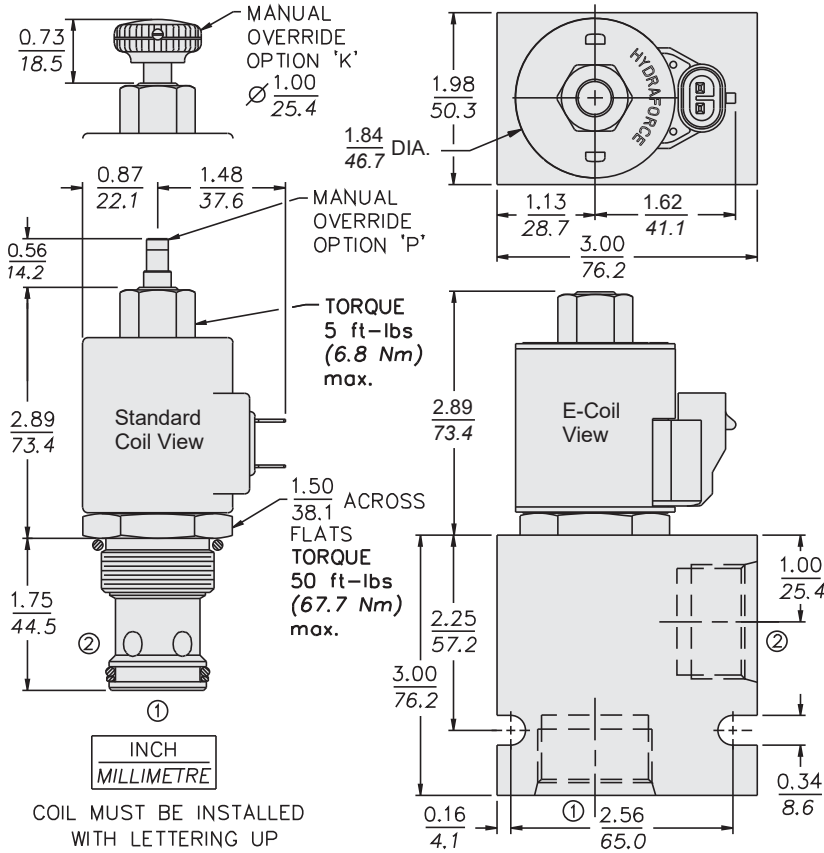
Seal Kit: SK16-2X-T; See page 8.650.1

Coil Nut: Part No. 7004420;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SV16-23

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.31 kg. (0.69 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.57 kg. (1.25 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.016.1

Standard Coil: Weight: 0.27 kg. (0.60 lbs.) Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.41 kg. (0.9 lbs.) Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors.

Note: See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV16-23

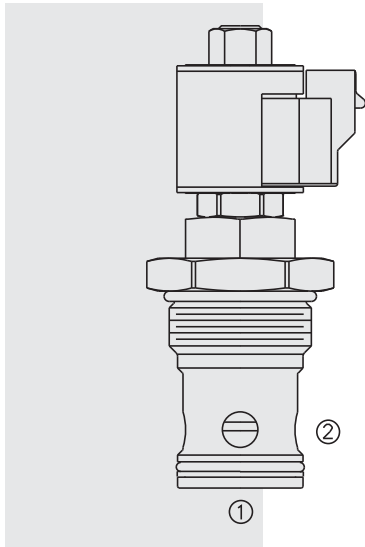
Option	
None (Blank)	
Manual Override without knob	P
Manual Override with knob	K
For Manual Override options see page 1.001.1	
Porting	
Cartridge Only	0
SAE 12	12T
SAE 16	16T
3/4 in. BSP*	6B
1 in. BSP*	8B
*BSP Body; U.K. Mfr. Only	
Seals	
Buna N (Std.)	N
Fluorocarbon	V

Voltage Std. Coil	
0 Less Coil**	
10 10 VDC [†]	
12 12 VDC	
24 24 VDC	
36 36 VDC	
48 48 VDC	
24 24 VAC	
115 115 VAC	
230 230 VAC	
**Includes Std. Coil Nut	
[†] DS, DW or DL terminations only.	
E-Coil	
10 10 VDC	
12 12 VDC	
20 20 VDC	
24 24 VDC	

Termination (VDC) Std. Coil	
DS Dual Spades	
DG DIN 43650	
DL Leadwires (2)	
DL/W Leads w/Weatherpak® Connectors	
DR Deutsch DT04-2P	
Termination (VAC) Std. Coil	
AG DIN 43650	
AP 1/2 in. Conduit	
Termination (VDC) E-Coil	
ER Deutsch DT04-2P (IP69K Rated)	
EY Metri-Pack® 150 (IP69K Rated)	

Coils with internal diode are available. Consult factory.

SF20-23 Poppet, 2-Way, Normally Open



DESCRIPTION

A solenoid-operated, 2-way, normally open, piloted poppet-type, screw-in hydraulic cartridge valve, intended to act as a blocking or load-holding device for applications requiring low internal leakage.

OPERATION

When energized, the SF20-23 acts as a check valve, allowing flow from 1 to 2, while blocking flow from 2 to 1.

When de-energized, the cartridge's poppet lifts to open the 2 to 1 flow path. In this mode, bidirectional flow is allowed.

FEATURES

- Continuous-duty rated coil.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Optional waterproof E-Coils rated up to IP69K.
- Industry common cavity.

RATINGS

Operating Pressure: Maximum: 345 bar (5000 psi); Minimum: 1.4 bar (20 psi)

Flow: Up to 303 lpm (80 gpm)

Internal Leakage: 10 drops/minute max. at 345 bar (5000 psi)

Operating Temperature: -40 to 120°C with standard Buna N seals

-30 to 205°C with Fluorocarbon seals

-50 to 80°C with Polyurethane seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;

0.13 amps at 115 VAC (full wave rectified);

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 345 bar (5000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC20-2; See page 9.120.1

Cavity Tool: CT20-2XX; See page 8.600.1

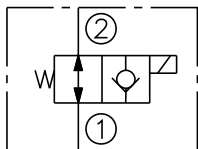
Seal Kit: SK20-2x-T; See page 8.650.1

Coil Nut: Part No. 7004410;

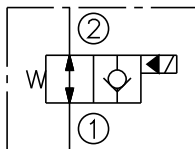
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SYMBOLS

USASI:

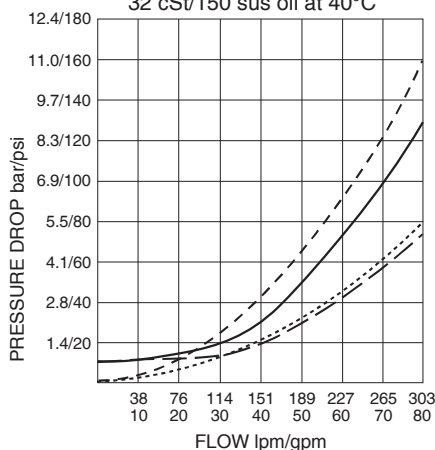


ISO:

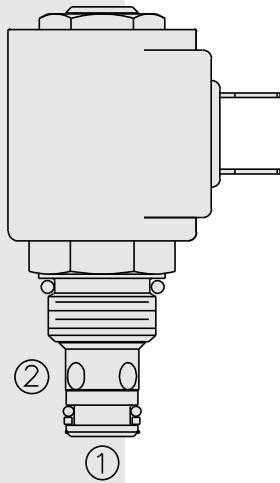


PERFORMANCE (Cartridge Only)

- 2 to 1 without cavity undercut ———
- 2 to 1 with cavity undercut — — —
- 1 to 2 without cavity undercut - - - -
- 1 to 2 with cavity undercut - - - -
- 32 cSt/150 sus oil at 40°C

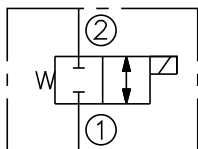


SV08-24 Spool, 2-Way, Normally Closed

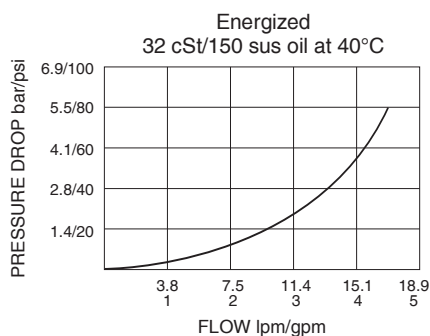


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, two-way, normally closed, direct-acting, spool-type, screw-in hydraulic cartridge valve, designed to operate as a bidirectional blocking valve in low flow circuits.

OPERATION

When de-energized, the **SV08-24** blocks flow in both directions.

When energized, the cartridge's spool shifts to open the bidirectional flow path.

Operation of Manual Override Feature: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

To return to normal valve function, push button in, twist clockwise 180° and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Both ports may be fully pressurized.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Industry common cavity.
- Compact size.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: 17 lpm (4.5 gpm) max.

Internal Leakage: 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-2; See page 9.108.1

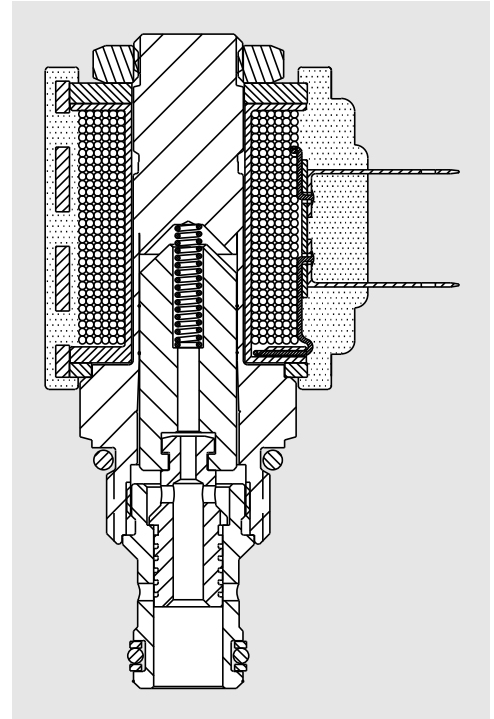
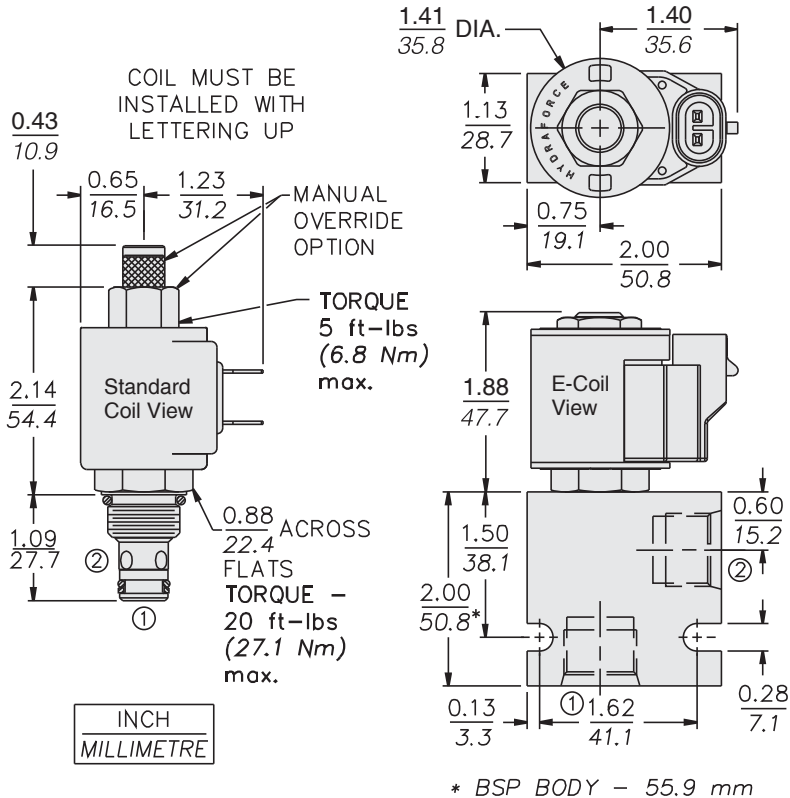
Cavity Tool: CT08-2XX; See page 8.600.1

Seal Kit: SK08-2X-M; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.09 kg. (0.20 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

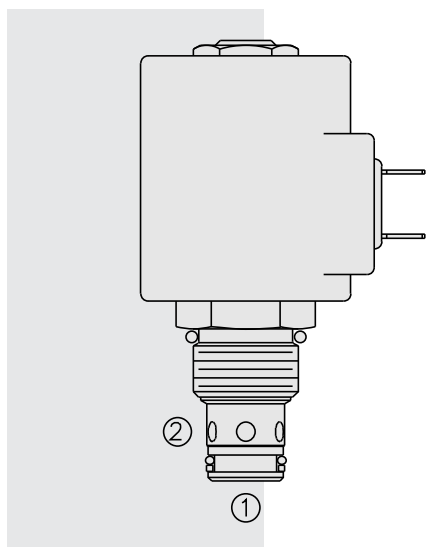
Note: See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV08-24		-	-	-	-	-
Option						
None (Blank)						
152µ Screen on Port	S					
Manual Override	M					
Porting						
Cartridge Only	0					
SAE 4	4T					
SAE 6	6T					
1/4 in. BSP*	2B					
3/8 in. BSP*	3B					
*BSP Body; U.K. Mfr. Only						
Seals						
Buna N (Std.)	N					
Fluorocarbon	V					
Voltage						
Std. Coil						
0 Less Coil**	0					
10 10 VDC†	10					
12 12 VDC	12					
24 24 VDC	24					
36 36 VDC	36					
48 48 VDC	48					
24 24 VAC	24					
115 115 VAC	115					
230 230 VAC	230					
**Includes Std. Coil Nut						
† DS, DW or DL terminations only.						
E-Coil						
10 10 VDC	10					
12 12 VDC	12					
20 20 VDC	20					
24 24 VDC	24					
Termination (VDC) Std. Coil						
DS Dual Spades						
DG DIN 43650						
DL Leadwires (2)						
DL/W Leads w/Weatherpak® Connectors						
DR Deutsch DT04-2P						
Termination (VAC) Std. Coil						
AG DIN 43650						
AP 1/2 in. Conduit						
Termination (VDC) E-Coil						
ER Deutsch DT04-2P (IP69K Rated)						
EY Metri-Pack® 150 (IP69K Rated)						

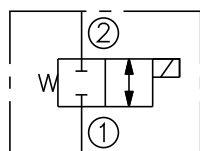
Coils with internal diode are available. Consult factory.

SV10-24 Spool, 2-Way, Normally Closed

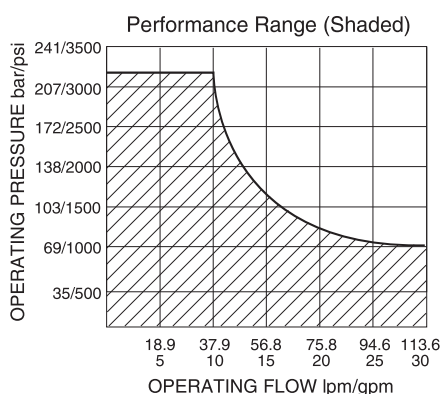
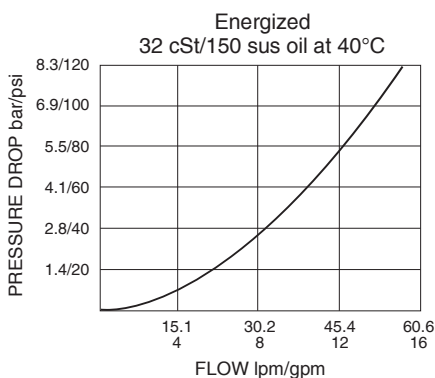


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, two-way, normally closed, direct-acting, spool-type, screw-in hydraulic cartridge valve, designed to operate as a bidirectional blocking valve.

OPERATION

When de-energized, the **SV10-24** blocks flow in both directions.

When energized, the cartridge's spool shifts to open the bidirectional flow path.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

To return to normal valve function, push button in, twist clockwise 180°, and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Both ports may be fully pressurized.
- Efficient wet-armature construction.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Industry common cavity.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Proof Pressure: 350 bar (5075 psi)

Flow: See Performance Chart

Internal Leakage: 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating:

Energized: 30 msec.; De-energized: 25 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;

0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-2; See page 9.110.1

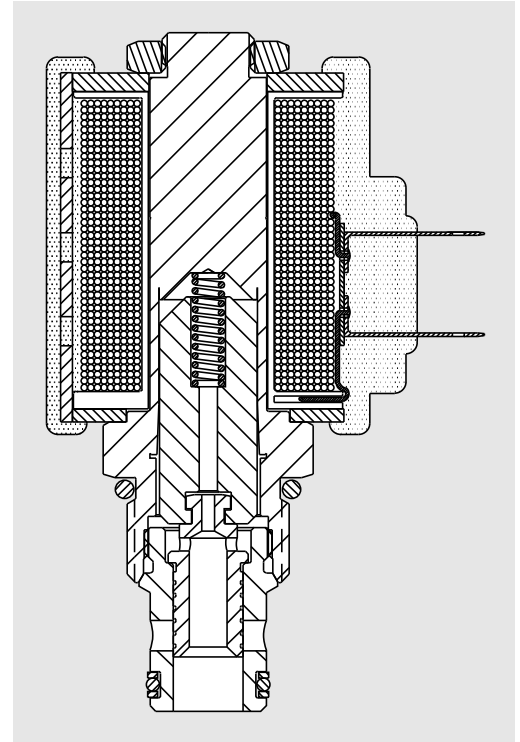
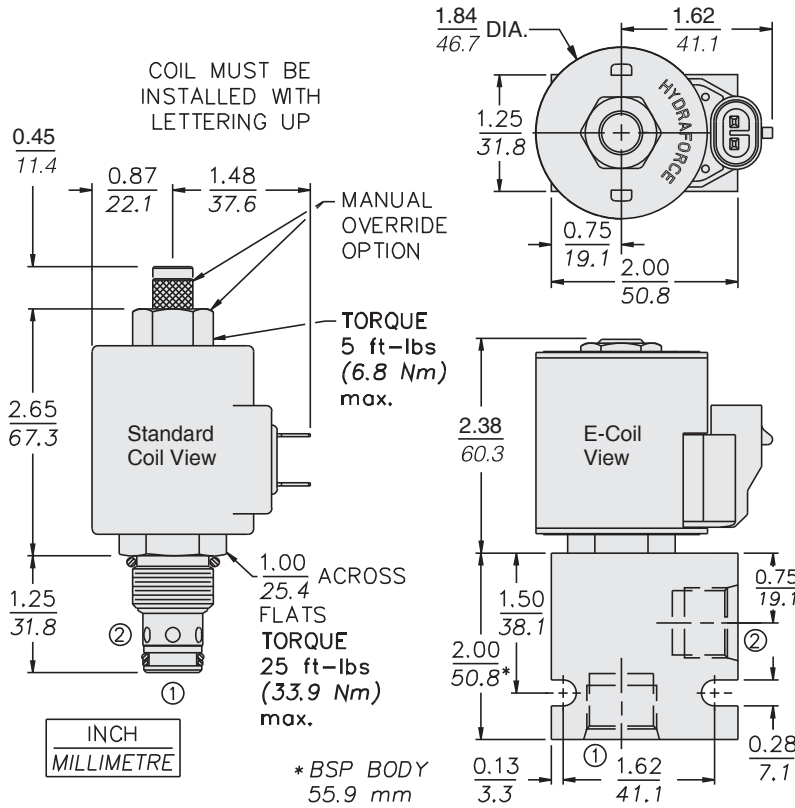
Cavity Tool: CT10-2XX; See page 8.600.1

Seal Kit: SK10-2X-M; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.16 kg. (0.35 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. **Note: See page 3.400.1 for all E-Coil retrofit applications.**

TO ORDER

SV10-24

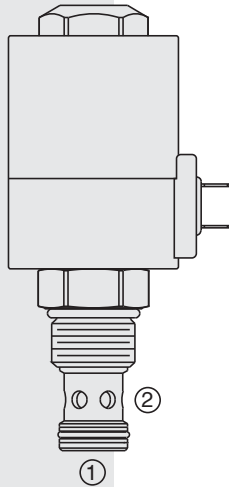
Option		Voltage	Termination (VDC)
None (Blank)		Std. Coil	Std. Coil
152µ Screen	S	0 Less Coil**	DS Dual Spades
Manual Override	M	10 10 VDC [†]	DG DIN 43650
Manual Override	Y	12 12 VDC	DL Leadwires (2)
Manual Override	J	24 24 VDC	DL/W Leads w/Weatherpak® Connectors
For Manual Override options see page 1.001.1		36 36 VDC	DR Deutsch DT04-2P
		48 48 VDC	
Porting		24 24 VAC	Termination (VAC)
Cartridge Only	0	115 115 VAC	Std. Coil
SAE 6	6T	230 230 VAC	AG DIN 43650
SAE 8	8T		AP 1/2 in. Conduit
1/4 in. BSP*	2B		Termination (VDC)
3/8 in. BSP*	3B		E-Coil
1/2 in. BSP*	4B		ER Deutsch DT04-2P (IP69K Rated)
*BSP Body; U.K. Mfr. Only		E-Coil	EY Metri-Pack® 150 (IP69K Rated)
Seals		10 10 VDC	
Buna N (Std.)	N	12 12 VDC	
Fluorocarbon	V	20 20 VDC	
		24 24 VDC	

**Includes Std. Coil Nut

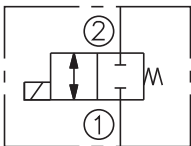
[†] DS, DW or DL terminations only.

Coils with internal diode are available. Consult factory.

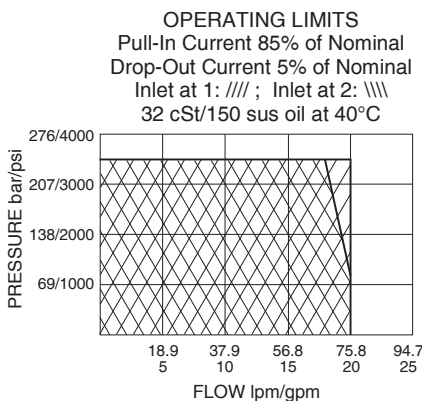
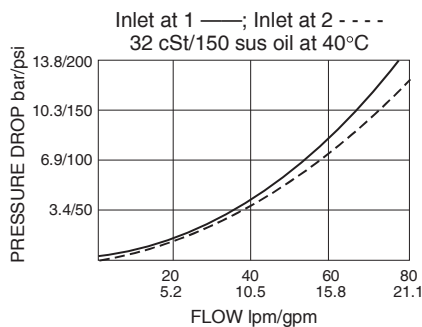
SV12-24 Spool, 2-Way, Normally Closed



ISO SYMBOL:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, two-way, normally closed, direct-acting spool-type, screw-in hydraulic cartridge valve, designed to function as a bidirectional blocking valve.

OPERATION

When de-energized, the **SV12-24** blocks flow in both directions. When energized, the valve's spool shifts to allow flow in both directions.

FEATURES

- Continuous-duty rated solenoid.
- Hardened spool and cage for long life.
- Optional coil voltages and terminations.
- All ports may be fully pressurized.
- Heavy-duty water resistant E-Coils rated up to IP69K.

RATINGS

Operating Pressure: 240 bar (3500 psi) max.

Flow: See Performance Chart

Leakage: 410 cc/minute (25 cu. in./minute) at 240 bar (3500 psi)

Temperature: -40 to 120°C with Buna N seals

Coil Duty Rating: See Chart

Response Time: Pull-In: 100 msec; Drop-Out: 100 msec

Initial Coil Current Draw at 20°C: 2.8 amps at 12 VDC

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

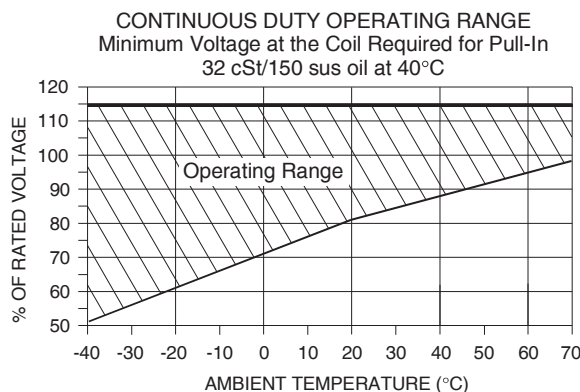
Installation: No restrictions; See page 9.020.1

Cavity: VC12-2; See page 9.112.1

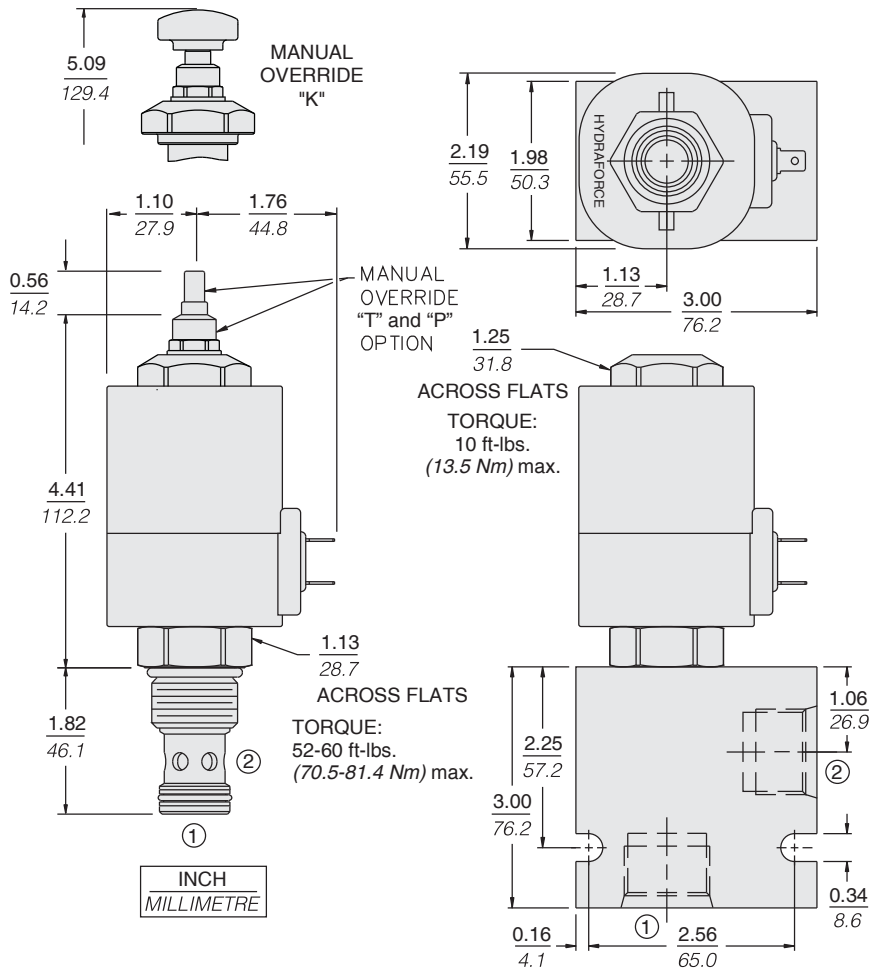
Cavity Tool: CT12-2XX; See page 8.600.1

Seal Kit: SK12-2X-M; See page 8.650.1

E-Coil Nut: Part No. 7085180



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.25 kg. (0.55 lbs.)
Steel with hardened work surfaces.
Zinc-plated exposed surfaces.
Buna N O-rings and TFE back-ups standard.

Standard Ported Body: Weight: 0.57 kg. (1.25 lbs.)
Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.012.1.

E-Coil: Weight: 1.36 kg. (3.0 lbs.)
Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1.

TO ORDER

SV12-24

Manual Override

None (Blank)
Push **P**
Threaded
Detent **T**
Knob **K**

For manual override options, see page 1.001.1

Porting

Cartridge Only **0**
SAE 10 **10T**
SAE 12 **12T**
SAE 16 **16T**
1/2 in. BSP* **4B**
3/4 in. BSP* **6B**

*BSP Body; U.K. Mfr. Only

Seals

Buna N (Std.) **N**
Fluorocarbon **V**

Terminations (VDC)

EL Leadwires (2), IP65 Rated
ES Dual Spades, IP65 Rated
EG DIN 43650, IP65 Rated
EW Leads w/Weather-Pack® Connector, IP65 Rated
EY Metri-Pack® 150 Connector, IP69K Rated

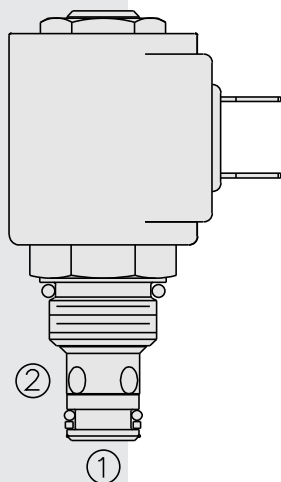
Coils with internal diode are available. Consult factory.

Voltage

0 Less Coil
12 12 VDC
24 24 VDC
36 36 VDC
48 48 VDC

Other coil voltages may be available for OEM applications. Consult factory.

SV08-25 Spool, 2-Way, Normally Open



DESCRIPTION

A solenoid-operated, two-way, normally open, direct-acting, spool-type, screw-in hydraulic cartridge valve designed to function as a bidirectional blocking valve in low flow circuits.

OPERATION

When de-energized, the **SV08-25** allows flow in both directions.

When energized, the valve's spool shifts to close bidirectionally.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

To return to normal valve function, push button in, twist clockwise 180°, and release. Override will be detented in this position.

FEATURES

- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Both ports may be fully pressurized.
- Cartridges are voltage-interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized molded coil design.
- Compact size.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: 9.5 lpm (2.5 gpm) max.

Internal Leakage: 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC; 0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-2; See page 9.108.1

Cavity Tool: CT08-2XX; See page 8.600.1

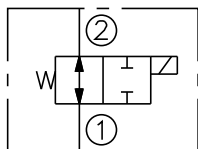
Seal Kit: SK08-2X-M; See page 8.650.1

Coil Nut: Part No. 7004400;

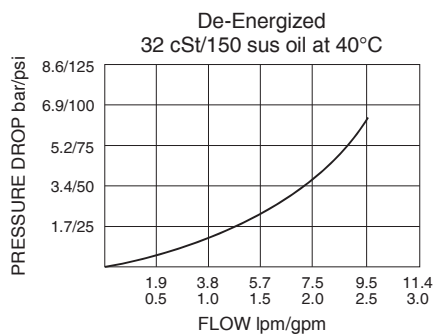
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SYMBOLS

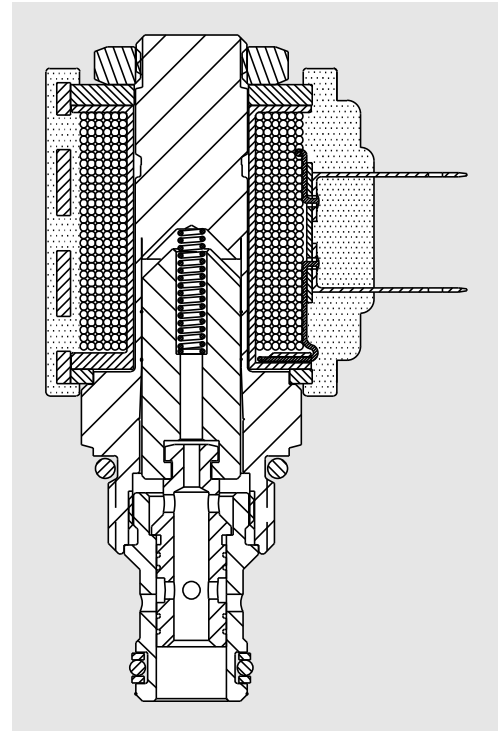
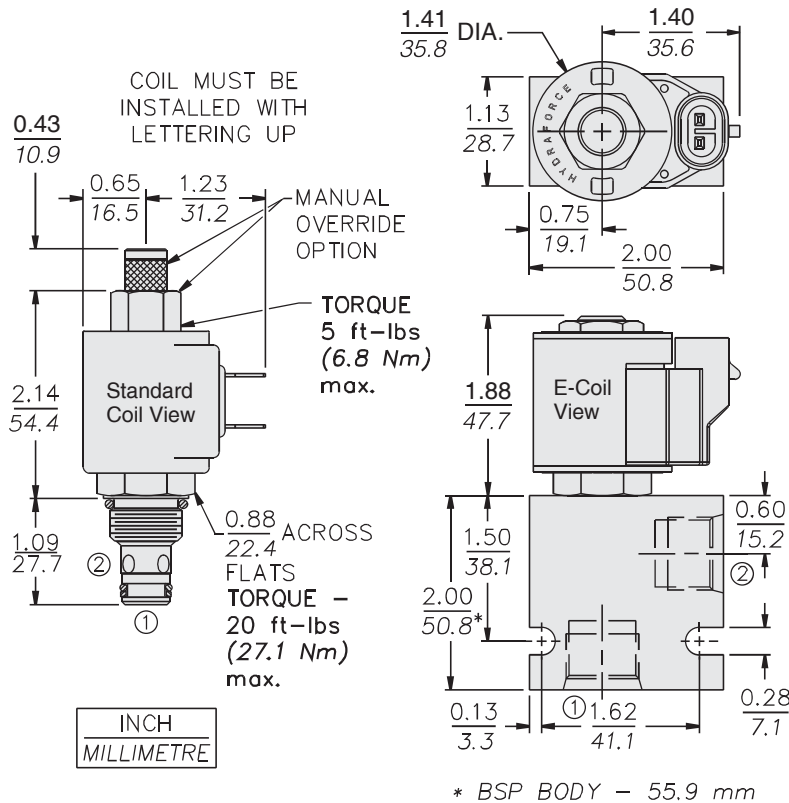
USASI/ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.09 kg. (0.20 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

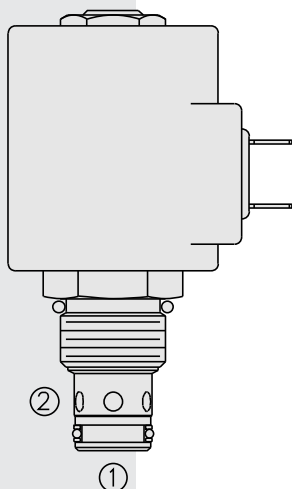
Note: See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV08-25		-	-	-	-	-
Option						
None (Blank)						
152µ Screen	S					
Manual Override	M					
Porting						
Cartridge Only	0					
SAE 4	4T					
SAE 6	6T					
1/4 in. BSP*	2B					
3/8 in. BSP*	3B					
*BSP Body; U.K. Mfr. Only						
Seals						
Buna N (Std.)	N					
Fluorocarbon	V					
		Voltage				
		Std. Coil				
		0	Less Coil**			
		10	10 VDC†			
		12	12 VDC			
		24	24 VDC			
		36	36 VDC			
		48	48 VDC			
		24	24 VAC			
		115	115 VAC			
		230	230 VAC			
		**Includes Std. Coil Nut				
		† DS, DW or DL terminations only.				
		E-Coil				
		10	10 VDC			
		12	12 VDC			
		20	20 VDC			
		24	24 VDC			
				Termination (VDC)		
				Std. Coil		
				DS	Dual Spades	
				DG	DIN 43650	
				DL	Leadwires (2)	
				DL/W	Leads w/Weatherpak® Connectors	
				DR	Deutsch DT04-2P	
					Termination (VAC)	
					Std. Coil	
				AG	DIN 43650	
				AP	1/2 in. Conduit	
					Termination (VDC)	
					E-Coil	
				ER	Deutsch DT04-2P (IP69K Rated)	
				EY	Metri-Pack® 150 (IP69K Rated)	

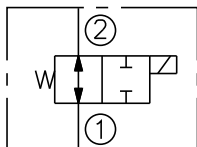
Coils with internal diode are available. Consult factory.

SV10-25 Spool, 2-Way, Normally Open

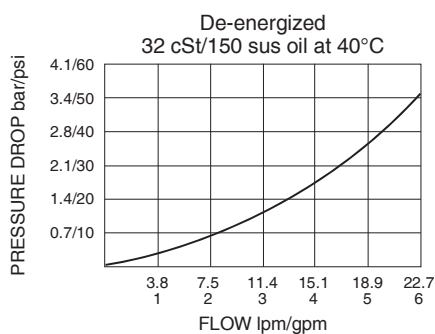


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, two-way, normally open, direct-acting, spool-type, screw-in hydraulic cartridge valve, designed to function as a bidirectional blocking valve.

OPERATION

When de-energized, the **SV10-25** allows flow in both directions.

When energized, the cartridge's spool shifts to close the bidirectional flow path.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

To return to normal valve function, push button in, twist clockwise 180° and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Both ports may be fully pressurized.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Industry common cavity.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Proof Pressure: 350 bar (5075 psi)

Flow: Inlet at port 1: 18.9 lpm (5 gpm) max; Inlet at port 2: 22.7 lpm (6 gpm) max.

Internal Leakage: 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 60 msec.; De-energized: 60 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC; 0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-2; See page 9.110.1

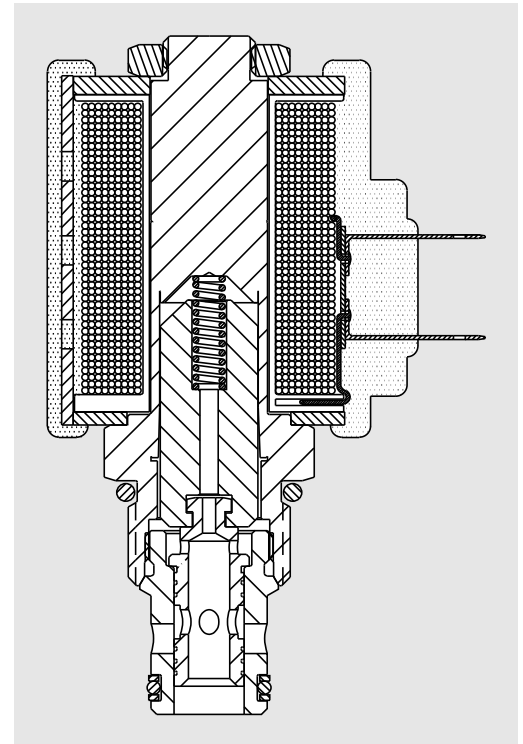
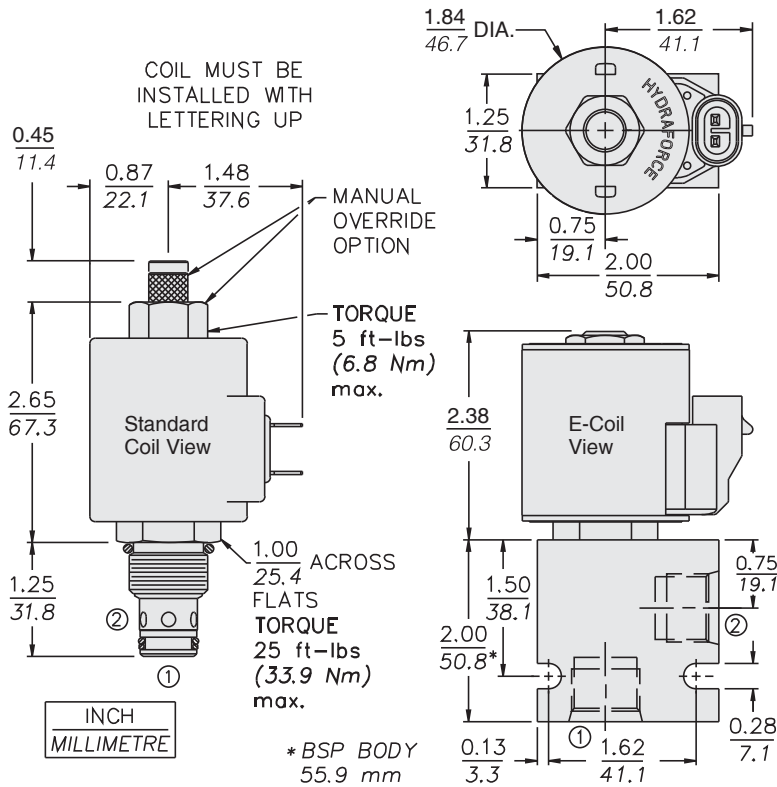
Cavity Tool: CT10-2XX; See page 8.600.1

Seal Kit: SK10-2X-M; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.16 kg. (0.35 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

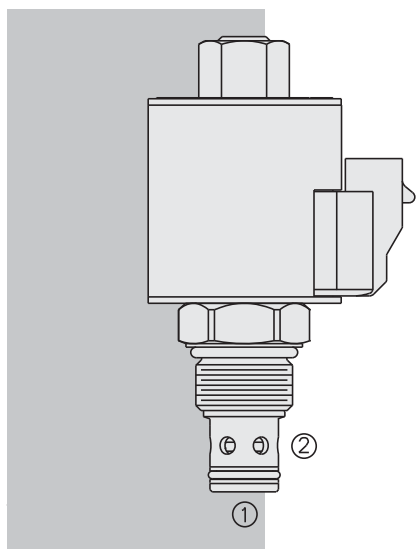
E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. **Note: See page 3.400.1 for all E-Coil retrofit applications.**

TO ORDER

SV10-25

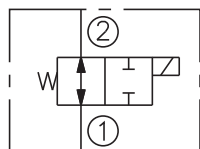
<p>Option</p> <p>None (Blank)</p> <p>Manual Override M</p> <p>Manual Override Y</p> <p>Manual Override J</p> <p>For Manual Override options see page 1.001.1</p> <p>Porting</p> <p>Cartridge Only 0</p> <p>SAE 6 6T</p> <p>SAE 8 8T</p> <p>1/4 in. BSP* 2B</p> <p>3/8 in. BSP* 3B</p> <p>1/2 in. BSP* 4B</p> <p>*BSP Body; U.K. Mfr. Only</p> <p>Seals</p> <p>Buna N (Std.) N</p> <p>Fluorocarbon V</p>	<p>Voltage</p> <p>Std. Coil</p> <p>0 Less Coil**</p> <p>10 10 VDC[†]</p> <p>12 12 VDC</p> <p>24 24 VDC</p> <p>36 36 VDC</p> <p>48 48 VDC</p> <p>24 24 VAC</p> <p>115 115 VAC</p> <p>230 230 VAC</p> <p>**Includes Std. Coil Nut</p> <p>[†] DS, DW or DL terminations only.</p> <p>E-Coil</p> <p>10 10 VDC</p> <p>12 12 VDC</p> <p>20 20 VDC</p> <p>24 24 VDC</p>	<p>Termination (VDC)</p> <p>Std. Coil</p> <p>DS Dual Spades</p> <p>DG DIN 43650</p> <p>DL Leadwires (2)</p> <p>DL/W Leads w/Weatherpak® Connectors</p> <p>DR Deutsch DT04-2P</p> <p>Termination (VAC)</p> <p>Std. Coil</p> <p>AG DIN 43650</p> <p>AP 1/2 in. Conduit</p> <p>Termination (VDC)</p> <p>E-Coil</p> <p>ER Deutsch DT04-2P (IP69K Rated)</p> <p>EY Metri-Pack® 150 (IP69K Rated)</p> <p>Coils with internal diode are available. Consult factory.</p>
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HSV10-25 HyPerformance™ Spool, 2-Way, N.O.

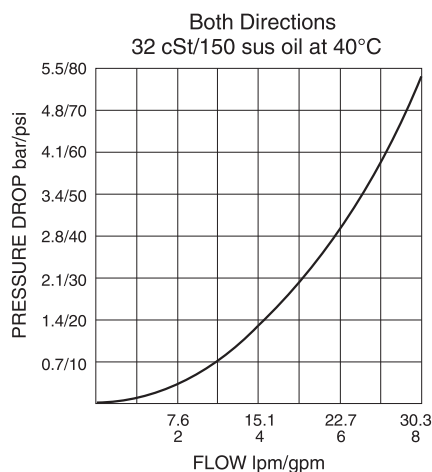


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, 2-way, normally open, spool-type, screw-in hydraulic cartridge valve, designed to function as a bi-directional blocking valve in high pressure applications.

OPERATION

When de-energized, the HSV10-25 allows flow in both directions. When energized, the cartridge's spool shifts to close the bidirectional flow path.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Both ports may be fully pressurized.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Waterproof E-Coils rated up to IP69K.
- 1000-hour salt-spray rated solenoid tubes and coils.
- Unitized, molded coil design.
- All HyPerformance products are tested to the rigorous standards of the NFPA specification T2.6.1.
- All HyPerformance valves are tested at a verification level of 90% and an assurance of 99%.

RATINGS

Operating Pressure: 350 bar (5075 psi); 10% Cycle Life: 420 bar (6090 psi)

Note: All HyPerformance products are tested for 900K cycles at 350 bar and 100K cycles at 420 bar.

Burst Pressure: 1380 bar (20,000 psi)

Flow: Up to 30.3 lpm (8 gpm)

Internal Leakage: 2 to 1 Direction: 131 ml/minute (8 cu. in./minute) max. at 350 bar (5075 psi); 1 to 2 Direction: 279 ml/minute (17 cu. in./minute) at 350 bar (5075 psi)

Temperature: -54° to 107°C (-65° to 225°F) with Urethane seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 40 msec.; De-energized: 32 msec.

Initial Coil Current Draw at 20°C: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

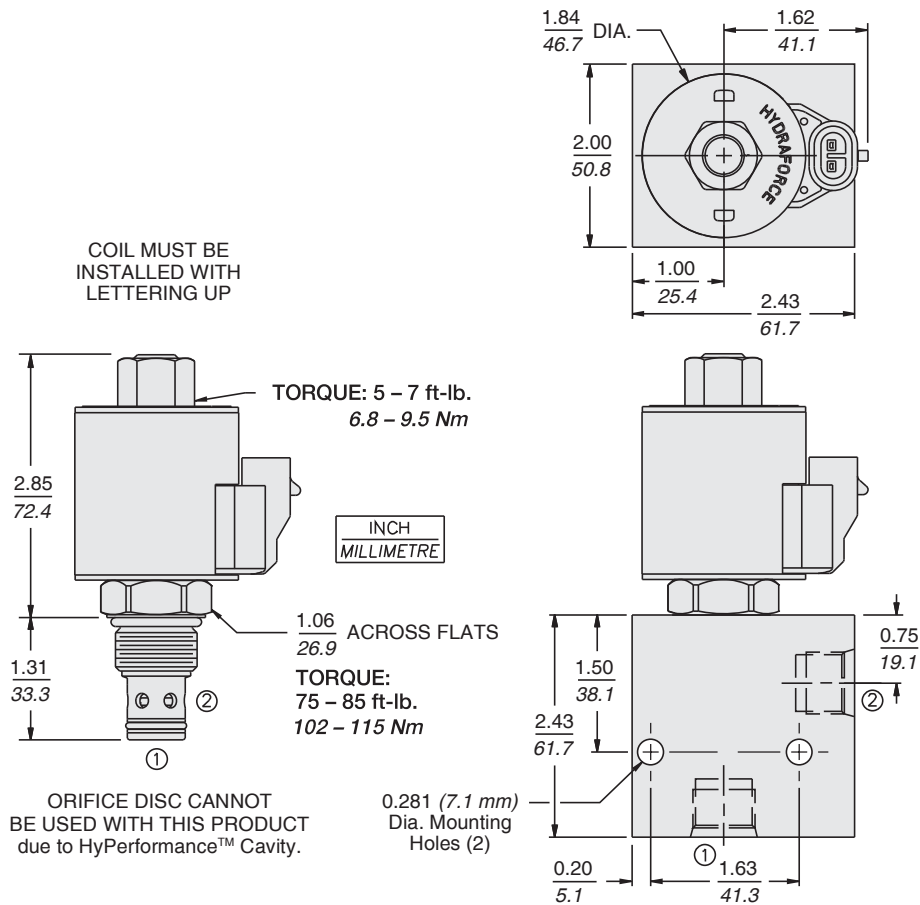
Cavity: HVC10-2; See page 9.110.1

Cavity Tool: HCT10-2xx; See page 8.600.1

Seal Kit: SK10-2U-O; See page 8.650.1

Coil Nut: Part No. 4555250

DIMENSIONS



MATERIALS

- Cartridge:** Weight: 0.19 kg. (0.41 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Urethane O-rings without back-up standard.
- Ported Body:** Weight: 1.19 kg. (2.62 lbs.); HyPerformance™ Ductile iron (code 'D') standard. Rated to 345 bar (5000 psi).
- E-Coil:** Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1.

TO ORDER

HSV10-25

Option

None (Blank)

Porting

Cartridge Only 0
SAE 8 8TD
1/2 in. BSP* 4BD
*BSP Body; U.K. Mfr. Only

Seals

PPDI Urethane U
Recommended for pressures above 241 bar (3500 psi).

Voltage

0 Less Coil**
10 10 VDC
12 12 VDC
20 20 VDC
24 24 VDC

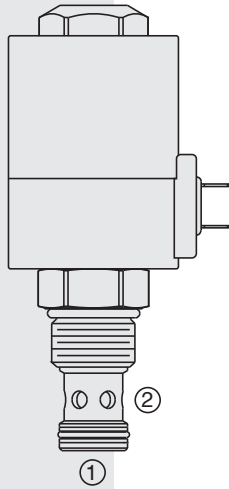
**Includes E-Coil Nut.

Coil Termination

Deutsch DT04-2P ER (IP69K)
Metri-Pak 150 EY (IP69K)
Dual Lead Wires EL (IP69K)
Amp Jr. Timer EJ (IP67)
DIN 43650 EG (IP65)

For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on page 3.400.1.

SV12-25 Spool, 2-Way, Normally Open



DESCRIPTION

A solenoid-operated, two-way, normally open, direct-acting spool-type, screw-in hydraulic cartridge valve, designed to function as a bidirectional blocking valve.

OPERATION

When de-energized, the **SV12-25** allows flow in both directions. When energized, the valve's spool shifts to block flow in both directions.

FEATURES

- Continuous-duty rated solenoid.
- Hardened spool and cage for long life.
- Optional coil voltages and terminations.
- All ports may be fully pressurized.
- Heavy-duty water-resistant E-Coils rated up to IP69K.

RATINGS

Operating Pressure: 240 bar (3500 psi) max.

Flow: See Performance Chart

Leakage: 410 cc/minute (25 cu. in./minute) in the 2 to 1 direction,
574 cc/minute (35 cu. in./minute) in the 1 to 2 direction, at 240 bar (3500 psi)

Temperature: -40° to 100°C (-40° to 212°F) with Buna N seals

Coil Duty Rating: See Chart

Response Time: Pull-In: 100 msec; Drop-Out: 100 msec

Initial Coil Current Draw at 20°C: 2.8 amps at 12 VDC

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC12-2; See page 9.112.1

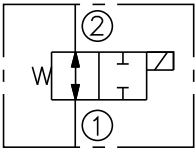
Cavity Tool: CT12-2XX; See page 8.600.1

Seal Kit: SK12-2X-M; See page 8.650.1

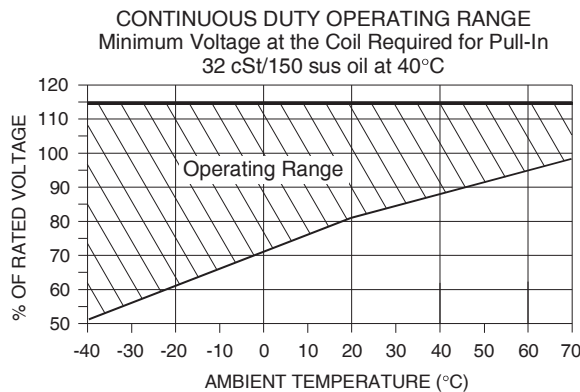
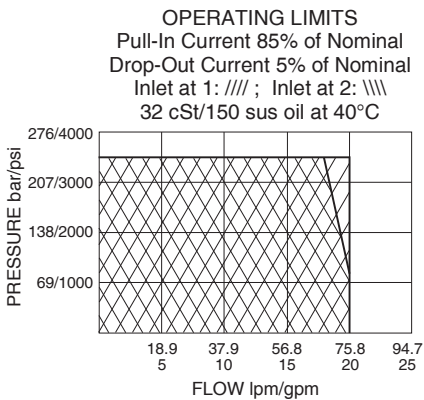
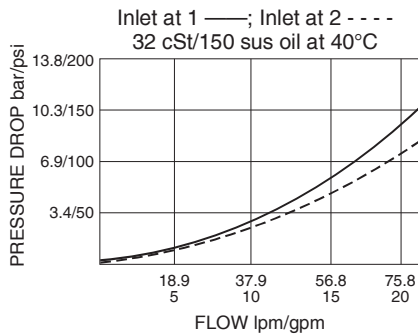
E-Coil Nut: Part No. 7085180

SYMBOLS

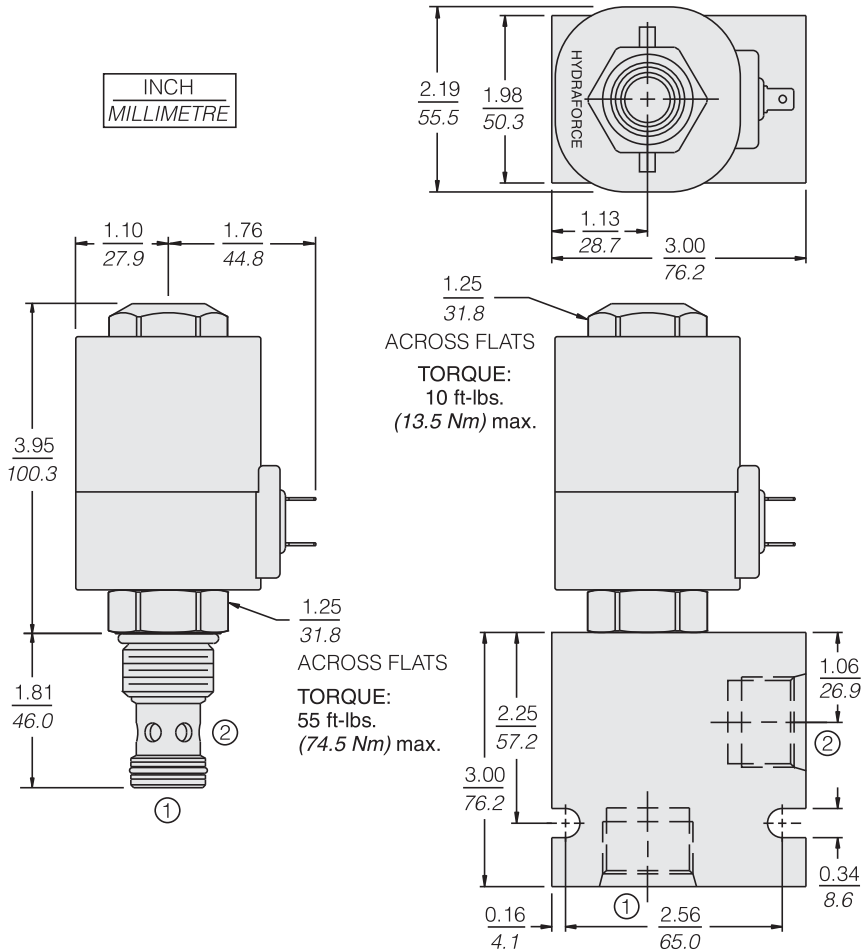
USASI/ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

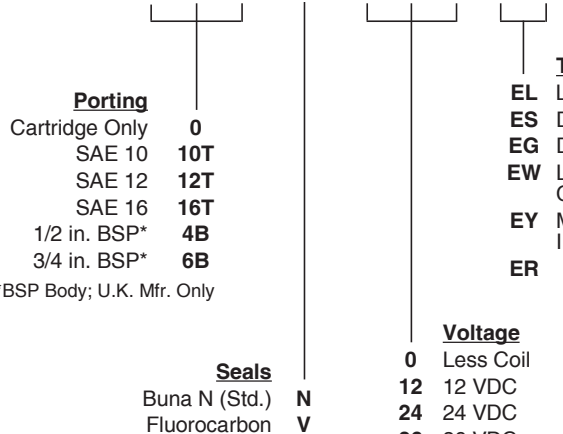
Cartridge: Weight: 0.25 kg. (0.55 lbs.)
Steel with hardened work surfaces.
Zinc-plated exposed surfaces.
Buna N O-rings and TFE back-ups standard.

Standard Ported Body: Weight: 0.57 kg. (1.25 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.012.1.

E-Coil: Weight: 1.36 kg. (3.0 lbs.) Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1.

TO ORDER

SV12-25



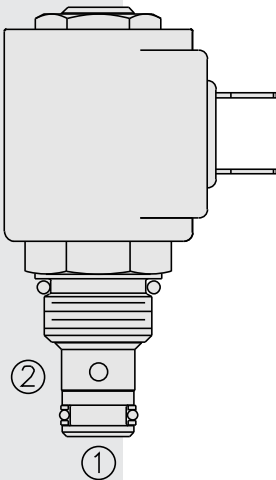
Terminations (VDC)

- EL** Leadwires (2), IP65 Rated
- ES** Dual Spades, IP65 Rated
- EG** DIN 43650, IP65 Rated
- EW** Leads w/Weather-Pack® Connector, IP65 Rated
- EY** Metri-Pack® 150 Connector, IP69K Rated
- ER** Deutsch DT04-2P Connector, IP69K Rated

For **EY** or **ER** Coil with Zener Diode, add "Z" to option code. For example: "EY/Z". See coil info. on page 3.400.1

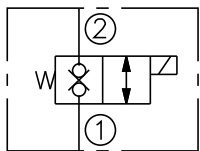
Other coil voltages may be available for OEM applications. Consult factory.

SV08-26 Blocking/Low Flow, 2-Way, Normally Closed

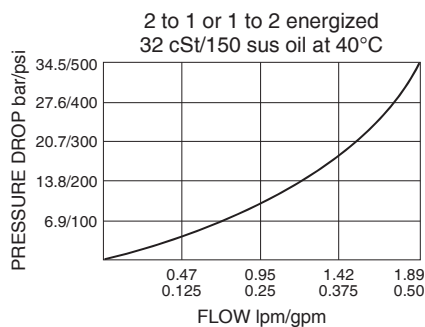


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, two-way, normally closed, direct-acting, needle-type, screw-in hydraulic cartridge valve, designed to function as a blocking or load-holding device for low flow circuits.

OPERATION

When de-energized, the **SV08-26** blocks flow in both directions, to pressure rating. If pressure on 1 exceeds the rating, flow may pass from 1 to 2.

When energized, the needle point lifts to open the valve bidirectionally. Port 2 is the recommended load-holding port.

Operation of Manual Override Option: To override, push button in, twist counter-clockwise 180° and release. In this position, the valve will remain open.

To return to normal operation, push button in, twist clockwise 180° and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Industry common cavity.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Compact size.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Effective Orifice Size: 0.81 mm (0.032 in.)

Internal Leakage: 0.10 cc/minute (3 drops/minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating (2 to 1 direction):

Energized: 16 msec.; De-energized: 10 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC; 0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-2; See page 9.108.1

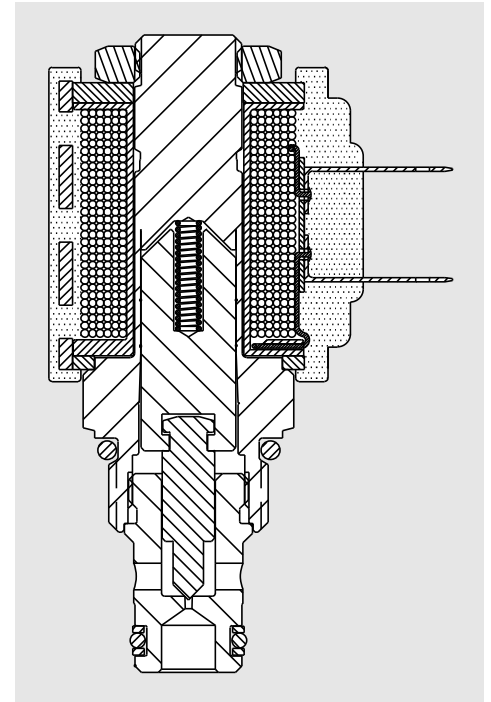
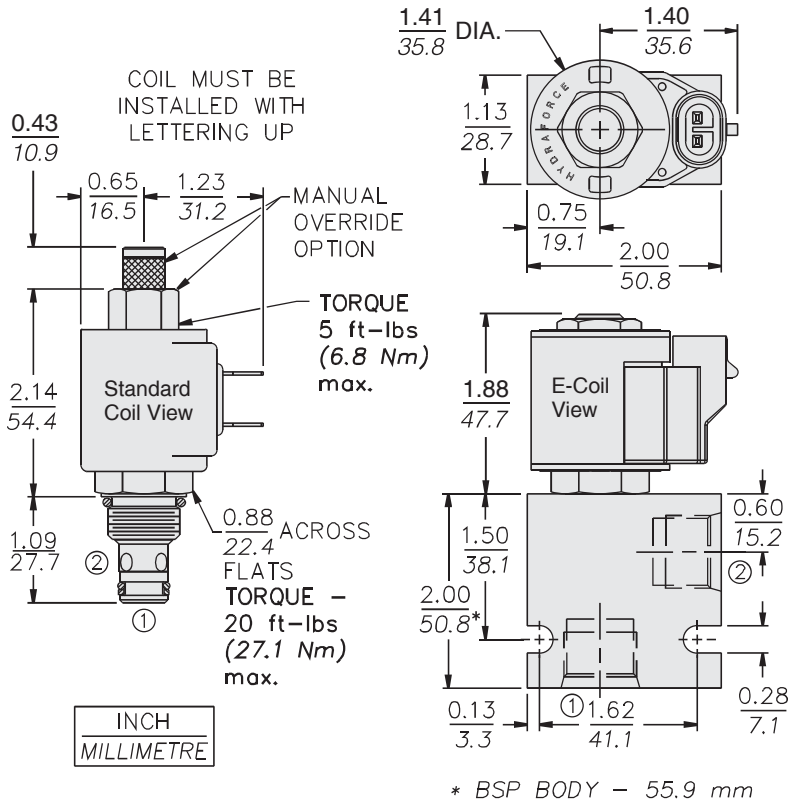
Cavity Tool: CT08-2XX; See page 8.600.1

Seal Kit: SK08-2X-M; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.09 kg. (0.20 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

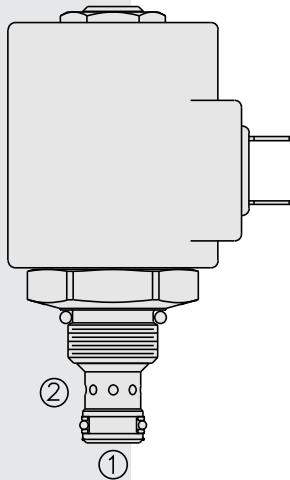
E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

Note: See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

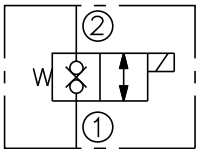
SV08-26		-	-	-	-	-
Option						
None (Blank)						
Screen	S					
Manual Override	M					
Porting						
Cartridge Only	0					
SAE 4	4T					
SAE 6	6T					
1/4 in. BSP*	2B					
3/8 in. BSP*	3B					
*BSP Body; U.K. Mfr. Only						
Seals						
Buna N (Std.)	N					
Fluorocarbon	V					
Voltage Std. Coil						
0	Less Coil**					
10	10 VDC†					
12	12 VDC					
24	24 VDC					
36	36 VDC					
48	48 VDC					
24	24 VAC					
115	115 VAC					
230	230 VAC					
**Includes Std. Coil Nut						
† DS, DW or DL terminations only.						
Termination (VDC) Std. Coil						
DS	Dual Spades					
DG	DIN 43650					
DL	Leadwires (2)					
DL/W	Leads w/Weatherpak® Connectors					
DR	Deutsch DT04-2P					
Termination (VAC) Std. Coil						
AG	DIN 43650					
AP	1/2 in. Conduit					
Termination (VDC) E-Coil						
ER	Deutsch DT04-2P (IP69K Rated)					
EY	Metri-Pack® 150 (IP69K Rated)					
Coils with internal diode are available. Consult factory.						

SV38-26 Blocking/Low Flow, 2-Way, Normally Closed

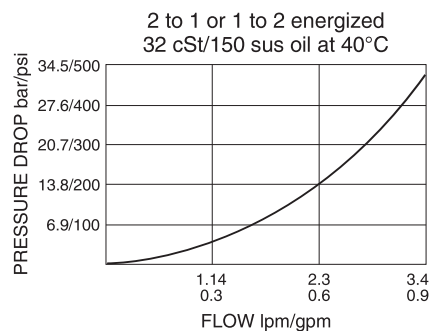


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, 2-way, normally closed, direct-acting, needle-type, screw-in hydraulic cartridge valve, designed to function as a blocking or load-holding device for low flow circuits.

OPERATION

When de-energized, the **SV38-26** blocks flow in both directions, to pressure rating. If pressure on 1 exceeds the rating, flow may pass from 1 to 2.

When energized, the needle point lifts to open the valve bidirectionally. Port 2 is the recommended load-holding port.

Operation of Manual Override Option: To override, push button in, twist counter-clockwise 180° and release. In this position, the valve will remain open.

To return to normal operation, push button in, twist clockwise 180° and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Industry common cavity.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Proof Pressure: 520 bar (7540 psi)

Internal Leakage: 0.10 cc/minute (2 drops/minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 22 msec.; De-energized: 5 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC; 0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-2; See page 9.108.1

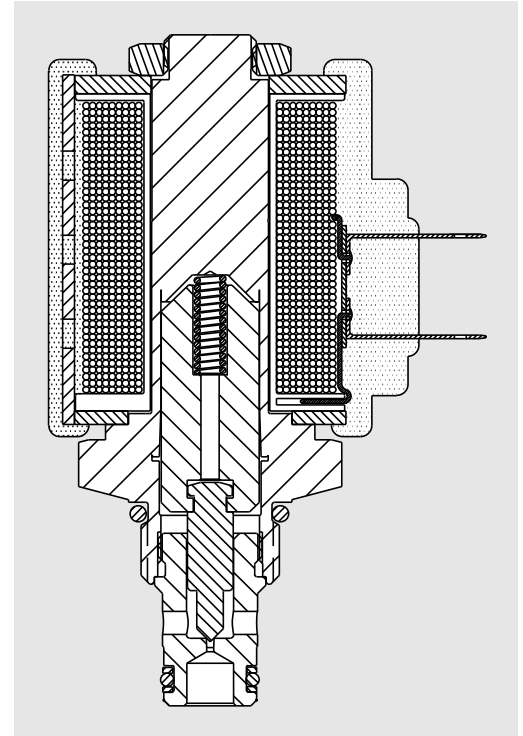
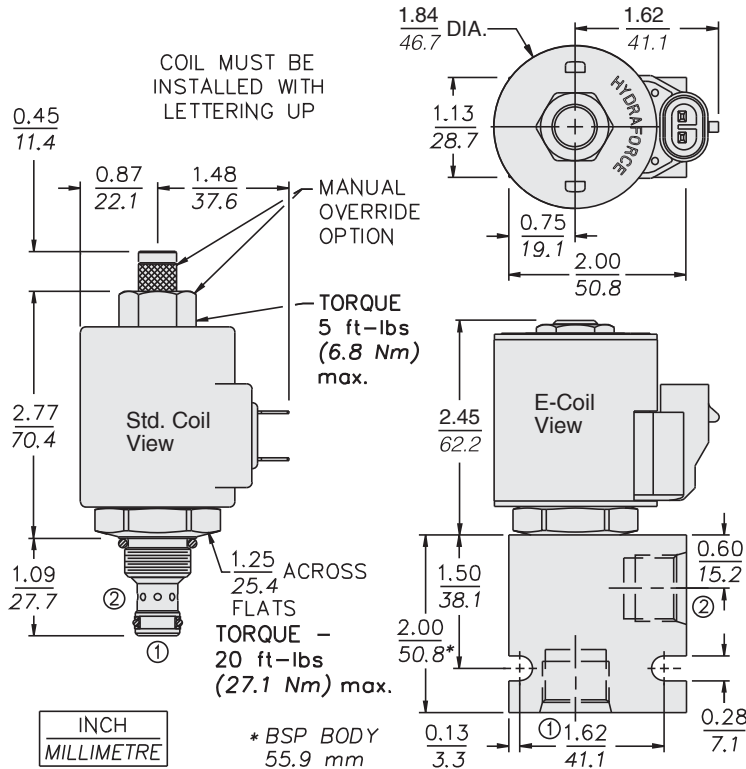
Cavity Tool: CT08-2XX; See page 8.600.1

Seal Kit: SK08-2X-M; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.15 kg. (0.33 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.008.1

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. **Note: See page 3.400.1 for all E-Coil retrofit applications.**

TO ORDER

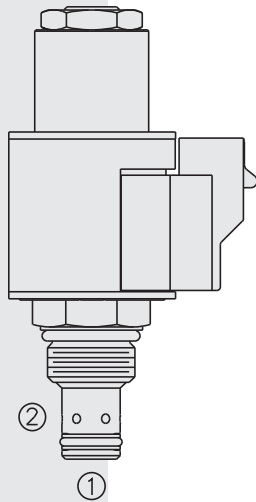
SV38-26

- Option**
- None (Blank)
 - 152µ Screen **S**
 - Manual Override **M**
 - Manual Override **Y**
 - Manual Override **J**
- For Manual Override options see page 1.001.1
- Porting**
- Cartridge Only **0**
 - SAE 4 **4T**
 - SAE 6 **6T**
 - 1/4 in. BSP* **2B**
 - 3/8 in. BSP* **3B**
 - 1/2 in. BSP* **4B**
- *BSP Body; U.K. Mfr. Only
- Seals**
- Buna N (Std.) **N**
 - Fluorocarbon **V**

- Voltage Std. Coil**
- 0** Less Coil**
 - 10** 10 VDC†
 - 12** 12 VDC
 - 24** 24 VDC
 - 36** 36 VDC
 - 48** 48 VDC
 - 24** 24 VAC
 - 115** 115 VAC
 - 230** 230 VAC
- **Includes Std. Coil Nut
- †DS, DW or DL terminations only.
- E-Coil**
- 10** 10 VDC
 - 12** 12 VDC
 - 20** 20 VDC
 - 24** 24 VDC

- Termination (VDC) Std. Coil**
- DS** Dual Spades
 - DG** DIN 43650
 - DL** Leadwires (2)
 - DL/W** Leads w/Weatherpak® Connectors
 - DR** Deutsch DT04-2P
- Termination (VAC) Std. Coil**
- AG** DIN 43650
 - AP** 1/2 in. Conduit
- Termination (VDC) E-Coil**
- ER** Deutsch DT04-2P (IP69K Rated)
 - EY** Metri-Pack® 150 (IP69K Rated)
- Coils with internal diode are available. Consult factory.

SV08-28 Poppet, 2-Way, N.C., Bi-Directional Blocking



DESCRIPTION

A solenoid-operated, 2-way, normally closed, direct-acting, poppet-type, bi-directional blocking, screw-in hydraulic cartridge valve, designed for low leakage in load-holding applications.

OPERATION

When de-energized, the SV08-28 blocks flow in both directions. When energized, the valve's poppet opens on its seat, allowing flow from 2 to 1 or 1 to 2.

Operation of Manual Override Option: To override, push and hold override button.

FEATURES

- Continuous-duty rated coil.
- Optional coil voltages and terminations.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Hardened seat for long life and low leakage.
- Manual override option.
- Industry common cavity.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: 11.4 lpm/ 3.0 gpm

Internal Leakage: 5 drops/minute maximum at 207 bar (3000 psi)

Operating Temperature: With Buna N or Polyurethane seals: -25 to 100°C
With Fluorocarbon seals: -15 to 100°C

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 50 msec.; De-energized: 16 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified).
E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-2; See page 9.108.1

Cavity Tool: CT08-2XX; See page 8.600.1

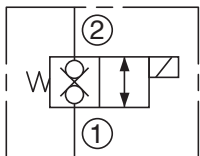
Seal Kit: SK08-2X-M; See page 8.650.1

Coil Nut: Part No. 7004400;

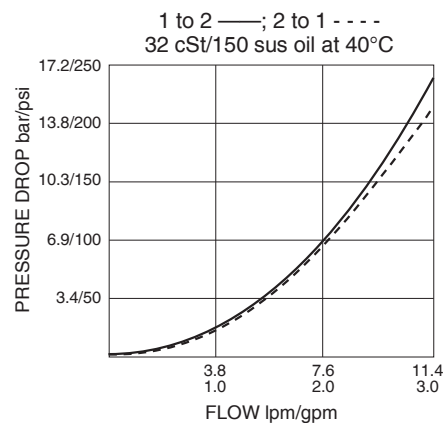
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SYMBOL

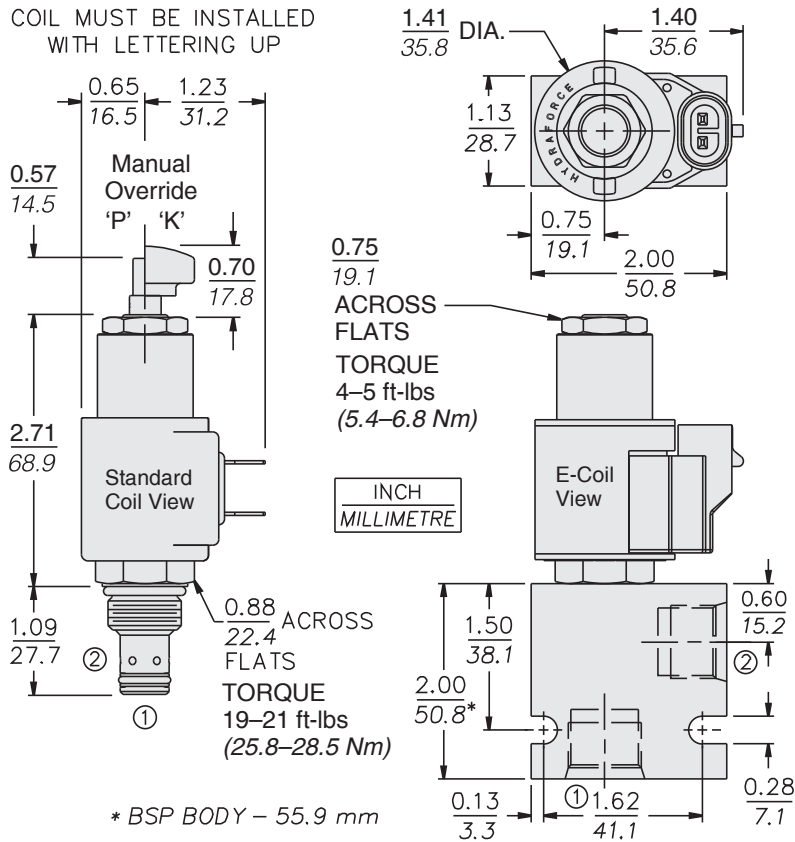
USASI/ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.18 kg. (0.40 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.008.1

Standard Coil: Weight: 0.11 kg. (0.25 lbs.) Unitized thermoplastic encapsulated, Class H high temperature magnetwire; See page 3.200.1

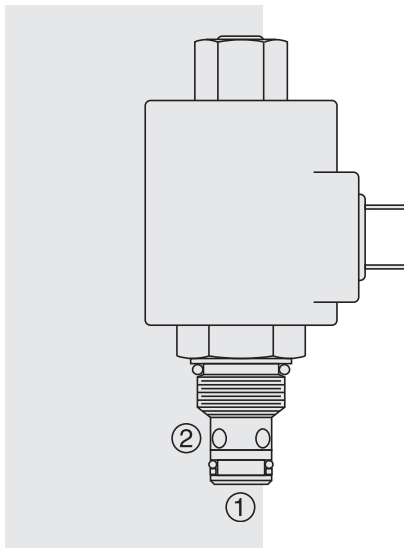
E-Coil: Weight: 0.14 kg. (0.3 lbs.) Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. **Note: See page 3.400.1 for all E-Coil retrofit applications.**

TO ORDER

SV08-28		-	-	-	-	-
Option						
None (Blank)						
Manual Override without Knob	P					
Manual Override with Knob	K					
Porting						
Cartridge Only	0					
SAE 4	4T					
SAE 6	6T					
1/4 in. BSP*	2B					
3/8 in. BSP*	3B					
*BSP Body; U.K. Mfr. Only						
Seals						
Buna N (Std.)	N					
Polyurethane	P					
Fluorocarbon	V					
				Voltage		
				Std. Coil		
				0 Less Coil**	ER Termination (VDC) E-Coil	
				10 10 VDC†	EY Metri-Pack® 150, IP69K Rated	
				12 12 VDC	EL Leadwires (2), IP69K Rated	
				24 24 VDC	EG DIN 43650, IP65 Rated	
				36 36 VDC		
				24 24 VAC		
				115 115 VAC	Termination (VDC) Std. Coil	
				230 230 VAC	DS Dual Spades	
					DG DIN 43650	
					DL Leadwires (2)	
					DL/W Leads w/Weatherpak® Connectors	
					DR Deutsch DT04-2P	
				E-Coil	Termination (VAC) Std. Coil	
				10 10 VDC	AG DIN 43650	
				12 12 VDC	AP 1/2 in. Conduit	
				20 20 VDC		
				24 24 VDC		

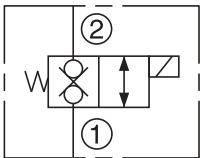
Coils with internal diode are available. Consult factory.

SV38-28 Poppet, 2-Way, N.C., Bi-Directional Blocking

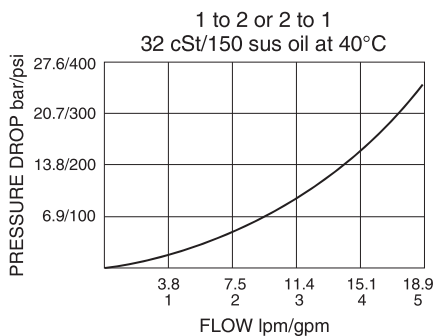


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, two-way, normally closed, poppet-type, bi-directional blocking, screw-in hydraulic cartridge valve, designed for low leakage in load-holding applications.

OPERATION

When de-energized, the **SV38-28** blocks flow in both directions. When energized, the valve's poppet opens on its seat, allowing flow from 2 to 1 and 1 to 2.

Consult factory if used serially with orifice disc.

Operation of Manual Override Option: To override, push and hold override button.

FEATURES

- Continuous-duty rated coil.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Industry common cavity.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: See Performance Chart

Internal Leakage: 0.25 cc/minute (5 drops/minute) max. at 207 bar (3000 psi)

Cycle Life: 500,000 cycles minimum at rated pressure
(due to internal dynamic seal life)

Temperature: -40 to 100°C with standard Buna N seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;
0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-2; See page 9.108.1

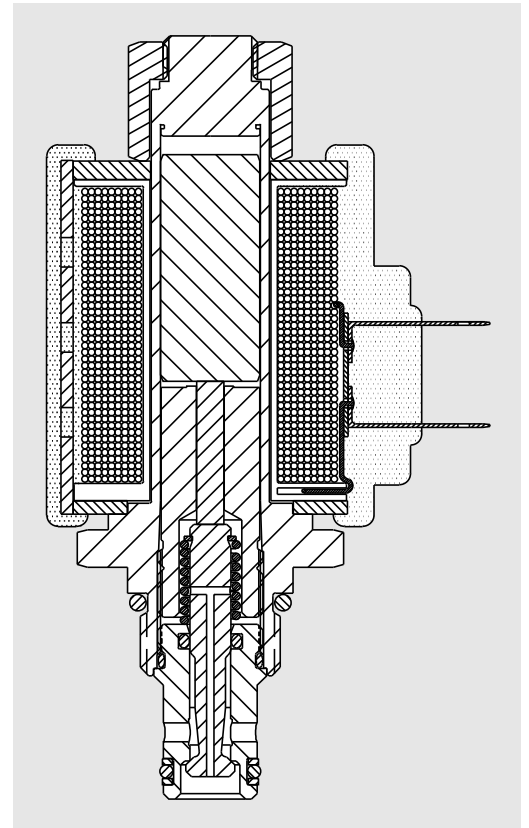
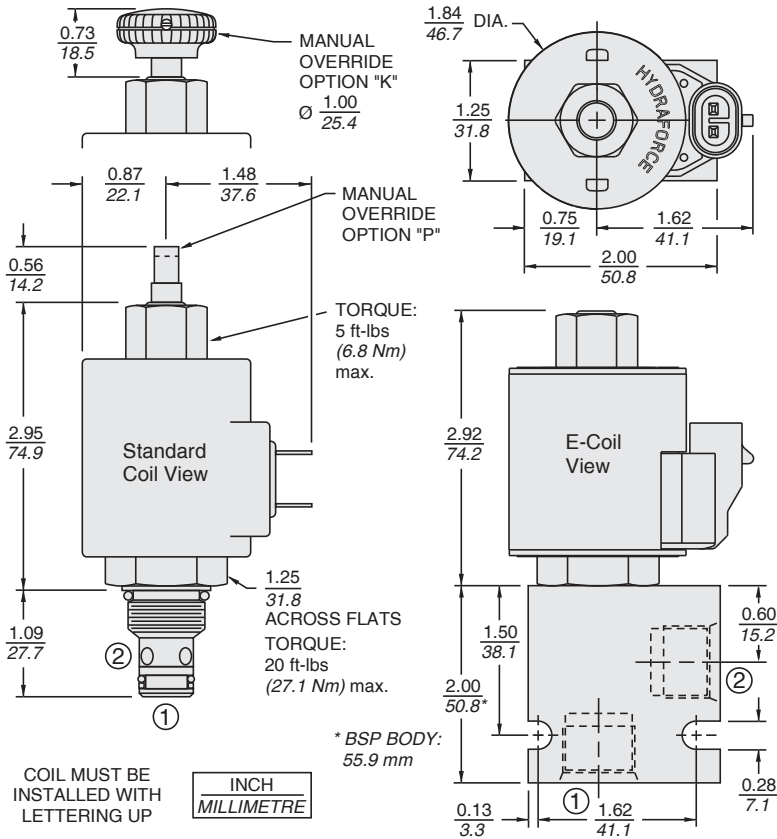
Cavity Tool: CT08-2XX; See page 8.600.1

Seal Kit: SK08-2x-M; See page 8.650.1

Coil Nut: Part No. 7004420;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.15 kg. (0.33 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.008.1

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. **Note: See page 3.400.1 for all E-Coil retrofit applications.**

TO ORDER

SV38-28

Option	
None (Blank)	
Screen	S
Manual Override without Knob	P
Manual Override with Knob	K
Porting	
Cartridge Only	0
SAE 4	4T
SAE 6	6T
1/4 in. BSP*	2B
3/8 in. BSP*	3B
*BSP Body; U.K. Mfr. Only	
Seals	
Buna N (Std.)	N
Fluorocarbon	V

Voltage	
Std. Coil	
0	Less Coil**
10	10 VDC†
12	12 VDC
24	24 VDC
36	36 VDC
48	48 VDC
24	24 VAC
115	115 VAC
230	230 VAC

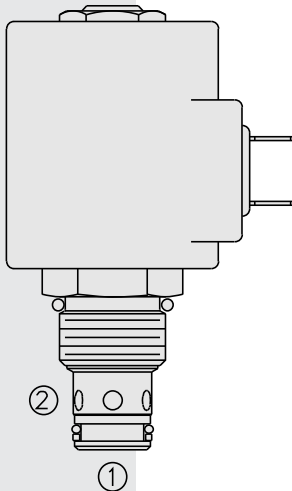
**Includes Std. Coil Nut
† DS, DW or DL terminations only.

E-Coil	
10	10 VDC
12	12 VDC
20	20 VDC
24	24 VDC

Termination (VDC)	
Std. Coil	
DS	Dual Spades
DG	DIN 43650
DL	Leadwires (2)
DL/W	Leads w/Weatherpak® Connectors
DR	Deutsch DT04-2P
Termination (VAC)	
Std. Coil	
AG	DIN 43650
AP	1/2 in. Conduit
Termination (VDC)	
E-Coil	
ER	Deutsch DT04-2P (IP69K Rated)
EY	Metri-Pack® 150 (IP69K Rated)

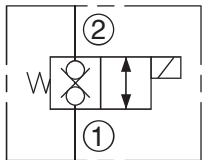
Coils with internal diode are available. Consult factory.

SV10-28 Poppet, 2-Way, N.C., Bi-Directional Blocking

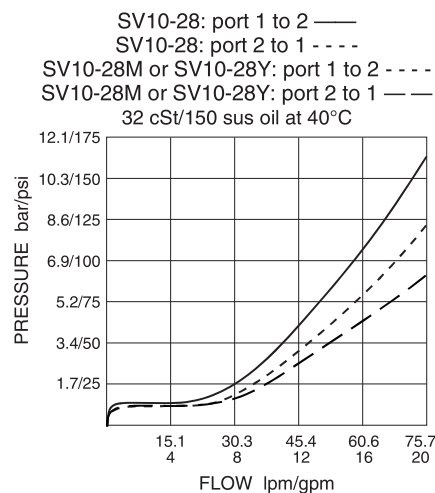


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, 2-way, normally closed, internally piloted, poppet-type, bi-directional blocking, screw-in hydraulic cartridge valve, designed for low leakage in load-holding applications.

OPERATION

When de-energized, the **SV10-28** blocks flow in both directions. When energized, the valve's poppet opens on its seat, allowing flow from 2 to 1 or 1 to 2.

FEATURES

- Continuous-duty rated coil.
- Optional coil voltages and terminations.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Hardened seat for long life and low leakage.
- Manual override option.
- Industry common cavity.

RATINGS

Operating Pressure: 240 bar (3500 psi)

Flow: 75.7 lpm (20 gpm)

Internal Leakage: 0.25 cc/minute (5 drops/minute) max. at 240 bar (3500 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 40 msec.; De-energized: 32 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC; 0.18 amps at 115 VAC (full wave rectified).
 E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 240 bar (3500 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-2; See page 9.110.1

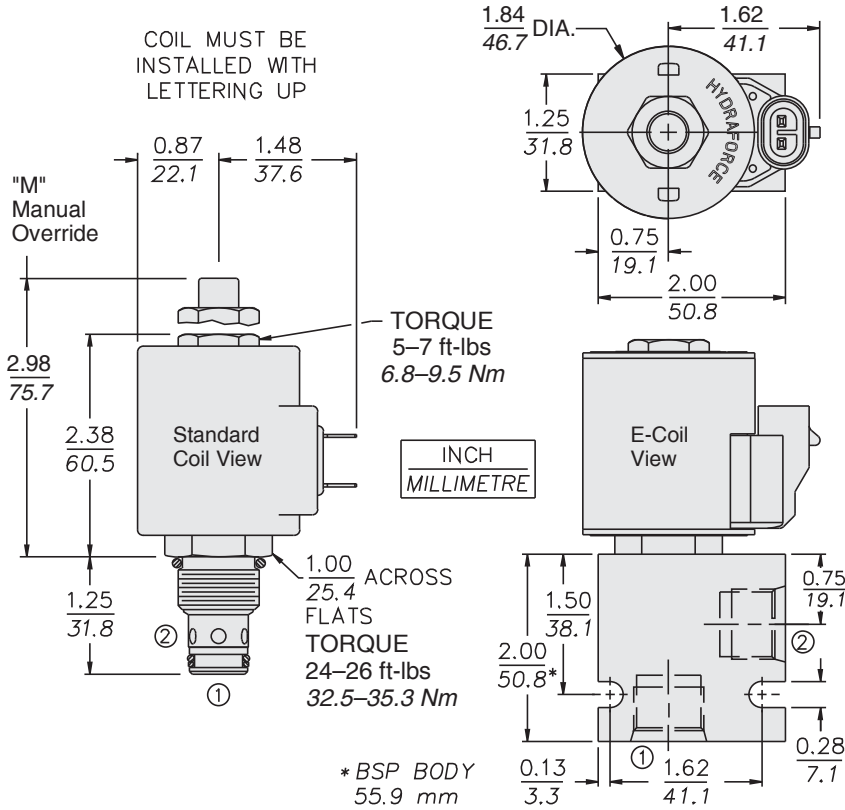
Cavity Tool: CT10-2XX; See page 8.600.1

Seal Kit: SK10-2X-M; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.16 kg. (0.35 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1

Standard Coil: Weight: 0.27 kg. (0.60 lbs.) Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.41 kg. (0.9 lbs.) Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. **Note: See page 3.400.1 for all E-Coil retrofit applications.**

TO ORDER

SV10-28

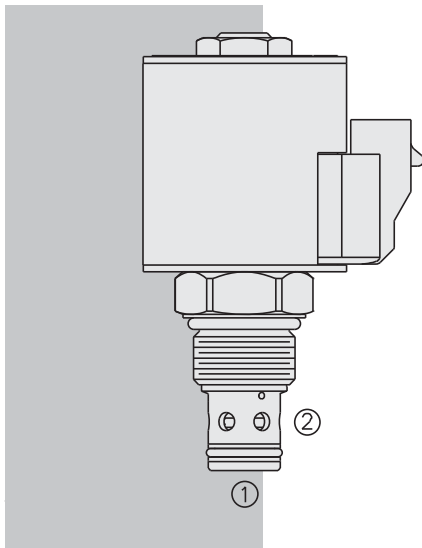
- Option**
- None (Blank)
 - Manual Override **M**
 - Manual Override **Y**
 - Manual Override **J**
- For Manual Override options see page 1.001.1
- Porting**
- Cartridge Only **0**
 - SAE 6 **6T**
 - SAE 8 **8T**
 - 1/4 in. BSP* **2B**
 - 3/8 in. BSP* **3B**
 - 1/2 in. BSP* **4B**
- *BSP Body; U.K. Mfr. Only
- Seals**
- Buna N (Std.) **N**
 - Fluorocarbon **V**

- Voltage Std. Coil**
- 0** Less Coil**
 - 10** 10 VDC[†]
 - 12** 12 VDC
 - 24** 24 VDC
 - 36** 36 VDC
 - 48** 48 VDC
 - 24** 24 VAC
 - 115** 115 VAC
 - 230** 230 VAC
- **Includes Std. Coil Nut
- [†] DS, DW or DL terminations only.
- E-Coil**
- 10** 10 VDC
 - 12** 12 VDC
 - 20** 20 VDC
 - 24** 24 VDC

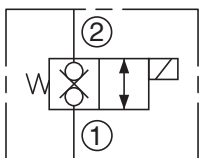
- Termination (VDC) Std. Coil**
- DS** Dual Spades
 - DG** DIN 43650
 - DL** Leadwires (2)
 - DL/W** Leads w/Weatherpak® Connectors
 - DR** Deutsch DT04-2P
- Termination (VAC) Std. Coil**
- AG** DIN 43650
 - AP** 1/2 in. Conduit
- Termination (VDC) E-Coil**
- ER** Deutsch DT04-2P (IP69K Rated)
 - EY** Metri-Pack® 150 (IP69K Rated)

Coils with internal diode are available. Consult factory.

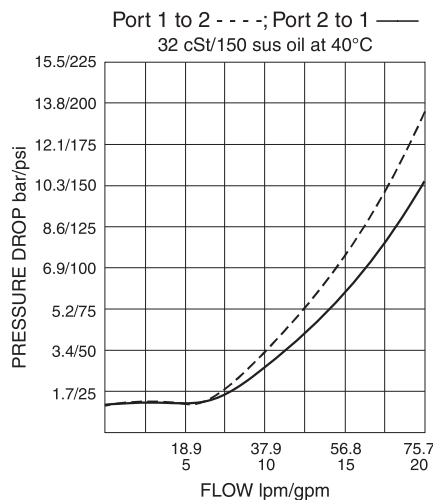
HSV10-28 HyPerformance™ Poppet, 2-Way, N.C.



SYMBOL



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, 2-way, piloted, normally closed, poppet-type, bi-directional, screw-in hydraulic cartridge valve, designed to function as a load holding or blocking valve in high pressure applications requiring low internal leakage bi-directionally.

OPERATION

When energized, the HSV10-28 allows flow in both directions. When de-energized, the valve blocks flow in both directions.

Operation of Manual Override Option: For normal operation (de-energized) the manual override pin must be seated in the lower detent groove. To shift the valve manually, the operator pushes down on the knob and rotates 180° in either direction. When the manual override is actuated, increased flow can be achieved by pulling on the knob.

FEATURES

- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Waterproof E-Coils rated up to IP69K.
- 1000-hour salt-spray rated solenoid tubes and coils.
- Unitized, molded coil design.
- All HyPerformance products are tested to the rigorous standards of the NFPA specification T2.6.1.
- All HyPerformance valves are tested at a verification level of 90% and an assurance of 99%.

RATINGS

Operating Pressure: 350 bar (5075 psi); 10% Cycle Life: 420 bar (6090 psi)

Note: All HyPerformance products are tested for 900K cycles at 350 bar and 100K cycles at 420 bar.

Burst Pressure: 1380 bar (20,000 psi)

Flow: Up to 75.7 lpm (20 gpm)

Internal Leakage: 0.25 cc/minute (5 drops/minute) max. at 350 bar (5075 psi)

Temperature: -54° to 107°C (-65° to 225°F) with Urethane seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

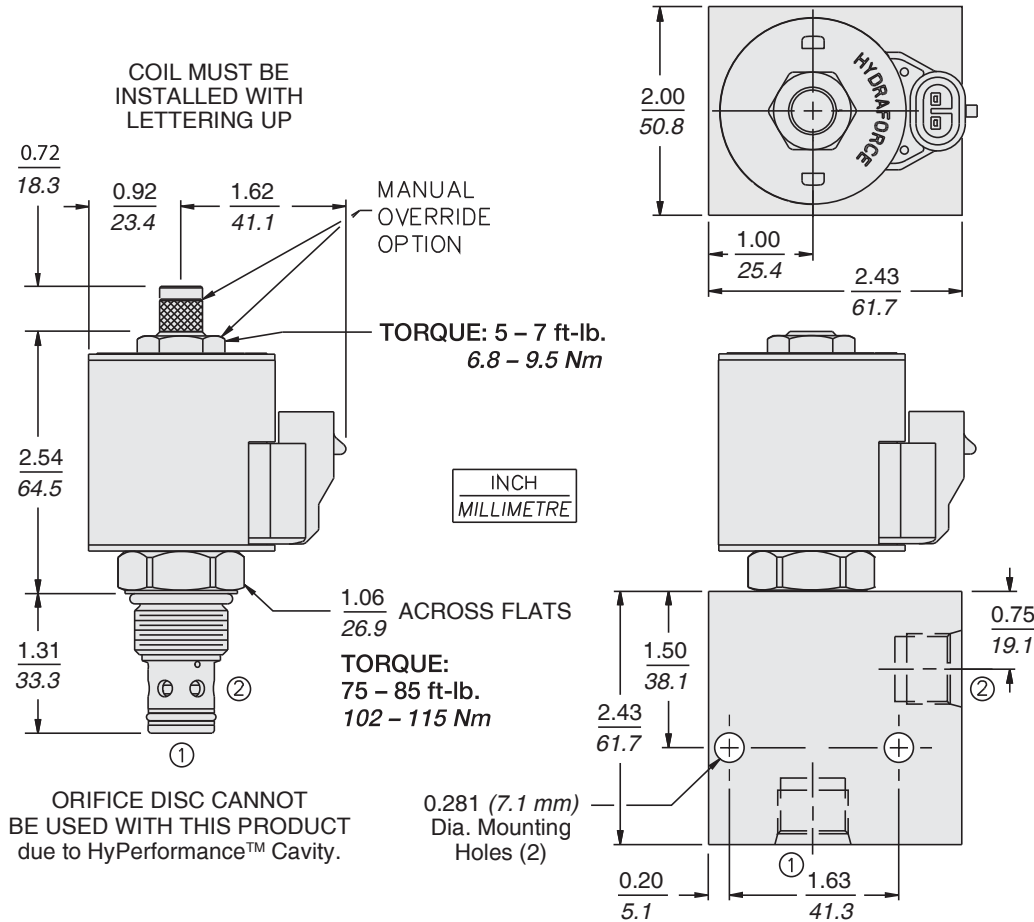
Cavity: HVC10-2; See page 9.110.1

Cavity Tool: HCT10-2xx; See page 8.600.1

Seal Kit: SK10-2U-O; See page 8.650.1

Coil Nut: Part No. 4553800

DIMENSIONS



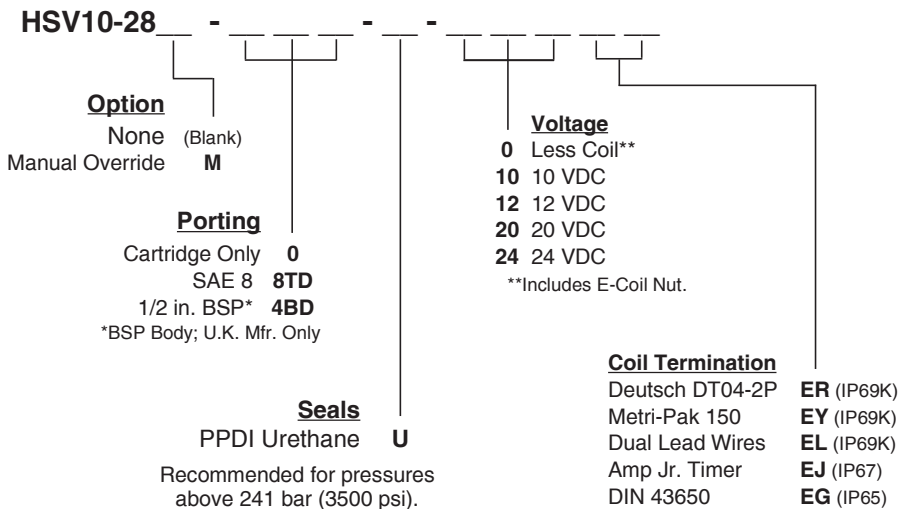
MATERIALS

Cartridge: Weight: 0.18 kg. (0.39 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Urethane O-ring without back-up standard.

Ported Body: Weight: 1.19 kg. (2.62 lbs.); HyPerformance™ Ductile iron (code 'D') standard. Rated to 345 bar (5000 psi).

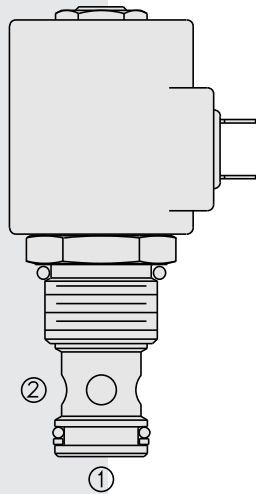
E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1.

TO ORDER



For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on page 3.400.1

SV12-28 Poppet, 2-Way, N.C., Bi-Directional Blocking



DESCRIPTION

A solenoid-operated, two-way, normally closed, internally piloted, poppet-type, bi-directional blocking, screw-in hydraulic cartridge valve, designed for low leakage in load-holding applications.

OPERATION

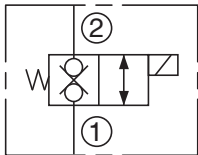
When de-energized, the **SV12-28** blocks flow in both directions. When energized, the valve's poppet opens on its seat, allowing flow from 2 to 1 or 1 to 2.

FEATURES

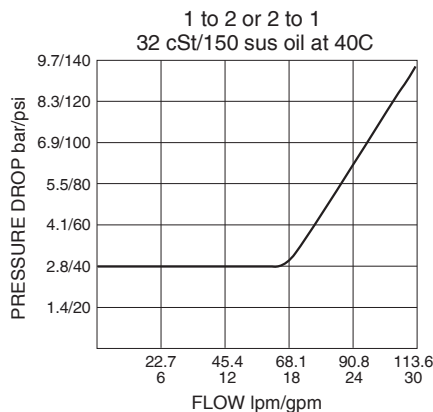
- Continuous-duty rated coil.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Manual Override option.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Hardened seat for long life and low leakage.
- Unitized, molded coil design.
- Cost-effective cavity.

SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 240 bar (3500 psi)

Flow: 113.6 lpm (30 gpm)

Internal Leakage: 7 drops per minute maximum at 240 bar (3500 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 40 msec.; De-energized: 32 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC; 0.18 amps at 115 VAC (full wave rectified).
E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 240 bar (3500 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC12-2; See page 9.112.1

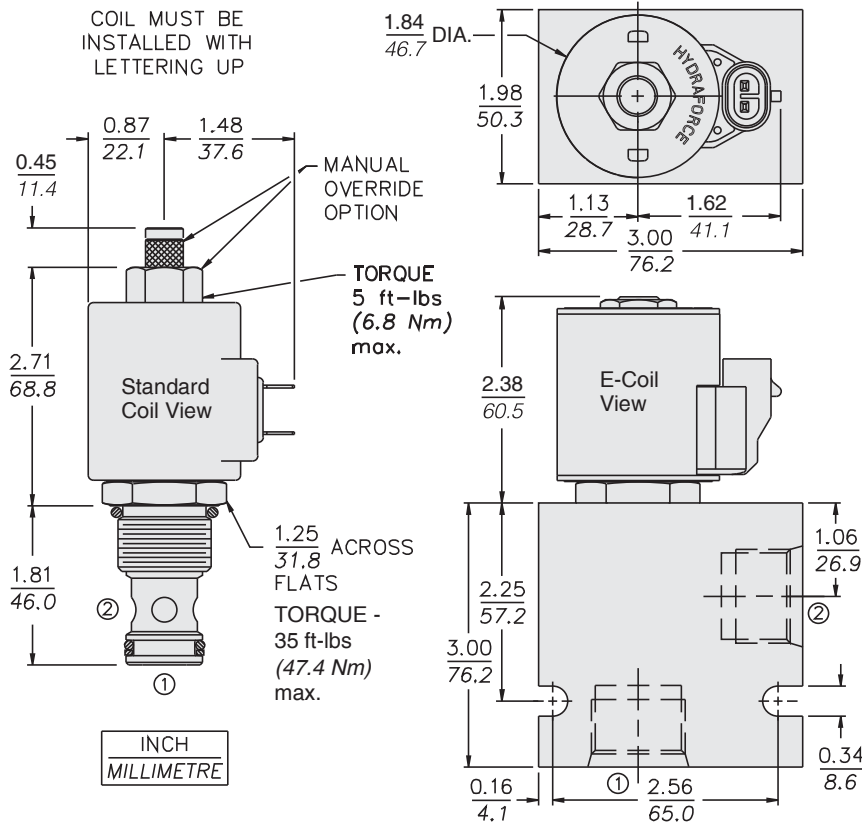
Cavity Tool: CT12-2XX; See page 8.600.1

Seal Kit: SK12-2X-M; See page 8.650.1

Coil Nut: Part No. 7004400

For E-Coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.25 kg. (0.55 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.57 kg. (1.25 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.012.1.

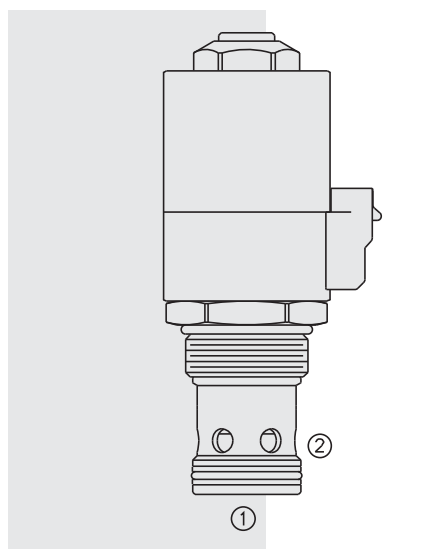
Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire; See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. **Note: See page 3.400.1 for all E-Coil retrofit applications.**

TO ORDER

SV12-28		-	-	-	-	-
Option	None (Blank)					
Manual Override	M					
Manual Override	Y					
Manual Override	J					
For Manual Override options see page 1.001.1						
Porting						
Cartridge Only	0					
SAE 10	10T					
SAE 12	12T					
SAE 16	16T					
3/4 in. BSP*	6B					
1 in. BSP*	8B					
*BSP Body; U.K. Mfr. Only						
Seals						
Buna N (Std.)	N					
Fluorocarbon	V					
		Voltage				
		Std. Coil				
		0	Less Coil**			
		10	10 VDC†			
		12	12 VDC			
		24	24 VDC			
		36	36 VDC			
		48	48 VDC			
		24	24 VAC			
		115	115 VAC			
		230	230 VAC			
		**Includes Std. Coil Nut				
		† DS, DW or DL terminations only.				
		E-Coil				
		10	10 VDC			
		12	12 VDC			
		20	20 VDC			
		24	24 VDC			
		Termination (VDC) Std. Coil				
		DS	Dual Spades			
		DG	DIN 43650			
		DL	Leadwires (2)			
		DL/W	Leads w/Weatherpak® Connectors			
		DR	Deutsch DT04-2P			
		Termination (VAC) Std. Coil				
		AG	DIN 43650			
		AP	1/2 in. Conduit			
		Termination (VDC) E-Coil				
		ER	Deutsch DT04-2P (IP69K Rated)			
		EY	Metri-Pack® 150 (IP69K Rated)			
		Coils with internal diode are available. Consult factory.				

SV20-28 Poppet, 2-Way, N.C., Bi-Directional Blocking



DESCRIPTION

A solenoid-operated, two-way, normally closed, internally piloted, poppet-type, bi-directional blocking, screw-in hydraulic cartridge valve, designed for low leakage in load-holding applications.

OPERATION

When de-energized, the **SV20-28** blocks flow in both directions. When energized, the valve's poppet opens on its seat, allowing flow from 2 to 1 or 1 to 2.

FEATURES

- Continuous-duty rated coil.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Waterproof E-Coils rated up to IP69K.
- Hardened seat for long life and low leakage.
- Unitized, molded coil design.
- Cost-effective cavity.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: Up to 303 lpm (80 gpm)

Internal Leakage: 5 drops/minute max. at 207 bar (3000 psi)

Operating Temperature: -40° to 100°C (-40° to 212° F) with standard Buna N seals
-26° to 204°C (-15° to 400°F) with Fluorocarbon seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard D-Coil: 1.2 amps at 12 VDC;
E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: See Chart on this page.

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

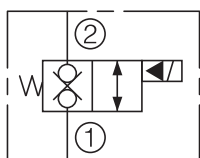
Cavity: VC20-2; See page 9.120.1

Cavity Tool: CT20-2XX; See page 8.600.1

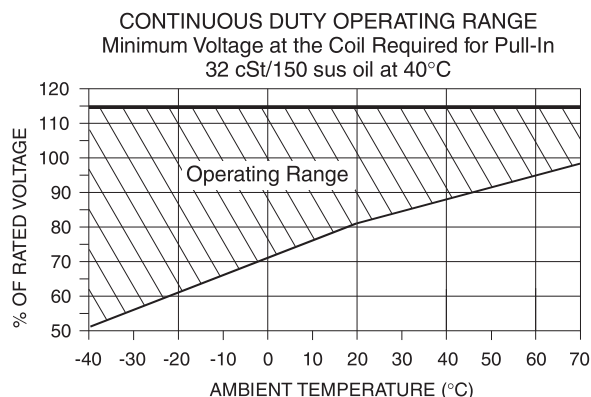
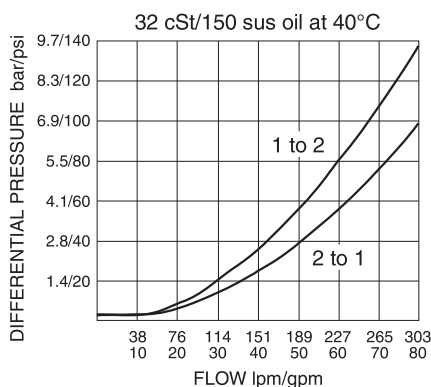
Seal Kit: SK20-2x-M; See page 8.650.1

E-Coil Nut: Part No. 7085180

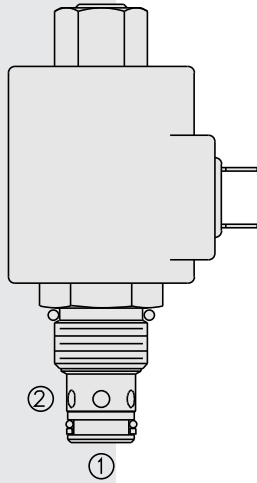
SYMBOL



PERFORMANCE (Cartridge Only)



SV10-29 Poppet, 2-Way, N.O., Bi-Directional Blocking



DESCRIPTION

A solenoid-operated, 2-way, normally open, internally piloted, poppet-type, bi-directional blocking, screw-in hydraulic cartridge valve, designed for low leakage in load-holding applications.

OPERATION

When de-energized, the **SV10-29** allows flow in both directions. When energized, the valve's poppet closes on its seat, blocking flow from 2 to 1 or 1 to 2.

FEATURES

- Continuous-duty rated coil.
- Optional coil voltages and terminations.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Hardened seat for long life and low leakage.
- Manual override option.
- Industry common cavity.

RATINGS

Operating Pressure: 240 bar (3500 psi)

Proof Pressure: 345 bar (5000 psi)

Flow: 75.7 lpm (20 gpm)

Internal Leakage: 0.25 cc/minute (5 drops/minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 40 msec.; De-energized: 32 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC; 0.18 amps at 115 VAC (full wave rectified).
E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 240 bar (3500 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-2; See page 9.110.1

Cavity Tool: CT10-2XX; See page 8.600.1

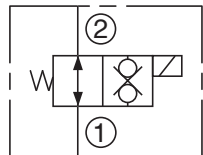
Seal Kit: SK10-2X-M; See page 8.650.1

Coil Nut: Part No. 7004400;

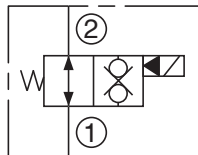
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SYMBOLS

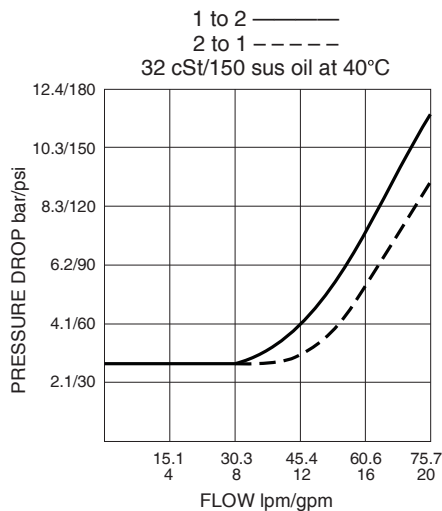
USASI/ISO:



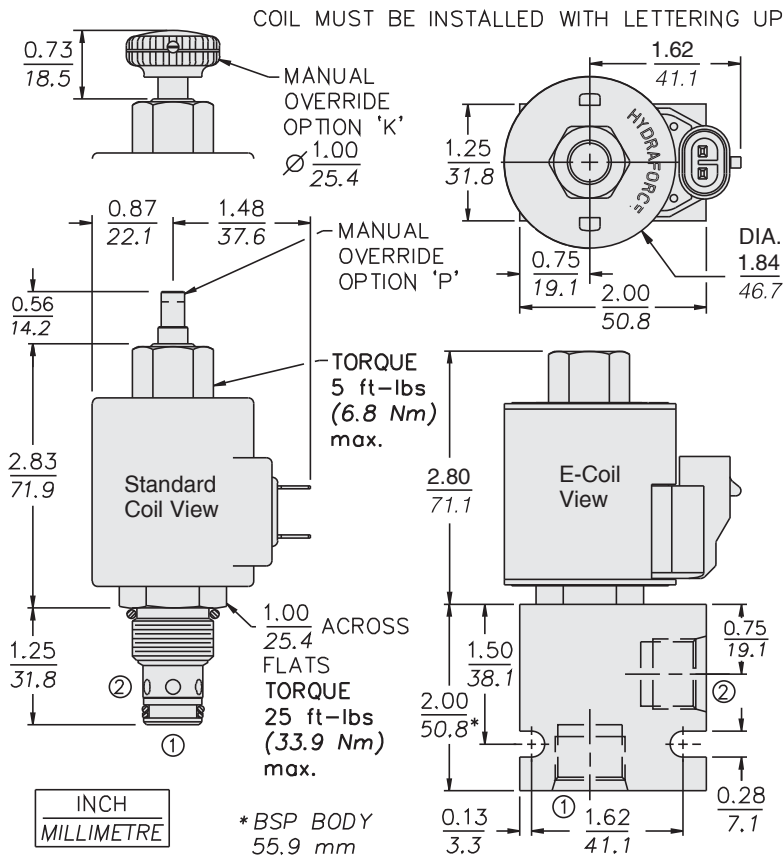
ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.16 kg. (0.35 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1

Standard Coil: Weight: 0.27 kg. (0.60 lbs.) Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.41 kg. (0.9 lbs.) Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors.

Note: See page 3.400.1 for all E-Coil retrofit applications.

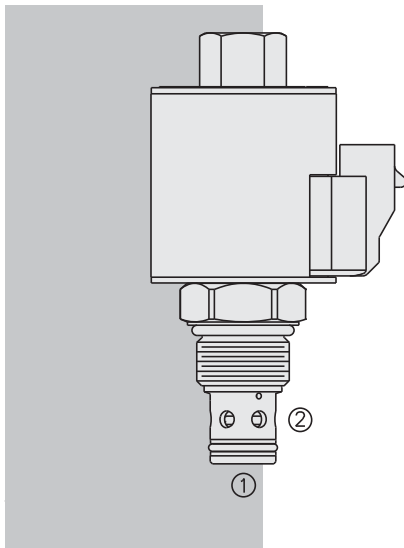
TO ORDER

SV10-29

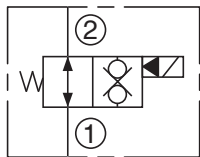
Option		Voltage	Termination (VDC)
None (Blank)		Std. Coil	Std. Coil
Manual Override without knob	P	0 Less Coil**	DS Dual Spades
Manual Override with knob	K	10 10 VDC [†]	DG DIN 43650
For Manual Override options see page 1.001.1		12 12 VDC	DL Leadwires (2)
		24 24 VDC	DL/W Leads w/Weatherpak® Connectors
		36 36 VDC	DR Deutsch DT04-2P
		48 48 VDC	
Porting		24 24 VAC	Termination (VAC)
Cartridge Only	0	115 115 VAC	Std. Coil
SAE 6	6T	230 230 VAC	AG DIN 43650
SAE 8	8T	**Includes Std. Coil Nut	AP 1/2 in. Conduit
1/4 in. BSP*	2B	[†] DS, DW or DL terminations only.	Termination (VDC)
3/8 in. BSP*	3B		E-Coil
1/2 in. BSP*	4B	E-Coil	ER Deutsch DT04-2P (IP69K Rated)
*BSP Body; U.K. Mfr. Only		10 10 VDC	EY Metri-Pack® 150 (IP69K Rated)
Seals		12 12 VDC	
Buna N (Std.)	N	20 20 VDC	
Fluorocarbon	V	24 24 VDC	

Coils with internal diode are available. Consult factory.

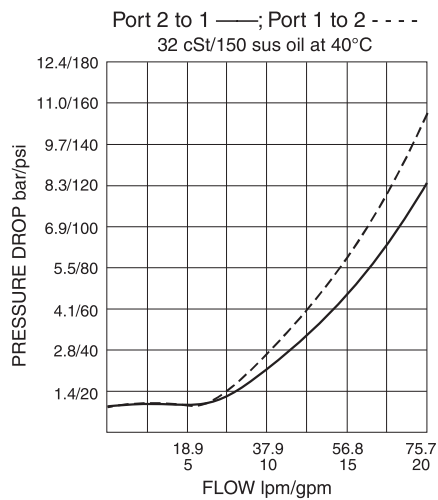
HSV10-29 HyPerformance™ Poppet, 2-Way, N.O.



SYMBOL



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, 2-way, normally open, piloted, poppet-type, bi-directional screw-in hydraulic cartridge valve, designed to function as a load holding or blocking valve in high pressure applications requiring low internal leakage.

OPERATION

When de-energized, the **HSV10-29** allows flow in both directions.
When energized, the valve blocks flow in both directions.

FEATURES

- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Waterproof E-Coils rated up to IP69K.
- 1000-hour salt-spray rated solenoid tubes and coils.
- Unitized, molded coil design.
- All HyPerformance products are tested to the rigorous standards of the NFPA specification T2.6.1.
- All HyPerformance valves are tested at a verification level of 90% and an assurance of 99%.

RATINGS

Operating Pressure: 350 bar (5075 psi); 10% Cycle Life: 420 bar (6090 psi)

Note: All HyPerformance products are tested for 900K cycles at 350 bar and 100K cycles at 420 bar.

Burst Pressure: 1380 bar (20,000 psi)

Flow: Up to 75.7 lpm (20 gpm)

Internal Leakage: 0.25 cc/minute (5 drops/minute) max. at 350 bar (5075 psi)

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Temperature: -54° to 107°C (-65° to 225°F) with Urethane seals

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

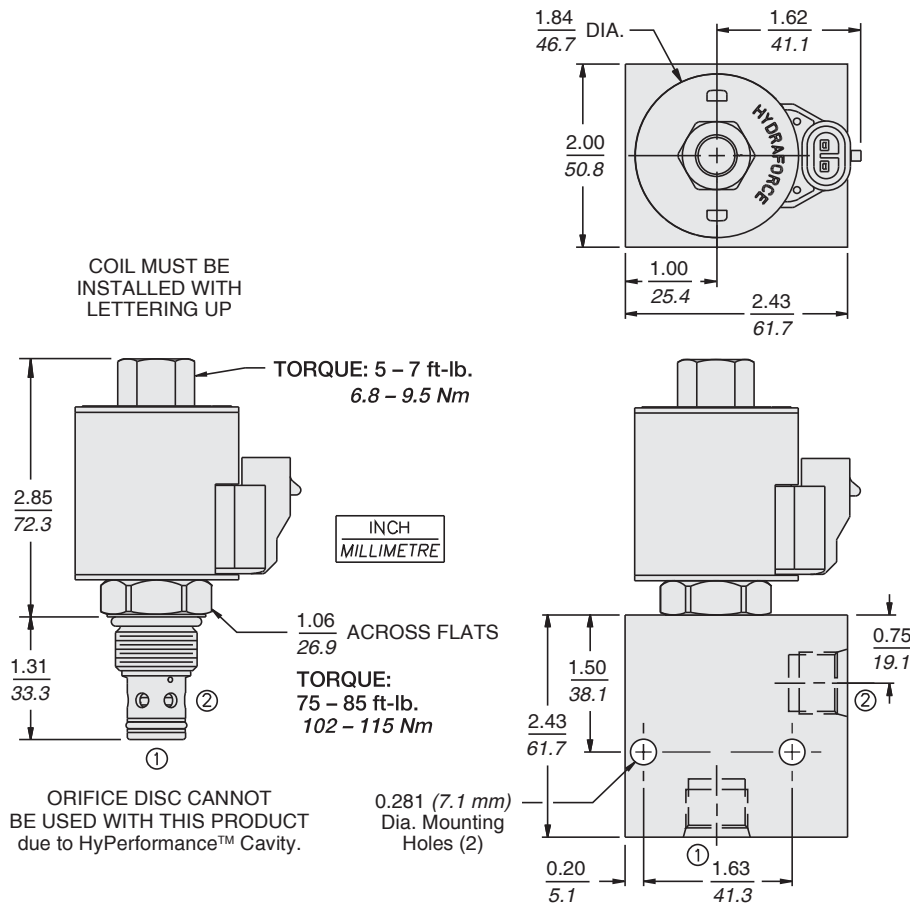
Cavity: HVC10-2; See page 9.110.1

Cavity Tool: HCT10-2xx; See page 8.600.1

Seal Kit: SK10-2U-O; See page 8.650.1

Coil Nut: Part No. 4555250

DIMENSIONS



MATERIALS

- Cartridge:** Weight: 0.19 kg. (0.41 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Urethane O-ring without back-up standard.
- Ported Body:** Weight: 1.19 kg. (2.62 lbs.); HyPerformance™ Ductile iron (code 'D') standard. Rated to 345 bar (5000 psi).
- E-Coil:** Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1.

TO ORDER

HSV10-29

Option

None (Blank)

Porting

Cartridge Only **0**
 SAE 8 **8TD**
 1/2 in. BSP* **4BD**
 *BSP Body; U.K. Mfr. Only

Seals

PPDI Urethane **U**
 Recommended for pressures above 241 bar (3500 psi).

Voltage

0 Less Coil**
10 10 VDC
12 12 VDC
20 20 VDC
24 24 VDC

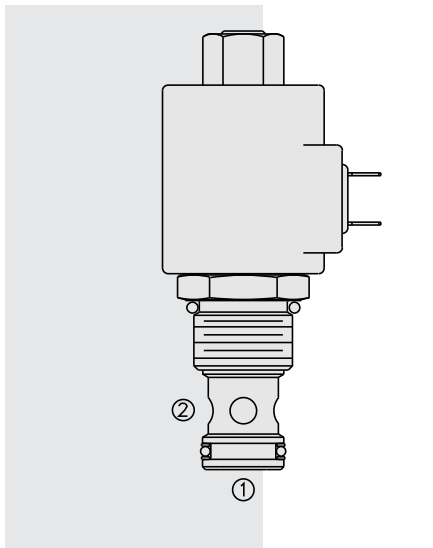
**Includes E-Coil Nut.

Coil Termination

Deutsch DT04-2P **ER** (IP69K)
 Metri-Pak 150 **EY** (IP69K)
 Dual Lead Wires **EL** (IP69K)
 Amp Jr. Timer **EJ** (IP67)
 DIN 43650 **EG** (IP65)

For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on page 3.400.1

SV12-29 Poppet, 2-Way, N.O., Bi-Directional Blocking



DESCRIPTION

A solenoid-operated, two-way, normally open, internally piloted, poppet-type, bi-directional blocking, screw-in hydraulic cartridge valve, designed for low leakage in load-holding applications.

OPERATION

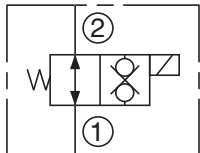
When de-energized, the SV12-29 allows flow in both directions. When energized, the valve's poppet closes on its seat, blocking flow from 2 to 1 or 1 to 2.

FEATURES

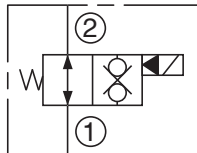
- Continuous-duty rated coil.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Manual Override option.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Hardened seat for long life and low leakage.
- Unitized, molded coil design.
- Cost-effective cavity.

SYMBOLS

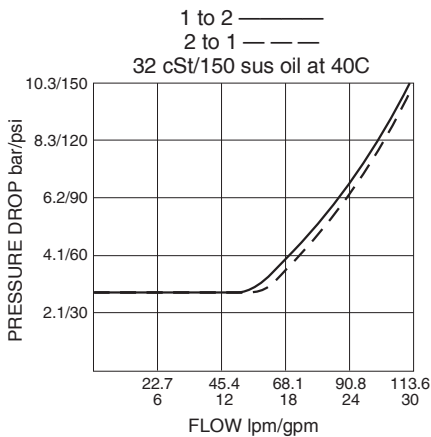
USASI:



ISO:



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 240 bar (3500 psi)

Flow: 113.6 lpm (30 gpm)

Internal Leakage: 7 drops per minute maximum at 240 bar (3500 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 60 msec.; De-energized: 15 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC; 0.18 amps at 115 VAC (full wave rectified).
E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 240 bar (3500 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC12-2; See page 9.112.1

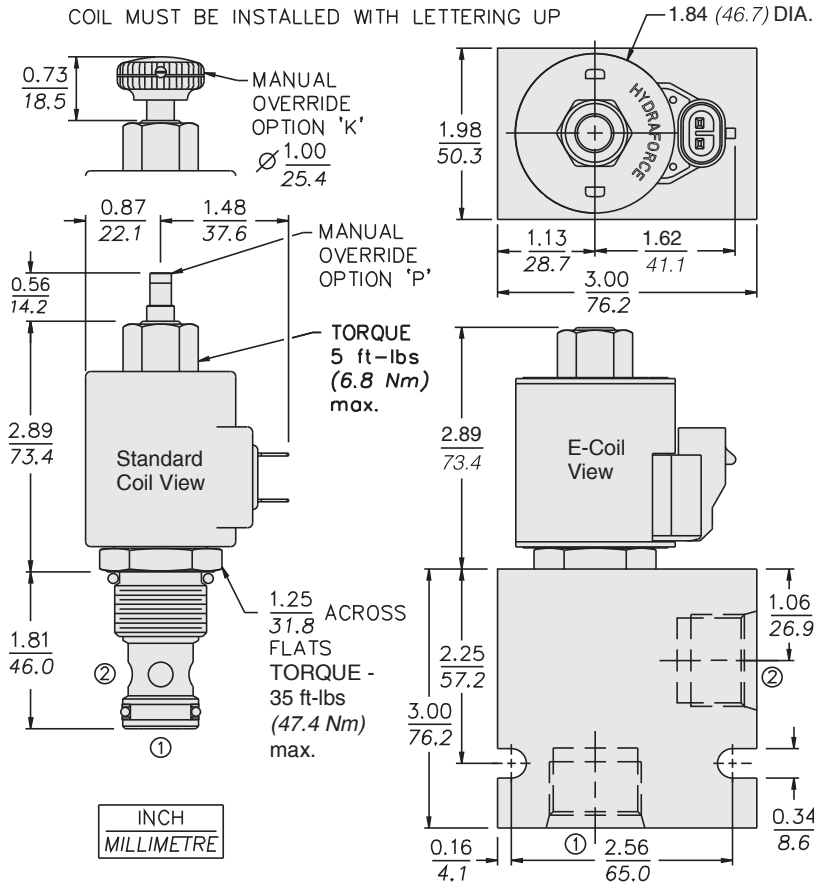
Cavity Tool: CT12-2XX; See page 8.600.1

Seal Kit: SK12-2X-M; See page 8.650.1

Coil Nut: Part No. 7004420

For E-Coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.25 kg. (0.55 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.57 kg. (1.25 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.012.1

Standard Coil: Weight: 0.27 kg. (0.60 lbs.) Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors.

Note: See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV12-29			
Option		Voltage	Termination (VDC)
None (Blank)		Std. Coil	Std. Coil
Manual Override without knob	P	0 Less Coil**	DS Dual Spades
Manual Override with knob	K	10 10 VDC†	DG DIN 43650
		12 12 VDC	DL Leadwires (2)
		24 24 VDC	DL/W Leads w/Weatherpak® Connectors
		36 36 VDC	DR Deutsch DT04-2P
		48 48 VDC	
		24 24 VAC	Termination (VAC)
		115 115 VAC	Std. Coil
		230 230 VAC	AG DIN 43650
			AP 1/2 in. Conduit
Porting			Termination (VDC)
Cartridge Only	0		E-Coil
SAE 10	10T	E-Coil	ER Deutsch DT04-2P (IP69K Rated)
SAE 12	12T	10 10 VDC	EY Metri-Pack® 150 (IP69K Rated)
SAE 16	16T	12 12 VDC	
3/4 in. BSP*	6B	20 20 VDC	
1 in. BSP*	8B	24 24 VDC	
*BSP Body; U.K. Mfr. Only			
Seals			
Buna N (Std.)	N		
Fluorocarbon	V		

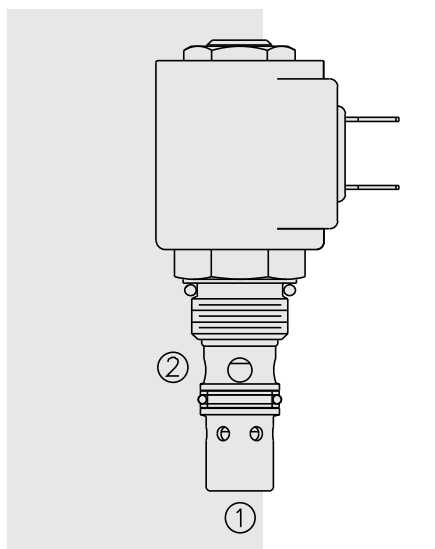
For Manual Override options see page 1.001.1

**Includes Std. Coil Nut

† DS, DW or DL terminations only.

Coils with internal diode are available. Consult factory.

SVCV08-20 Poppet, 2-Way, Normally Closed . . .



DESCRIPTION

A solenoid-operated, two-way, pilot-operated, poppet-type, normally closed, screw-in hydraulic cartridge valve with outlet flow check, designed for low leakage in load holding applications.

OPERATION

When de-energized, the **SVCV08-20** blocks flow from 2 to 1 and from 1 to 2.

When energized, the cartridge's poppet lifts to open the 2 to 1 flow path, while continuing to block flow from 1 to 2.

The SVCV08-20 is designed to fit into the VC08-3 cavity with the normal inlet at cavity port 3 (valve port 2), the outlet at cavity port 1 (valve port 1), and cavity port 2 blocked. The pressure drop will be substantially higher if cavity port 2 is selected as an alternate outlet port.

Operation of Manual Override Option: To override, push button in, twist counter-clockwise 180°, and release. In this position, the valve will remain open.

To return to normal operation, push button in, twist clockwise 180°, and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated coil.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Manual override option.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Industry common cavity.
- Compact size.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Rated Flow: 22.7 lpm (6 gpm)

Reverse Flow Check Valve Spring: 0.69 bar (10 psi)

Maximum Internal Leakage: 2 to 1: 5 drops/minute at 207 bar (3000 psi);
1 to 2: 10 drops/minute at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating:
Energized: 40 msec.; De-energized: 46 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified);
E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-3; See page 9.108.1

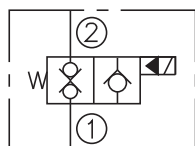
Cavity Tool: CT08-3XX; See page 8.600.1

Seal Kit: SK08-3X-M; See page 8.650.1

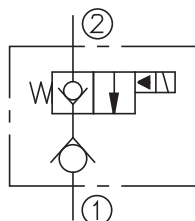
Coil Nut: Part No. 7004400

SYMBOLS

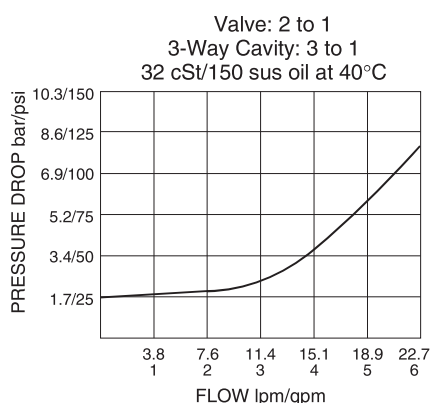
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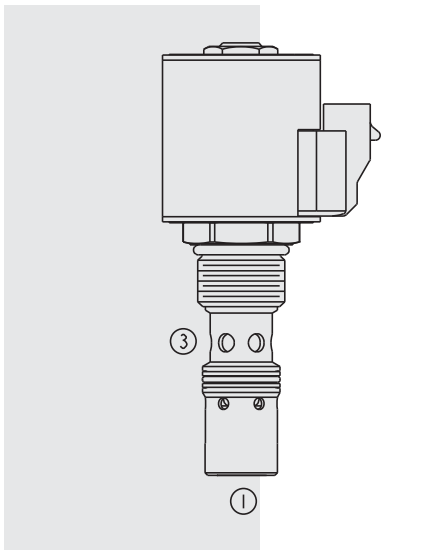
Expanded:



PERFORMANCE (Cartridge Only)



SVCV12-20 Poppet, 2-Way, Normally Closed . . .



DESCRIPTION

A solenoid-operated, two-way, pilot-operated, poppet-type, normally closed, screw-in hydraulic cartridge valve with outlet flow check, designed for low leakage in load holding applications.

OPERATION

When de-energized, the **SVCV12-20** blocks flow from 2 to 1 and from 1 to 2.

When energized, the cartridge's poppet lifts to open the 2 to 1 flow path, while continuing to block flow from 1 to 2.

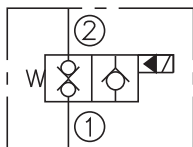
The SVCV12-20 is designed to fit into the VC12-3 cavity with the normal inlet at cavity port 3 (valve port 2), the outlet at cavity port 1 (valve port 1), and cavity port 2 blocked. The pressure drop will be substantially higher if cavity port 2 is selected as an alternate outlet port. At flows greater than 56.8 lpm (15 gpm) pressure drop will be lower if the optional port 2 is connected to port 1.

FEATURES

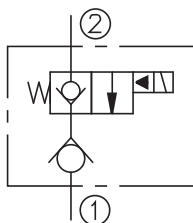
- Continuous-duty rated coil.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Cost effective cavity.

SYMBOLS

ISO:



Expanded:



RATINGS

Operating Pressure: 240 bar (3500 psi)

Rated Flow: 113.6 lpm (30 gpm)

Maximum Internal Leakage: 2 to 1: 5 drops/minute at 207 bar (3000 psi);
1 to 2: 10 drops/minute at 207 bar (3000 psi)

Temperature: -40 to 100°C (-40° to 212°F) with standard Buna N seals
-26 to 204°C (-15°F to 400°F) with Fluorocarbon seals
-54 to 107°C (-65°F to 225°F) with Polyurethane seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified);
E-Coil: 1.7 amps at 12 VDC; 0.8 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

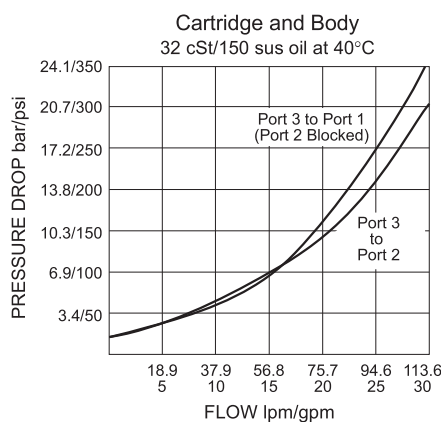
Cavity: VC12-3; See page 9.112.1

Cavity Tool: CT12-3XX; See page 8.600.1

Seal Kit: SK12-2X-M; See page 8.650.1

Coil Nut: Part No. 7004400

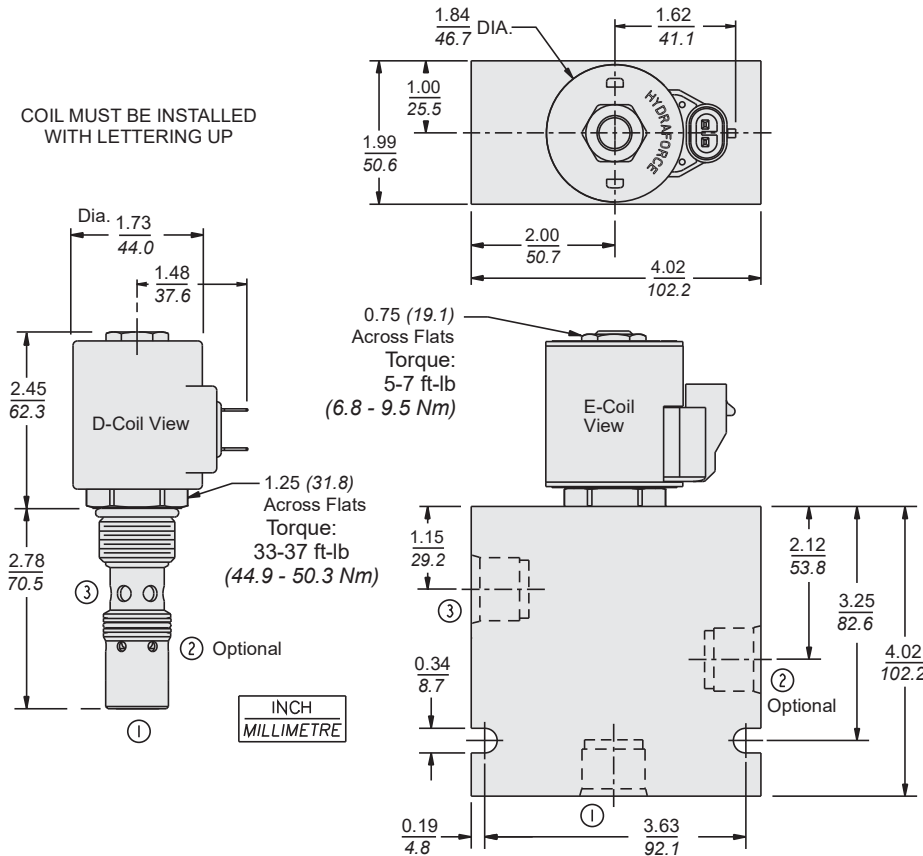
PERFORMANCE (Cartridge Only)



with Reverse Flow Check

SVCV12-20

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.28 kg. (0.62 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.98 kg. (2.15 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.012.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors. See page 3.400.1

TO ORDER

SVCV12-20 -

Porting

Cartridge Only	0
SAE 8	8T
SAE 10	10T
SAE 12	12T
1/2 in. BSP*	4B
3/4 in. BSP*	6B

*BSP Body; U.K. Mfr. Only

Seals

Buna N (Std.)	N
Fluorocarbon	V
Polyurethane	P

Voltage Std. Coil

0	Less Coil**
10	10 VDC [†]
12	12 VDC
24	24 VDC
36	36 VDC
48	48 VDC
24	24 VAC
115	115 VAC
230	230 VAC

**Includes Std. Coil Nut
[†] DS, DW or DL terminations only.

E-Coil

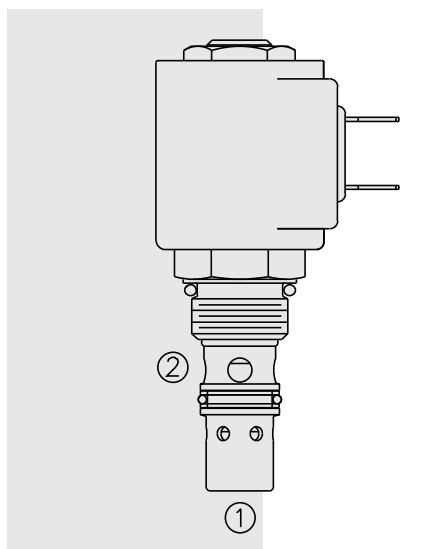
10	10 VDC
12	12 VDC
20	20 VDC
24	24 VDC

Coil Termination

	E-Coil	D-Coil
Deutsch DT04-2P	ER (IP69K)	DR (IP65)
Metri-Pack® 150	EY (IP69K)	DY (IP65)
Dual Lead Wires	EL (IP69K)	DL (IP65)
Amp Jr. Timer	EJ (IP67)	—
DIN 43650	EG (IP65)	DG (IP65)
Dual Spades	—	DS (IP65)

For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1

SVCV08-21 Poppet, 2-Way, Normally Open . . .



DESCRIPTION

A solenoid-operated, two-way, pilot-operated, poppet-type, normally open, screw-in hydraulic cartridge valve with outlet flow check, designed for low leakage in load holding applications.

OPERATION

When energized, the **SVCV08-21** blocks flow from 2 to 1 and from 1 to 2.

When de-energized, the cartridge's poppet lifts to open the 2 to 1 flow path, while continuing to block flow from 1 to 2.

The SVCV08-21 is designed to fit into the VC08-3 cavity with the normal inlet at cavity port 3 (valve port 2), the outlet at cavity port 1 (valve port 1), and with cavity port 2 blocked.

Operation of Manual Override Option: To override, push and hold override button.

FEATURES

- Continuous-duty rated coil.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Industry common cavity.
- Compact size.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Rated Flow: 22.7 lpm (6 gpm)

Reverse Flow Check Valve Spring: 0.69 bar (10 psi)

Maximum Internal Leakage: 2 to 1: 5 drops/minute at 207 bar (3000 psi);
1 to 2: 10 drops/minute at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating:

Energized: 40 msec.; De-energized: 46 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified);
E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-3; See page 9.108.1

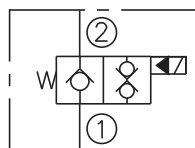
Cavity Tool: CT08-3XX; See page 8.600.1

Seal Kit: SK08-3X-M; See page 8.650.1

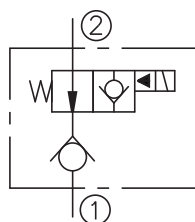
Coil Nut: Part No. 7004400

SYMBOLS

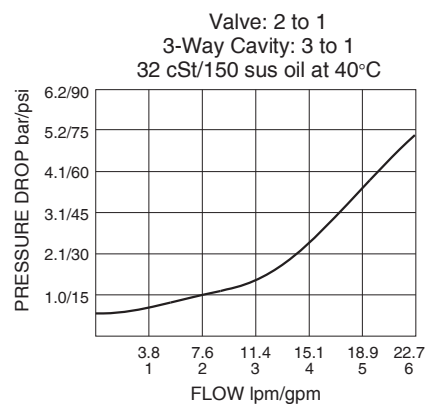
ISO:



Expanded:



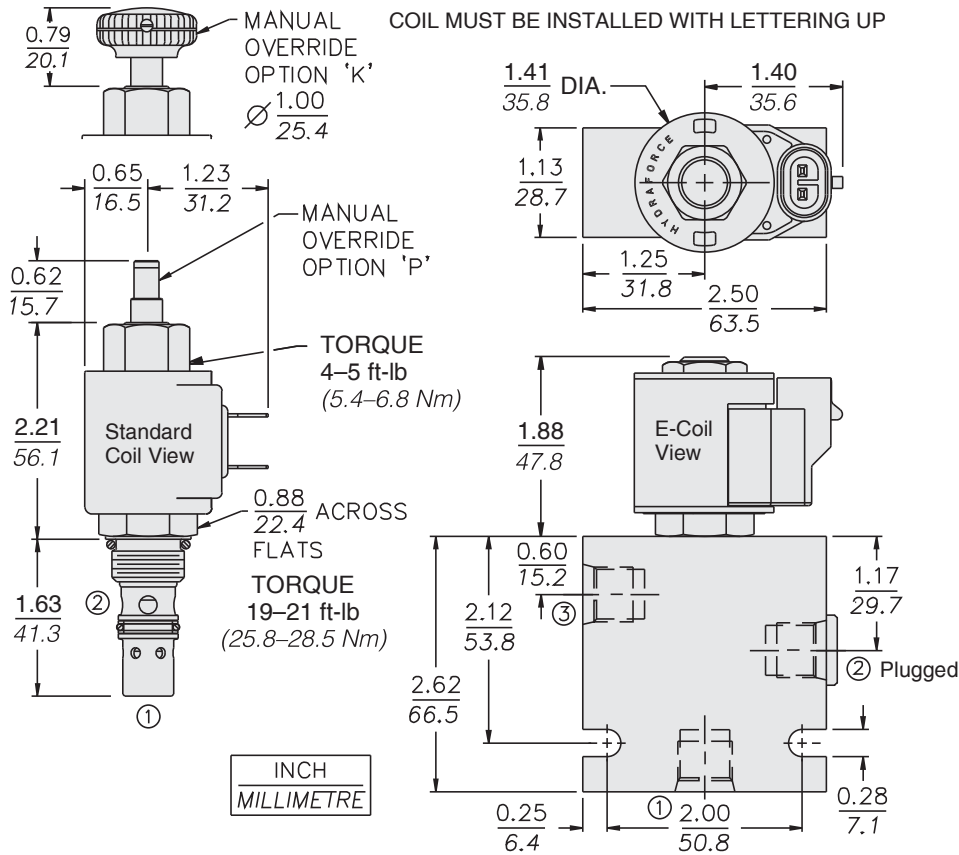
PERFORMANCE (Cartridge Only)



with Outlet Flow Check

SVCV08-21

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.11 kg. (0.25 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.27 kg. (0.60 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors. See page 3.400.1

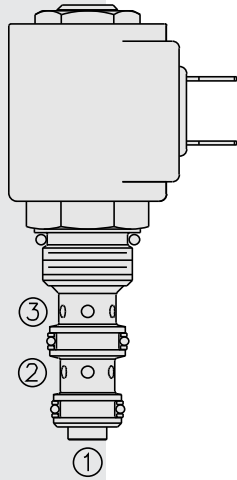
TO ORDER

SVCV08-21

Option	Voltage Std. Coil	Termination (VDC) Std. Coil
None (Blank)	0 Less Coil**	DS Dual Spades
Manual Override without Knob P	10 10 VDC [†]	DG DIN 43650
Manual Override with Knob K	12 12 VDC	DL Leadwires (2)
	24 24 VDC	DL/W Leads w/Weatherpak® Connectors
	36 36 VDC	DR Deutsch DT04-2P
	48 48 VDC	
	24 24 VAC	Termination (VAC) Std. Coil
	115 115 VAC	AG DIN 43650
	230 230 VAC	AP 1/2 in. Conduit
	**Includes Std. Coil Nut	Termination (VDC) E-Coil
	[†] DS, DW or DL terminations only.	ER Deutsch DT04-2P (IP69K Rated)
Porting	E-Coil	EY Metri-Pack® 150 (IP69K Rated)
Cartridge Only 0	10 10 VDC	
SAE 6 6T	12 12 VDC	
SAE 8 8T	20 20 VDC	
1/4 in. BSP* 2B	24 24 VDC	
*BSP Body; U.K. Mfr. Only		
Seals		
Buna N (Std.) N		
Fluorocarbon V		

Coils with internal diode are available. Consult factory.

SV08-30 Spool, 3-Way



DESCRIPTION

A solenoid-operated, 3-way, direct-acting, spool-type, screw-in hydraulic directional valve.

OPERATION

When de-energized, the **SV08-30** allows flow from 2 to 1 while blocking flow at 3. When energized, the cartridge's spool shifts to open from 3 to 2, while blocking flow out 1. While port 1 may be fully pressurized, it is not intended to be used as the inlet.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

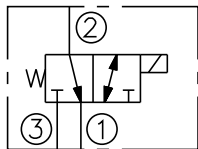
To return to normal valve function, push button in, twist clockwise 180°, and release. Override will be detented in this position.

FEATURES

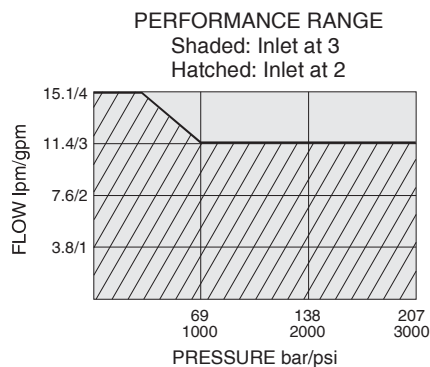
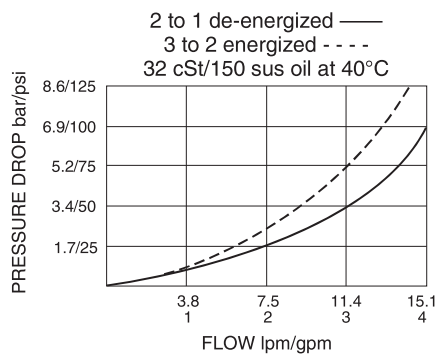
- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- All ports may be fully pressurized.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Fully guided spool.
- Compact size.

SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: See Performance Chart

Internal Leakage:

Port 3 (De-energized): 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi);
Port 1 (Energized): 164 cc/minute (10 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 22 msec.; De-energized: 12 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified);
E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: See Note on Dimension Drawing

Cavity: VC08-3, Variation "A"; See page 9.108.1

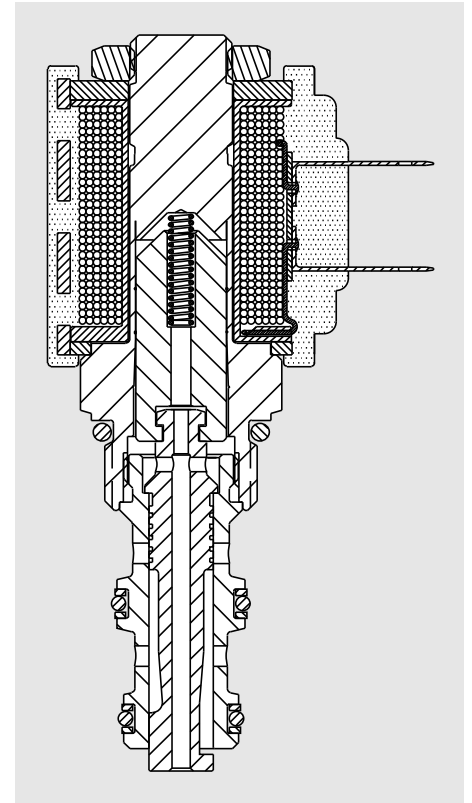
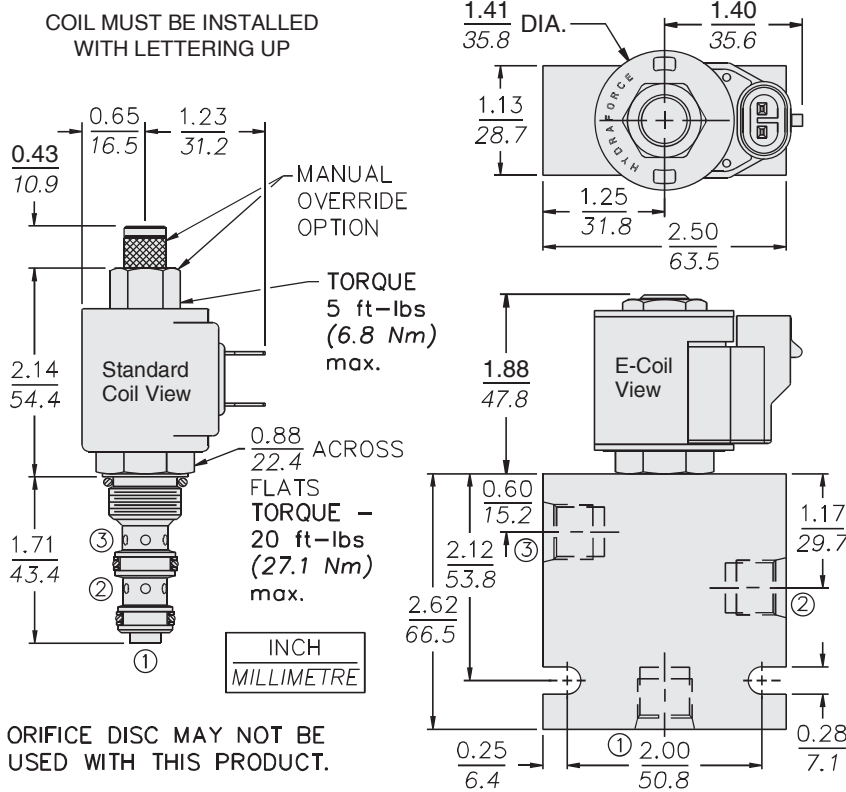
Cavity Tool: CT08-3XX; See page 8.600.1

Seal Kit: SK08-3X-MM; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.13 kg. (0.28 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.27 kg. (0.60 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

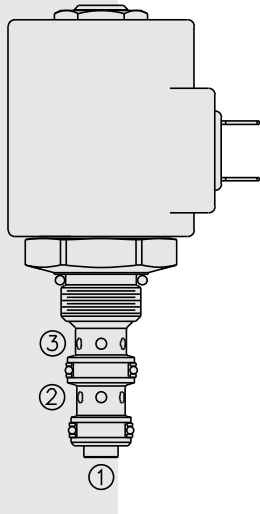
See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV08-30			
Option	Voltage	Termination (VDC)	
None (Blank)	Std. Coil	Std. Coil	
Manual Override M	0 Less Coil**	DS Dual Spades	
For Manual Override options see page 1.001.1	10 10 VDC [†]	DG DIN 43650	
	12 12 VDC	DL Leadwires (2)	
	24 24 VDC	DL/W Leads w/Weatherpak [®] Connectors	
	36 36 VDC	DR Deutsch DT04-2P	
	48 48 VDC	Termination (VAC)	
	24 24 VAC	Std. Coil	
	115 115 VAC	AG DIN 43650	
	230 230 VAC	AP 1/2 in. Conduit	
	**Includes Std. Coil Nut	Termination (VDC)	
	[†] DS, DW or DL terminations only.	E-Coil	
Porting	E-Coil	ER Deutsch DT04-2P (IP69K Rated)	
Cartridge Only 0	10 10 VDC	EY Metri-Pack [®] 150 (IP69K Rated)	
SAE 6 6T	12 12 VDC		
1/4 in. BSP* 2B	20 20 VDC		
*BSP Body; U.K. Mfr. Only	24 24 VDC		
Seals			
Buna N (Std.) N			
Fluorocarbon V			

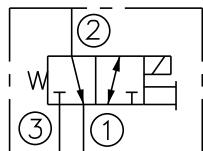
Coils with internal diode are available. Consult factory.

SV38-30 Spool, 3-Way

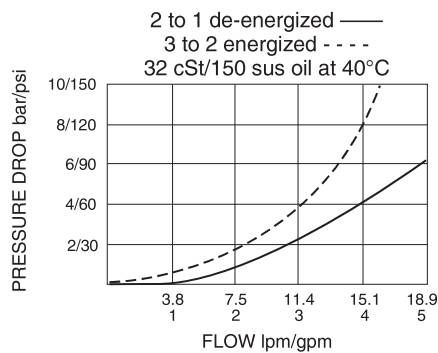


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, three-way, direct-acting, spool-type, screw-in hydraulic directional valve.

OPERATION

When de-energized, the **SV38-30** allows flow from 2 to 1, while blocking flow at 3. When energized, the cartridge's spool shifts to open from 3 to 2, while blocking flow out 1. While port 1 may be fully pressurized, it is not intended to be used as the inlet.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

To return to normal valve function, push button in, twist clockwise 180°, and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- All ports may be fully pressurized.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Fully guided spool.
- Compact size.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: See Performance Chart

Internal Leakage:

Port 3 (De-energized): 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi);
 Port 1 (Energized): 164 cc/minute (10 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;

0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: See Note on Dimension Drawing

Cavity: VC08-3, Variation "A"; See page 9.108.1

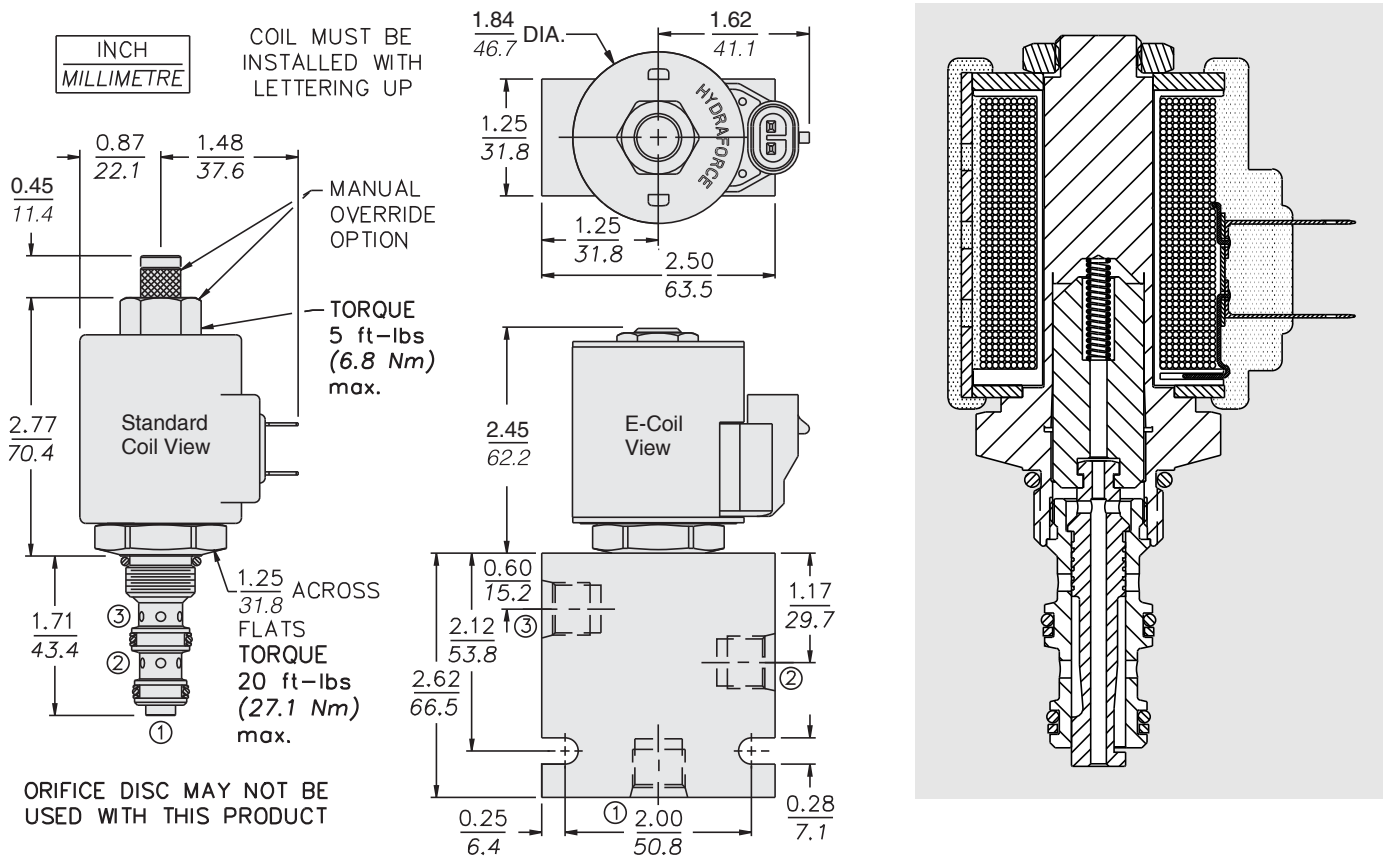
Cavity Tool: CT08-3XX; See page 8.600.1

Seal Kit: SK08-3X-MM; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.13 kg. (0.28 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.27 kg. (0.60 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. **Note: See page 3.400.1 for all E-Coil retrofit applications.**

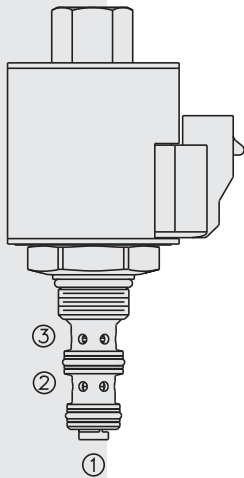
TO ORDER

SV38-30

Option		Voltage	Termination (VDC)
None (Blank)		Std. Coil	Std. Coil
Manual Override M		0 Less Coil**	DS Dual Spades
Manual Override Y		10 10 VDC†	DG DIN 43650
Manual Override J		12 12 VDC	DL Leadwires (2)
For Manual Override options see page 1.001.1		24 24 VDC	DL/W Leads w/Weatherpak® Connectors
		36 36 VDC	DR Deutsch DT04-2P
		48 48 VDC	
		24 24 VAC	Termination (VAC)
		115 115 VAC	Std. Coil
		230 230 VAC	AG DIN 43650
		**Includes Std. Coil Nut	AP 1/2 in. Conduit
		† DS, DW or DL terminations only.	Termination (VDC)
			E-Coil
		E-Coil	ER Deutsch DT04-2P (IP69K Rated)
		10 10 VDC	EY Metri-Pack® 150 (IP69K Rated)
		12 12 VDC	
		20 20 VDC	
		24 24 VDC	
Seals			
Buna N (Std.) N			
Fluorocarbon V			

Coils with internal diode are available. Consult factory.

SV58-30 Spool, 3-Way, High Pressure



DESCRIPTION

A solenoid-operated, 3-way, direct-acting, spool-type, screw-in hydraulic directional valve designed for high pressure operation up to 345 bar (5000 psi).

OPERATION

When de-energized, the **SV58-30** allows flow from 2 to 1 while blocking flow at 3. When energized, the cartridge's spool shifts to open from 3 to 2, while blocking flow out 1.

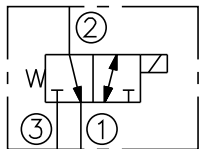
Note: Port 1 must be connected to tank. Valve cannot withstand more than 276 bar (4000 psi) at the inlet of port 1.

FEATURES

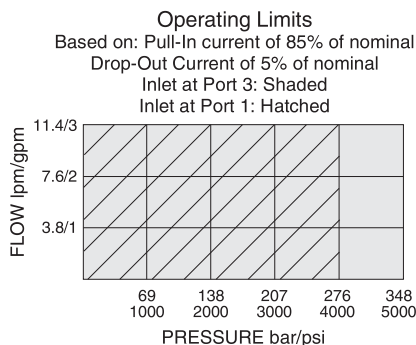
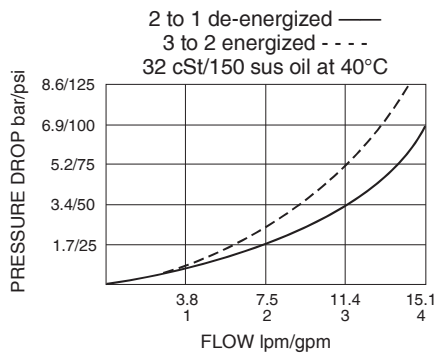
- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Fully guided spool.
- Compact size.

SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 345 bar (5000 psi)

Flow: See Performance Chart

Internal Leakage:

Port 3 (De-energized): 131 ml/minute (8 cu. in./minute) max. at 345 bar (5000 psi);
Port 1 (Energized): 279 ml/minute (17 cu. in./minute) max. at 345 bar (5000 psi)

Temperature: -40 to 120°C with standard Buna seals;

-26 to 204°C with Fluorocarbon seals; -54 to 107°C with Polyurethane seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 22 msec.; De-energized: 12 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;

0.13 amps at 115 VAC (full wave rectified);

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-3, Variation "A"; See page 9.108.1

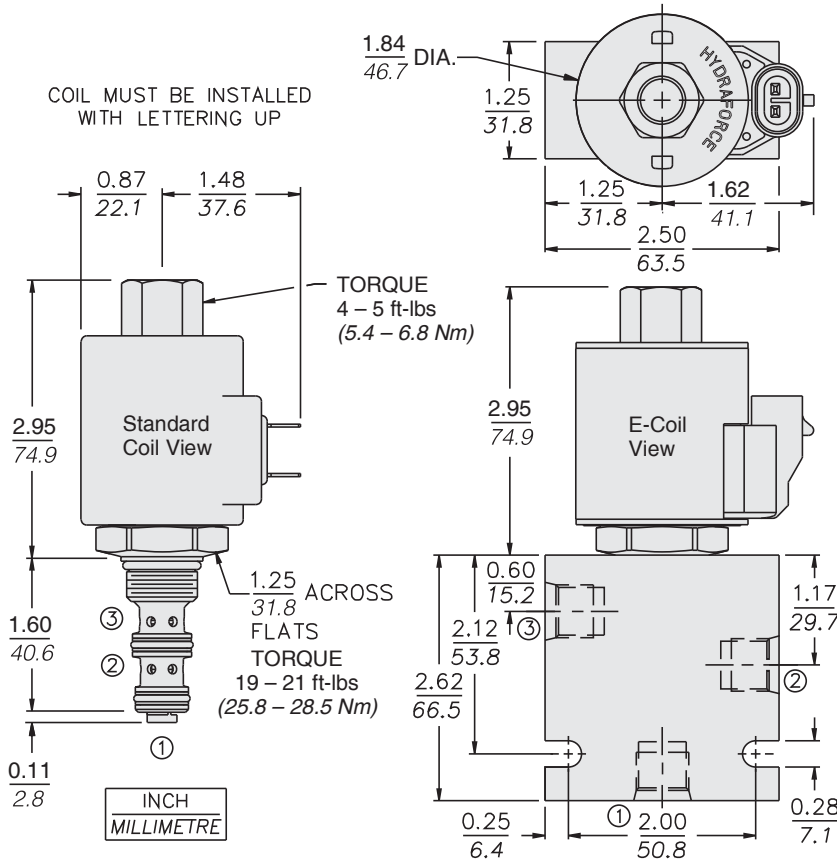
Cavity Tool: CT08-3XX; See page 8.600.1

Seal Kit: SK58-3X-MM; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.15 kg. (0.32 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.27 kg. (0.60 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors. See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

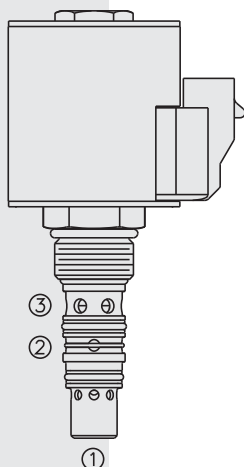
SV58-30

Option	None (Blank)	Voltage	Std. Coil	Termination (VDC)
		0	Less Coil**	DS Dual Spades
		10	10 VDC†	DG DIN 43650
		12	12 VDC	DL Leadwires (2)
		24	24 VDC	DL/W Leads w/Weatherpak® Connectors
		36	36 VDC	DR Deutsch DT04-2P
		48	48 VDC	Termination (VAC)
		24	24 VAC	Std. D-Coil
		115	115 VAC	AG DIN 43650
		230	230 VAC	AP 1/2 in. Conduit
		**Includes Std. Coil Nut		Termination (VDC)
		† DS, DG or DL terminations only.		E-Coil
Porting	Cartridge Only 0	Seals		EG DIN 43650 – IP65/IP67
	SAE 6 6T	Buna N (Std.) N	10 10 VDC	EJ Amp Junior Timer – IP69K
	1/4 in. BSP* 2B	Fluorocarbon V	12 12 VDC	EL Leadwires (2) – IP69K
	*BSP Body; U.K. Mfr. Only	Polyurethane P	20 20 VDC	ER Deutsch DT04-2P – IP69K
			24 24 VDC	EY Metri-Pack® 150 – IP69K
		Polyurethane seals are required for operation over 241 bar/3500 psi.		Coils with internal diode are available. Consult factory.

Note: This is an 08-size valve which fits an 08-size cavity, but uses a 10-size coil.

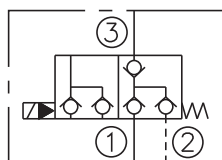
SVCL10-30 Poppet, 3-Port, Normally Closed

U.S. Patent
7,921,880

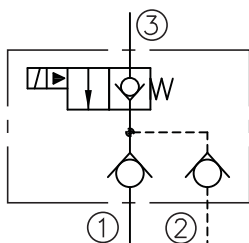


SYMBOL

ISO:



Expanded:



DESCRIPTION

A solenoid-operated, normally-closed, on/off, poppet-type, screw-in hydraulic cartridge valve incorporating an integral load-sense pressure port with isolation check.

OPERATION

When de-energized, the **SVCL10-30** blocks flow at all ports. When energized, flow is allowed from 3 to 1 with a check-isolated load sense signal supplied at 2. Reverse flow is not allowed from 1 to 3.

NOTE: When using this valve in bridge circuits, seals should not be used on the pilot pistons of the pilot-operated check valves. This is to avoid trapping oil which would keep the pilot-operated check valve open.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Reduce manifold space claim.

RATINGS

Operating Pressure: 240 bar (3625 psi); Holding Pressure at 1: 350 bar (5000 psi)

Flow: Up to 57 lpm (15 gpm)

Internal Leakage: Ports 1 and 3: 5 drops/minute max. at 240 bar (3500 psi)
Port 2: 10 drops/minute max. at 240 bar (3500 psi)

Operating Temperature: -40° to 121°C (-40° to 250°F) with Buna N

-35° to 204°C (-31° to 400°F) with Fluorocarbon seals

-54 to 107°C (-65° to 225°F) with Polyurethane seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard D-Coil: 1.67 amps at 12 VDC;

0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

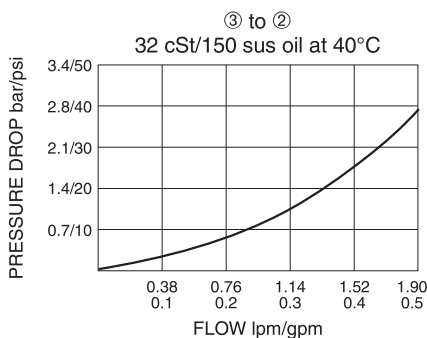
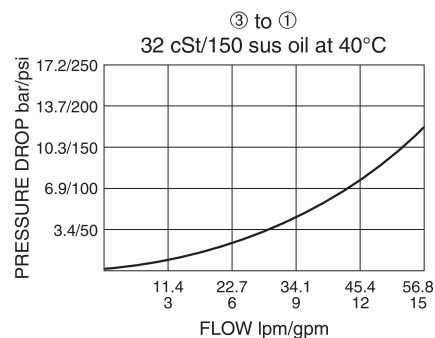
Cavity: VC10-3, Variation "B"; See page 9.110.1

Cavity Tool: CT10-3XX; See page 8.600.1

Seal Kit: SK10-3X-MM; See page 8.650.1

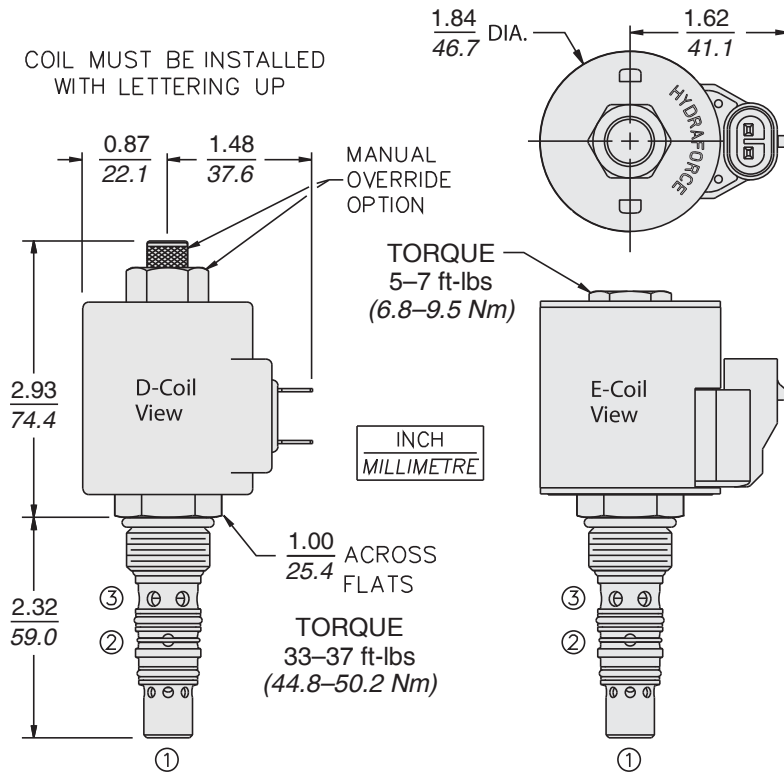
Coil Nut: Part No. 7004400

PERFORMANCE (Cartridge Only)



DIMENSIONS

U.S. Patent 7,921,880



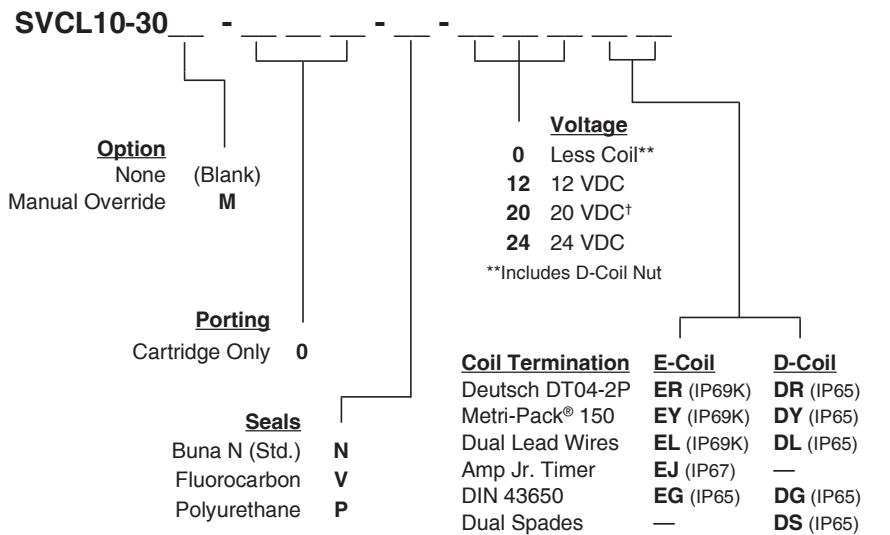
MATERIALS

Cartridge: Weight: 0.18 kg. (0.40 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard D-Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. **Note: See page 3.400.1 for all E-Coil retrofit applications.**

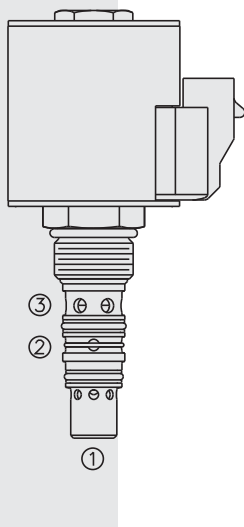
TO ORDER



For Coils with Zener Diode, add "Z" to option code. For example: "ERZ". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1

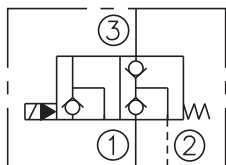
SVCL10-32 Poppet, 3-Port, Normally Closed

U.S. Patent
7,921,880

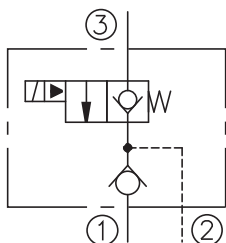


SYMBOL

ISO:



Expanded:



DESCRIPTION

A solenoid-operated, normally-closed, on/off, poppet-type, screw-in hydraulic cartridge valve incorporating an integral load-sense pressure port with isolation check.

OPERATION

When de-energized, the **SVCL10-32** blocks flow at ports 3 and 1. When energized, flow is allowed from 3 to 1 and 2 with a check-isolated load sense signal supplied at 2. Reverse flow is not allowed from 1 to 3.

NOTE: When using this valve in bridge circuits, seals should not be used on the pilot pistons of the pilot-operated check valves. This is to avoid trapping oil which would keep the pilot-operated check valve open.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Reduce manifold space claim.

RATINGS

Operating Pressure: 250 bar (3625 psi); Holding Pressure at 1: 250 bar (5000 psi)

Flow: 15 gpm (57 lpm); see performance charts

Internal Leakage: Ports 1 and 3: 5 drops/minute max. at 250 bar (3625 psi)
Port 2: 10 drops/minute max. at 250 bar (3625 psi)

Operating Temperature: -40° to 100°C (-40° to 212° F) with standard Buna N seals;
-26° to 204°C (-15° to 400°F) with Fluorocarbon seals;
-54°C to 104°C (-65°F to 225°F) with Polyurethane seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard D-Coil: 1.67 amps at 12 VDC;
0.18 amps at 115 VAC (full wave rectified).
E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

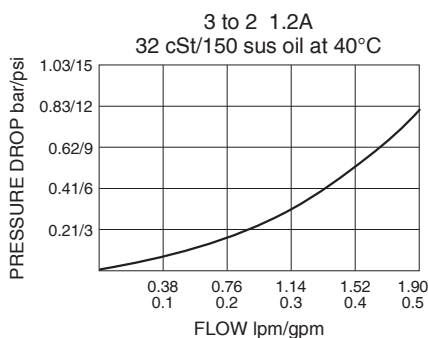
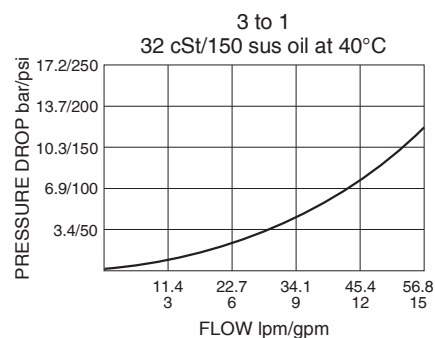
Cavity: VC10-3, Variation "B"; See page 9.110.1

Cavity Tool: CT10-3XX; See page 8.600.1

Seal Kit: SK10-3X-MM; See page 8.650.1

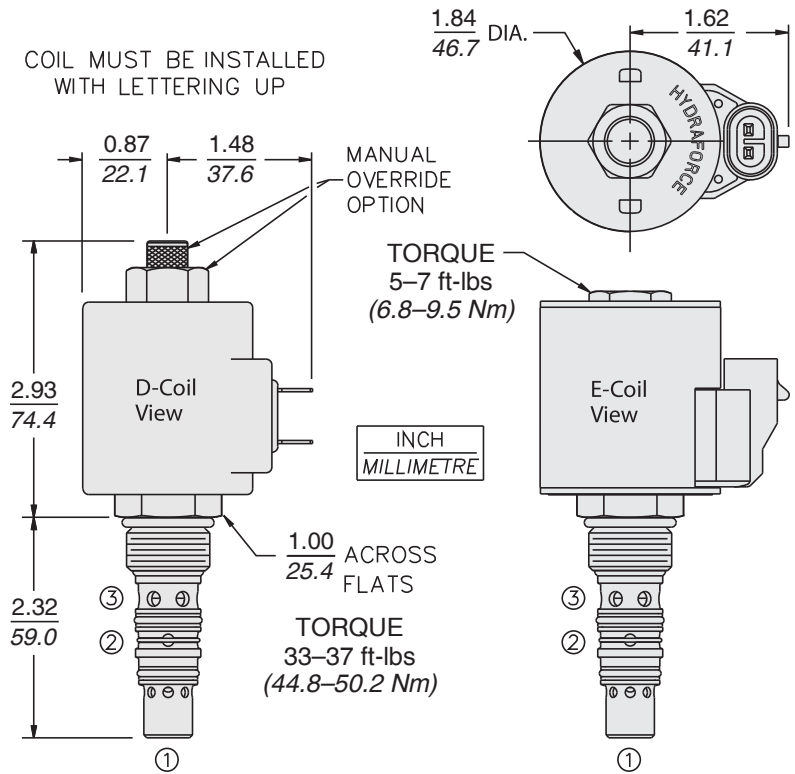
Coil Nut: Part No. 7004400

PERFORMANCE (Cartridge Only)



DIMENSIONS

U.S. Patent 7,921,880



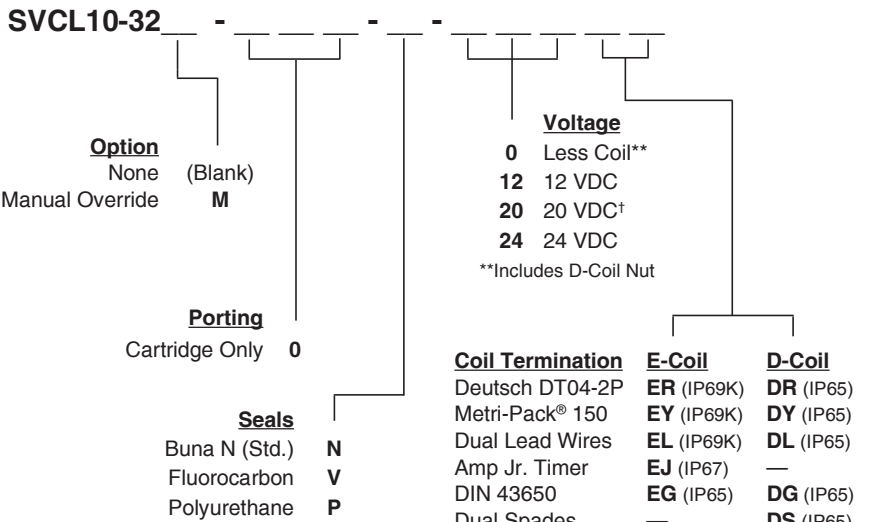
MATERIALS

Cartridge: Weight: 0.18 kg. (0.40 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard D-Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

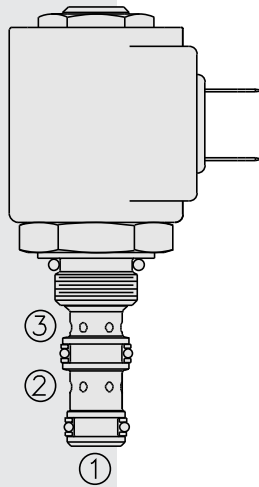
E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. **Note: See page 3.400.1 for all E-Coil retrofit applications.**

TO ORDER



For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1

SV07-31 Spool, 3-Way



DESCRIPTION

A solenoid-operated, 3-way, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

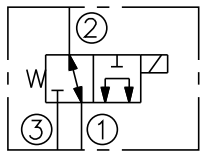
When de-energized, the **SV07-31** allows flow from 2 to 1, while blocking flow at 3. When energized, the cartridge's spool shifts to open from 1 to 3, while blocking at 2. While port 3 may be fully pressurized, it is not intended to be used as the inlet.

FEATURES

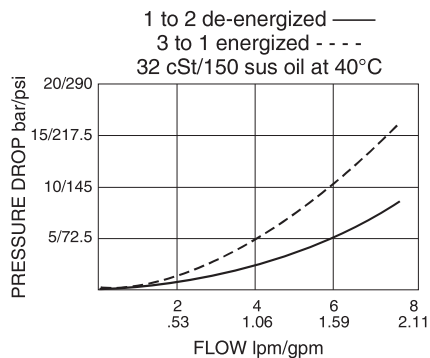
- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- All ports may be fully pressurized.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized molded coil design.
- Compact size.

SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: See Performance Chart

Internal Leakage: 41 cc/minute (2.5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC07-3; See page 9.107.1

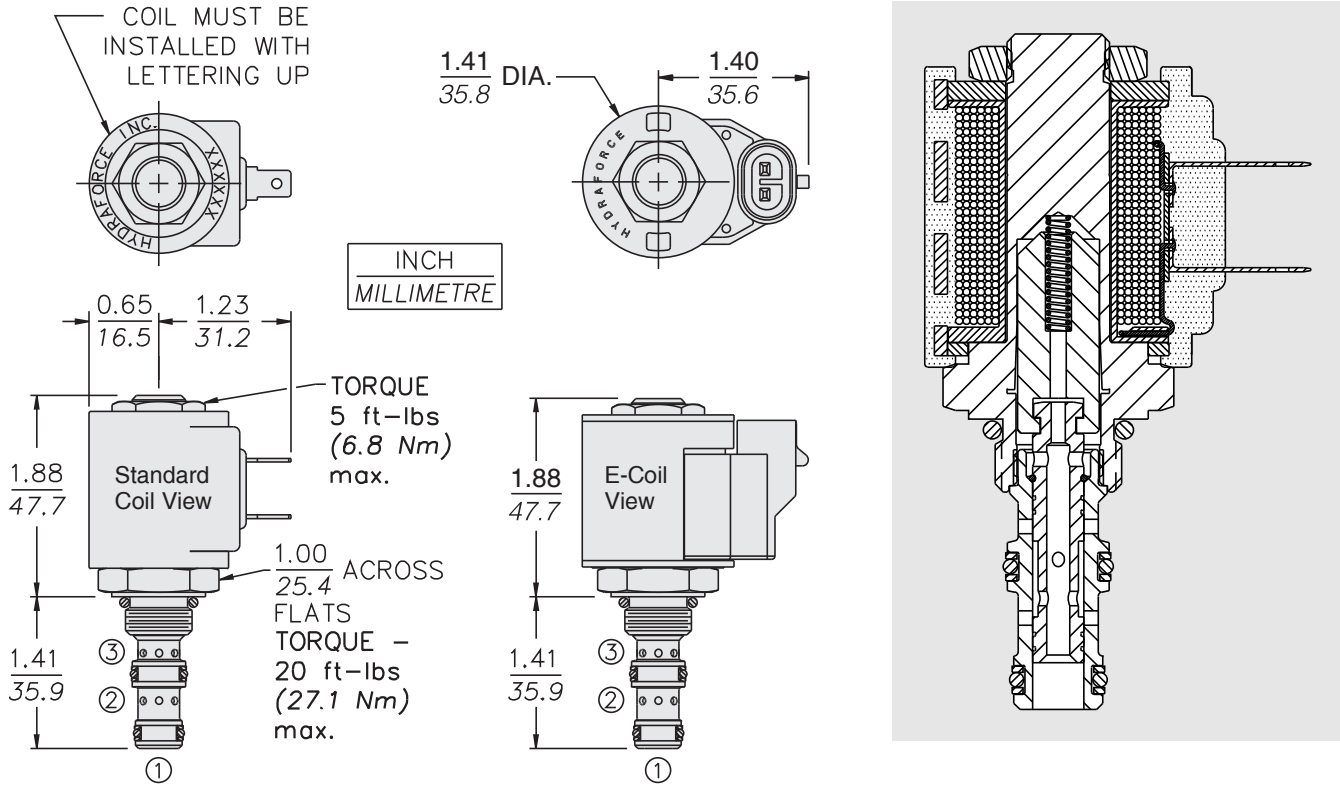
Cavity Tool: CT07-3XX; See page 8.600.1

Seal Kit: SK07-3X-MM; See page 8.650.1

Standard Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.09 kg. (0.20 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

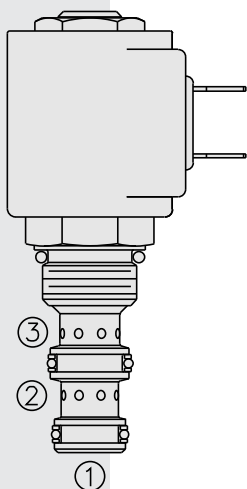
Note: See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV07-31		-	-	-	-	-	-
Option	None (Blank)						
Porting	Cartridge Only	0					
Seals	Buna N (Std.)	N					
	Fluorocarbon	V					
			Voltage				
			Std. Coil				
			0	Less Coil**			
			10	10 VDC [†]			
			12	12 VDC			
			24	24 VDC			
			36	36 VDC			
			48	48 VDC			
			24	24 VAC			
			115	115 VAC			
			230	230 VAC			
					**Includes Std. Coil Nut		
					[†] DS, DW or DL terminations only.		
			E-Coil				
			10	10 VDC			
			12	12 VDC			
			20	20 VDC			
			24	24 VDC			
					Termination (VDC)		
					Std. Coil		
					DS	Dual Spades	
					DG	DIN 43650	
					DL	Leadwires (2)	
					DL/W	Leads w/Weatherpak [®] Connectors	
					DR	Deutsch DT04-2P	
						Termination (VAC)	
						Std. Coil	
					AG	DIN 43650	
					AP	1/2 in. Conduit	
						Termination (VDC)	
						E-Coil	
					ER	Deutsch DT04-2P (IP69K Rated)	
					EY	Metri-Pack [®] 150 (IP69K Rated)	

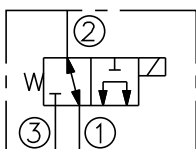
Coils with internal diode are available. Consult factory.

SV08-31 Spool, 3-Way

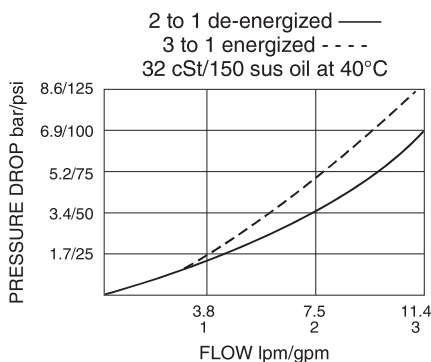


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, three-way, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV08-31** allows flow from 2 to 1, while blocking flow at 3. When energized, the valve's spool shifts to open from 1 to 2, while blocking at 2. While port 3 may be fully pressurized, it is not intended to be used as the inlet.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

To return to normal valve function, push button in, twist clockwise 180° and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- All ports may be fully pressurized.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized molded coil design.
- Compact size.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: See Performance Chart; Note: Under certain operating conditions this valve may be rated for higher flow. Consult factory.

Internal Leakage: 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40°C to 120°C with standard Buna seals; -26°C to 204°C with Fluorocarbon seals; -54°C to 107°C with Polyurethane seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 30 msec.; De-energized: 25 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC; 0.13 amps at 115 VAC (full wave rectified). E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-3; See page 9.108.1

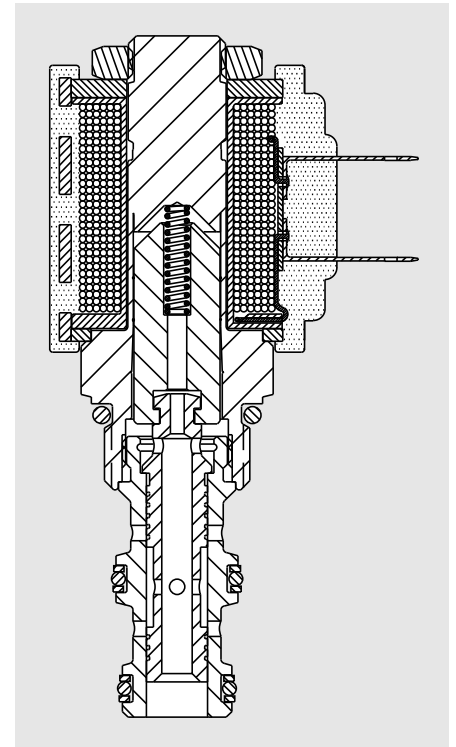
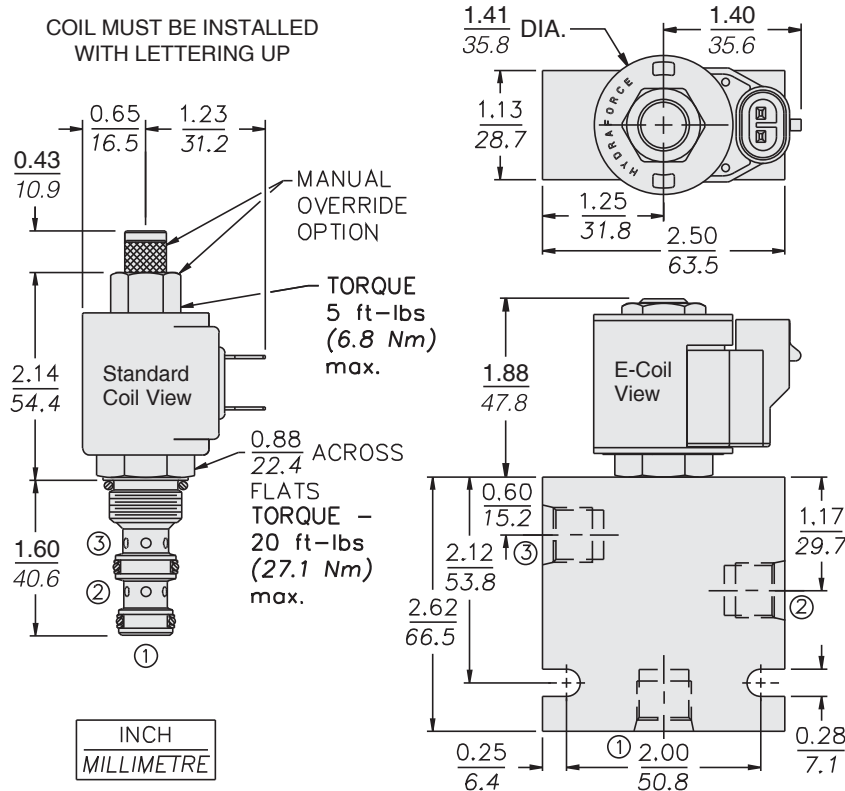
Cavity Tool: CT08-3XX; See page 8.600.1

Seal Kit: SK08-3X-MM; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.13 kg. (0.28 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.27 kg. (0.60 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

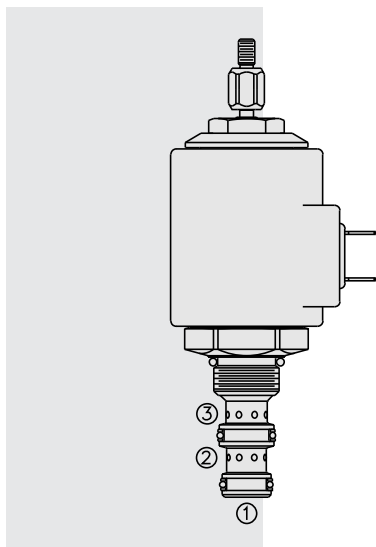
E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

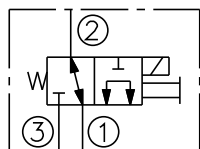
SV08-31		-	-	-	-	-	-
Option	None (Blank)						
Manual Override	M						
For Manual Override options see page 1.001.1							
Porting	Cartridge Only 0						
	SAE 6 6T						
	1/4 in. BSP* 2B						
*BSP Body; U.K. Mfr. Only							
Seals	Buna N (Std.) N						
	Fluorocarbon V						
	Polyurethane P						
Voltage Std. Coil	0 Less Coil**						
	10 10 VDC [†]						
	12 12 VDC						
	24 24 VDC						
	36 36 VDC						
	48 48 VDC						
	24 24 VAC						
	115 115 VAC						
	230 230 VAC						
**Includes Std. Coil Nut							
[†] DS, DW or DL terminations only.							
Termination (VDC) Std. Coil	DS Dual Spades						
	DG DIN 43650						
	DL Leadwires (2)						
	DL/W Leads w/Weatherpak® Connectors						
	DR Deutsch DT04-2P						
Termination (VAC) Std. Coil	AG DIN 43650						
	AP 1/2 in. Conduit						
Termination (VDC) E-Coil	ER Deutsch DT04-2P (IP69K Rated)						
	EY Metri-Pack® 150 (IP69K Rated)						
Coils with internal diode are available. Consult factory.							

SV38-31J Spool, 3-Way

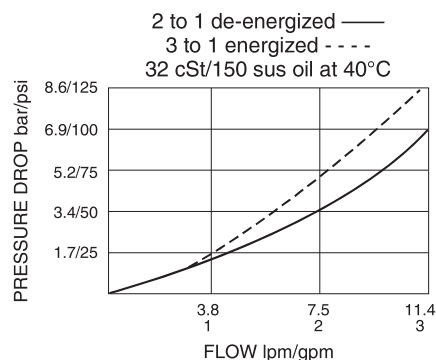


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, three-way, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV38-31J** allows flow from 2 to 1, while blocking flow at 3. When energized, the cartridge's spool shifts to open from 1 to 3, while blocking at 2. While port 1 may be fully pressurized, it is not intended to be used as the inlet.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

To return to normal valve function, push button in, twist clockwise 180° and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- All ports may be fully pressurized.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized molded coil design.
- Compact size.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: See Performance Chart

Internal Leakage: 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;

0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-3; See page 9.108.1

Cavity Tool: CT08-3XX; See page 8.600.1

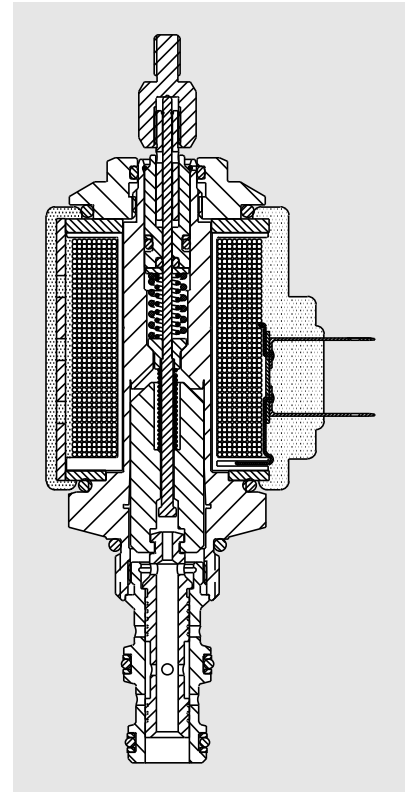
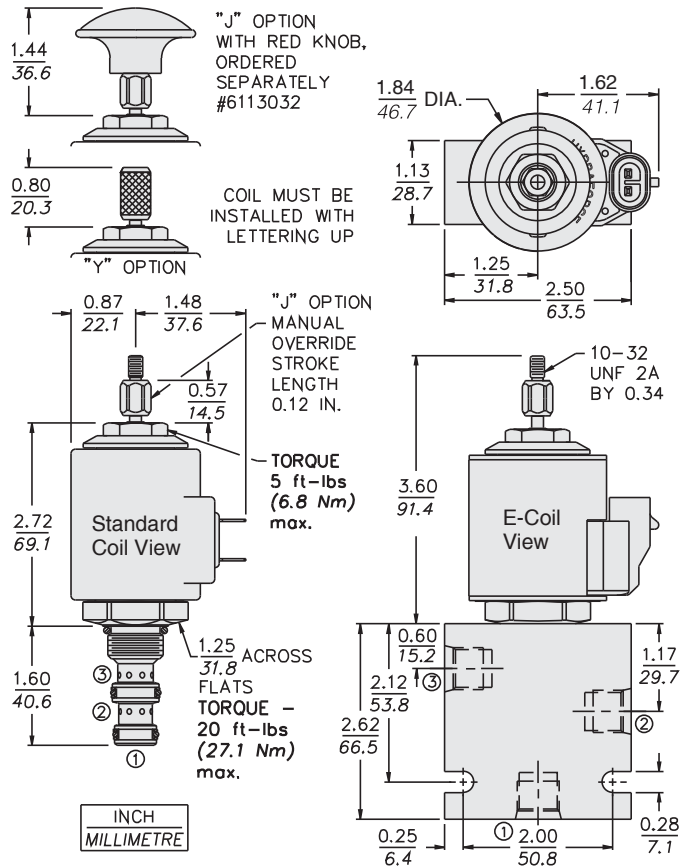
Seal Kit: SK08-3X-MM; See page 8.650.1

Coil Nut: Part No. 7004596;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SV38-31J

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.13 kg. (0.28 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.27 kg. (0.60 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors.

Note: See page 3.400.1 for all E-Coil retrofit applications.

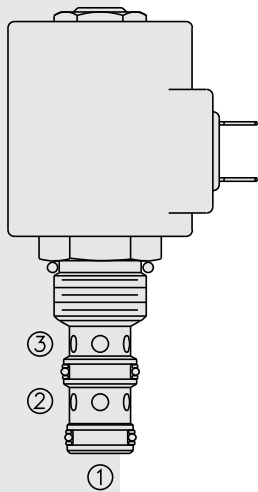
TO ORDER

SV38-31J

Option	Voltage	Termination (VDC)
None (Blank)	Std. Coil	Std. Coil
Cable Release Y	0 Less Coil**	DS Dual Spades
For Manual Override options see page 1.001.1	10 10 VDC†	DG DIN 43650
	12 12 VDC	DL Leadwires (2)
	24 24 VDC	DL/W Leads w/Weatherpak® Connectors
	36 36 VDC	DR Deutsch DT04-2P
	48 48 VDC	
Porting	24 24 VAC	Termination (VAC)
Cartridge Only 0	115 115 VAC	Std. Coil
SAE 6 6T	230 230 VAC	AG DIN 43650
SAE 8 8T		AP 1/2 in. Conduit
1/4 in. BSP* 2B		Termination (VDC)
3/8 in. BSP* 3B		E-Coil
*BSP Body; U.K. Mfr. Only	E-Coil	ER Deutsch DT04-2P (IP69K Rated)
	10 10 VDC	EY Metri-Pack® 150 (IP69K Rated)
Seals	12 12 VDC	
Buna N (Std.) N	20 20 VDC	
Fluorocarbon V	24 24 VDC	

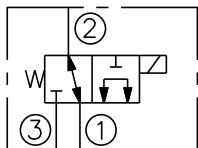
Coils with internal diode are available. Consult factory.

SV10-31 Spool, 3-Way

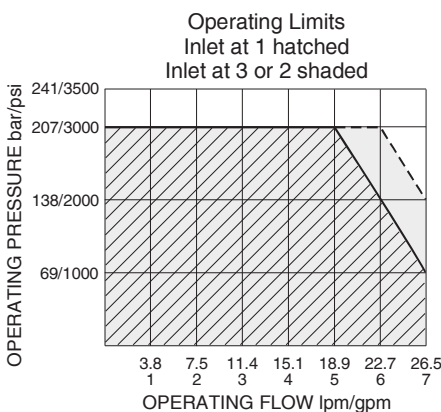
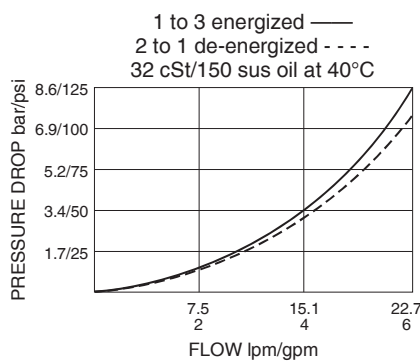


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, three-way, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV10-31** allows flow from 2 to 1, while blocking flow at 3. When energized, the valve shifts to open from 1 to 3, while blocking at 2. While port 1 may be fully pressurized, it is not intended to be used as the inlet.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

To return to normal valve function, push button in, twist clockwise 180°, and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Industry common cavity.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Proof Pressure: 350 bar (5075 psi)

Flow: 22.7 lpm (6 gpm) max.

Internal Leakage: 164 cc/minute (10 cu. in./minute) max. at 207 bar (3000 psi)

Operating Temperature: -40 to 100°C with standard Buna N seals

-26 to 204°C with Fluorocarbon seals

-54 to 107°C with Polyurethane seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at

80% of nominal flow rating: Energized: 60 msec.; De-energized: 10 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;

0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of

7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-3, See page 9.110.1

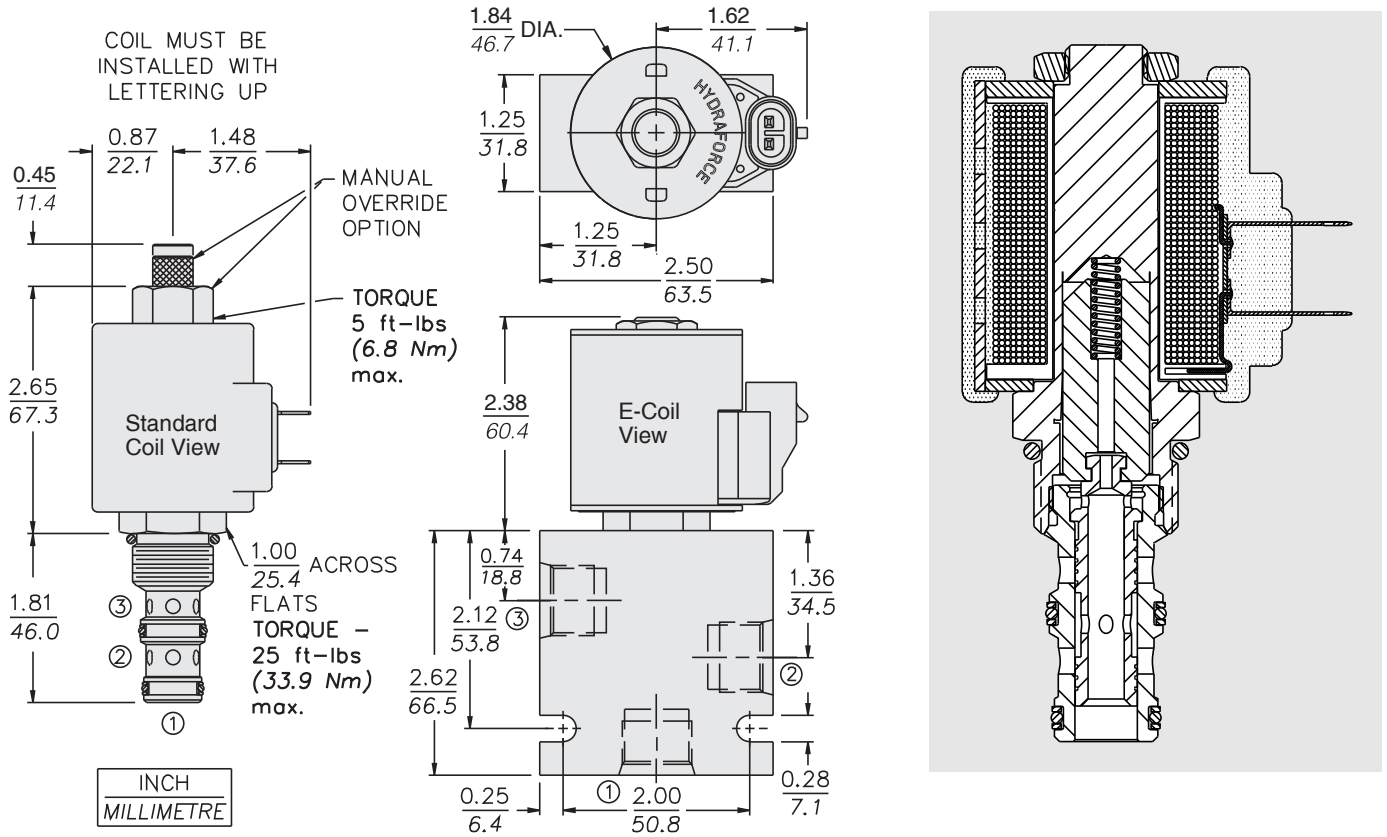
Cavity Tool: CT10-3XX; See page 8.600.1

Seal Kit: SK10-3X-MM; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.14 kg. (0.30 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.36 kg. (0.80 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

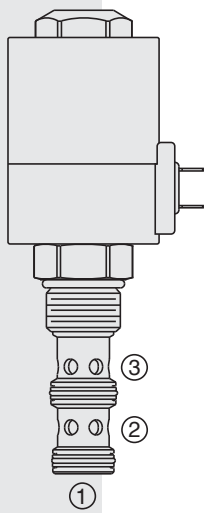
E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1.

TO ORDER

SV10-31			
Option		Voltage	Termination (VDC)
None (Blank)		Std. Coil	Std. Coil
Manual Override M		0 Less Coil**	DS Dual Spades
Manual Override Y		10 10 VDC†	DG DIN 43650
Manual Override J		12 12 VDC	DL Leadwires (2)
For Manual Override options see page 1.001.1		24 24 VDC	DL/W Leads w/Weatherpak® Connectors
		36 36 VDC	DR Deutsch DT04-2P
Porting		48 48 VDC	Termination (VAC)
Cartridge Only 0		24 24 VAC	Std. Coil
SAE 6 6T		115 115 VAC	AG DIN 43650
SAE 8 8T		230 230 VAC	AP 1/2 in. Conduit
1/4 in. BSP* 2B		**Includes Std. Coil Nut	Termination (VDC)
3/8 in. BSP* 3B		† DS, DW or DL terminations only.	E-Coil
*BSP Body; U.K. Mfr. Only		E-Coil	ER Deutsch DT04-2P (IP69K Rated)
		10 10 VDC	EY Metri-Pack® 150 (IP69K Rated)
Seals		12 12 VDC	
Buna N (Std.) N		20 20 VDC	
Fluorocarbon V		24 24 VDC	
Polyurethane P			

Coils with internal diode are available. Consult factory.

SV12-31 Spool, 3-Way



DESCRIPTION

A solenoid-operated, 3-way, direct-acting spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV12-31** allows flow between 2 and 1 while blocking flow at 3. When energized, the spool shifts to allow flow between 1 and 3 while blocking flow at 2.

While port 1 may be fully pressurized, it is not intended to be used as the inlet.

FEATURES

- Continuous-duty rated solenoid.
- Hardened spool and cage for long life.
- Optional coil voltages and terminations.
- All ports may be fully pressurized.
- Heavy-duty waterproof E-Coils rated up to IP69K.

RATINGS

Operating Pressure: 240 bar (3500 psi) max.

Flow: See Performance Chart

Leakage: 410 cc/minute (25 cu. in./minute) at 240 bar (3500 psi)

Temperature: -40 to 120°C with Buna N seals

Coil Duty Rating: See Chart

Response Time: Pull-In: 100 msec; Drop-Out: 100 msec

Initial Coil Current Draw at 20°C: 2.8 amps at 12 VDC

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC12-3; See page 9.112.1

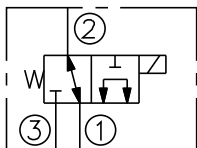
Cavity Tool: CT12-3XX; See page 8.600.1

Seal Kit: SK12-3X-MM; See page 8.650.1

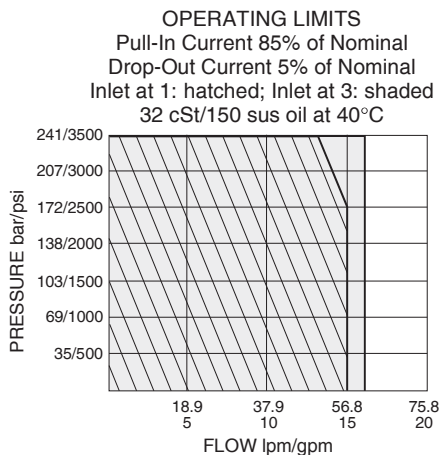
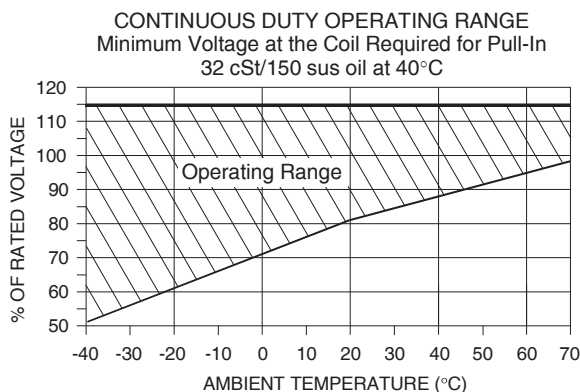
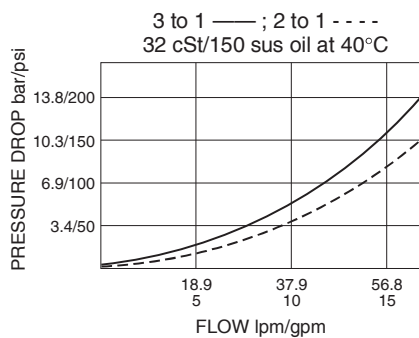
E-Coil Nut: Part No. 7085180

SYMBOLS

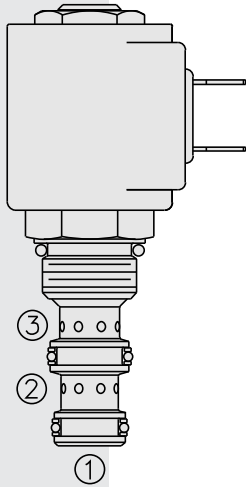
USASI/ISO:



PERFORMANCE (Cartridge Only)

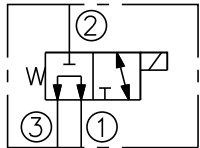


SV08-33 Spool, 3-Way

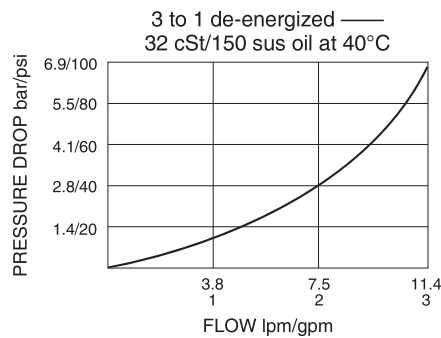


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, 3-way, direct-acting, spool-type, screw-in hydraulic directional valve.

OPERATION

When de-energized, the **SV08-33** allows flow from 3 to 1, while blocking flow at 2. When energized, the cartridge's spool shifts to open from 2 to 1, while blocking at 3. While port 1 may be fully pressurized, it is not intended to be used as the inlet.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

To return to normal valve function, push button in, twist clockwise 180°, and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- All ports may be fully pressurized.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Compact size.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: See Performance Chart

Internal Leakage: 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-3; See page 9.108.1

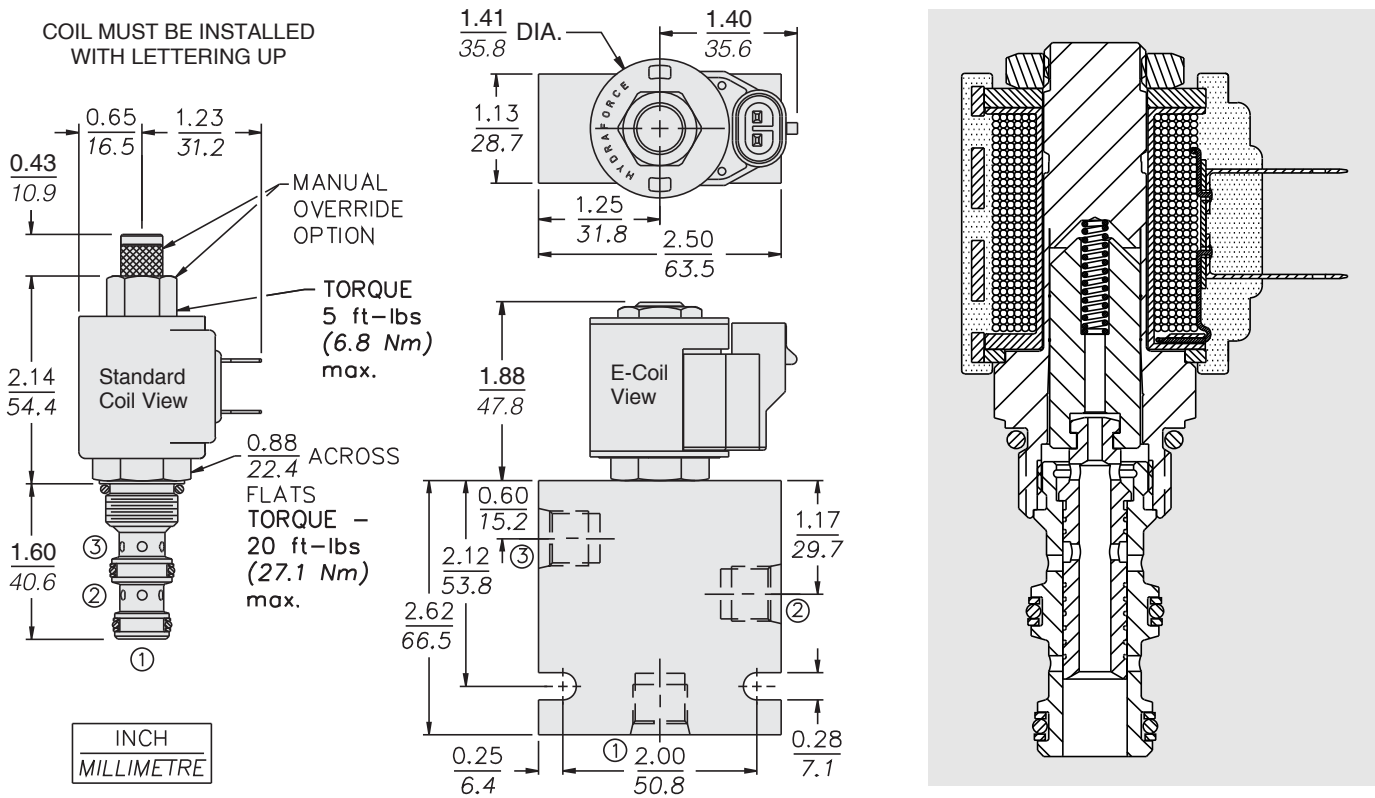
Cavity Tool: CT08-3XX; See page 8.600.1

Seal Kit: SK08-3X-MM; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.13 kg. (0.28 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.27 kg. (0.60 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

See page 3.400.1 for all E-Coil retrofit applications.

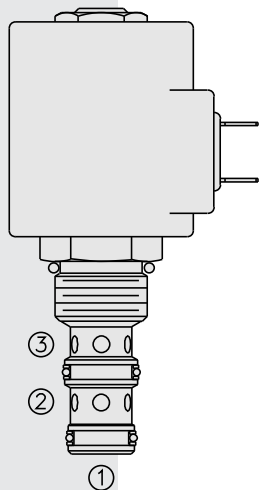
TO ORDER

SV08-33			
Option	Voltage	Termination (VDC)	
None (Blank)	Std. Coil	Std. Coil	
Manual Override M	0 Less Coil**	DS Dual Spades	
For Manual Override options see page 1.001.1	10 10 VDC [†]	DG DIN 43650	
	12 12 VDC	DL Leadwires (2)	
	24 24 VDC	DL/W Leads w/Weatherpak® Connectors	
	36 36 VDC	DR Deutsch DT04-2P	
	48 48 VDC	Termination (VAC)	
Porting	24 24 VAC	Std. Coil	
Cartridge Only 0	115 115 VAC	AG DIN 43650	
SAE 6 6T	230 230 VAC	AP 1/2 in. Conduit	
1/4 in. BSP* 2B		Termination (VDC)	
*BSP Body; U.K. Mfr. Only		E-Coil	
	E-Coil	ER Deutsch DT04-2P (IP69K Rated)	
Seals	10 10 VDC	EY Metri-Pack® 150 (IP69K Rated)	
Buna N (Std.) N	12 12 VDC		
Fluorocarbon V	20 20 VDC		
	24 24 VDC		

**Includes Std. Coil Nut
[†] DS, DW or DL terminations only.

Coils with internal diode are available. Consult factory.

SV10-33 Spool, 3-Way



DESCRIPTION

A solenoid-operated, 3-way, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV10-33** allows flow from 3 to 1, while blocking flow at 2. When energized, the cartridge's spool shifts to open from 2 to 1, while blocking at 3. While port 1 may be fully pressurized, it is not intended to be used as the inlet.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

To return to normal valve function, push button in, twist clockwise 180°, and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Industry common cavity.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Proof Pressure: 350 bar (5075 psi)

Flow: 18.9 lpm (5 gpm) max.

Internal Leakage: 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;

0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-3, See page 9.110.1

Cavity Tool: CT10-3XX; See page 8.600.1

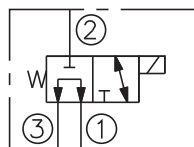
Seal Kit: SK10-3X-MM; See page 8.650.1

Coil Nut: Part No. 7004400;

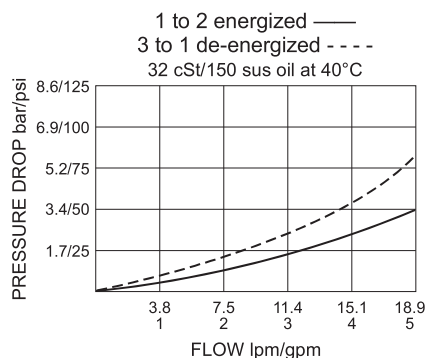
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SYMBOLS

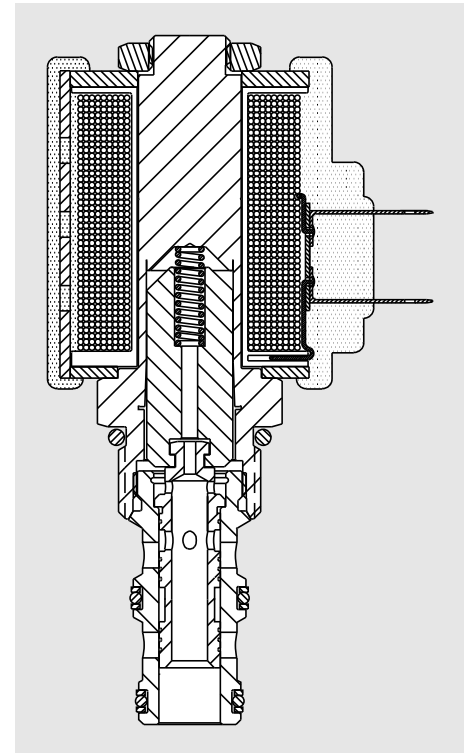
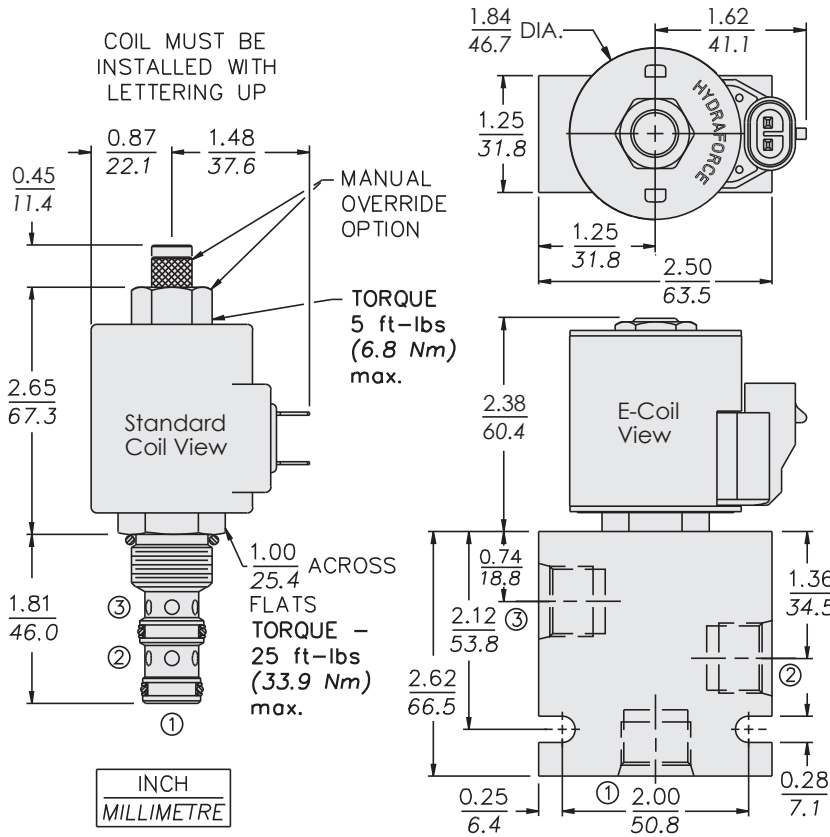
USASI/ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.14 kg. (0.30 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.36 kg. (0.80 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1.

TO ORDER

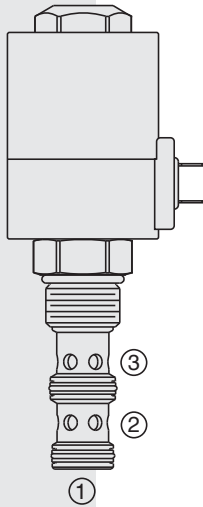
SV10-33

Option	None (Blank)	Voltage Std. Coil	
Manual Override	M	0	Less Coil**
Manual Override	Y	10	10 VDC†
Manual Override	J	12	12 VDC
For Manual Override options see page 1.001.1		24	24 VDC
		36	36 VDC
		48	48 VDC
		24	24 VAC
		115	115 VAC
		230	230 VAC
			**Includes Std. Coil Nut
			† DS, DW or DL terminations only.
Porting		E-Coil	
Cartridge Only	0	10	10 VDC
SAE 6	6T	12	12 VDC
SAE 8	8T	20	20 VDC
1/4 in. BSP*	2B	24	24 VDC
3/8 in. BSP*	3B		
*BSP Body; U.K. Mfr. Only			
Seals			
Buna N (Std.)	N		
Fluorocarbon	V		

Coil Termination	E-Coil	D-Coil
Deutsch DT04-2P	ER (IP69K)	DR (IP65)
Metri-Pack® 150	EY (IP69K)	DY (IP65)
Dual Lead Wires	EL (IP69K)	DL (IP65)
Amp Jr. Timer	EJ (IP67)	—
DIN 43650	EG (IP65)	DG (IP65)
Dual Spades	—	DS (IP65)

For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1

SV12-33 Spool, 3-Way



DESCRIPTION

A solenoid-operated, three-way, direct-acting spool-type, screw-in hydraulic cartridge valve, intended as a bidirectional blocking valve.

OPERATION

When de-energized, the **SV12-33** allows flow between 3 and 1 while blocking flow at 2. When energized, the spool shifts to allow flow between 2 and 1 while blocking flow at 3.

While port 1 may be fully pressurized, it is not intended to be used as the inlet.

FEATURES

- Continuous-duty rated solenoid.
- Hardened spool and cage for long life.
- Optional coil voltages and terminations.
- All ports may be fully pressurized.
- Heavy-duty waterproof E-Coils rated up to IP69K.

RATINGS

Operating Pressure: 240 bar (3500 psi) max.

Flow: See Performance Chart

Leakage: 410 cc/minute (25 cu. in./minute) at 240 bar (3500 psi)

Temperature: -40 to 120°C with Buna N seals

Coil Duty Rating: See Chart

Response Time: Pull-In: 100 msec; Drop-Out: 100 msec

Initial Coil Current Draw at 20°C: 2.8 amps at 12 VDC

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC12-3; See page 9.112.1

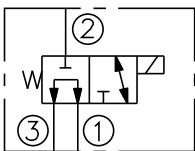
Cavity Tool: CT12-3XX; See page 8.600.1

Seal Kit: SK12-3X-MM; See page 8.650.1

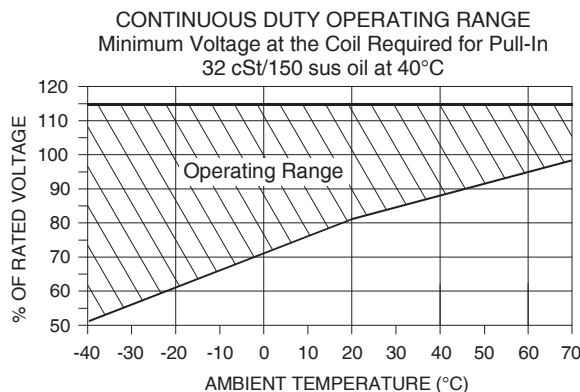
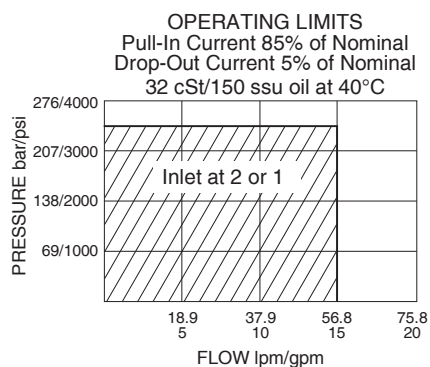
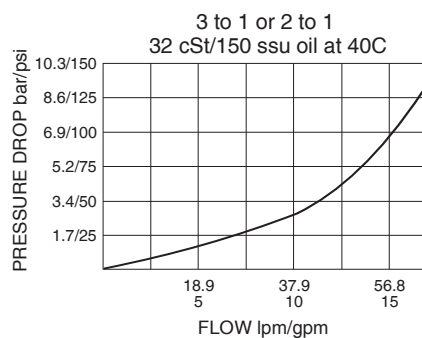
E-Coil Nut: Part No. 7085180

SYMBOLS

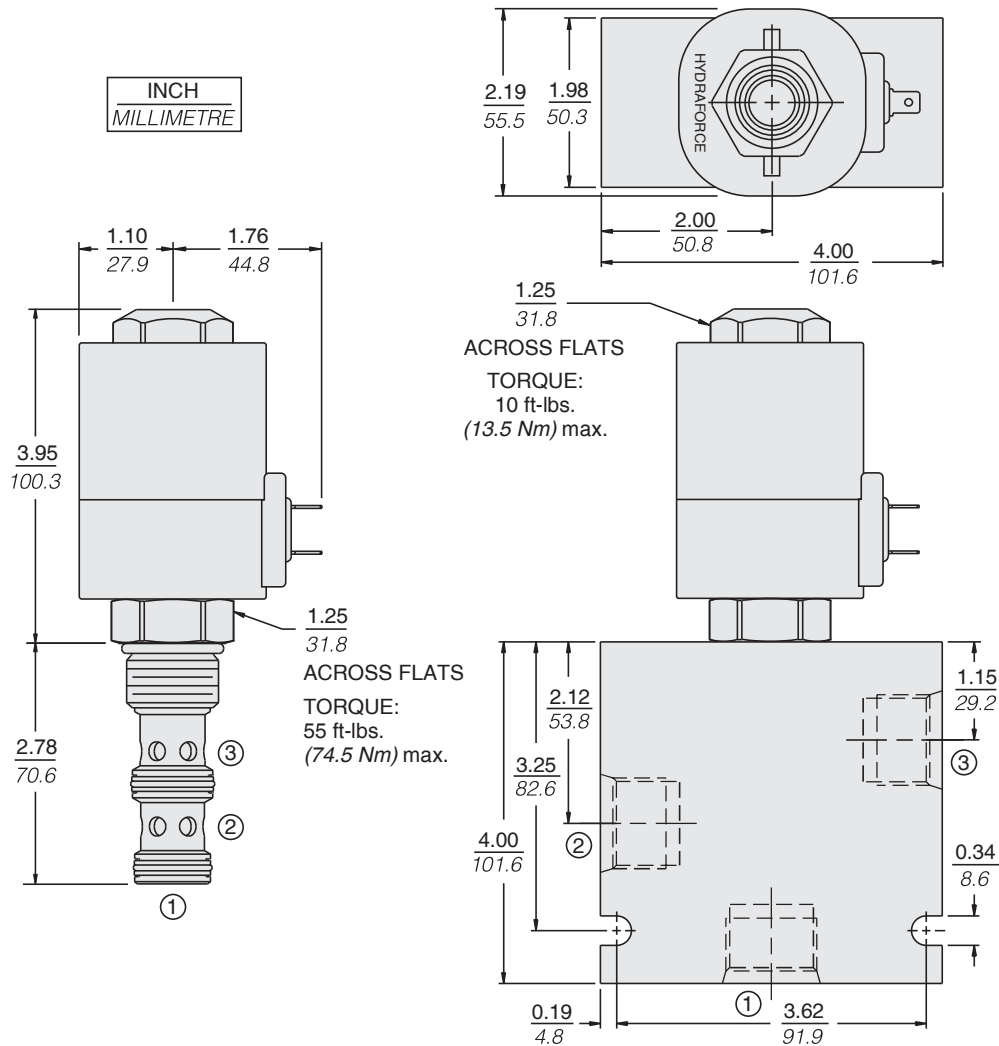
USASI/ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.29 kg. (0.65 lbs.)
Steel with hardened work surfaces.
Zinc-plated exposed surfaces.
Buna N O-rings and TFE back-ups standard.

Standard Ported Body: Weight: 0.98 kg. (2.15 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.012.1.

E-Coil: Weight: 1.36 kg. (3.0 lbs.) Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1.

TO ORDER

SV12-33

Porting
Cartridge Only **0**
SAE 8 **8T**
SAE 10 **10T**
SAE 12 **12T**
1/2 in. BSP* **4B**
3/4 in. BSP* **6B**

*BSP Body; U.K. Mfr. Only

Seals
Buna N (Std.) **N**
Fluorocarbon **V**

Voltage
0 Less Coil
12 12 VDC
24 24 VDC
36 36 VDC
48 48 VDC

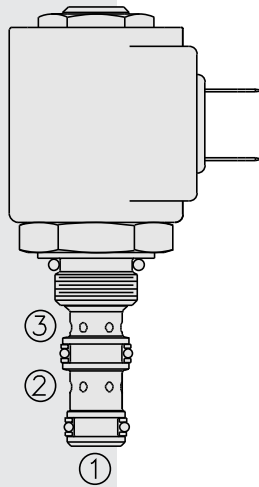
Terminations (VDC)

EL Leadwires (2), IP65 Rated
ES Dual Spades, IP65 Rated
EG DIN 43650, IP65 Rated
EW Leads w/Weather-Pack® Connector, IP65 Rated
EY Metri-Pack® 150 Connector, IP69K Rated

Coils with internal diode are available. Consult factory.

Other coil voltages may be available for OEM applications. Consult factory.

SV07-34 Spool, 3-Way



DESCRIPTION

A solenoid-operated, two-position, three-way, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV07-34** blocks flow at 1 while allowing flow from 3 to 2. When the coil is energized, flow is provided from 2 to 3, while blocking at 1.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- All ports may be fully pressurized.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized molded coil design.
- Compact size.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: See Performance Chart

Internal Leakage: 41 cc/minute (2.5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified);
E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC07-3; See page 9.107.1

Cavity Tool: CT07-3XX; See page 8.600.1

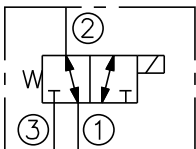
Seal Kit: SK07-3X-MM; See page 8.650.1

Standard Coil Nut: Part No. 7004400;

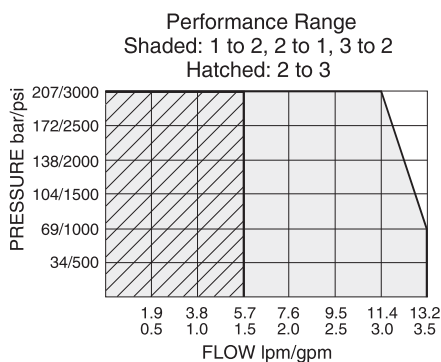
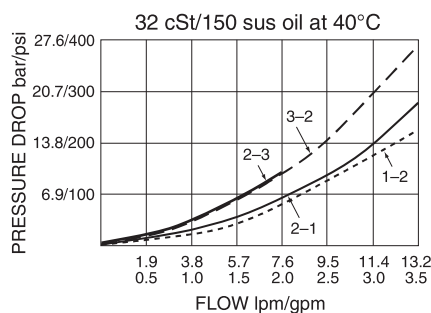
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SYMBOLS

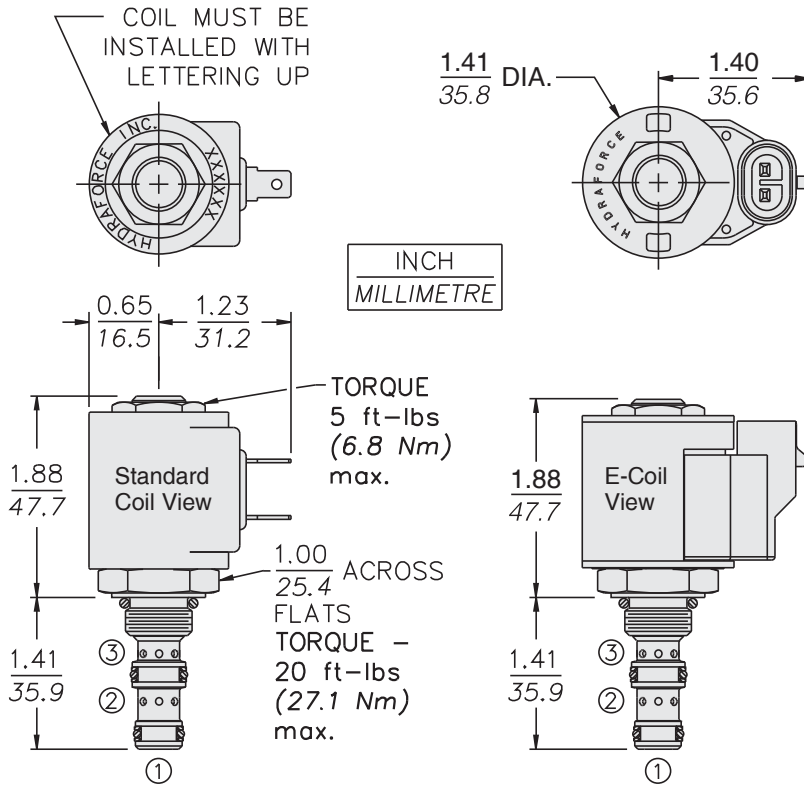
USASI/ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.09 kg. (0.20 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

Note: See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

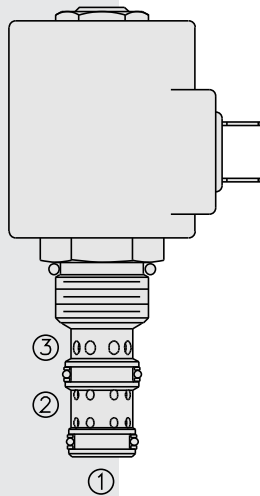
SV07-34		-	-	-	-	-	-	-
Option	None (Blank)							
Porting	Cartridge Only	0						
Seals	Buna N (Std.)	N						
	Fluorocarbon	V						
					Voltage			
					Std. Coil			
					0	Less Coil**		
					10	10 VDC [†]		
					12	12 VDC		
					24	24 VDC		
					36	36 VDC		
					48	48 VDC		
					24	24 VAC		
					115	115 VAC		
					230	230 VAC		
								Termination (VDC)
								Std. Coil
								DS
								DG
								DL
								DL/W
								DR
								Termination (VAC)
								Std. Coil
								AG
								AP
								Termination (VDC)
								E-Coil
								ER
								EY

**Includes Std. Coil Nut

[†] DS, DW or DL terminations only.

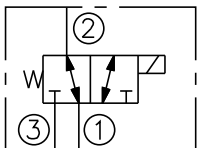
Coils with internal diode are available. Consult factory.

SV10-34 Spool, 3-Way

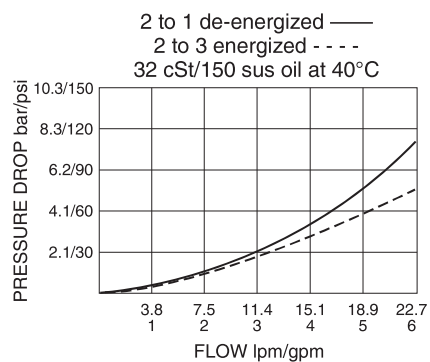


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, three-way, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV10-34** allows flow from 2 to 1, while blocking flow at 3. When energized, the valve's spool shifts to open from 2 to 3, while blocking at 1.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

To return to normal valve function, push button in, twist clockwise 180°, and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Industry common cavity.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Proof Pressure: 350 bar (5075 psi)

Flow: 22.7 lpm (6 gpm) max.; Note: Under certain operating conditions this valve may be rated for higher flow. Consult factory.

Internal Leakage: 115 cc/minute (7 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 60 msec.; De-energized: 10 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC; 0.18 amps at 115 VAC (full wave rectified).
 E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-3, See page 9.110.1

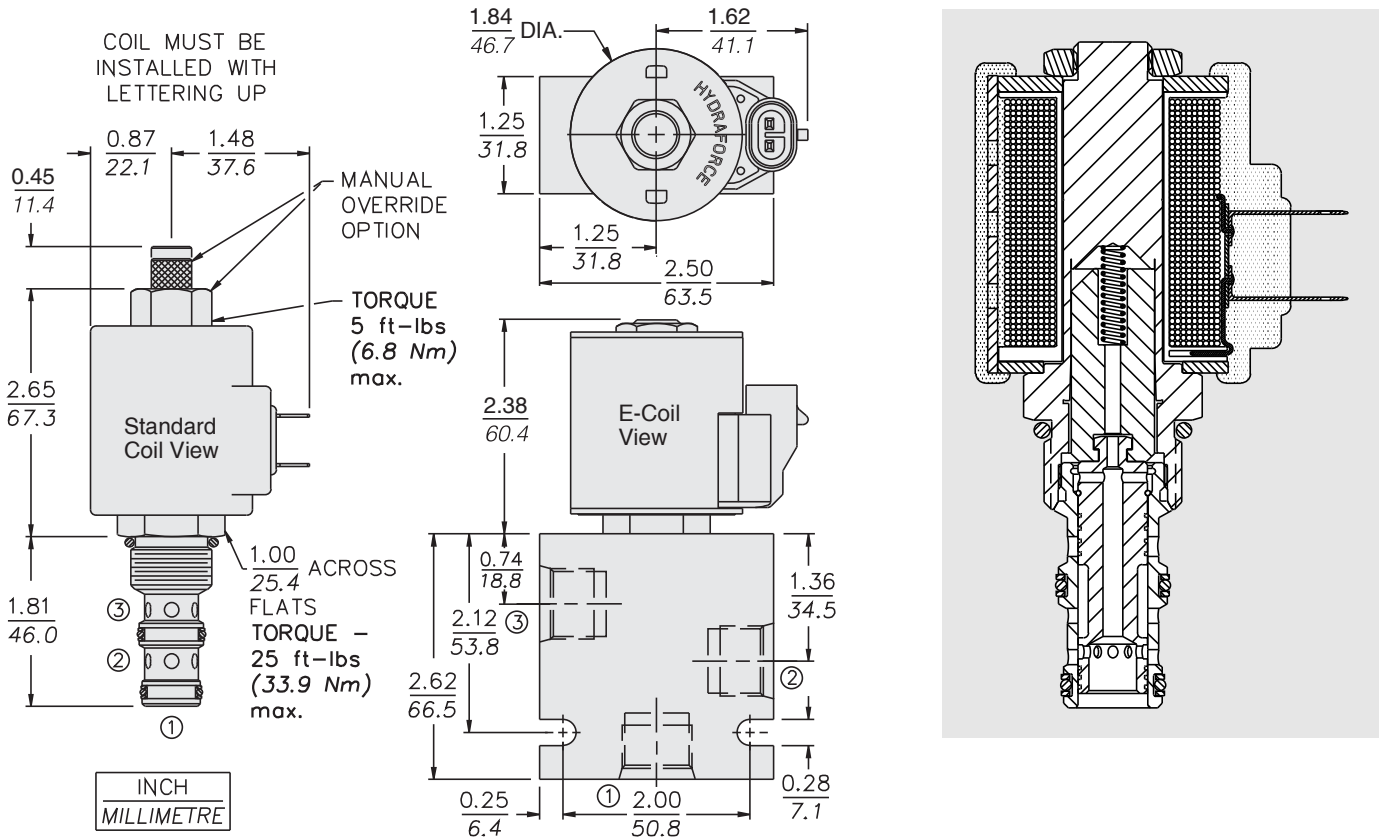
Cavity Tool: CT10-3XX; See page 8.600.1

Seal Kit: SK10-3X-MM; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.14 kg. (0.30 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.36 kg. (0.80 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors.

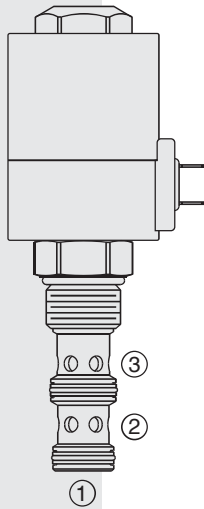
Note: See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV10-34			
Option		Voltage	Termination (VDC)
None (Blank)		Std. Coil	Std. Coil
Manual Override M		0 Less Coil**	DS Dual Spades
Manual Override Y		10 10 VDC†	DG DIN 43650
Manual Override J		12 12 VDC	DL Leadwires (2)
For Manual Override options see page 1.001.1		24 24 VDC	DL/W Leads w/Weatherpak® Connectors
		36 36 VDC	DR Deutsch DT04-2P
Porting		48 48 VDC	Termination (VAC)
Cartridge Only 0		24 24 VAC	Std. Coil
SAE 6 6T		115 115 VAC	AG DIN 43650
SAE 8 8T		230 230 VAC	AP 1/2 in. Conduit
1/4 in. BSP* 2B		**Includes Std. Coil Nut	Termination (VDC)
3/8 in. BSP* 3B		† DS, DW or DL terminations only.	E-Coil
*BSP Body; U.K. Mfr. Only		E-Coil	ER Deutsch DT04-2P (IP69K Rated)
Seals		10 10 VDC	EY Metri-Pack® 150 (IP69K Rated)
Buna N (Std.) N		12 12 VDC	
Fluorocarbon V		20 20 VDC	
		24 24 VDC	

Coils with internal diode are available. Consult factory.

SV12-34 Spool, 3-Way



DESCRIPTION

A solenoid-operated, three-way, direct-acting spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV12-34** allows flow between 2 and 1, while blocking flow at . When energized, the spool shifts to allow flow between 2 and 3, while blocking flow at 1.

FEATURES

- Continuous-duty rated solenoid.
- Hardened spool and cage for long life.
- Optional coil voltages and terminations.
- All ports may be fully pressurized.
- Heavy-duty waterproof E-Coils rated up to IP69K.

RATINGS

Operating Pressure: 240 bar (3500 psi) max.

Flow: See Performance Chart

Leakage: 410 cc/minute (25 cu. in./minute) at 240 bar (3500 psi)

Temperature: -40 to 120°C with Buna N seals

Coil Duty Rating: See Chart

Response Time: Pull-In: 100 msec; Drop-Out: 100 msec

Initial Coil Current Draw at 20°C: 2.8 amps at 12 VDC

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC12-3; See page 9.112.1

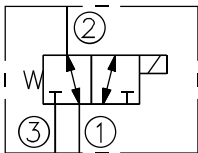
Cavity Tool: CT12-3XX; See page 8.600.1

Seal Kit: SK12-3X-MM; See page 8.650.1

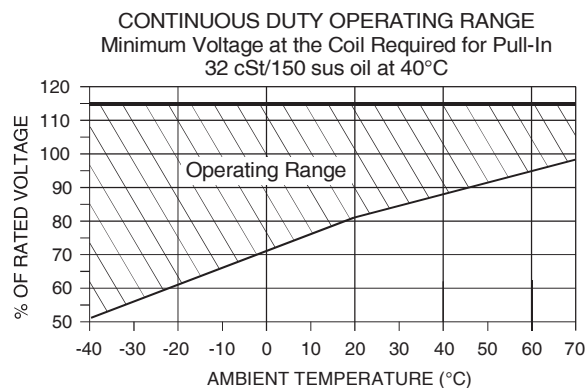
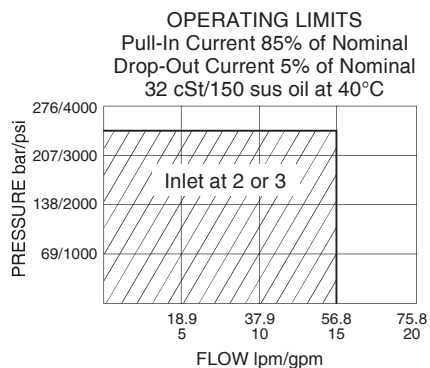
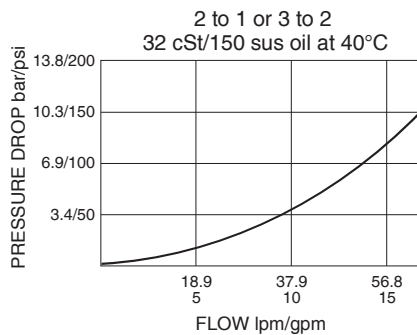
E-Coil Nut: Part No. 7085180

SYMBOLS

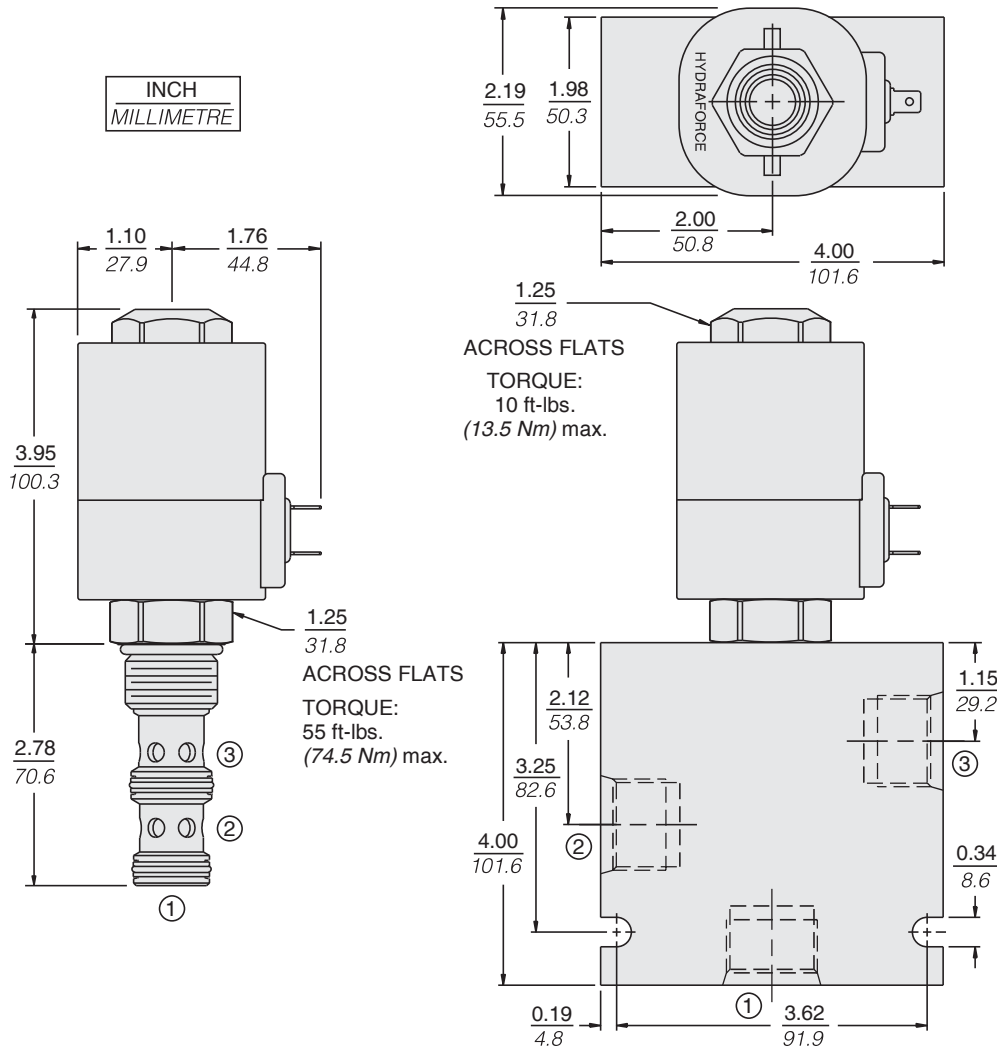
USASI/ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.29 kg. (0.65 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and TFE back-ups standard.

Standard Ported Body: Weight: 0.98 kg. (2.15 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.012.1.

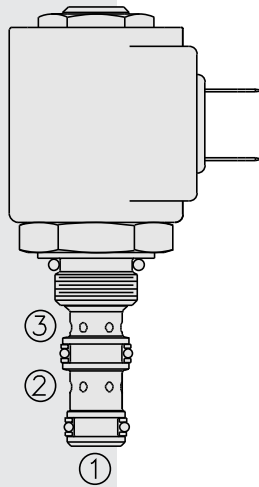
E-Coil: Weight: 1.36 kg. (3.0 lbs.) Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1.

TO ORDER

SV12-34		-		-		-		-		-	
Option											
None	(Blank)										
Manual Override without Knob	P										
Manual Override with Knob	K										
Porting											
Cartridge Only	0										
SAE 8	8T										
SAE 10	10T										
SAE 12	12T										
1/2 in. BSP*	4B										
3/4 in. BSP*	6B										
Seals											
N Buna N (Std.)											
V Fluorocarbon											
Voltage											
0 Less Coil											
12 12 VDC											
24 24 VDC											
36 36 VDC											
48 48 VDC											
Terminations (VDC)											
EL Leadwires (2), IP65 Rated											
ES Dual Spades, IP65 Rated											
EG DIN 43650, IP65 Rated											
EW Leads w/Weather-Pack® Connector, IP65 Rated											
EY Metri-Pack® 150 Connector, IP69K Rated											
Coils with internal diode are available. Consult factory.											
Other coil voltages may be available for OEM applications. Consult factory.											

*BSP Body; U.K. Mfrs. Only

SV07-35 Spool, 3-Way



DESCRIPTION

A solenoid-operated, two-position, three-way, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV07-35** blocks flow at 1, while allowing flow from 2 to 3. When energized, the spool shifts to provide flow from 2 to 1, while blocking at 3.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- All ports may be fully pressurized.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized molded coil design.
- Compact size.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: See Performance Chart

Internal Leakage: 41 cc/minute (2.5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified);
E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC07-3; See page 9.107.1

Cavity Tool: CT07-3XX; See page 8.600.1

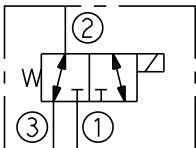
Seal Kit: SK07-3X-MM; See page 8.650.1

Standard Coil Nut: Part No. 7004400;

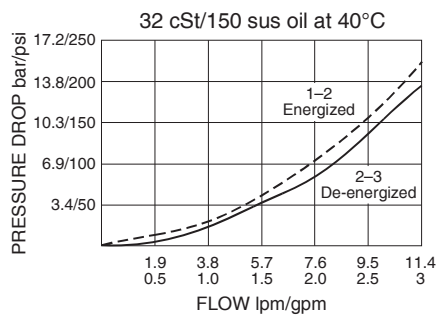
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SYMBOLS

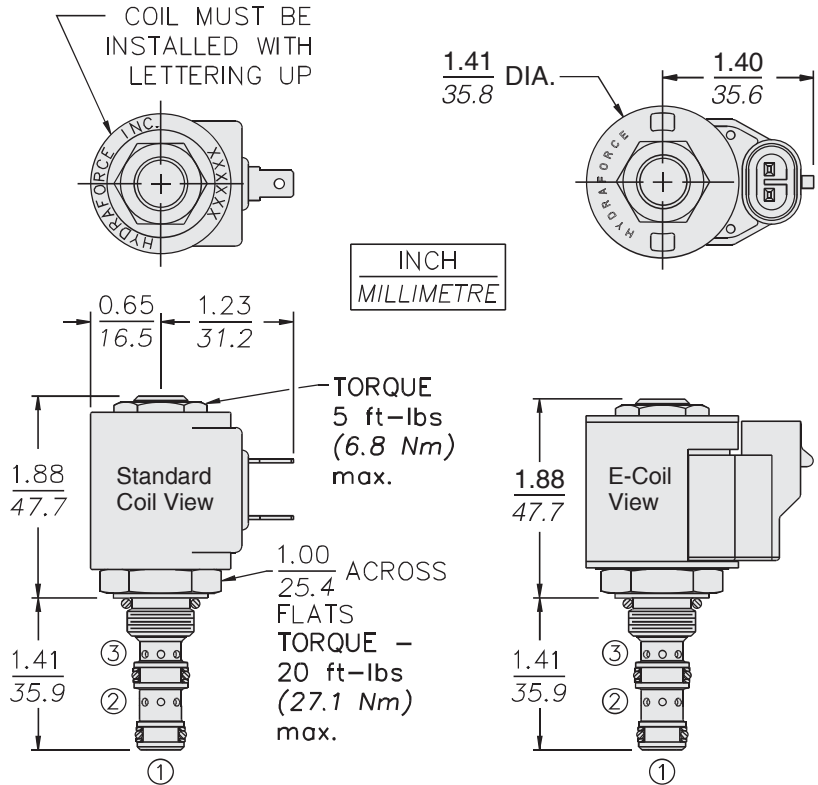
USASI/ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.09 kg. (0.20 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

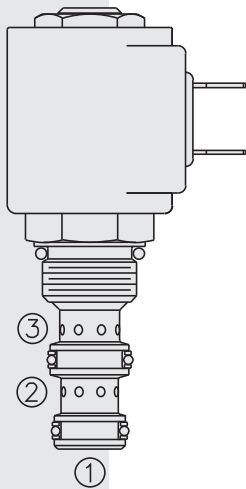
Note: See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV07-35		-	-	-	-	-	-
Option	None (Blank)						
Porting	Cartridge Only	0					
Seals	Buna N (Std.)	N					
	Fluorocarbon	V					
			Voltage				
			Std. Coil				
			0	Less Coil**			
			10	10 VDC [†]			
			12	12 VDC			
			24	24 VDC			
			36	36 VDC			
			48	48 VDC			
			24	24 VAC			
			115	115 VAC			
			230	230 VAC			
					**Includes Std. Coil Nut		
					[†] DS, DW or DL terminations only.		
			E-Coil				
			10	10 VDC			
			12	12 VDC			
			20	20 VDC			
			24	24 VDC			
					Termination (VDC) Std. Coil		
					DS	Dual Spades	
					DG	DIN 43650	
					DL	Leadwires (2)	
					DL/W	Leads w/Weatherpak® Connectors	
					DR	Deutsch DT04-2P	
						Termination (VAC) Std. Coil	
					AG	DIN 43650	
					AP	1/2 in. Conduit	
						Termination (VDC) E-Coil	
					ER	Deutsch DT04-2P (IP69K Rated)	
					EY	Metri-Pack® 150 (IP69K Rated)	

Coils with internal diode are available. Consult factory.

SV08-35 Spool, 3-Way



DESCRIPTION

A solenoid-operated, 2-position, 3-port, direct-acting, spool-type, screw-in hydraulic directional valve.

OPERATION

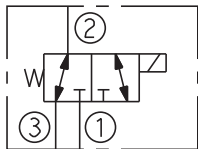
When de-energized, the **SV08-35** blocks flow at 1, while allowing flow from 2 to 3. When energized, the spool shifts to provide flow from 2 to 1, while blocking port 3. While port 1 may be fully pressurized, it is not intended to be used as the inlet.

FEATURES

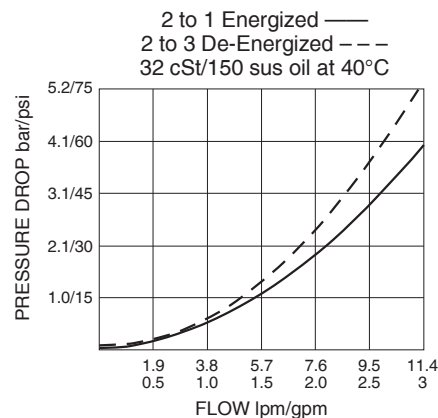
- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- All ports may be fully pressurized.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Compact, industry-common size.

SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 207 bar (3000 psi)

Proof Pressure: 241 bar (3500 psi)

Flow: Up to 11.4 lpm (3 gpm); See Performance Chart

Internal Leakage: 98 cc/minute (6 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;

0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

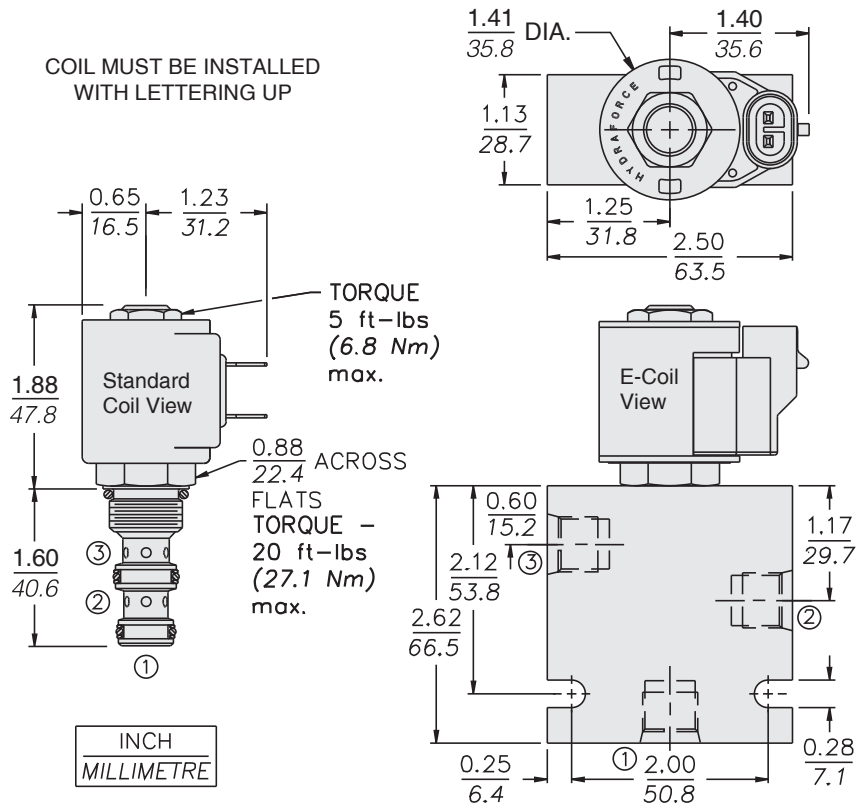
Cavity: VC08-3; See page 9.108.1

Cavity Tool: CT08-3XX; See page 8.600.1

Seal Kit: SK08-3X-MM; See page 8.650.1

Coil Nut: Part No. 7004400

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.09 kg. (0.20 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.27 kg. (0.60 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

See page 3.400.1 for all E-Coil retrofit applications.

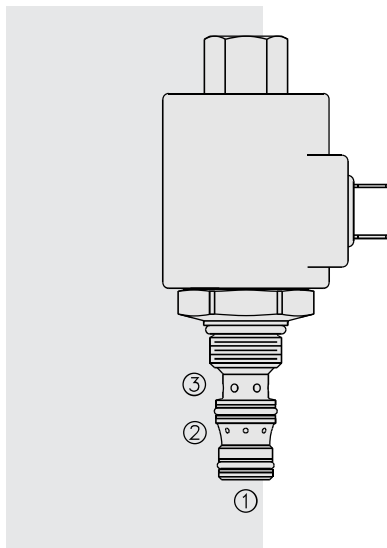
TO ORDER

SV08-35		-	-	-	-	-	-
Option	None (Blank)						
Porting	Cartridge Only 0 SAE 6 6T 1/4 in. BSP* 2B						
Seals	Buna N (Std.) N Fluorocarbon V Polyurethane P						
Voltage Std. Coil	0 Less Coil** 10 10 VDC† 12 12 VDC 24 24 VDC 36 36 VDC 48 48 VDC 24 24 VAC 115 115 VAC 230 230 VAC						
E-Coil	10 10 VDC 12 12 VDC 20 20 VDC 24 24 VDC						
Termination (VDC) Std. Coil	DS Dual Spades DG DIN 43650 DL Leadwires (2) DL/W Leads w/Weatherpak® Connectors DR Deutsch DT04-2P						
Termination (VAC) Std. Coil	AG DIN 43650 AP 1/2 in. Conduit						
Termination (VDC) E-Coil	ER Deutsch DT04-2P (IP69K Rated) EY Metri-Pack® 150 (IP69K Rated)						

**Includes Std. Coil Nut
 † DS, DW or DL terminations only.

Coils with internal diode are available. Consult factory.

SV38-38 Double Blocking, 2 Position, 3-Way, N.C.



DESCRIPTION

A solenoid-operated, two-position, three-way, bi-directional blocking, screw-in hydraulic cartridge valve. It is designed for low leakage in load-holding applications.

OPERATION

When de-energized, the **SV38-38** blocks flow from 3 to 2 or from 2 to 3. When energized, flow is blocked from 2 to 1 or from 1 to 2.

FEATURES

- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Industry-common cavity.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: See Performance Chart

Internal Leakage: 0.25 cc/minute (5 drops/minute) at 207 bar (3000 psi)

Temperature: -40 to 100°C with standard Buna seals;
-26 to 204°C with Fluorocarbon seals; -54 to 107°C with Polyurethane seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;
0.18 amps at 115 VAC (full wave rectified).
E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No Restrictions; See page 9.020.1

Cavity: VC08-3; See page 9.108.1

Cavity Tool: CT08-3XX; See page 8.600.1

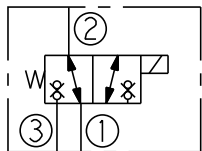
Seal Kit: SK08-3X-MM; See page 8.650.1

Coil Nut: Part No. 7004420;

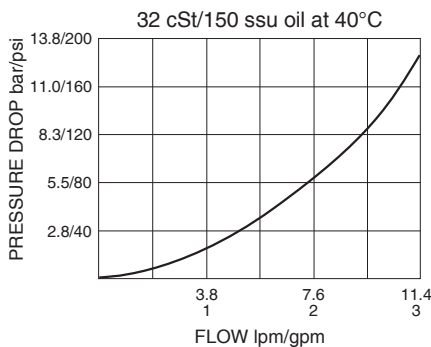
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SYMBOLS

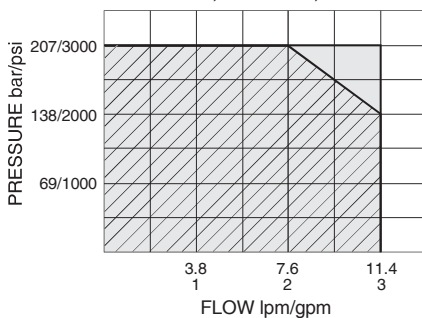
USASI/ISO:



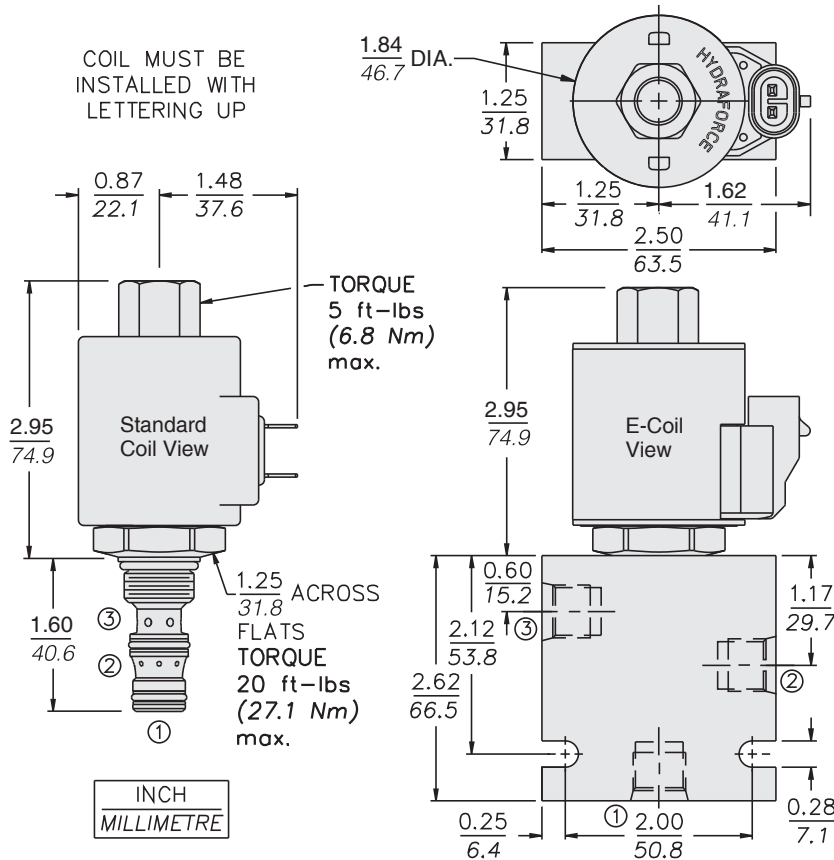
PERFORMANCE (Cartridge Only)



Performance Range
Shaded: Inlet at 1, Load at 2, Tank At 3
Shaded: Inlet at Selector Valve
Hatched: Inlet at 3, Load at 2, Tank At 1



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.13 kg. (0.28 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.27 kg. (0.60 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors.

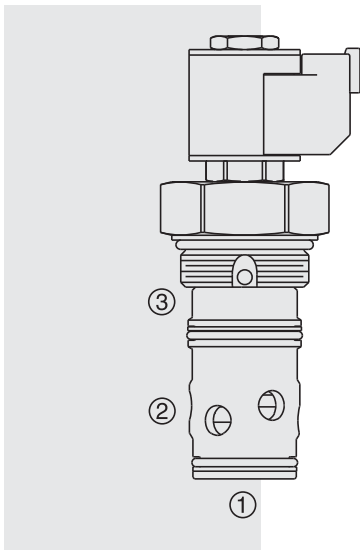
Note: See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV38-38

Option	-	-	-	-	-	-
None (Blank)						
Porting						
Cartridge Only	0					
SAE 6	6T					
1/4 in. BSP*	2B					
*BSP Body; U.K. Mfr. Only						
Seals						
Buna N (Std.)	N					
Fluorocarbon	V					
Polyurethane	P					
Voltage Std. Coil						
0	Less Coil**					
10	10 VDC†					
12	12 VDC					
24	24 VDC					
36	36 VDC					
48	48 VDC					
24	24 VAC					
115	115 VAC					
230	230 VAC					
**Includes Std. Coil Nut						
† DS, DW or DL terminations only.						
Termination (VDC) Std. Coil						
DS	Dual Spades					
DG	DIN 43650					
DL	Leadwires (2)					
DL/W	Leads w/Weatherpak® Connectors					
DR	Deutsch DT04-2P					
Termination (VAC) Std. Coil						
AG	DIN 43650					
AP	1/2 in. Conduit					
Termination (VDC) E-Coil						
ER	Deutsch DT04-2P (IP69K Rated)					
EY	Metri-Pack® 150 (IP69K Rated)					
Coils with internal diode are available. Consult factory.						

SV20-S38 Poppet-Type High-Flow Blocking, N.C.



DESCRIPTION

A solenoid-operated, normally closed, poppet-type, screw-in hydraulic cartridge valve, designed to operate as a bidirectional load-holding or blocking valve in high flow circuits requiring low internal leakage.

OPERATION

When the **SV20-S38** is de-energized, it functions as a check valve, allowing flow from 1 to 2 while blocking flow from 2 to 1. When energized, the poppet lifts to open the 2 to 1 flow path while also allowing flow from 1 to 2. Port 3 is typically connected to the reservoir.

Operation of Manual Override Feature: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position. To return to normal valve function, push button in, twist clockwise 180° and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Industry common cavity.

RATINGS

Operating Pressure: 293 bar (4250 psi)

Flow: 378 lpm (100 gpm) max.

Internal Leakage: 1 ml/minute (0.06 cu. in./minute) max. at 293 bar (4250 psi)

Temperature: -40 to 100°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;

0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC20-S3, Variation "A"; See page 9.120.1

Cavity Tool: CT20-S3xx; See page 8.600.1

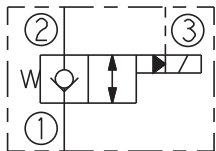
Seal Kit: SK20-S3x-MM; See page 8.650.1

Coil Nut: Part No. 7004400;

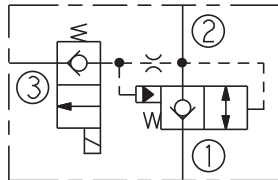
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SYMBOLS

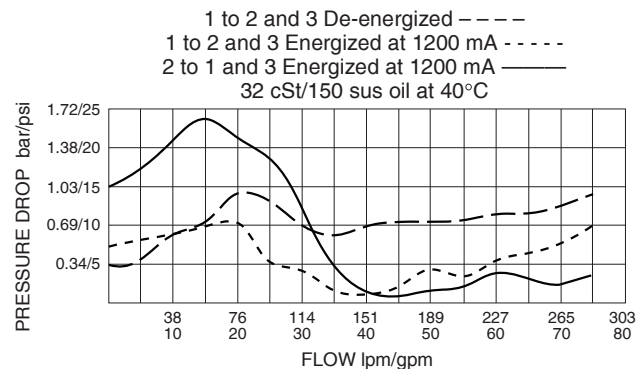
USAS/ISO:



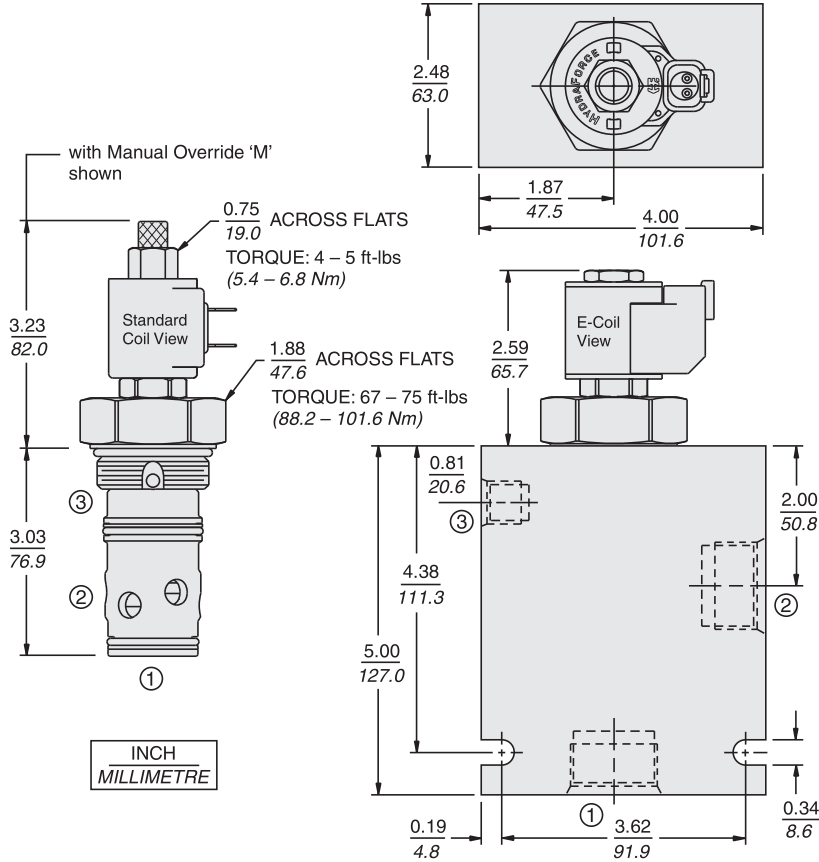
Expanded:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.74 kg. (1.63 lbs.)
Steel with hardened work surfaces.
Zinc-plated exposed surfaces.
Buna N O-rings and polyester elastomer back-ups standard.

Standard Ported Body: Weight: 1.65 kg. (3.65 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies can be made available; dimensions may differ. See page 8.020.1.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

Note: See page 3.400.1 for all E-Coil retrofit applications.

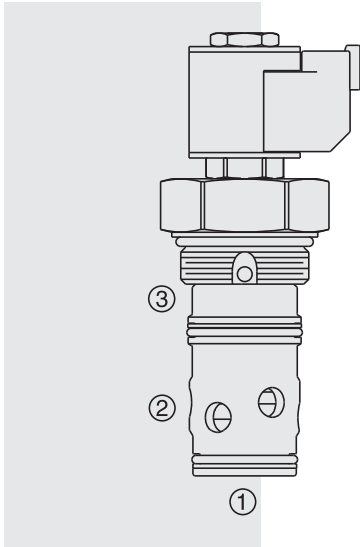
TO ORDER

SV20-S38

Option		Voltage	Termination (VDC)
None (Blank)		Std. Coil	Std. Coil
Manual Override M		0 Less Coil**	DS Dual Spades
		10 10 VDC [†]	DG DIN 43650
		12 12 VDC	DL Leadwires (2)
		24 24 VDC	DL/W Leads w/Weatherpak [®] Connectors
		36 36 VDC	DR Deutsch DT04-2P
		48 48 VDC	
Porting		24 24 VAC	Termination (VAC)
Cartridge Only 0		115 115 VAC	Std. Coil
SAE 16 w/SAE 6 Pilot Port 16T		230 230 VAC	AG DIN 43650
		**Includes Std. Coil Nut	AP 1/2 in. Conduit
		[†] DS, DW or DL terminations only.	Termination (VDC)
Seals			E-Coil
Buna N (Std.) N		E-Coil	ER Deutsch DT04-2P (IP69K Rated)
Fluorocarbon V		10 10 VDC	EY Metri-Pack [®] 150 (IP69K Rated)
Polyurethane P		12 12 VDC	
		20 20 VDC	
		24 24 VDC	

Coils with internal diode are available. Consult factory.

SV20-S39 Poppet-Type High-Flow Blocking, N.O.



DESCRIPTION

A solenoid-operated, normally open, poppet-type, screw-in hydraulic cartridge valve, designed to operate as a bidirectional load-holding or blocking valve in high flow circuits requiring low internal leakage.

OPERATION

When the **SV20-S39** is energized, it functions as a check valve, allowing flow from 1 to 2 while blocking flow from 2 to 1. When de-energized, the poppet lifts to open the 2 to 1 flow path while also allowing flow from 1 to 2. Port 3 is typically connected to the reservoir.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Industry common cavity.

RATINGS

Operating Pressure: 293 bar (4250 psi)

Flow: 378 lpm (100 gpm) max.

Internal Leakage: 1 ml/minute (0.06 cu. in./minute) max. at 293 bar (4250 psi)

Temperature: -40 to 100°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC20-S3, Variation "A"; See page 9.120.1

Cavity Tool: CT20-S3xx; See page 8.600.1

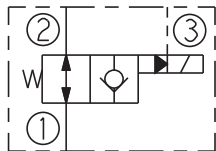
Seal Kit: SK20-S3x-MM; See page 8.650.1

Coil Nut: Part No. 7004400;

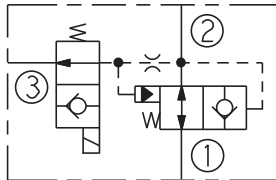
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SYMBOLS

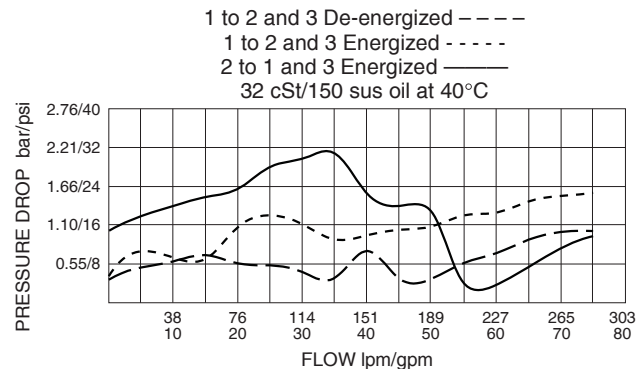
USAS/ISO:



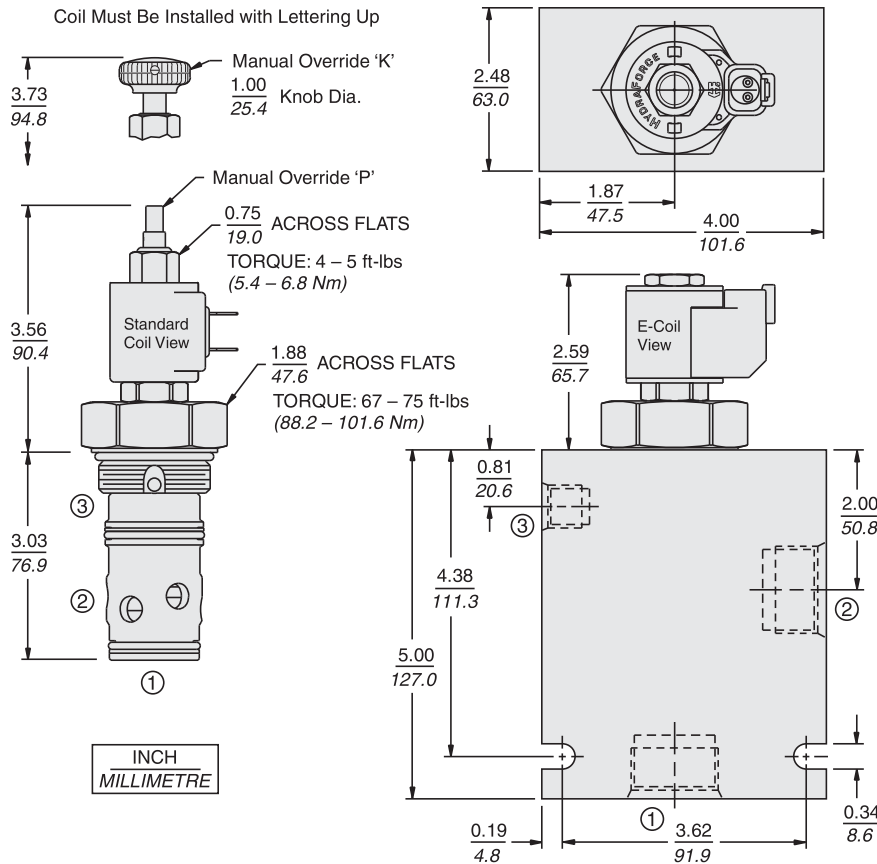
Expanded:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.74 kg. (1.63 lbs.)
Steel with hardened work surfaces.
Zinc-plated exposed surfaces.
Buna N O-rings and polyester elastomer back-ups standard.

Standard Ported Body: Weight: 1.65 kg. (3.65 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies can be made available; dimensions may differ. See page 8.020.1.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

Note: See page 3.400.1 for all E-Coil retrofit applications.

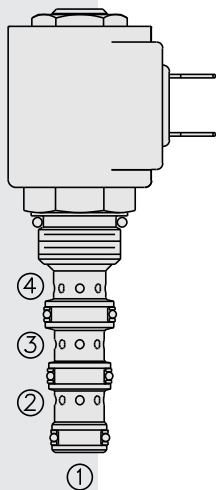
TO ORDER

SV20-S39

Option		Voltage	Termination (VDC)
None (Blank)		Std. Coil	Std. Coil
Manual Override K		0 Less Coil**	DS Dual Spades
Manual Override P		10 10 VDC [†]	DG DIN 43650
Manual Override HP		12 12 VDC	DL Leadwires (2)
		24 24 VDC	DL/W Leads w/Weatherpak® Connectors
		36 36 VDC	DR Deutsch DT04-2P
		48 48 VDC	
		24 24 VAC	Termination (VAC)
		115 115 VAC	Std. Coil
		230 230 VAC	AG DIN 43650
Porting		**Includes Std. Coil Nut	AP 1/2 in. Conduit
Cartridge Only 0		[†] DS, DW or DL terminations only.	Termination (VDC)
SAE 16 w/SAE 6 Pilot Port 16T			E-Coil
Seals		E-Coil	ER Deutsch DT04-2P (IP69K Rated)
Buna N (Std.) N		10 10 VDC	EY Metri-Pack® 150 (IP69K Rated)
Fluorocarbon V		12 12 VDC	
Polyurethane P		20 20 VDC	
		24 24 VDC	

Coils with internal diode are available. Consult factory.

SV08-40 Spool, 4-Way, 2-Position



DESCRIPTION

A solenoid-operated, 4-way, 2-position, direct-acting spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV08-40** flow paths are 3 to 2 and 4 to 1.

When energized, the valve's spool shifts to open 3 to 4 and 2 to 1.

All ports are open at cross-over.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

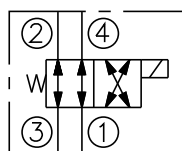
To return to normal valve function, push button in, twist clockwise 180°, and release. Override will be detented in this position.

FEATURES

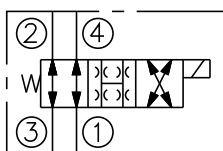
- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage-interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Compact size.

SYMBOLS

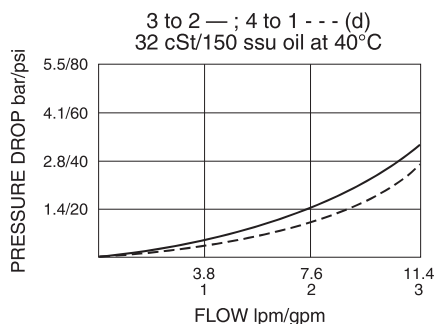
USASI/ISO:



TRANSITION:



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: See Performance Chart

Internal Leakage: 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC

0.13 amps at 115 VAC (full wave rectified);

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-4; See page 9.108.1

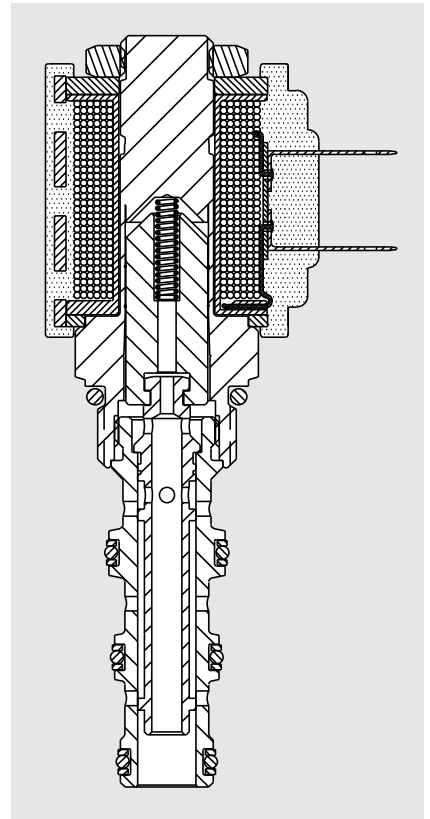
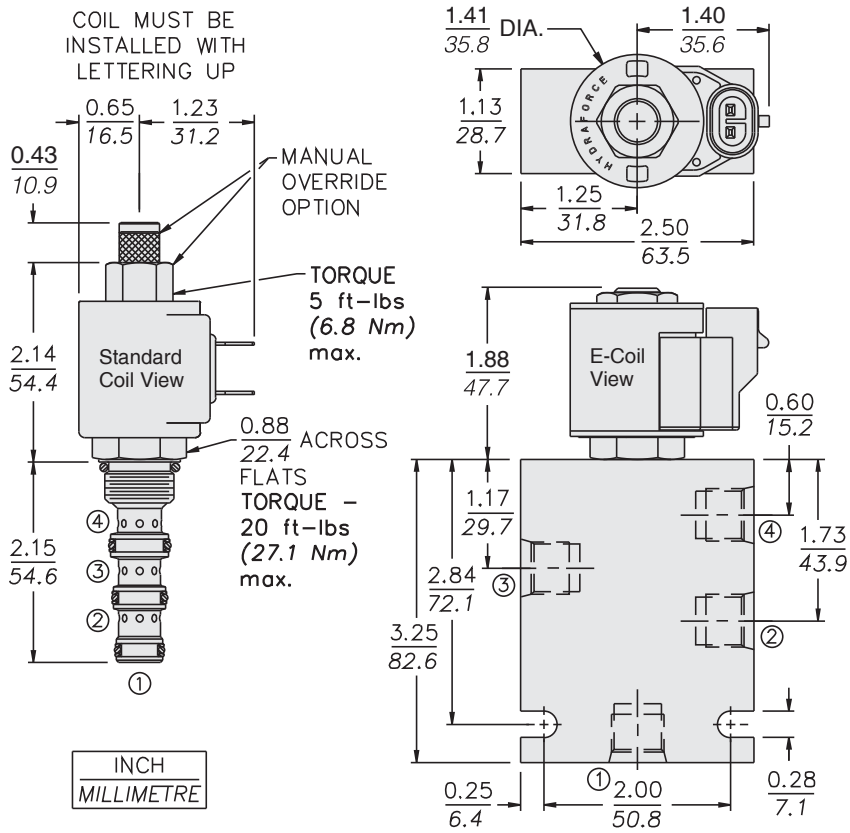
Cavity Tool: CT08-4XX; See page 8.600.1

Seal Kit: SK08-4X-MMM; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.13 kg. (0.28 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.27 kg. (0.60 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

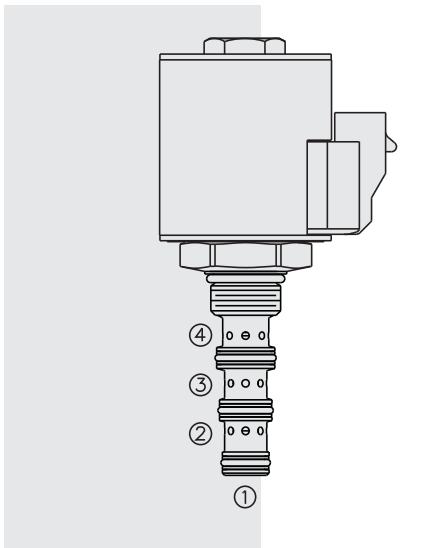
See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV08-40			
Option	Voltage Std. Coil	Termination (VDC) Std. Coil	
None (Blank)	0 Less Coil**	DS Dual Spades	
Manual Override M	10 10 VDC [†]	DG DIN 43650	
For Manual Override options see page 1.001.1	12 12 VDC	DL Leadwires (2)	
	24 24 VDC	DL/W Leads w/Weatherpak® Connectors	
	36 36 VDC	DR Deutsch DT04-2P	
	48 48 VDC	Termination (VAC) Std. Coil	
	24 24 VAC	AG DIN 43650	
	115 115 VAC	AP 1/2 in. Conduit	
	230 230 VAC	Termination (VDC) E-Coil	
	**Includes Std. Coil Nut	ER Deutsch DT04-2P (IP69K Rated)	
	[†] DS, DW or DL terminations only.	EY Metri-Pack® 150 (IP69K Rated)	
Porting	E-Coil		
Cartridge Only 0	10 10 VDC		
SAE 6 6T	12 12 VDC		
1/4 in. BSP* 2B	20 20 VDC		
3/8 in. BSP* 3B	24 24 VDC		
*BSP Body; U.K. Mfr. Only			
Seals			
Buna N (Std.) N			
Fluorocarbon V			

Coils with internal diode are available. Consult factory.

SV58-40 Spool, 4-Way, 2-Position, High Pressure



DESCRIPTION

A solenoid-operated, 4-way, 2-position, direct-acting spool-type, screw-in hydraulic cartridge valve designed for high pressure operation up to 345 bar (5000 psi).

OPERATION

When de-energized, the **SV58-40** flow paths are 3 to 2, and 4 to 1.

When energized, the valve's spool shifts to open 3 to 4, and 2 to 1.

All ports are open at cross-over.

Note: Port 1 must be connected to tank. Valve cannot withstand more than 276 bar (4000 psi) at the inlet of port 1.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage-interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Compact size.

RATINGS

Operating Pressure: 345 bar (5000 psi)

Flow: See Performance Chart

Internal Leakage: 180 ml/minute (11 cu. in./minute) max. at 345 bar (5000 psi)

Temperature: -40 to 120°C with standard Buna seals;

-26 to 204°C with Fluorocarbon seals; -54 to 107°C with Polyurethane seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;

0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of

7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-4; See page 9.108.1

Cavity Tool: CT08-4XX; See page 8.600.1

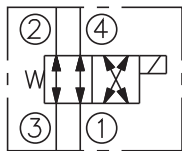
Seal Kit: SK58-4X-MMM; See page 8.650.1

Coil Nut: Part No. 7004400;

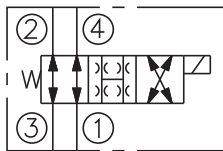
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SYMBOLS

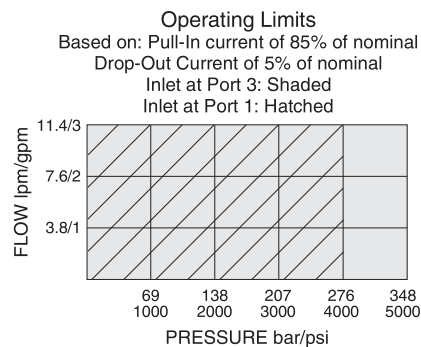
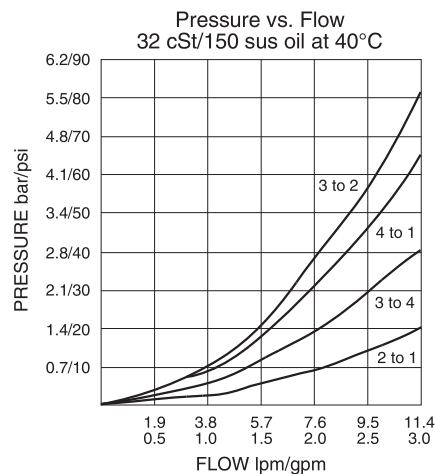
USASI/ISO:



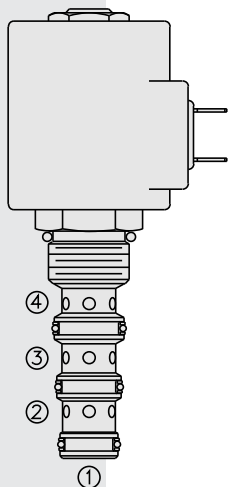
TRANSITION:



PERFORMANCE (Cartridge Only)

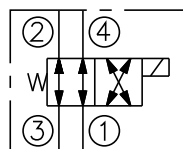


SV10-40 Spool, 4-Way, 2-Position

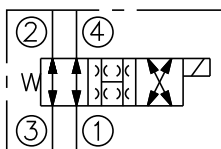


SYMBOLS

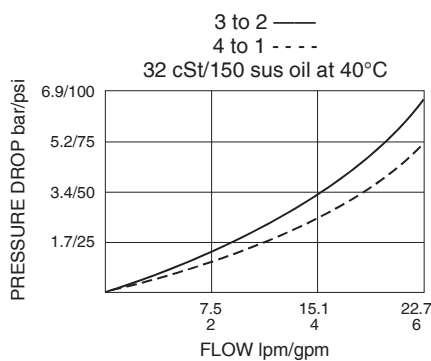
USASI/ISO:



TRANSITION:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, four-way, two-position, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV10-40** allows flow from 3 to 2, as well as from 4 to 1. When energized, the cartridge's spool shifts to open 3 to 4, and 2 to 1.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

To return to normal valve function, push button in, twist clockwise 180° and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Industry common cavity.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Proof Pressure: 350 bar (5075 psi)

Flow: 23 lpm (6 gpm) max.

Internal Leakage: 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;

0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of

7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-4; See page 9.110.1

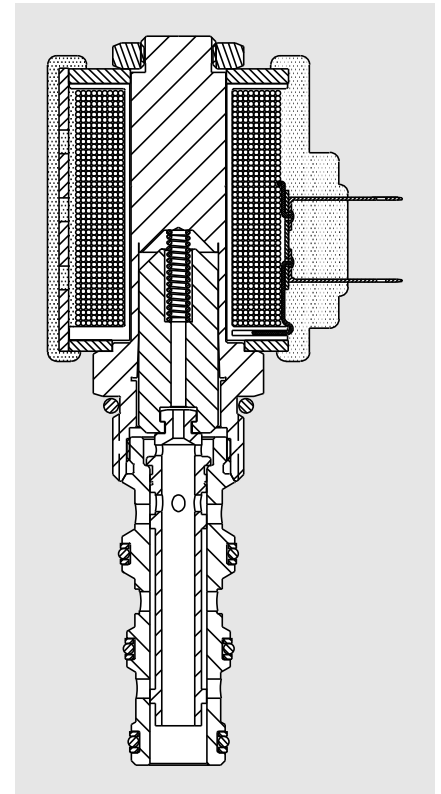
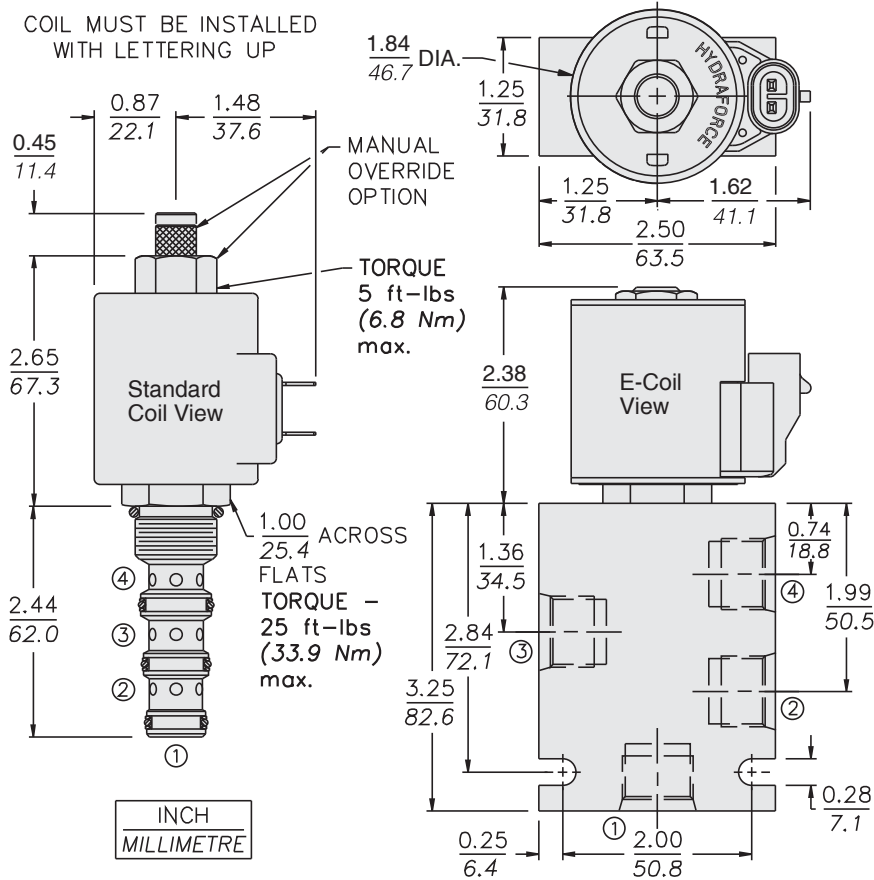
Cavity Tool: CT10-4XX; See page 8.600.1

Seal Kit: SK10-4X-MMM; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.20 kg. (0.45 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.36 kg. (0.80 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors.

Note: See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV10-40

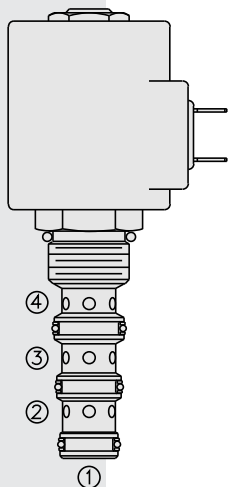
- Option**
- None (Blank)
 - Manual Override **M**
 - Manual Override **Y**
 - Manual Override **J**
- For Manual Override options see page 1.001.1
- Porting**
- Cartridge Only **0**
 - SAE 6 **6T**
 - SAE 8 **8T**
 - 1/4 in. BSP* **2B**
 - 3/8 in. BSP* **3B**
- *BSP Body; U.K. Mfr. Only
- Seals**
- Buna N (Std.) **N**
 - Fluorocarbon **V**

- Voltage Std. Coil**
- 0** Less Coil**
 - 10** 10 VDC†
 - 12** 12 VDC
 - 24** 24 VDC
 - 36** 36 VDC
 - 48** 48 VDC
 - 24** 24 VAC
 - 115** 115 VAC
 - 230** 230 VAC
- **Includes Std. Coil Nut
- † DS, DW or DL terminations only.
- E-Coil**
- 10** 10 VDC
 - 12** 12 VDC
 - 20** 20 VDC
 - 24** 24 VDC

- Termination (VDC) Std. Coil**
- DS** Dual Spades
 - DG** DIN 43650
 - DL** Leadwires (2)
 - DL/W** Leads w/Weatherpak® Connectors
 - DR** Deutsch DT04-2P
- Termination (VAC) Std. Coil**
- AG** DIN 43650
 - AP** 1/2 in. Conduit
- Termination (VDC) E-Coil**
- ER** Deutsch DT04-2P (IP69K Rated)
 - EY** Metri-Pack® 150 (IP69K Rated)

Coils with internal diode are available. Consult factory.

SV10-40A Spool, 4-Way, 2-Position



DESCRIPTION

A solenoid-operated, four-way, two-position, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV10-40A** allows flow from 3 to 2, as well as from 4 to 1. When energized, the cartridge's spool shifts to open 3 to 4, and 2 to 1. All ports are closed at crossover.

FEATURES

- Continuous-duty rated solenoid with unitized, molded coil design..
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Industry common cavity.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Proof Pressure: 276 bar (4000 psi)

Burst Pressure: 965 bar (14000 psi)

Flow: 37.9 lpm (10 gpm) max.

Internal Leakage: 164 cc/minute (10 cu. in./minute) max. at 207 bar (3000 psi); Port 3 to port 1, de-energized, with ports 2 and 4 blocked.

Temperature: -40° to 100°C (-40° to 212° F) with standard Buna N seals;
 -26° to 204°C (-15° to 400°F) with Fluorocarbon seals;
 -54° to 104°C (-65° to 225°F) with Polyurethane seals.

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;
 0.18 amps at 115 VAC (full wave rectified).
 E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-4; See page 9.110.1

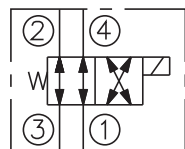
Cavity Tool: CT10-4XX; See page 8.600.1

Seal Kit: SK10-4X-MMM; See page 8.650.1

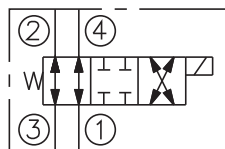
Coil Nut: without manual override: Part No. 7004400

SYMBOLS

USASI/ISO:



TRANSITION:

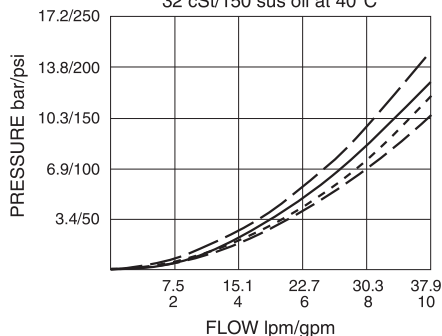


PERFORMANCE (Cartridge Only)

VALVE NOT USED AS A SELECTOR

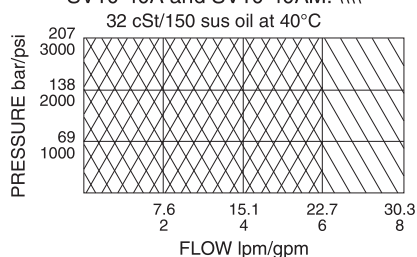
- 3 to 2 De-Energized, 2 looped to 4 - - - -
- 3 to 4 Energized, 4 looped to 2 - - - -
- 4 to 1 De-Energized, 2 looped to 4 - - - -
- 2 to 1 Energized, 4 looped to 2 - - - -

32 cSt/150 sus oil at 40°C



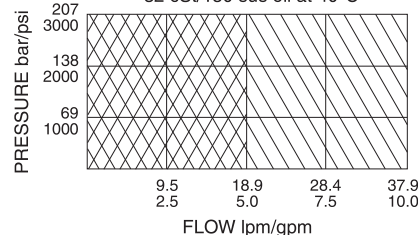
OPERATING LIMITS

Pull-In Current 85% of Nominal
 Drop-Out Current 5% of Nominal
 Valve used as a selector with inlet at port 3.
 Independent load pressures
 at ports 2 and 4, ports not looped.
 SV10-40AY: ////
 SV10-40A and SV10-40AM: \\\

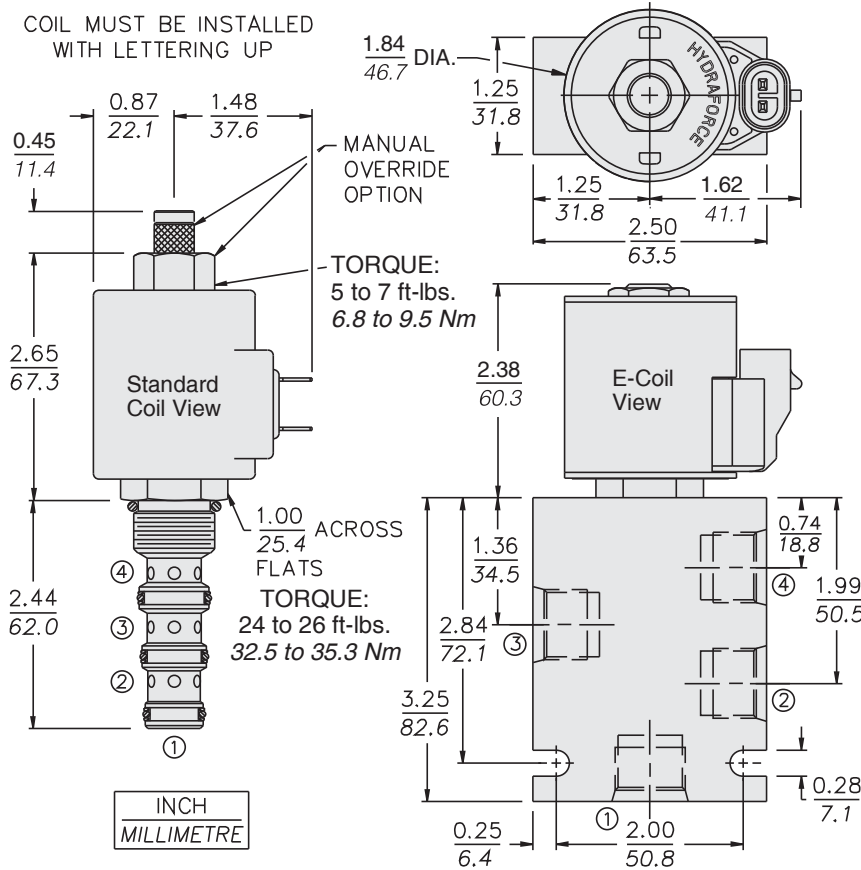


OPERATING LIMITS

Pull-In Current 85% of Nominal
 Drop-Out Current 5% of Nominal
 Inlet at Port 1; Port 3 to Tank ///
 Inlet at Port 3; Port 1 to Tank \\\



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.18 kg. (0.40 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.36 kg. (0.80 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1.

TO ORDER

SV10-40A

Option
 None (Blank)
 Manual Override **M**
 Manual Override **Y**
 For Manual Override options see page 1.001.1

Porting
 Cartridge Only **0**
 SAE 6 **6T**
 SAE 8 **8T**
 1/4 in. BSP* **2B**
 3/8 in. BSP* **3B**
 *BSP Body; U.K. Mfr. Only

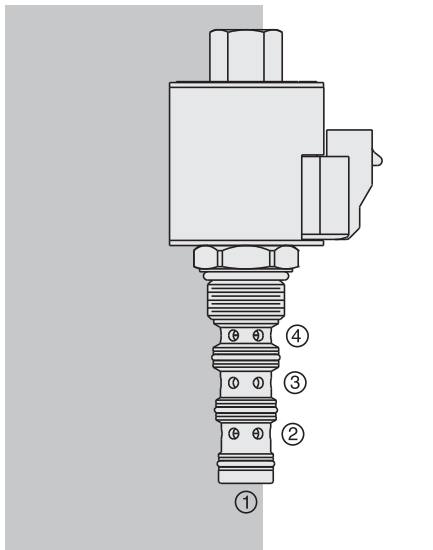
Seals
 Buna N (Std.) **N**
 Fluorocarbon **V**
 Polyurethane **P**

Voltage
0 Less Coil**
12 12 VDC
24 24 VDC
 **Includes Coil Nut.

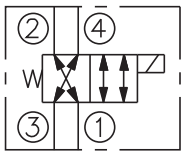
Coil Termination	E-Coil	D-Coil
Deutsch DT04-2P	ER (IP69K)	DR (IP65)
Metri-Pak 150	EY (IP69K)	DY (IP65)
Dual Lead Wires	EL (IP69K)	DL (IP65)
Amp Jr. Timer	EJ (IP67)	—
DIN 43650	EG (IP65)	DG (IP65)
Dual Spades	—	DS (IP65)

For Coils with Zener Diode, add "Z" to option code. For example: "ERZ". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1

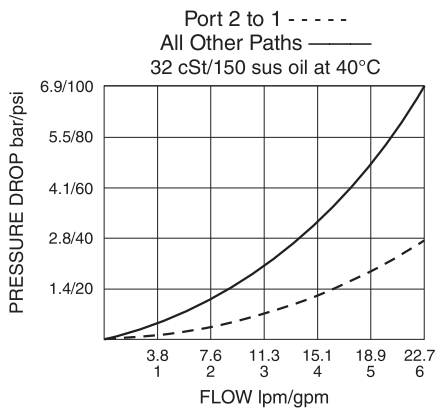
HSV10-40R HyPerformance™ Spool, 4-Way, 2-Pos.



SYMBOL



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, four-way, two-position, direct-acting, spool-type, screw-in hydraulic cartridge valve for applications requiring high pressure operation.

OPERATION

When de-energized, the **HSV10-40R** allows flow between 2 and 1, and between 3 and 4. When energized, the spool shifts to allow flow between 3 and 2, and between 4 and 1. Consult factory for applications where port 4 will be used as the inlet.

FEATURES

- Unitized, molded coil design, continuous-duty rated.
- Hardened precision spool and cage for long life.
- Waterproof E-Coils rated up to IP69K; optional voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage-interchangeable.
- 1000-hour salt-spray rated solenoid tubes and coils.
- All HyPerformance products are tested to the rigorous standards of the NFPA specification T2.6.1.
- All HyPerformance valves are tested at a verification level of 90% and an assurance of 99%.

RATINGS

Operating Pressure: 350 bar (5075 psi); 10% cycle life: 420 bar (6090 psi)

Note: All HyPerformance products are tested for 900K cycles at 350 bar and 100K cycles at 420 bar.

Burst Pressure: 1380 bar (20,000 psi)

Flow: 22.7 lpm (6 gpm) max.

Max. Internal Leakage:

Port 3 to 1, De-energized: 245 ml/minute (15 cu. in./minute.) at 350 bar (5075 psi);

Port 3 to 1, Energized: 164 ml/minute (10 cu. in./minute.) at 350 bar (5075 psi);

Port 1 to 3, De-energized: 164 ml/minute (10 cu. in./minute.) at 350 bar (5075 psi);

Port 1 to 3, Energized: 245 ml/minute (15 cu. in./minute.) at 350 bar (5075 psi)

Temperature: -54° to 107°C (-65° to 225°F) with Urethane seals.

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

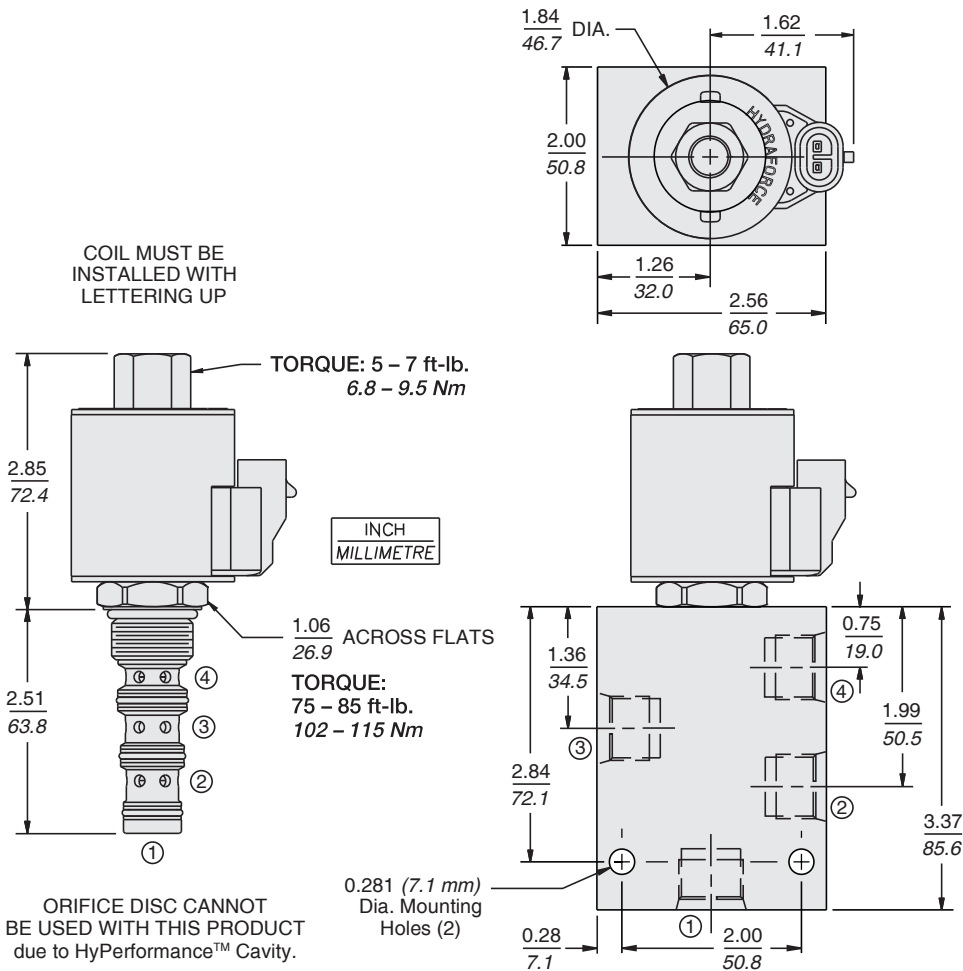
Cavity: HVC10-4; See page 9.110.1

Cavity Tool: HCT10-4XX; See page 8.600.1

Seal Kit: SK10-4U-000; See page 8.650.1

Coil Nut: Part No. 4555250

DIMENSIONS



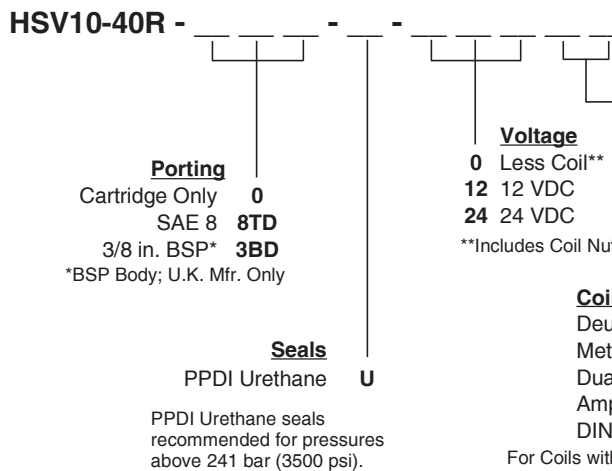
MATERIALS

Cartridge: Weight: 0.21 kg. (0.47 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Urethane O-rings without back-ups standard.

Ported Body: Weight: 1.75 kg. (3.76 lbs.); HyPerformance™ Ductile iron (code 'D') standard. Rated to 345 bar (5000 psi).

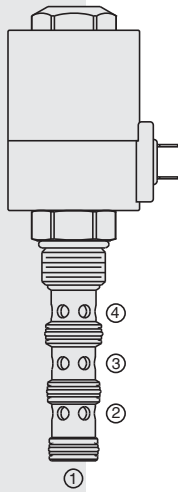
E-Coil: Weight: 0.41 kg. (0.9 lbs.); Perfect wound, fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1.

TO ORDER



For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on page 3.400.1

SV12-40R Spool, 2-Position, 4-Way



DESCRIPTION

A solenoid-operated, 2-position, 4-way, direct-acting spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV12-40R** allows flow from 2 to 1, and from 3 to 4. When energized, the spool shifts to allow flow from 3 to 2, and from 4 to 1.

Note: Consult factory for applications where port 1 will be used as an inlet.

FEATURES

- Continuous-duty rated solenoid.
- Hardened spool and cage for long life.
- Optional coil voltages and terminations.
- All ports may be fully pressurized.
- Manual override option.
- Heavy-duty waterproof E-Coils rated up to IP69K.

RATINGS

Operating Pressure: 240 bar (3500 psi) max.

Flow: See Performance Chart

Leakage: 410 cc/minute (25 cu. in./minute) at 240 bar (3500 psi)

Temperature: -40 to 120°C with Buna N seals

Coil Duty Rating: See Chart

Response Time: Pull-In: 100 msec; Drop-Out: 100 msec

Initial Coil Current Draw at 20°C: 2.8 amps at 12 VDC

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC12-4; See page 9.112.1

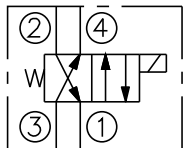
Cavity Tool: CT12-4XX; See page 8.600.1

Seal Kit: SK12-4X-MMM; See page 8.650.1

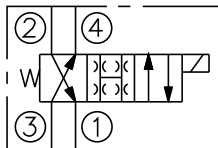
E-Coil Nut: Part No. 7085180

SYMBOLS

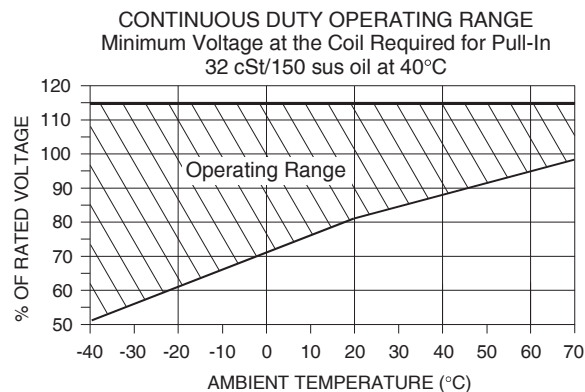
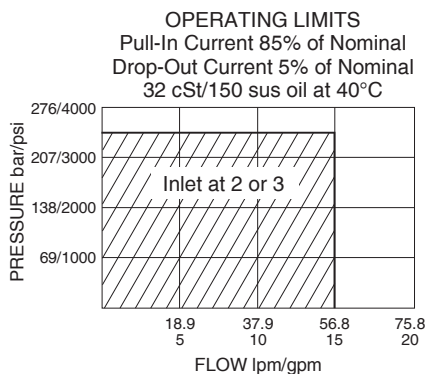
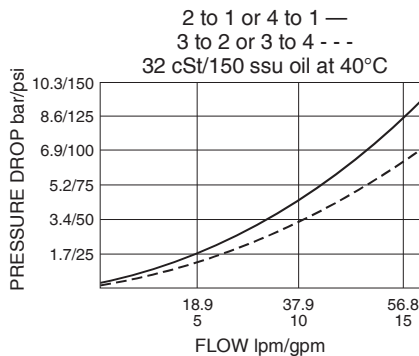
USASI/ISO:



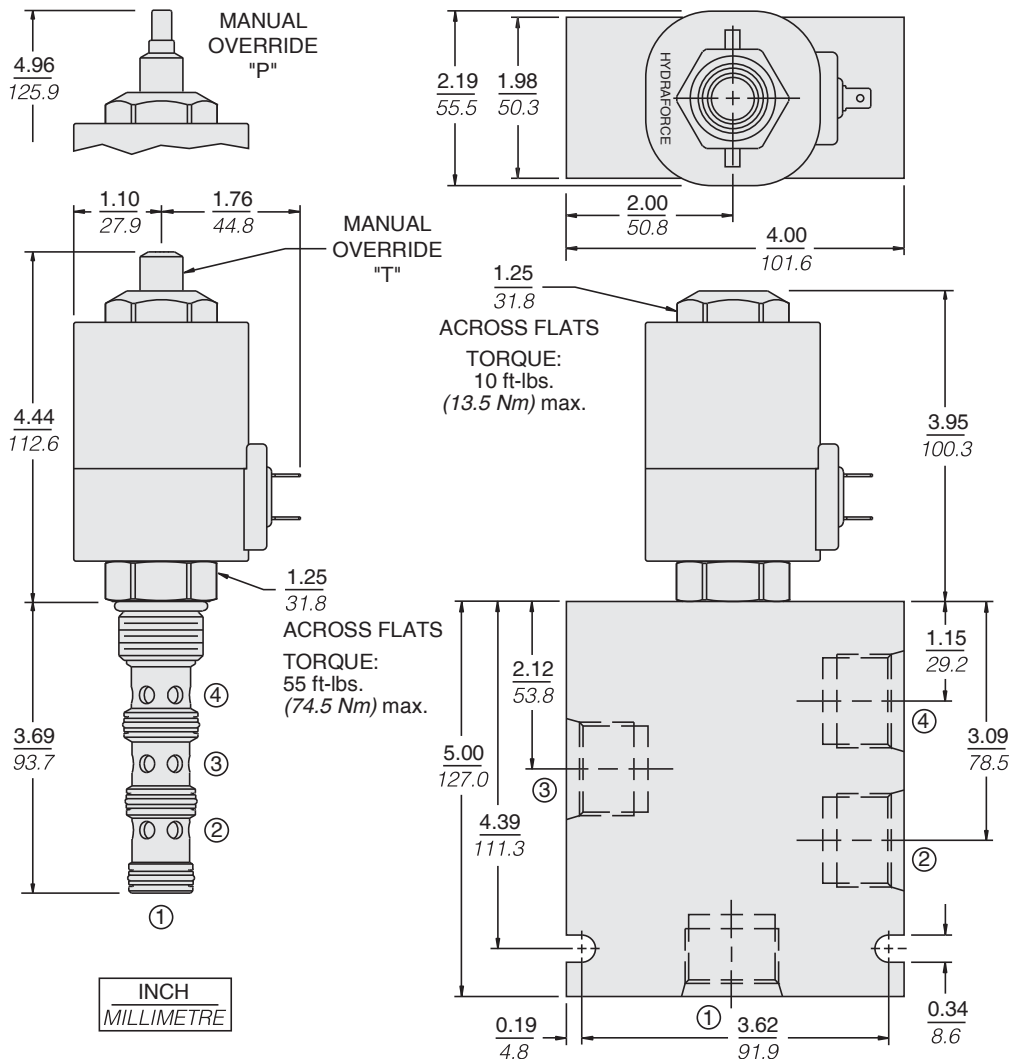
TRANSITION:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.39 kg. (0.85 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and TFE back-ups standard.

Standard Ported Body: Weight: 1.5 kg. (3.3 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.012.1

E-Coil: Weight: 1.36 kg. (3.0 lbs.) Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1,

TO ORDER

SV12-40R

Manual Override

- None (Blank)
- Option **P**
- Option **T**

Porting

- Cartridge Only **0**
 - SAE 10 **10T**
 - SAE 12 **12T**
 - 3/4 in. BSP* **6B**
- *BSP Body; U.K. Mfrs. Only

Seals

- Buna N (Std.) **N**
- Fluorocarbon **V**

Terminations (VDC)

- EL** Leadwires (2), IP65 Rated
- ES** Dual Spades, IP65 Rated
- EG** DIN 43650, IP65 Rated
- EW** Leads w/Weather-Pack® Connector, IP65 Rated
- EY** Metri-Pack® 150 Connector, IP69K Rated

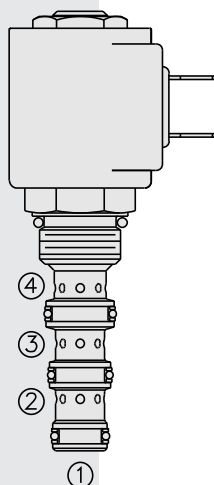
Voltage

- 0** Less Coil
- 12** 12 VDC
- 24** 24 VDC
- 36** 36 VDC
- 48** 48 VDC

Coils with internal diode are available. Consult factory.

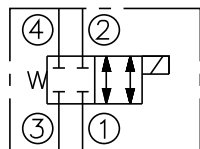
Other coil voltages may be available for OEM applications. Consult factory.

SV08-41 Spool, 4-Way, 2-Position

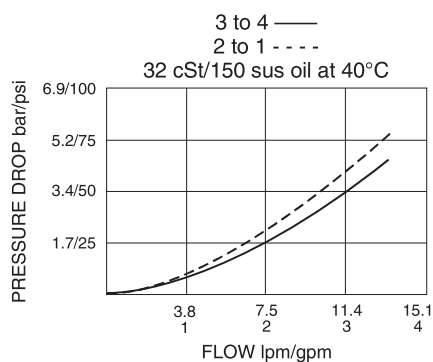


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, four-way, two-position, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV08-41** blocks flow to all ports.

When energized, the spool shifts to open flow between 3 and 4, as well as from 2 to 1.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

To return to normal valve function, push button in, twist clockwise 180° and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Compact size.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: See Performance Chart

Internal Leakage: 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-4; See page 9.108.1

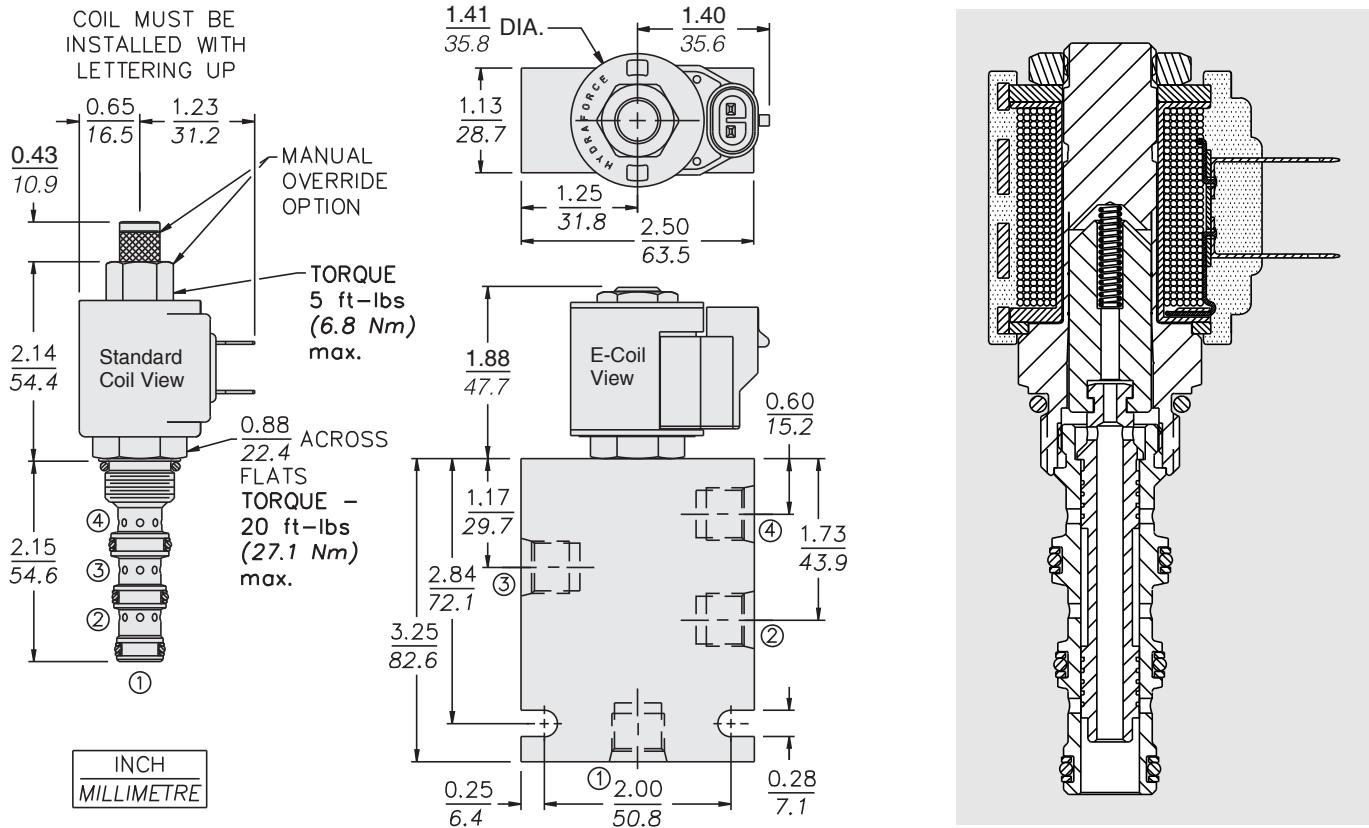
Cavity Tool: CT08-4XX; See page 8.600.1

Seal Kit: SK08-4X-MMM; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.13 kg. (0.28 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.27 kg. (0.60 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

See page 3.400.1 for all E-Coil retrofit applications.

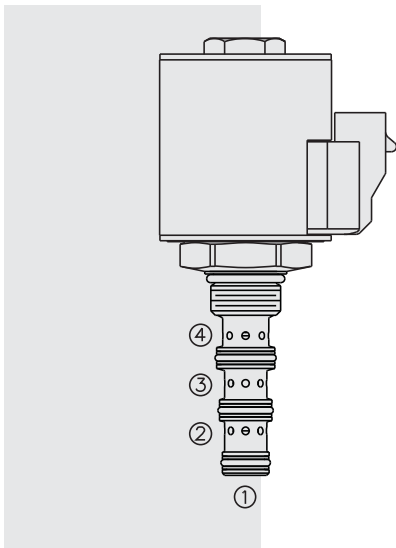
TO ORDER

SV08-41			
Option	Voltage Std. Coil	Termination (VDC) Std. Coil	
None (Blank)	0 Less Coil**	DS Dual Spades	
Manual Override M	10 10 VDC [†]	DG DIN 43650	
For Manual Override options see page 1.001.1	12 12 VDC	DL Leadwires (2)	
	24 24 VDC	DL/W Leads w/Weatherpak® Connectors	
	36 36 VDC	DR Deutsch DT04-2P	
	48 48 VDC	Termination (VAC) Std. Coil	
Porting	24 24 VAC	AG DIN 43650	
Cartridge Only	115 115 VAC	AP 1/2 in. Conduit	
SAE 6	230 230 VAC	Termination (VDC) E-Coil	
1/4 in. BSP*		ER Deutsch DT04-2P (IP69K Rated)	
3/8 in. BSP*		EY Metri-Pack® 150 (IP69K Rated)	
*BSP Body; U.K. Mfr. Only			
Seals	E-Coil		
Buna N (Std.)	10 10 VDC		
Fluorocarbon	12 12 VDC		
	20 20 VDC		
	24 24 VDC		

**Includes Std. Coil Nut
[†] DS, DW or DL terminations only.

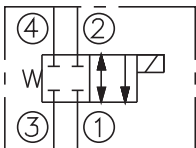
Coils with internal diode are available. Consult factory.

SV58-41 Spool, 4-Way, 2-Position, High Pressure

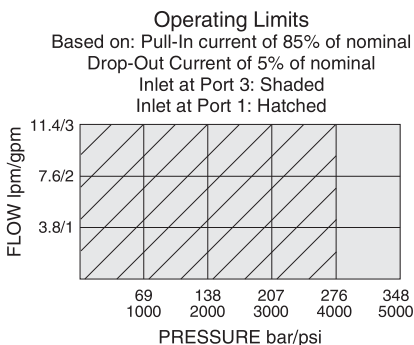
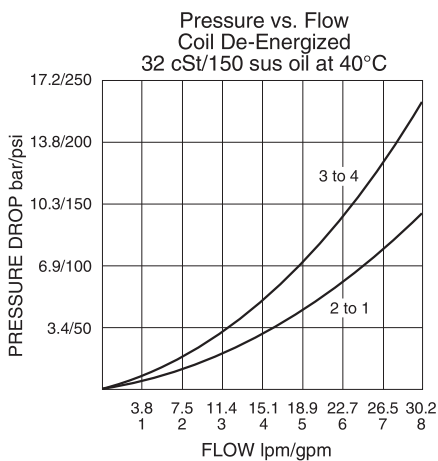


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, 4-way, 2-position, direct-acting spool-type, screw-in hydraulic cartridge valve designed for high pressure operation up to 345 bar (5000 psi).

OPERATION

When de-energized, the **SV58-41** blocks flow to all ports.

When energized, the spool shifts to open flow between 3 and 4, as well as from 2 to 1.

Note: Port 1 must be connected to tank. Valve cannot withstand more than 276 bar (4000 psi) at the inlet of port 1.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage-interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Compact size.

RATINGS

Operating Pressure: 345 bar (5000 psi)

Flow: See Performance Chart

Internal Leakage: 82 ml/minute (5 cu. in./minute) max. at 345 bar (5000 psi)

Temperature: -40 to 120°C with standard Buna seals;
-26 to 204°C with Fluorocarbon seals; -54 to 107°C with Polyurethane seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;
0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-4; See page 9.108.1

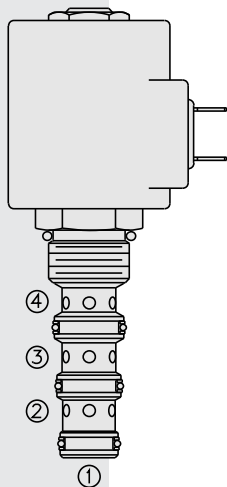
Cavity Tool: CT08-4XX; See page 8.600.1

Seal Kit: SK58-4P-MMM; See page 8.650.1

Coil Nut: Part No. 7004400;

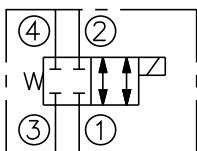
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SV10-41 Spool, 4-Way, 2-Position

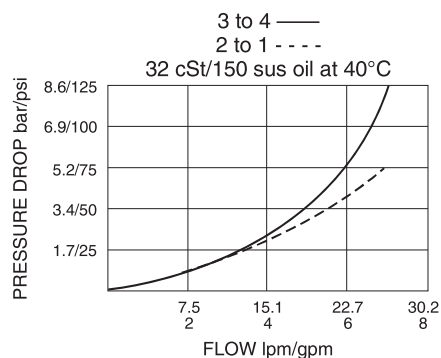


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, 4-way, 2-position, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV10-41** blocks flow to all ports.

When energized, the spool shifts to open flow between 3 and 4, as well as from 2 to 1.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

To return to normal valve function, push button in, twist clockwise 180° and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Industry common cavity.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Proof Pressure: 350 bar (5075 psi)

Flow: See Performance Chart

Internal Leakage: 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 45 msec.; De-energized: 50 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC; 0.18 amps at 115 VAC (full wave rectified).
E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-4; See page 9.110.1

Cavity Tool: CT10-4XX; See page 8.600.1

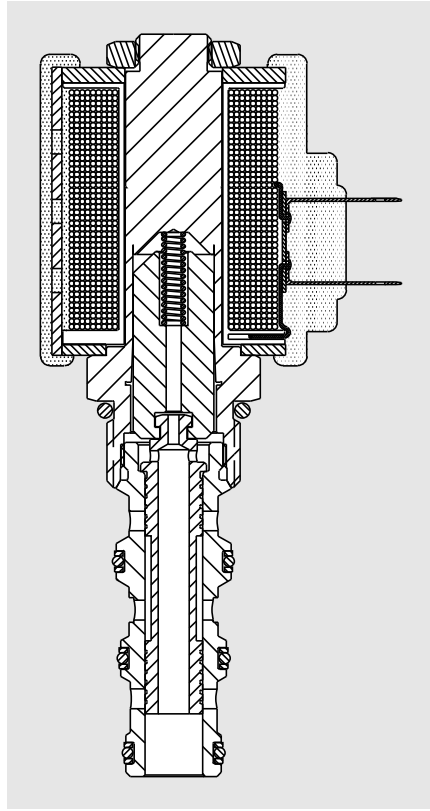
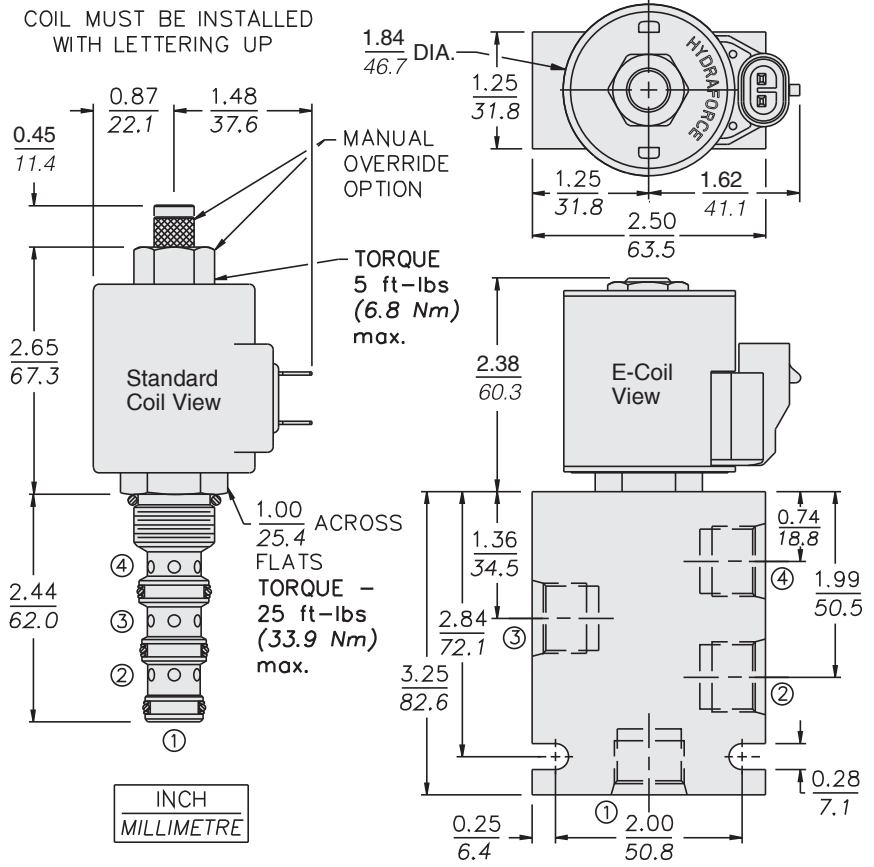
Seal Kit: SK10-4X-MMM; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SV10-41

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.20 kg. (0.45 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.36 kg. (0.80 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors.

Note: See page 3.400.1 for all E-Coil retrofit applications.

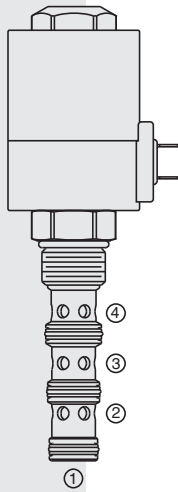
TO ORDER

SV10-41

Option		Voltage	Termination (VDC)
None (Blank)		Std. Coil	Std. Coil
Manual Override M		0 Less Coil**	DS Dual Spades
Manual Override Y		10 10 VDC†	DG DIN 43650
Manual Override J		12 12 VDC	DL Leadwires (2)
For Manual Override options see page 1.001.1		24 24 VDC	DL/W Leads w/Weatherpak® Connectors
		36 36 VDC	DR Deutsch DT04-2P
Porting		48 48 VDC	Termination (VAC)
Cartridge Only 0		24 24 VAC	Std. Coil
SAE 6 6T		115 115 VAC	AG DIN 43650
SAE 8 8T		230 230 VAC	AP 1/2 in. Conduit
1/4 in. BSP* 2B		**Includes Std. Coil Nut	Termination (VDC)
3/8 in. BSP* 3B		† DS, DW or DL terminations only.	E-Coil
*BSP Body; U.K. Mfr. Only		E-Coil	ER Deutsch DT04-2P (IP69K Rated)
Seals		10 10 VDC	EY Metri-Pack® 150 (IP69K Rated)
Buna N (Std.) N		12 12 VDC	
Fluorocarbon V		20 20 VDC	
		24 24 VDC	

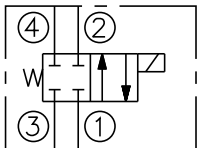
Coils with internal diode are available. Consult factory.

SV12-41 Spool, 2-Position, 4-Way

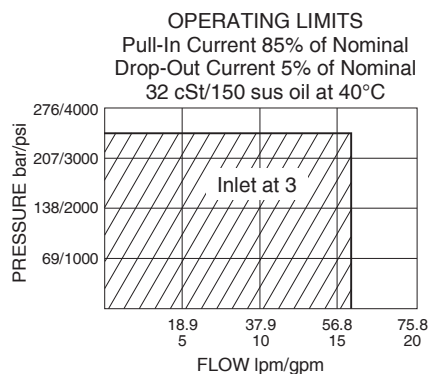
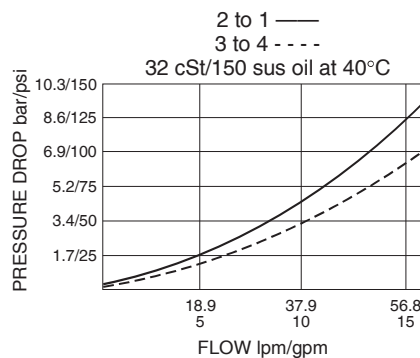


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, two-position, four-way, direct-acting spool-type, screw-in hydraulic cartridge valve, intended as a bidirectional blocking valve.

OPERATION

When de-energized, the **SV12-41** blocks flow at all ports. When energized, the spool shifts to allow flow from 3 to 4, and from 2 to 1.

Note: Consult factory for applications where port 1 will be used as an inlet.

FEATURES

- Continuous-duty rated solenoid.
- Hardened spool and cage for long life.
- Optional coil voltages and terminations.
- Manual override optional.
- All ports may be fully pressurized.
- Heavy-duty waterproof E-Coils rated up to IP69K.

RATINGS

Operating Pressure: 240 bar (3500 psi) max.

Flow: See Performance Chart

Leakage: 410 cc/minute (25 cu. in./minute) at 240 bar (3500 psi)

Temperature: -40 to 120°C with Buna N seals

Coil Duty Rating: See Chart

Response Time: Pull-In: 100 msec; Drop-Out: 100 msec

Initial Coil Current Draw at 20°C: 2.8 amps at 12 VDC

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

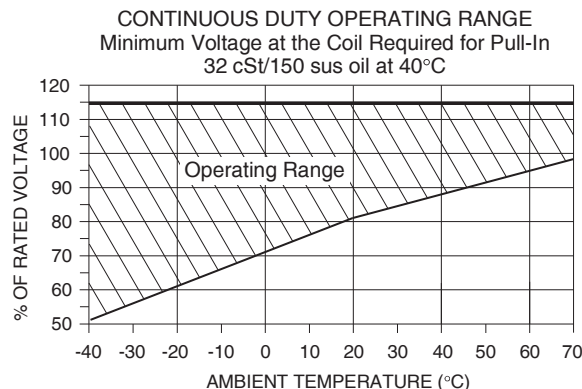
Installation: No restrictions; See page 9.020.1

Cavity: VC12-4; See page 9.112.1

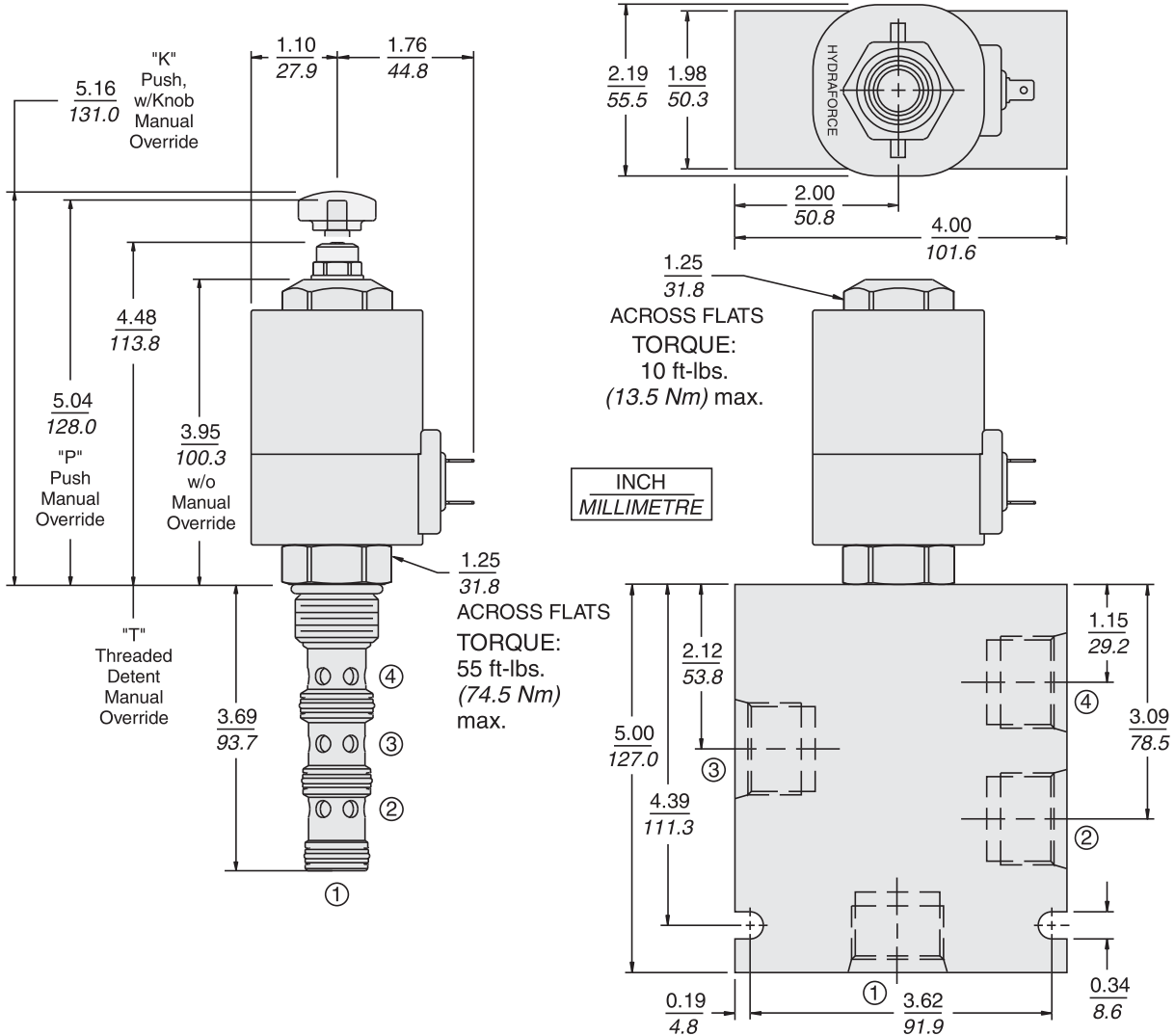
Cavity Tool: CT12-4XX; See page 8.600.1

Seal Kit: SK12-4X-MMM; See page 8.650.1

E-Coil Nut: Part No. 7085180



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.39 kg. (0.85 lbs.)
Steel with hardened work surfaces.
Zinc-plated exposed surfaces.
Buna N O-rings and TFE back-ups standard.

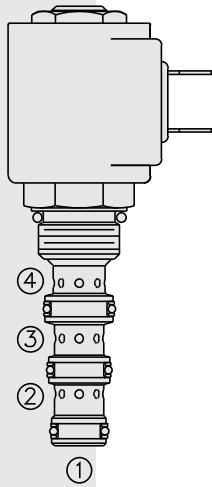
Standard Ported Body: Weight: 1.5 kg. (3.3 lbs.)
Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.012.1.

E-Coil: Weight: 1.36 kg. (3.0 lbs.)
Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1.

TO ORDER

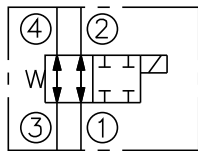
SV12-41					
Manual Override					
None (Blank)					
Push	P				
Push, with Knob	K				
Threaded Detent	T				
More about Manual Override options: page 1.001.1					
Porting					
Cartridge Only	0				
SAE 10	10T				
SAE 12	12T				
3/4 in. BSP*	6B				
*BSP Body; U.K. Mfr. Only					
Seals					
Buna N (Std.)	N				
Fluorocarbon	V				
Terminations (VDC)					
EL	Leadwires (2), IP65 Rated				
ES	Dual Spades, IP65 Rated				
EG	DIN 43650, IP65 Rated				
EW	Leads w/Weather-Pack® Connector, IP65 Rated				
EY	Metri-Pack® 150 Connector, IP69K Rated				
Voltage					
0	Less Coil				
12	12 VDC				
24	24 VDC				
36	36 VDC				
48	48 VDC				
Coils with internal diode are available. Consult factory.					
Other coil voltages may be available for OEM applications. Consult factory.					

SV08-42 Spool, 4-Way, 2-Position

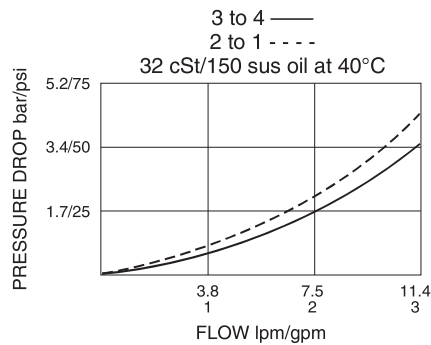


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, 4-way, 2-position, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV08-42** directs flow from 3 to 4, and from 2 to 1.

When energized, the spool shifts to block flow at all ports.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

To return to normal valve function, push button in, twist clockwise 180° and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Compact size.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: See Performance Chart

Internal Leakage: 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-4; See page 9.108.1

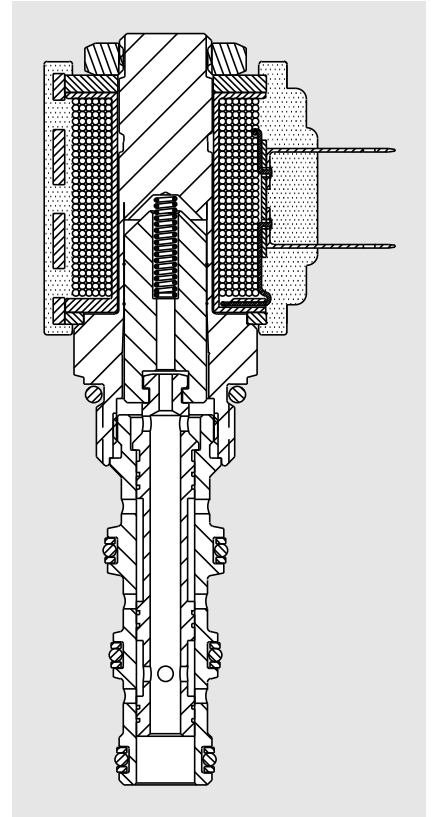
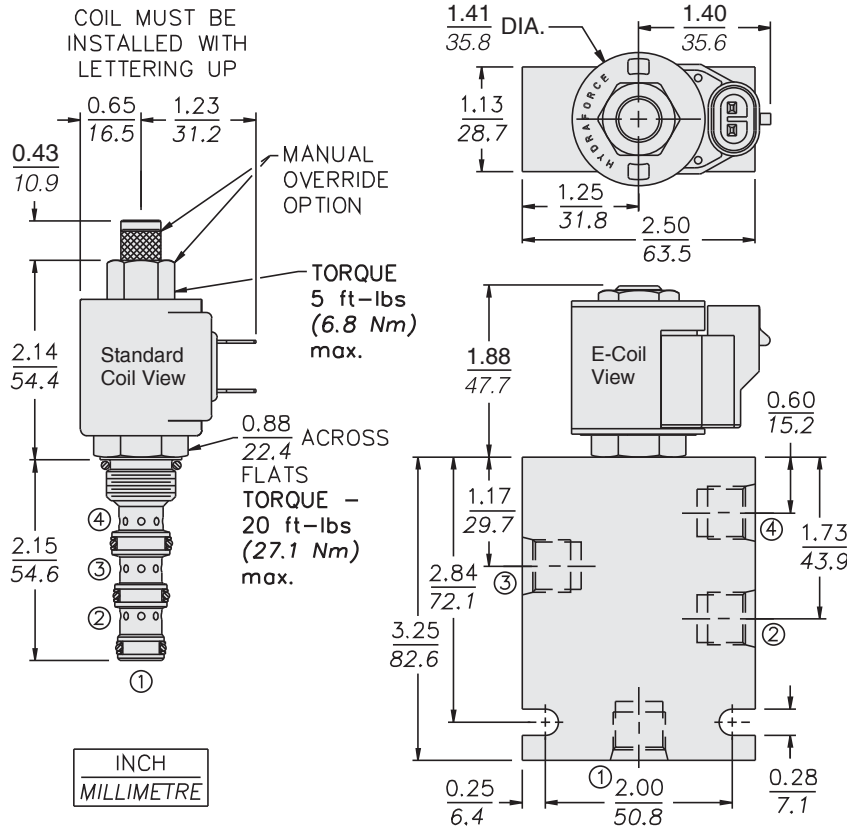
Cavity Tool: CT08-4XX; See page 8.600.1

Seal Kit: SK08-4X-MMM; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.13 kg. (0.28 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.27 kg. (0.60 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

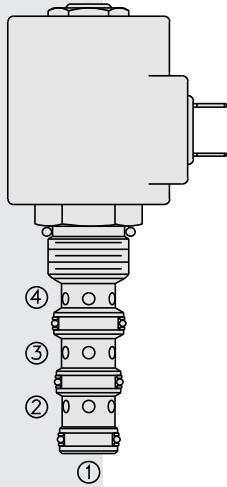
See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV08-42			
Option	Voltage Std. Coil	Termination (VDC) Std. Coil	
None (Blank)	0 Less Coil**	DS Dual Spades	
Manual Override M	10 10 VDC [†]	DG DIN 43650	
For Manual Override options see page 1.001.1	12 12 VDC	DL Leadwires (2)	
	24 24 VDC	DL/W Leads w/Weatherpak® Connectors	
	36 36 VDC	DR Deutsch DT04-2P	
	48 48 VDC	Termination (VAC) Std. Coil	
Porting	24 24 VAC	AG DIN 43650	
Cartridge Only 0	115 115 VAC	AP 1/2 in. Conduit	
SAE 6 6T	230 230 VAC	Termination (VDC) E-Coil	
1/4 in. BSP* 2B	**Includes Std. Coil Nut	ER Deutsch DT04-2P (IP69K Rated)	
3/8 in. BSP* 3B	[†] DS, DW or DL terminations only.	EY Metri-Pack® 150 (IP69K Rated)	
*BSP Body; U.K. Mfr. Only	E-Coil		
	10 10 VDC		
Seals	12 12 VDC		
Buna N (Std.) N	20 20 VDC		
Fluorocarbon V	24 24 VDC		

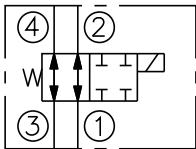
Coils with internal diode are available. Consult factory.

SV10-42 Spool, 4-Way, 2-Position

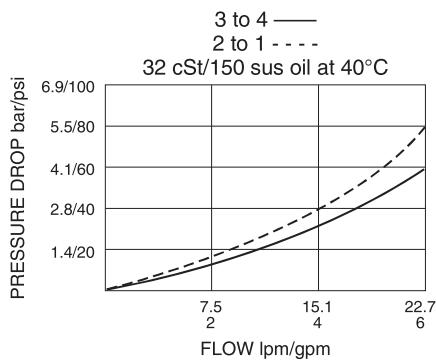


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, 4-way, 2-position, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV10-42** allows flow from 3 to 4, as well as from 2 to 1. When energized, the spool shifts to block flow at all ports.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

To return to normal valve function, push button in, twist clockwise 180°, and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Industry common cavity.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Proof Pressure: 350 bar (5075 psi)

Flow: See Performance Chart

Internal Leakage: 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;

0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-4; See page 9.110.1

Cavity Tool: CT10-4XX; See page 8.600.1

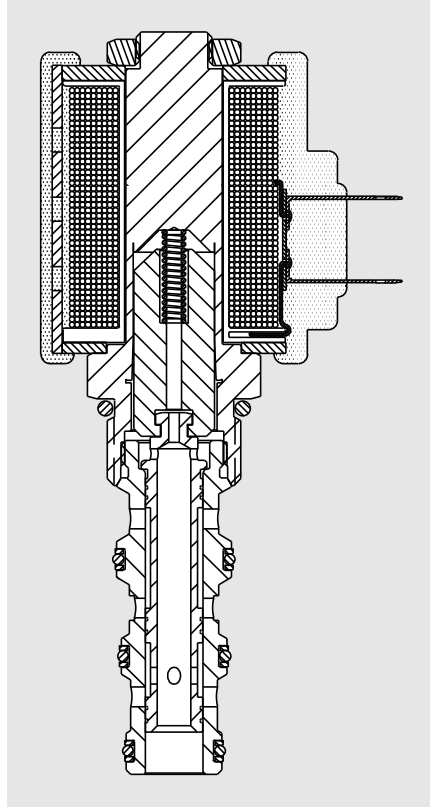
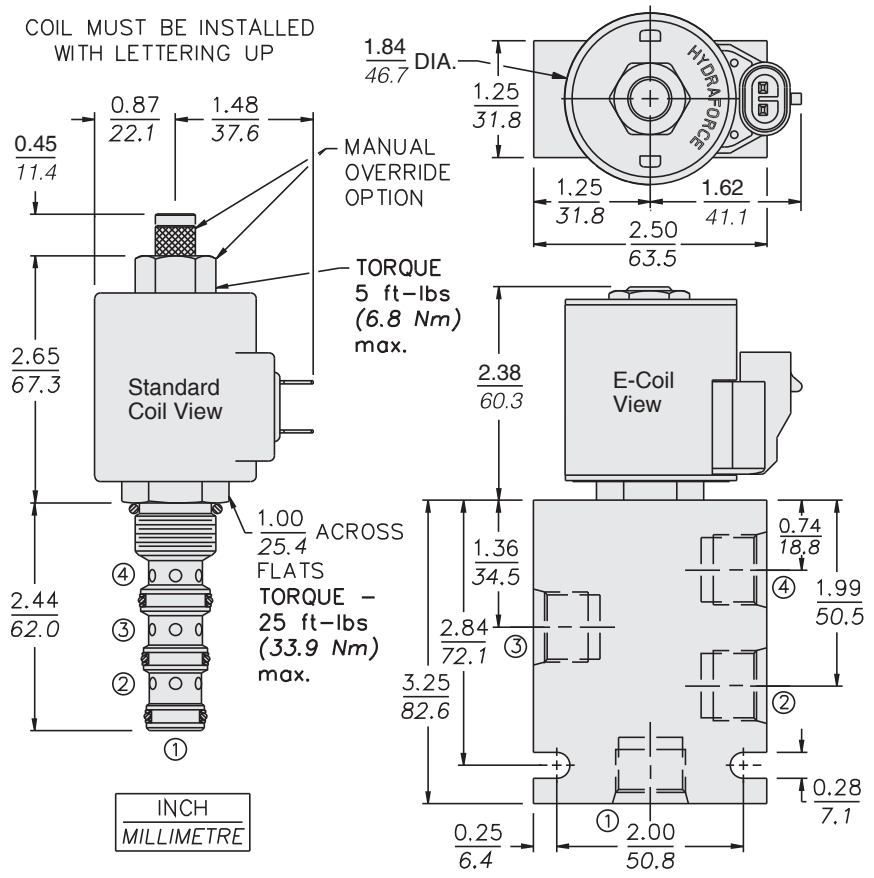
Seal Kit: SK10-4X-MMM; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SV10-42

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.20 kg. (0.45 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.36 kg. (0.80 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors.

Note: See page 3.400.1 for all E-Coil retrofit applications.

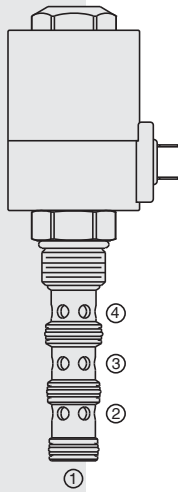
TO ORDER

SV10-42

Option		Voltage	Termination (VDC)
None (Blank)		Std. Coil	Std. Coil
Manual Override M		0 Less Coil**	DS Dual Spades
Manual Override Y		10 10 VDC†	DG DIN 43650
Manual Override J		12 12 VDC	DL Leadwires (2)
For Manual Override options see page 1.001.1		24 24 VDC	DL/W Leads w/Weatherpak® Connectors
		36 36 VDC	DR Deutsch DT04-2P
Porting		48 48 VDC	Termination (VAC)
Cartridge Only 0		24 24 VAC	Std. Coil
SAE 6 6T		115 115 VAC	AG DIN 43650
SAE 8 8T		230 230 VAC	AP 1/2 in. Conduit
1/4 in. BSP* 2B		**Includes Std. Coil Nut	Termination (VDC)
3/8 in. BSP* 3B		† DS, DW or DL terminations only.	E-Coil
*BSP Body; U.K. Mfr. Only		E-Coil	ER Deutsch DT04-2P (IP69K Rated)
Seals		10 10 VDC	EY Metri-Pack® 150 (IP69K Rated)
Buna N (Std.) N		12 12 VDC	
Fluorocarbon V		20 20 VDC	
		24 24 VDC	

Coils with internal diode are available. Consult factory.

SV12-42 Spool, 2-Position, 4-Way



DESCRIPTION

A solenoid-operated, two-position, four-way, direct-acting spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV12-42** allows flow from 3 to 4, and from 2 to 1. When energized, the spool shifts to block flow at all ports.

Note: Consult factory for applications where port 1 will be used as an inlet.

FEATURES

- Continuous-duty rated solenoid.
- Hardened spool and cage for long life.
- Optional coil voltages and terminations.
- All ports may be fully pressurized.
- Manual override option.
- Heavy-duty waterproof E-Coils rated up to IP69K.

RATINGS

Operating Pressure: 240 bar (3500 psi) max.

Flow: See Performance Chart

Leakage: 410 cc/minute (25 cu. in./minute) at 240 bar (3500 psi)

Temperature: -40 to 120°C with Buna N seals

Coil Duty Rating: See Chart

Response Time: Pull-In: 100 msec; Drop-Out: 100 msec

Initial Coil Current Draw at 20°C: 2.8 amps at 12 VDC

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC12-4; See page 9.112.1

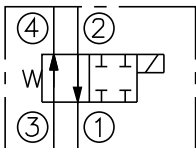
Cavity Tool: CT12-4XX; See page 8.600.1

Seal Kit: SK12-4X-MMM; See page 8.650.1

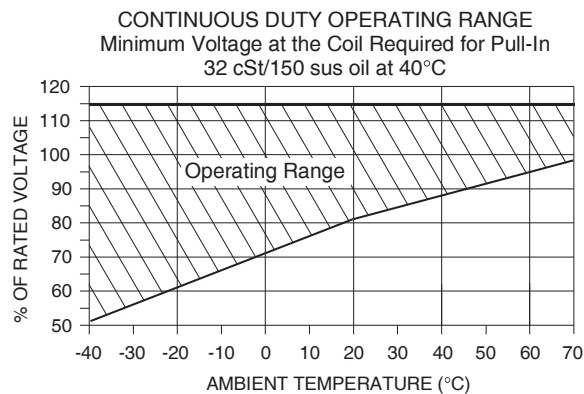
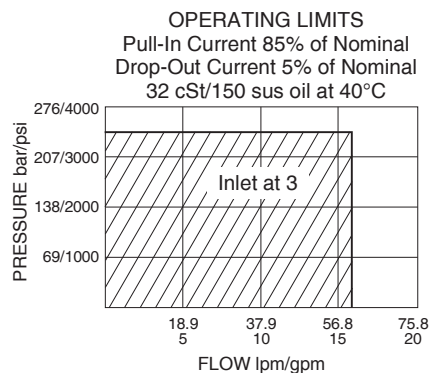
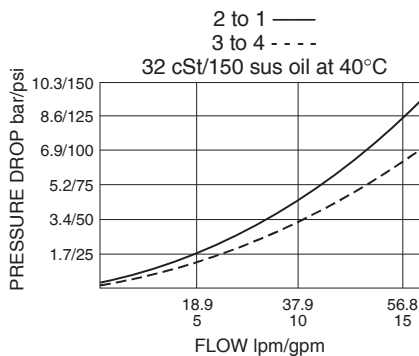
E-Coil Nut: Part No. 7085180

SYMBOLS

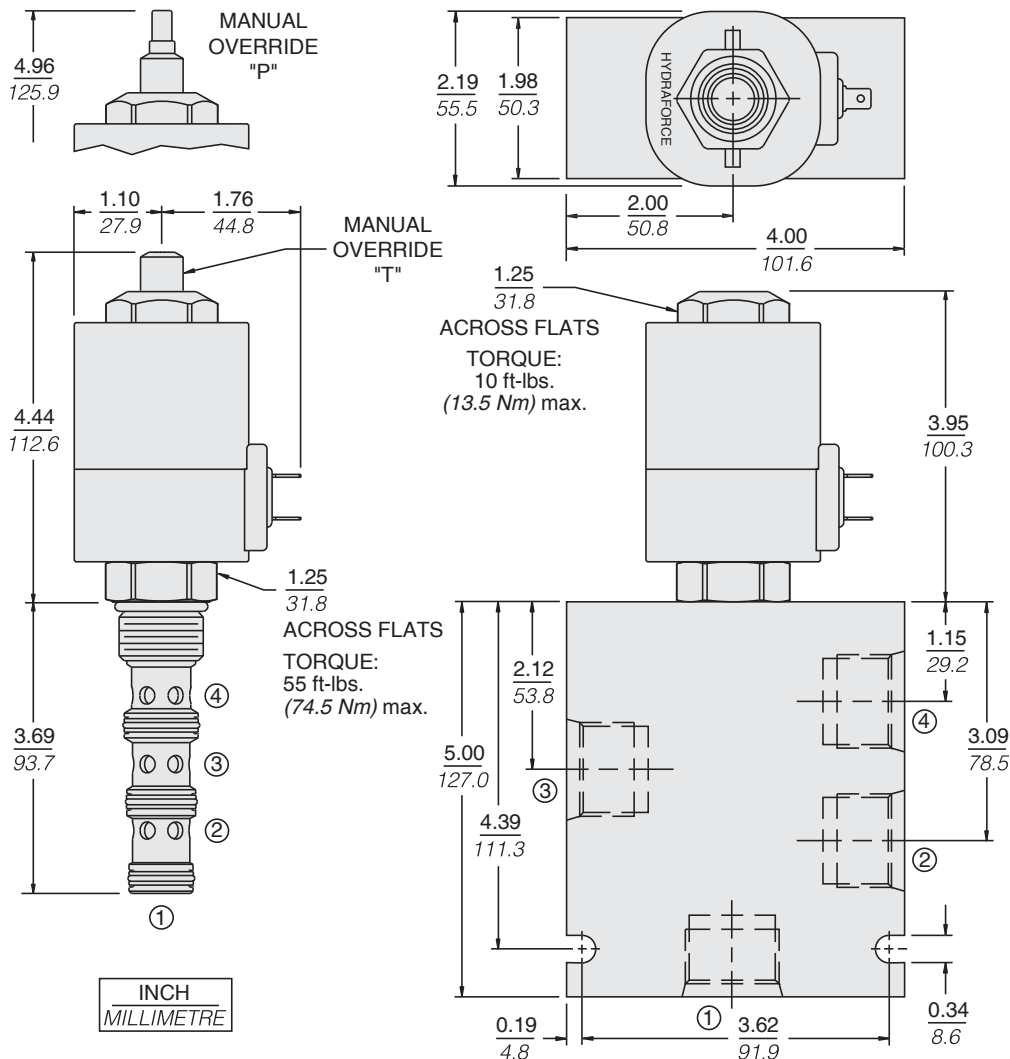
USASI/ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.39 kg. (0.85 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and TFE back-ups standard.

Standard Ported Body: Weight: 1.5 kg. (3.3 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.012.1

E-Coil: Weight: 1.36 kg. (3.0 lbs.) Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1

TO ORDER

SV12-42

Manual Override

- None (Blank)
- Option **P**
- Option **T**

Porting

- Cartridge Only **0**
 - SAE 10 **10T**
 - SAE 12 **12T**
 - 3/4 in. BSP* **6B**
- *BSP Body; U.K. Mfrs. Only

Seals

- Buna N (Std.) **N**
- Fluorocarbon **V**

Terminations (VDC)

- EL** Leadwires (2), IP65 Rated
- ES** Dual Spades, IP65 Rated
- EG** DIN 43650, IP65 Rated
- EW** Leads w/Weather-Pack® Connector, IP65 Rated
- EY** Metri-Pack® 150 Connector, IP69K Rated

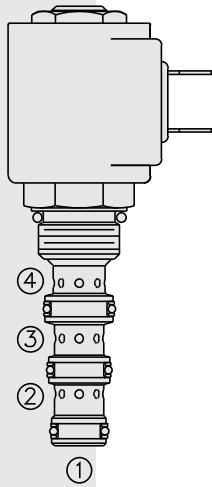
Voltage

- 0** Less Coil
- 12** 12 VDC
- 24** 24 VDC
- 36** 36 VDC
- 48** 48 VDC

Coils with internal diode are available. Consult factory.

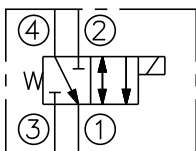
Other coil voltages may be available for OEM applications. Consult factory.

SV08-43 Spool, 4-Way, 2-Position

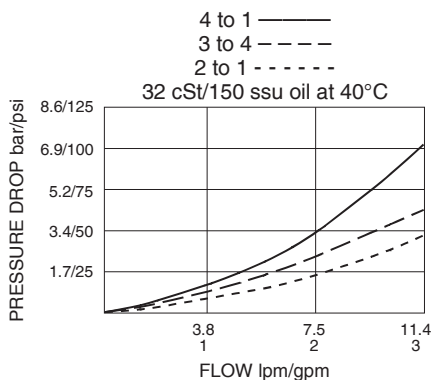


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, 4-way, 2-position, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV08-43** allows flow from 4 to 1, while blocking 3 and 2. When energized, the spool shifts to allow flow from 3 to 4 and 2 to 1.

Note: While port 1 may be fully pressurized, it is not intended for use as the inlet.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Industry-common cavity.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: See Performance Chart

Internal Leakage: 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC; 0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-4; See page 9.108.1

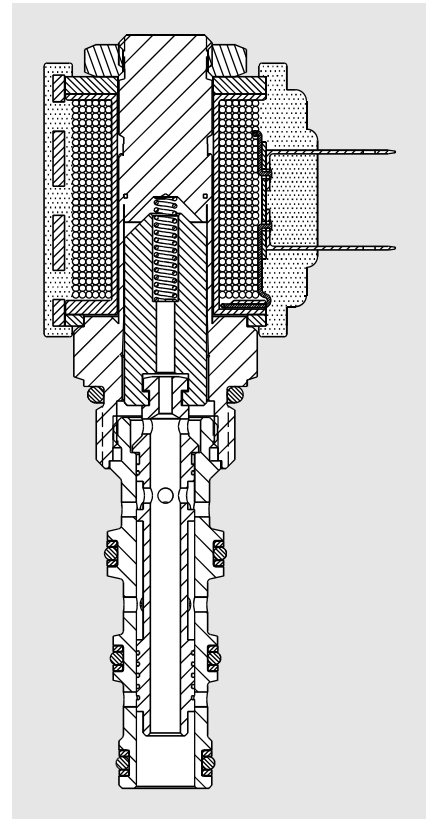
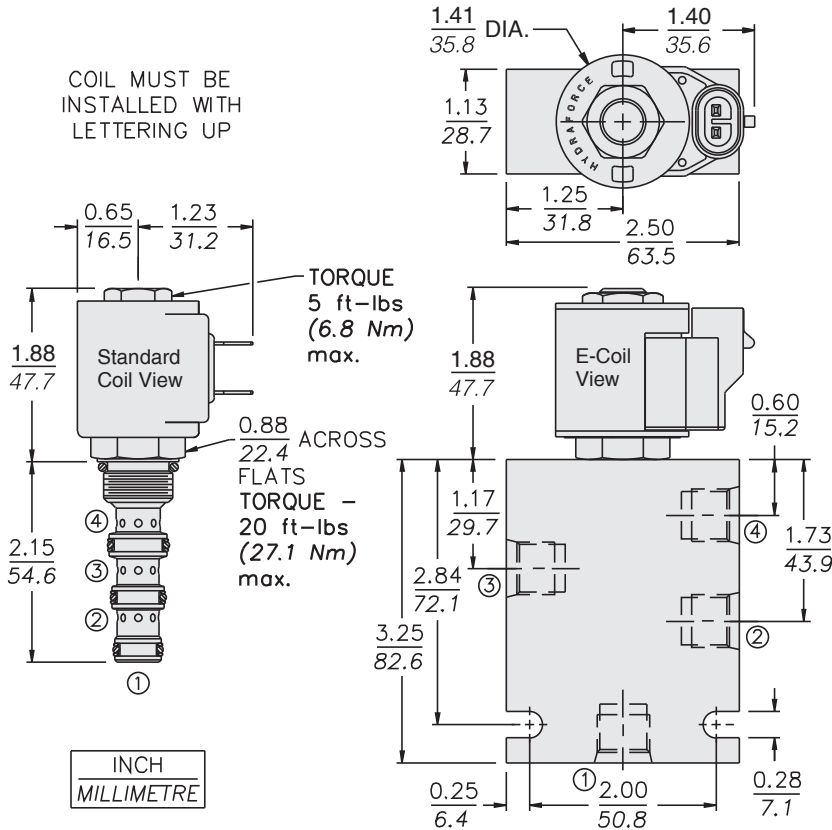
Cavity Tool: CT08-4XX; See page 8.600.1

Seal Kit: SK08-4X-MMM; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.13 kg. (0.28 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.27 kg. (0.60 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

See page 3.400.1 for all E-Coil retrofit applications.

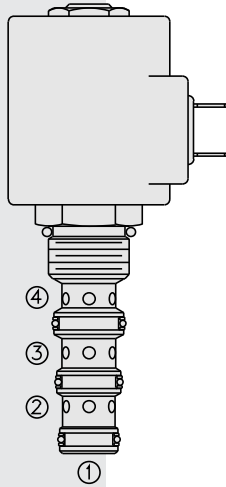
TO ORDER

SV08-43		-	-	-	-	-	-	-
Option	None (Blank)							
Porting	Cartridge Only 0 SAE 6 6T 1/4 in. BSP* 2B 3/8 in. BSP* 3B							
Seals	Buna N (Std.) N Fluorocarbon V							
Voltage Std. Coil	0 Less Coil** 10 10 VDC† 12 12 VDC 24 24 VDC 36 36 VDC 48 48 VDC 24 24 VAC 115 115 VAC 230 230 VAC							
E-Coil	10 10 VDC 12 12 VDC 20 20 VDC 24 24 VDC							
Termination (VDC) Std. Coil	DS Dual Spades DG DIN 43650 DL Leadwires (2) DL/W Leads w/Weatherpak® Connectors DR Deutsch DT04-2P							
Termination (VAC) Std. Coil	AG DIN 43650 AP 1/2 in. Conduit							
Termination (VDC) E-Coil	ER Deutsch DT04-2P (IP69K Rated) EY Metri-Pack® 150 (IP69K Rated)							

**Includes Std. Coil Nut
† DS, DW or DL terminations only.

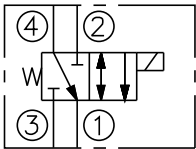
Coils with internal diode are available. Consult factory.

SV10-43 Spool, 4-Way, 2-Position

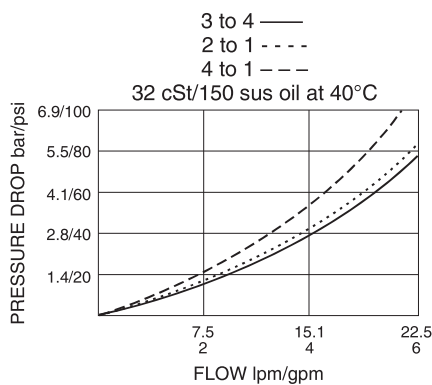


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, 4-way, 2-position, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV10-43** allows flow from 4 to 1, while blocking 3 and 2.

When energized, the spool shifts to allow flow from 3 to 4 and from 2 to 1.

Note that while 1 may be fully pressurized, it is not intended for use as the inlet.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

To return to normal valve function, push button in, twist clockwise 180°, and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Industry common cavity.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Proof Pressure: 350 bar (5075 psi)

Flow: See Performance Chart

Internal Leakage: 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;
0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-4; See page 9.110.1

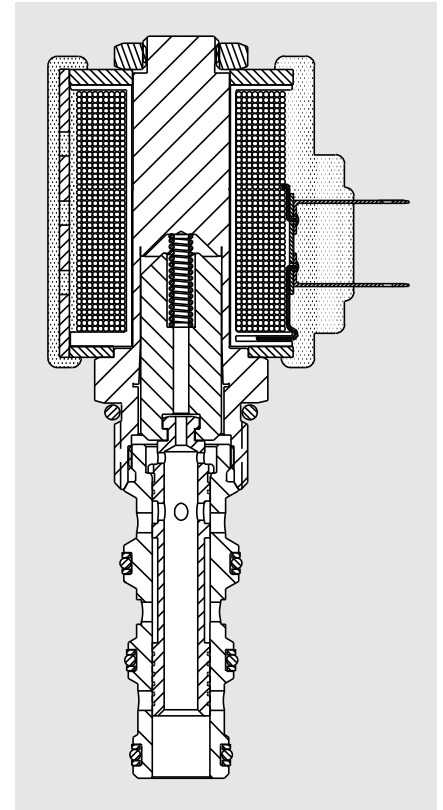
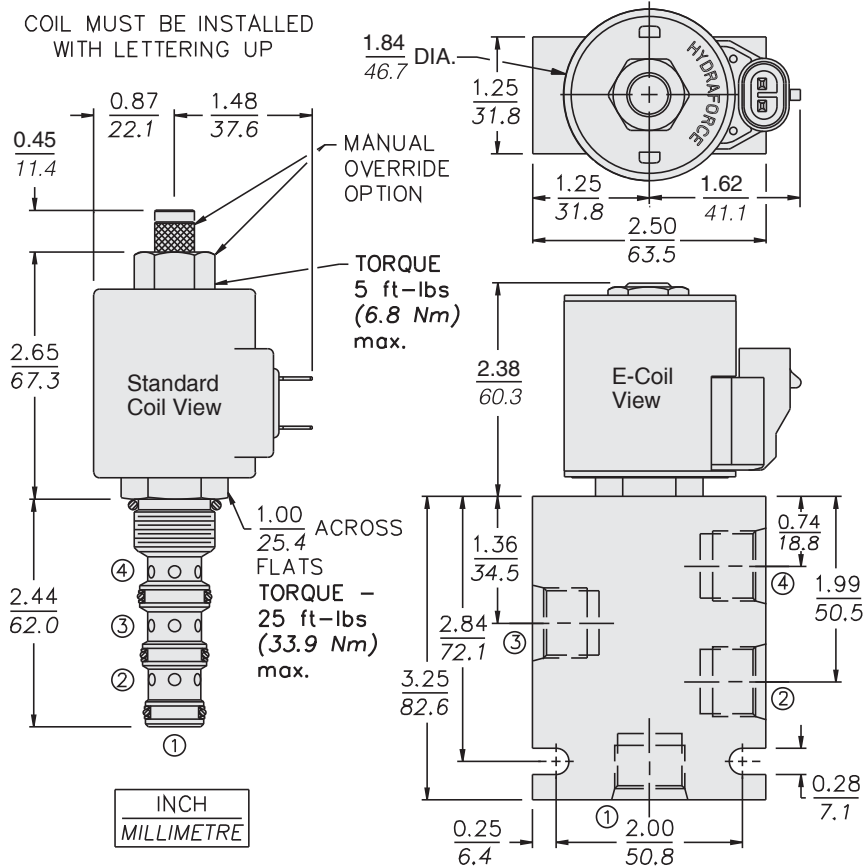
Cavity Tool: CT10-4XX; See page 8.600.1

Seal Kit: SK10-4X-MMM; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.20 kg. (0.45 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.36 kg. (0.80 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors.

Note: See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV10-43

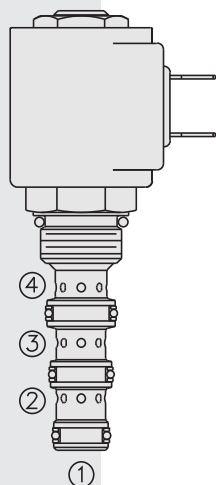
Option	None (Blank)
Manual Override	M
Manual Override	Y
Manual Override	J
For Manual Override options see page 1.001.1	
Porting	
Cartridge Only	0
SAE 6	6T
SAE 8	8T
1/4 in. BSP*	2B
3/8 in. BSP*	3B
*BSP Body; U.K. Mfr. Only	
Seals	
Buna N (Std.)	N
Fluorocarbon	V

Voltage	
Std. Coil	
0	Less Coil**
10	10 VDC†
12	12 VDC
24	24 VDC
36	36 VDC
48	48 VDC
24	24 VAC
115	115 VAC
230	230 VAC
**Includes Std. Coil Nut	
† DS, DW or DL terminations only.	
E-Coil	
10	10 VDC
12	12 VDC
20	20 VDC
24	24 VDC

Termination (VDC) Std. Coil	
DS	Dual Spades
DG	DIN 43650
DL	Leadwires (2)
DL/W	Leads w/Weatherpak® Connectors
DR	Deutsch DT04-2P
Termination (VAC) Std. Coil	
AG	DIN 43650
AP	1/2 in. Conduit
Termination (VDC) E-Coil	
ER	Deutsch DT04-2P (IP69K Rated)
EY	Metri-Pack® 150 (IP69K Rated)

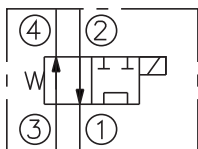
Coils with internal diode are available. Consult factory.

SV08-44 Spool, 4-Way, 2-Position

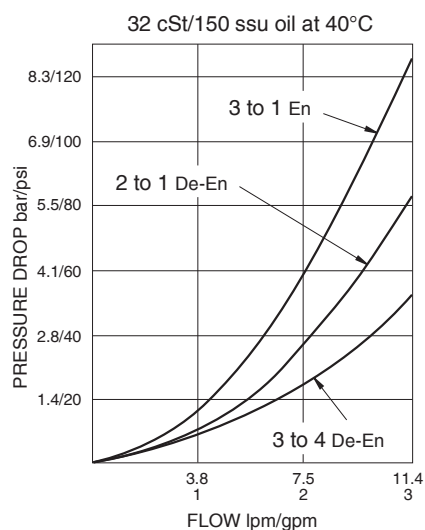


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, 4-way, 2-position, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV08-44** allows flow from 3 to 4, and from 2 to 1.

When energized, the spool shifts to allow flow from 3 to 1, while blocking 2 and 4.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

To return to normal valve function, push button in, twist clockwise 180°, and release. Override will be detented in this position.

Note: While 1 may be fully pressurized, it is not intended for use as the valve's inlet.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Compact size.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: See Performance Chart

Internal Leakage: 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-4; See page 9.108.1

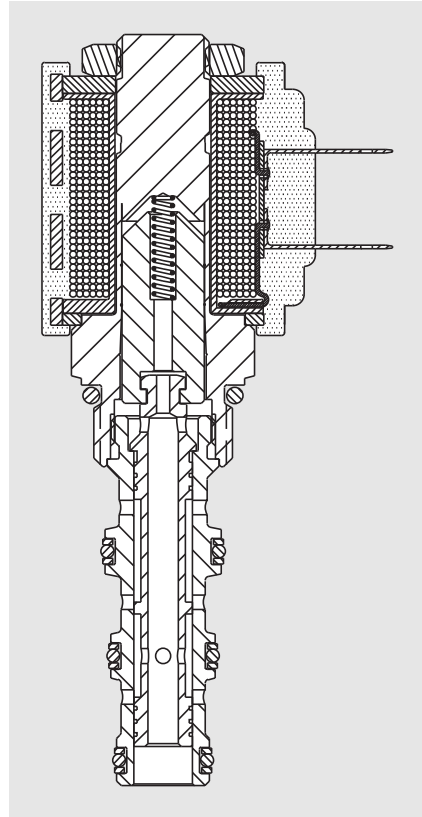
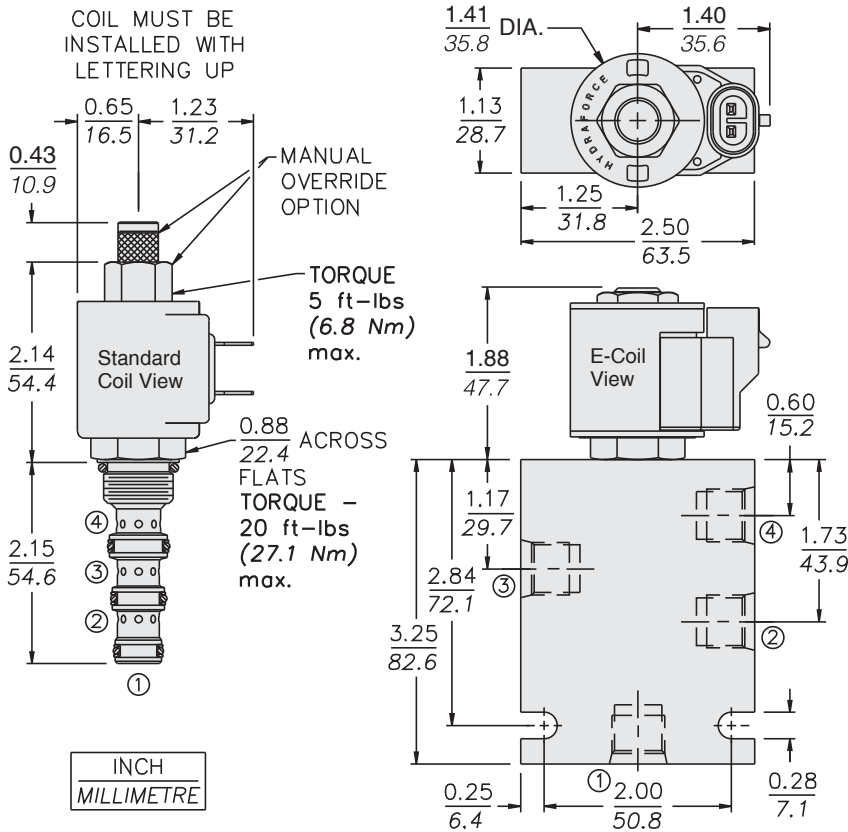
Cavity Tool: CT08-4XX; See page 8.600.1

Seal Kit: SK08-4X-MMM; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.13 kg. (0.28 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.27 kg. (0.60 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

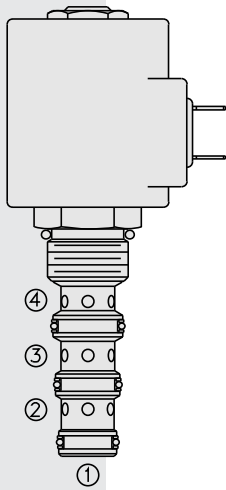
See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV08-44			
Option	Voltage Std. Coil	Termination (VDC) Std. Coil	
None (Blank)	0 Less Coil**	DS Dual Spades	
Manual Override M	10 10 VDC [†]	DG DIN 43650	
For Manual Override options see page 1.001.1	12 12 VDC	DL Leadwires (2)	
	24 24 VDC	DL/W Leads w/Weatherpak [®] Connectors	
	36 36 VDC	DR Deutsch DT04-2P	
	48 48 VDC	Termination (VAC) Std. Coil	
Porting	24 24 VAC	AG DIN 43650	
Cartridge Only 0	115 115 VAC	AP 1/2 in. Conduit	
SAE 6 6T	230 230 VAC	Termination (VDC) E-Coil	
1/4 in. BSP* 2B	**Includes Std. Coil Nut	ER Deutsch DT04-2P (IP69K Rated)	
3/8 in. BSP* 3B	[†] DS, DW or DL terminations only.	EY Metri-Pack [®] 150 (IP69K Rated)	
*BSP Body; U.K. Mfr. Only			
Seals	E-Coil		
Buna N (Std.) N	10 10 VDC		
Fluorocarbon V	12 12 VDC		
	20 20 VDC		
	24 24 VDC		

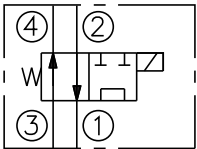
Coils with internal diode are available. Consult factory.

SV10-44 Spool, 4-Way, 2-Position

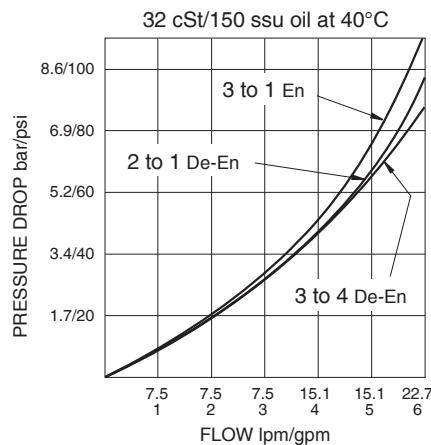


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, 4-way, 2-position, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV10-44** allows flow from 3 to 4, as well as from 2 to 1.

When energized, the cartridge's spool shifts to open 3 to 1 while blocking 4 and 2.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

To return to normal valve function, push button in, twist clockwise 180° and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Industry common cavity.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Proof Pressure: 350 bar (5075 psi)

Flow: 23 lpm (6 gpm) max.

Internal Leakage: 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;

0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-4; See page 9.110.1

Cavity Tool: CT10-4XX; See page 8.600.1

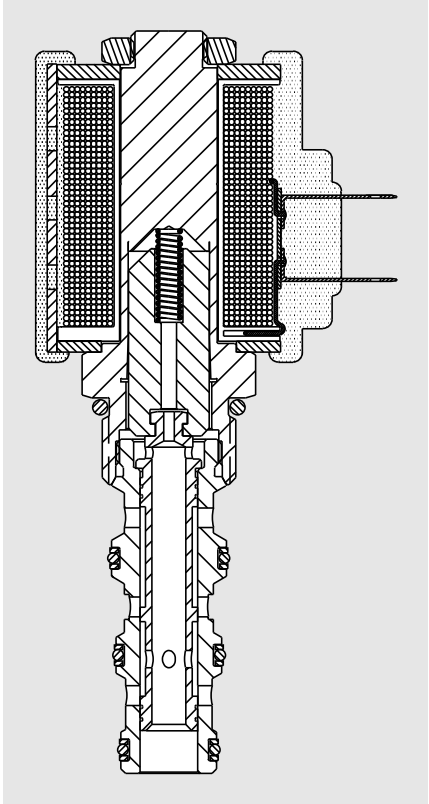
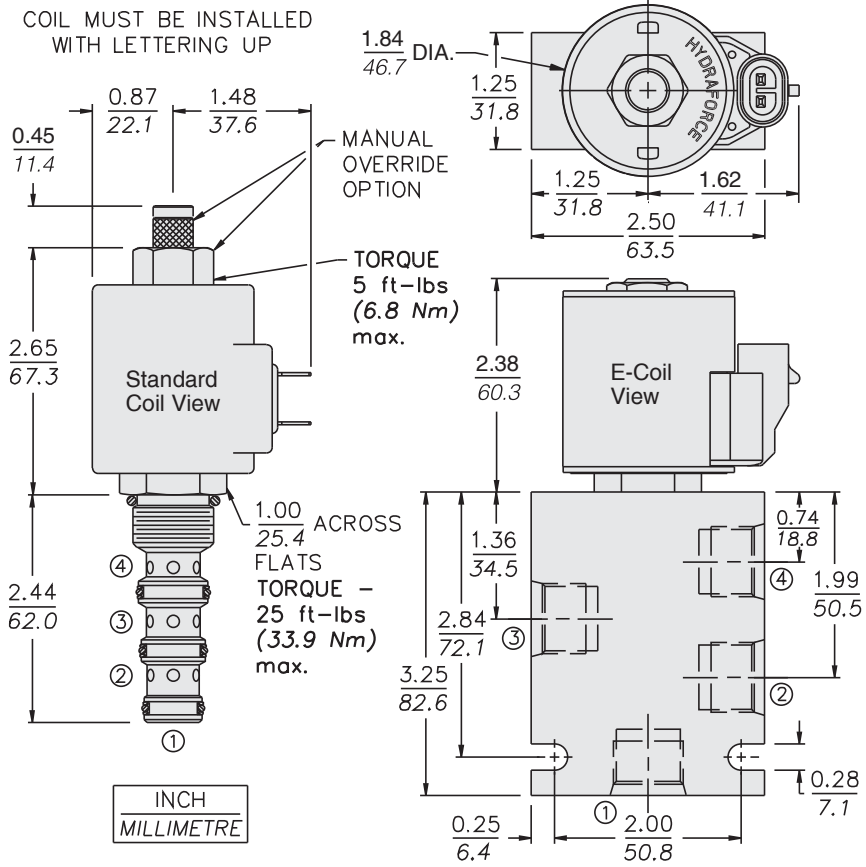
Seal Kit: SK10-4X-MMM; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SV10-44

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.20 kg. (0.45 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.36 kg. (0.80 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors.

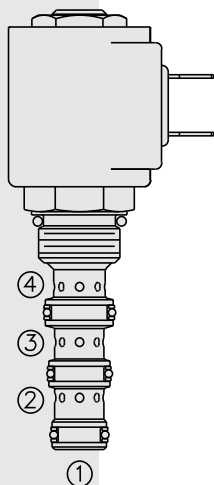
Note: See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV10-44			
Option		Voltage	Termination (VDC)
None (Blank)		Std. Coil	Std. Coil
Manual Override M		0 Less Coil**	DS Dual Spades
Manual Override Y		10 10 VDC†	DG DIN 43650
Manual Override J		12 12 VDC	DL Leadwires (2)
For Manual Override options see page 1.001.1		24 24 VDC	DL/W Leads w/Weatherpak® Connectors
		36 36 VDC	DR Deutsch DT04-2P
		48 48 VDC	
Porting		24 24 VAC	Termination (VAC)
Cartridge Only 0		115 115 VAC	Std. Coil
SAE 6 6T		230 230 VAC	AG DIN 43650
SAE 8 8T			AP 1/2 in. Conduit
1/4 in. BSP* 2B		**Includes Std. Coil Nut	Termination (VDC)
3/8 in. BSP* 3B		† DS, DW or DL terminations only.	E-Coil
*BSP Body; U.K. Mfr. Only			ER Deutsch DT04-2P (IP69K Rated)
		E-Coil	EY Metri-Pack® 150 (IP69K Rated)
Seals		10 10 VDC	
Buna N (Std.) N		12 12 VDC	
Fluorocarbon V		20 20 VDC	
		24 24 VDC	

Coils with internal diode are available. Consult factory.

SV08-45 Spool, 4-Way, 2-Position



DESCRIPTION

A solenoid-operated, 4-way, 2-position, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV08-45** blocks flow to all ports. When energized, the spool shifts to open flow between 3 and 2, as well as from 4 to 1.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

To return to normal valve function, push button in, twist clockwise 180° and release. Override will be detented in this position.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Compact size.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: See Performance Chart

Internal Leakage: 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-4; See page 9.108.1

Cavity Tool: CT08-4XX; See page 8.600.1

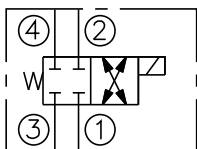
Seal Kit: SK08-4X-MMM; See page 8.650.1

Coil Nut: Part No. 7004400;

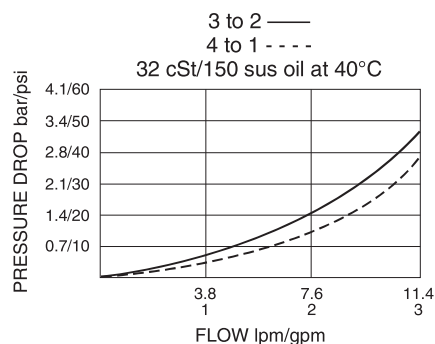
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

SYMBOLS

USASI/ISO:

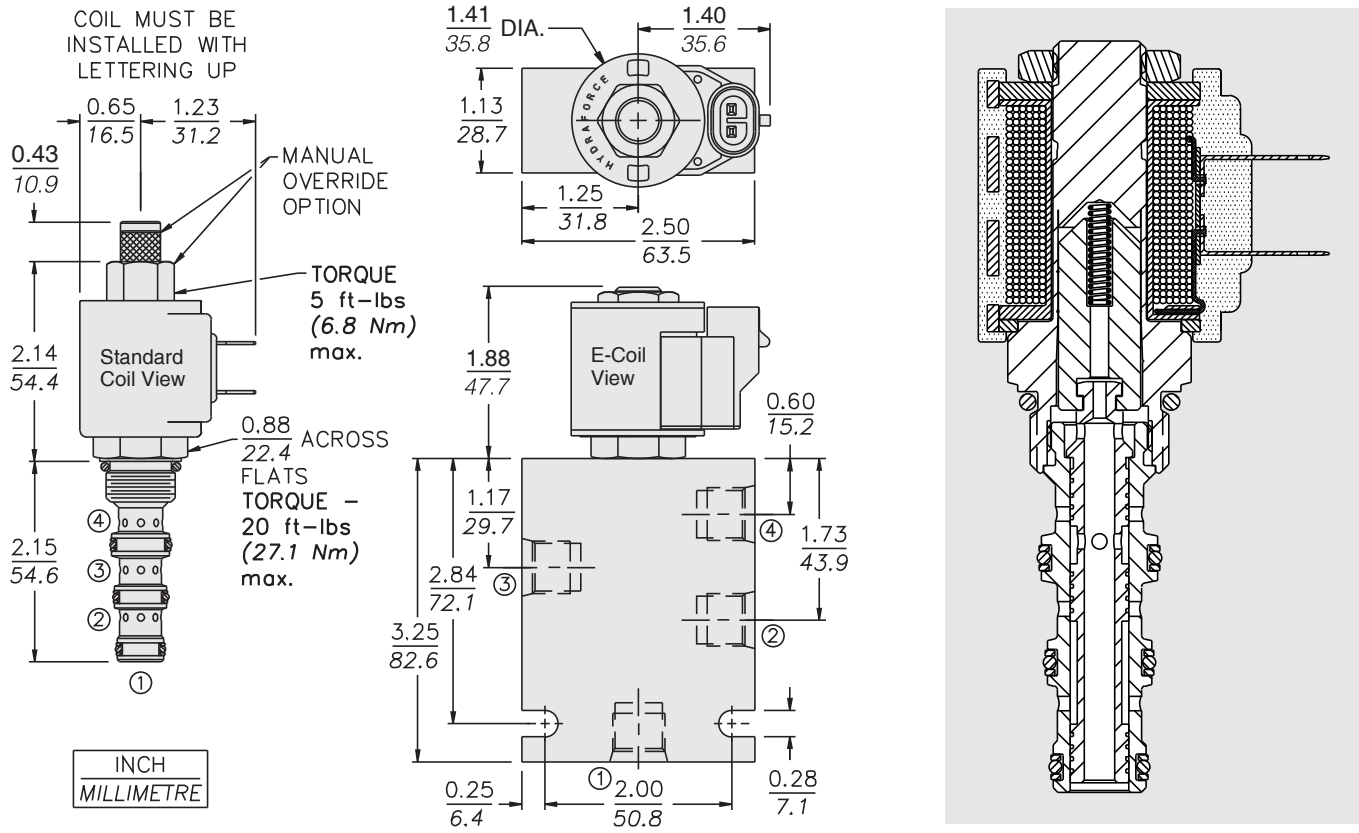


PERFORMANCE (Cartridge Only)



SV08-45

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.13 kg. (0.28 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.27 kg. (0.60 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

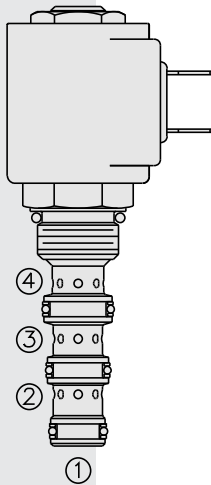
E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors. See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV08-45			
Option	Voltage	Termination (VDC)	
None (Blank)	Std. Coil	Std. Coil	
Manual Override M	0 Less Coil**	DS Dual Spades	
For Manual Override options see page 1.001.1	10 10 VDC†	DG DIN 43650	
	12 12 VDC	DL Leadwires (2)	
	24 24 VDC	DL/W Leads w/Weatherpak® Connectors	
	36 36 VDC	DR Deutsch DT04-2P	
	48 48 VDC		
	24 24 VAC		
	115 115 VAC		
	230 230 VAC		
	**Includes Std. Coil Nut		
	† DS, DW or DL terminations only.		
Porting	E-Coil	Termination (VAC)	
Cartridge Only 0	10 10 VDC	Std. Coil	
SAE 6 6T	12 12 VDC	AG DIN 43650	
1/4 in. BSP* 2B	20 20 VDC	AP 1/2 in. Conduit	
3/8 in. BSP* 3B	24 24 VDC		
*BSP Body; U.K. Mfr. Only			
Seals		Termination (VDC)	
Buna N (Std.) N		E-Coil	
Fluorocarbon V		ER Deutsch DT04-2P (IP69K Rated)	
		EY Metri-Pack® 150 (IP69K Rated)	

Coils with internal diode are available. Consult factory.

SV08-46 Spool, 4-Way, 2-Position



DESCRIPTION

A solenoid-operated, four-way, two-position, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV08-46** allows flow from 1 to 4, and from 3 to 2.

When energized, the spool shifts to allow flow between 2, 1 and 4, while blocking flow at 3.

Operation of Manual Override Option: To override, push button in and twist counterclockwise 180°. The internal spring will push the button out. In this position, the valve may be only partially shifted. To assure full override shift, pull the button out to its fullest extension and hold it in this position.

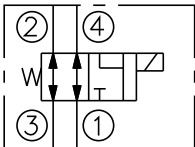
To return to normal valve function, push button in, twist clockwise 180°, and release. Override will be detented in this position.

FEATURES

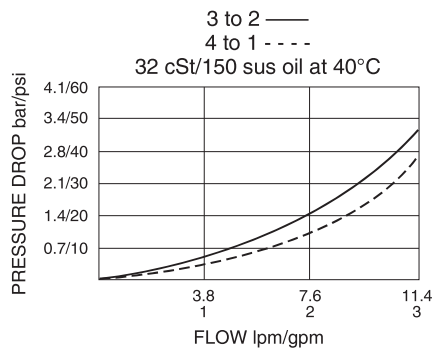
- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Compact size.

SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: See Performance Chart

Internal Leakage: 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC;

0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-4; See page 9.108.1

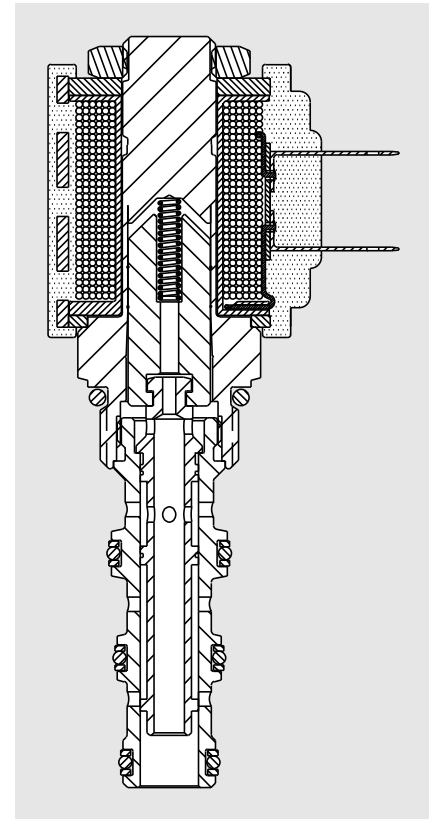
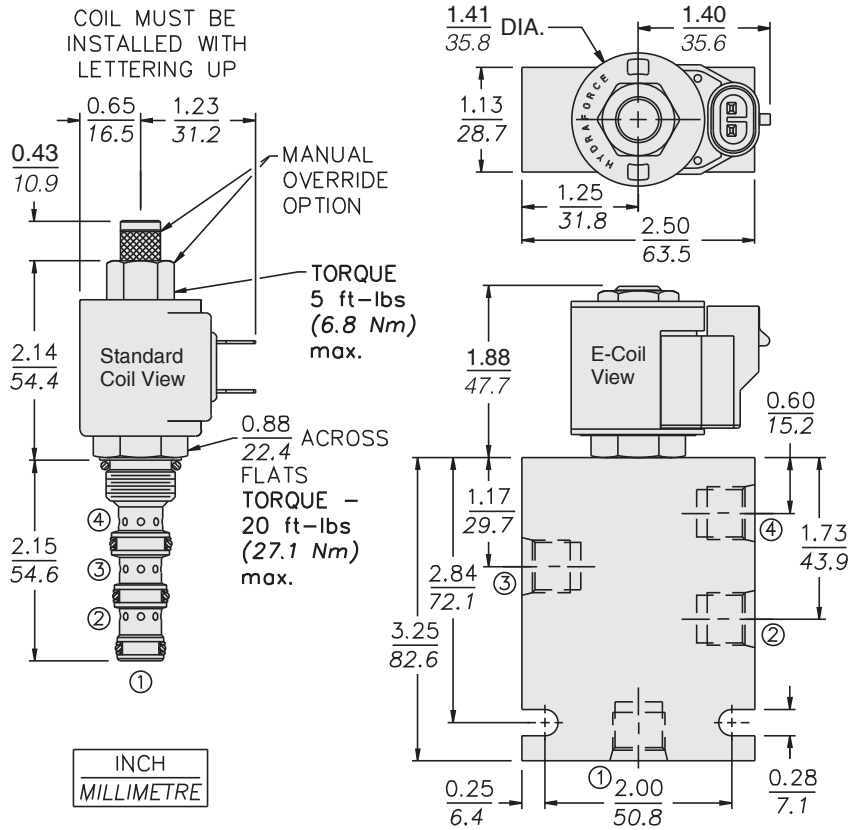
Cavity Tool: CT08-4XX; See page 8.600.1

Seal Kit: SK08-4X-MMM; See page 8.650.1

Coil Nut: Part No. 7004400;

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.13 kg. (0.28 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.27 kg. (0.60 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

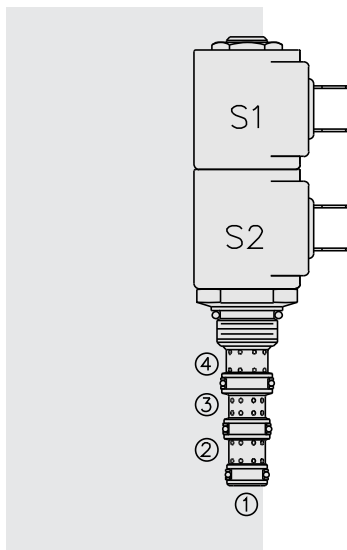
See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV08-46			
Option	Voltage Std. Coil	Termination (VDC) Std. Coil	
None (Blank)	0 Less Coil**	DS Dual Spades	
Manual Override M	10 10 VDC [†]	DG DIN 43650	
For Manual Override options see page 1.001.1	12 12 VDC	DL Leadwires (2)	
	24 24 VDC	DL/W Leads w/Weatherpak [®] Connectors	
	36 36 VDC	DR Deutsch DT04-2P	
	48 48 VDC	Termination (VAC) Std. Coil	
Porting	24 24 VAC	AG DIN 43650	
Cartridge Only 0	115 115 VAC	AP 1/2 in. Conduit	
SAE 6 6T	230 230 VAC	Termination (VDC) E-Coil	
1/4 in. BSP* 2B	**Includes Std. Coil Nut	ER Deutsch DT04-2P (IP69K Rated)	
3/8 in. BSP* 3B	[†] DS, DW or DL terminations only.	EY Metri-Pack [®] 150 (IP69K Rated)	
*BSP Body; U.K. Mfr. Only			
Seals	E-Coil		
Buna N (Std.) N	10 10 VDC		
Fluorocarbon V	12 12 VDC		
	20 20 VDC		
	24 24 VDC		

Coils with internal diode are available. Consult factory.

SV08-47A Spool, 4-Way, 3-Position, Tandem Center



DESCRIPTION

A solenoid-operated, four-way, three-position, direct-acting, spool-type, tandem center, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV08-47A** blocks cylinder ports, while allowing flow from 3 to 1. When coil #1 is energized, flow is allowed from 3 to 2, and from 4 to 1. When coil #2 is energized, flow is allowed from 3 to 4, and from 2 to 1.

In circuits where work port flows are unequal due to cylinder ratios, the higher return flow should be directed to port 2.

While 1 may be fully pressurized, it is not intended for use as the valve's inlet.

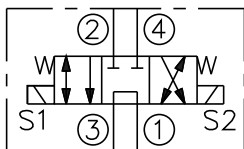
Operation of Manual Override Option: To override, push the knurled knob to activate the coil #2 (S2) function; pull the knob to activate the coil #1 (S1) function.

FEATURES

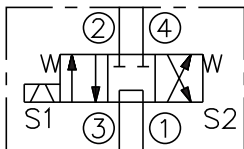
- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.

SYMBOLS

USASI:



ISO:



RATINGS

Operating Pressure: 210 bar (3000 psi)

Flow: 11.4 lpm (3.0 gpm) max.

Internal Leakage: 278 cc/minute (17 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.2 amps at 12 VDC; 0.13 amps at 115 VAC (full wave rectified). E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-4; See page 9.108.1

Cavity Tool: CT08-4XX; See page 8.600.1

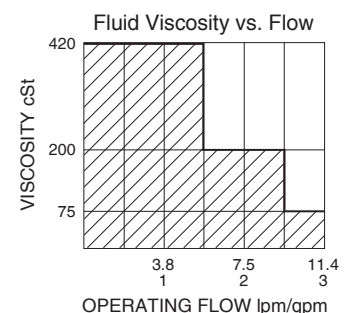
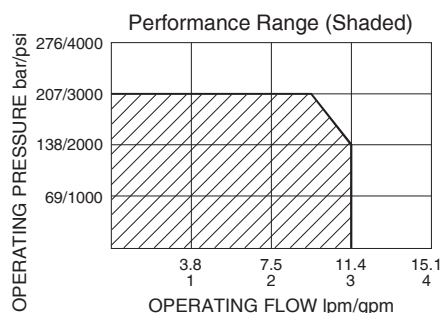
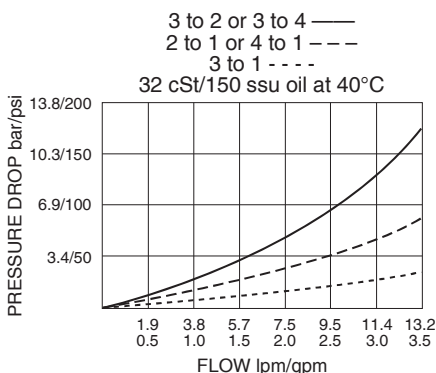
Seal Kit: SK08-4X-MMM; See page 8.650.1

Coil Nut: Part No. 7004400; **Manual Override Coil Nut:** Part No. 4528180;

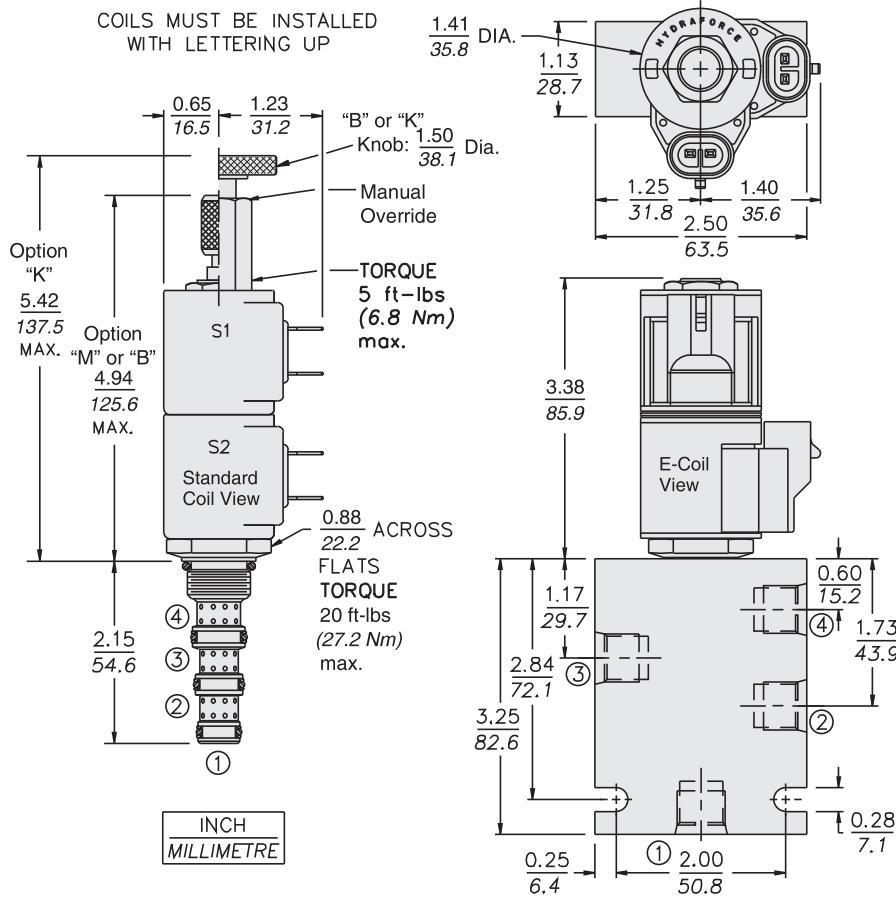
Coil Spacer: Part No. 4534720

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut & spacer info.

PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

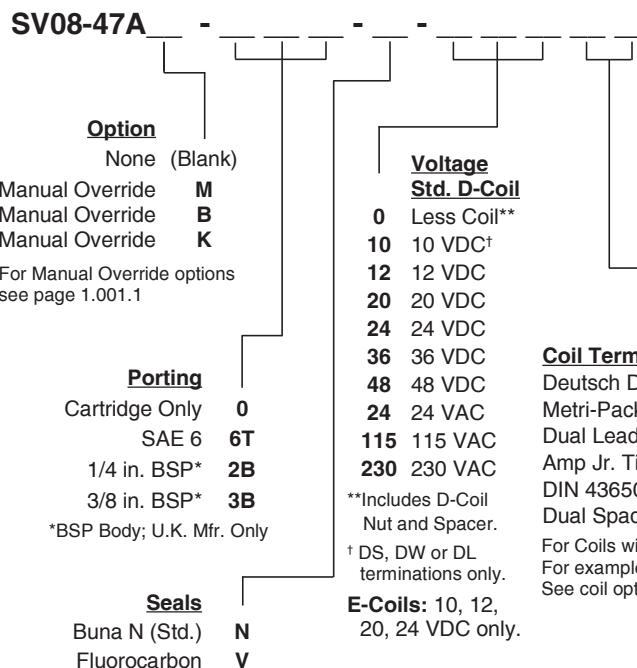
Cartridge: Weight: 0.13 kg. (0.28 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.27 kg. (0.60 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight each: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

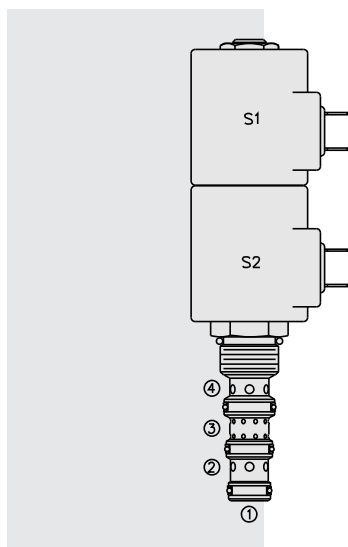
E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors. See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER



For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1

SV10-47A Spool, 4-Way, 3-Position, Tandem Center



DESCRIPTION

A solenoid-operated, 4-way, 3-position, direct-acting, spool-type, tandem center, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV10-47A** blocks cylinder ports, while allowing flow from 3 to 1. When coil #1 is energized, flow is allowed from 3 to 2, and from 4 to 1. When coil #2 is energized, flow is allowed from 3 to 4, and from 2 to 1.

In circuits where work port flows are unequal due to cylinder ratios, the higher return flow should be directed to port 2.

While 1 may be fully pressurized, it is not intended for use as the valve's inlet.

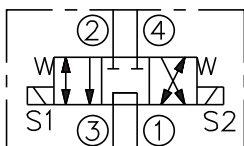
Operator of Manual Override Option: To override, push the knurled button to activate the coil #2 (S2) function, or pull the knob to activate the coil #1 (S1) function.

FEATURES

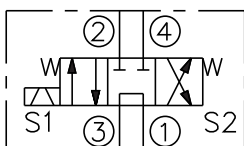
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Hardened precision spool and cage for long life.
- Continuous-duty rated solenoid.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.

SYMBOLS

USASI:



ISO:



RATINGS

Operating Pressure: 240 bar (3500 psi)

Proof Pressure: 390 bar (5700 psi)

Flow: 19 lpm (5 gpm) max.

Internal Leakage: 328 cc/minute (20 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 85% voltage supplied at 100% of nominal flow rating: Energized: 100 msec.; De-energized: 50 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC; 0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

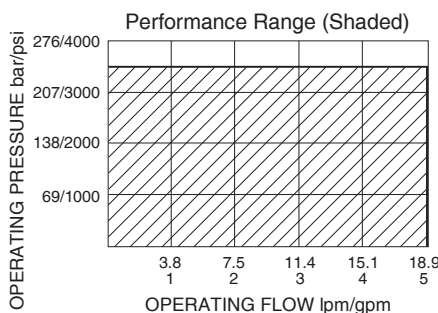
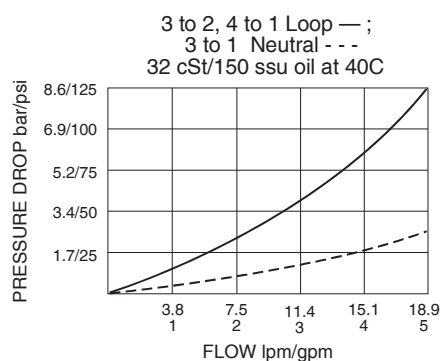
Cavity: VC10-4; See page 9.110.1; **Cavity Tool:** CT10-4XX; See page 8.600.1

Seal Kit: SK10-4X-MMM; See page 8.650.1

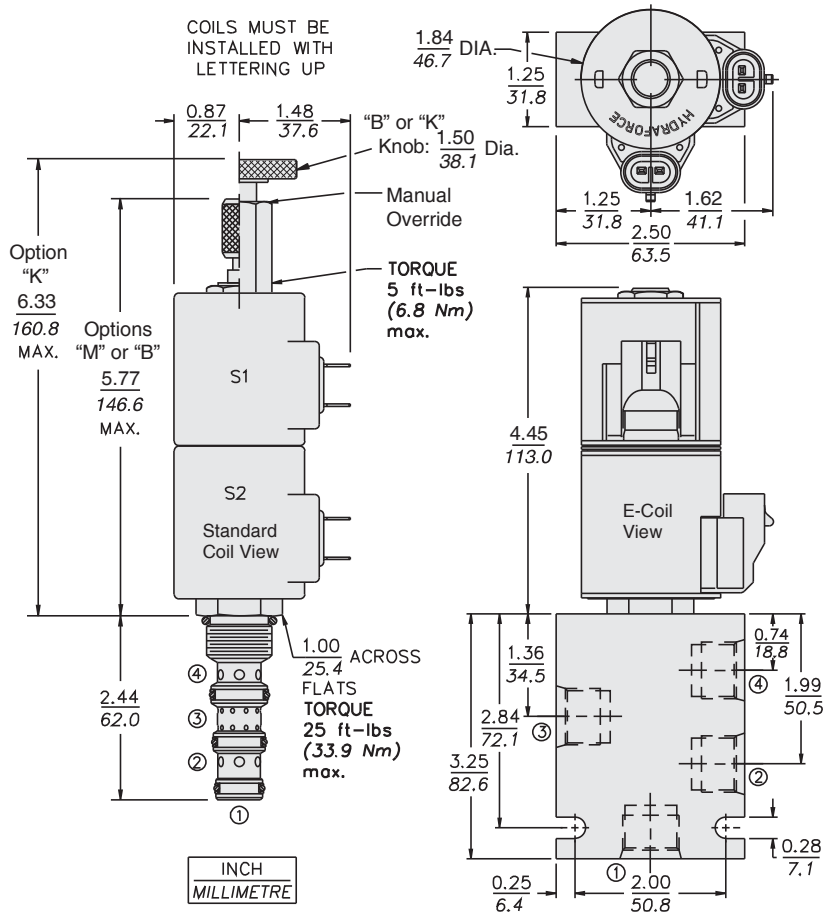
Coil Nut: Part No. 7004400; **Manual Override Coil Nut:** Part No. 4528180

Coil Spacer: E-Coil Spacer Part No. 4539700; Std. D-Coil Spacer Part No. 7000280; If cartridge is ordered "Less Coil," D-Coil spacer will be provided.

PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

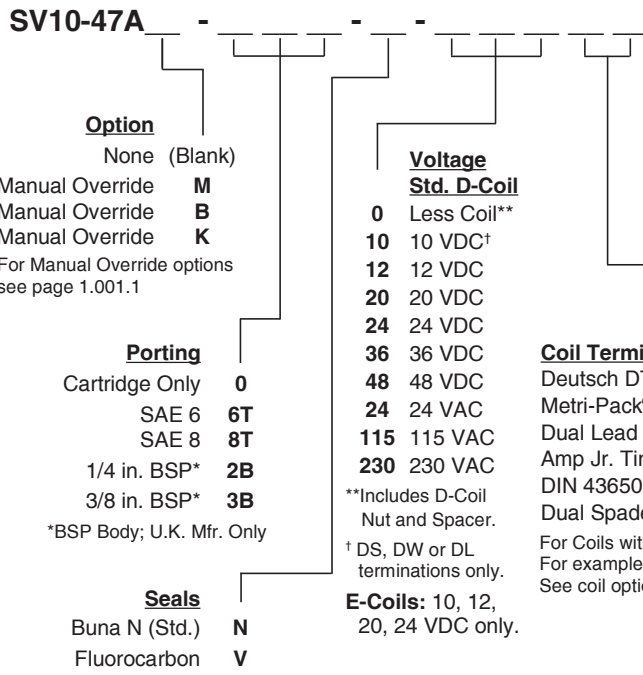
Cartridge: Weight: 0.30 kg. (0.65 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.36 kg. (0.80 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight each: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

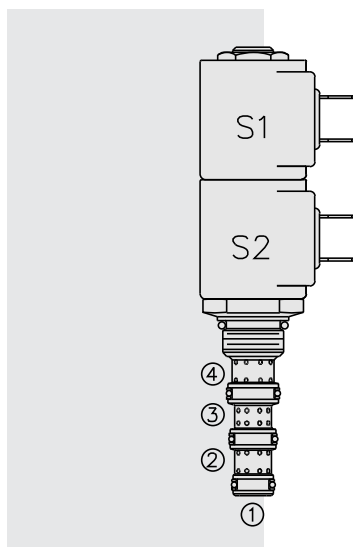
E-Coil: Weight: 0.41 kg. (0.9 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors. See page 3.400.1

TO ORDER



For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1

SV08-47B Spool, 4-Way, 3-Position, Open Center



DESCRIPTION

A solenoid-operated, 4-way, 3-position, direct-acting, spool-type, open center, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV08-47B** allows flow to all ports. When coil #1 is energized, flow is allowed from 3 to 4, and from 2 to 1. When coil #2 is energized, flow is allowed from 3 to 2, and from 4 to 1.

In circuits where work port flows are unequal due to cylinder ratios, the higher return flow should be directed to port 2.

While 1 may be fully pressurized, it is not intended for use as the valve's inlet.

Operation of Manual Override Option: To override, push the knurled button to activate the coil #2 (S2) function, or pull the knob to activate the coil #1 (S1) function.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Compact size.
- Optional waterproof E-Coils rated up to IP69K.
- Manual override option.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: 11.4 lpm (3 gpm) max.

Internal Leakage: 328 ml/minute (20 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20° C: Standard Coil: 1.2 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-4; See page 9.108.1

Cavity Tool: CT08-4XX; See page 8.600.1

Seal Kit: SK08-4X-MMM; See page 8.650.1

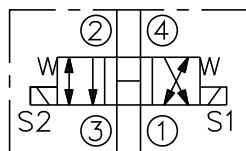
Coil Nut: Part No. 7004400; **Manual Override Coil Nut:** Part No. 4528180;

Coil Spacer: Part No. 4534720

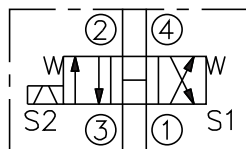
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut & spacer info.

SYMBOLS

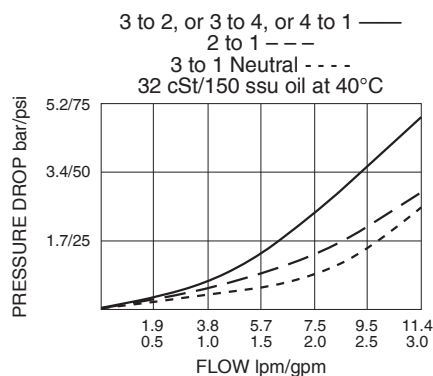
USASI:



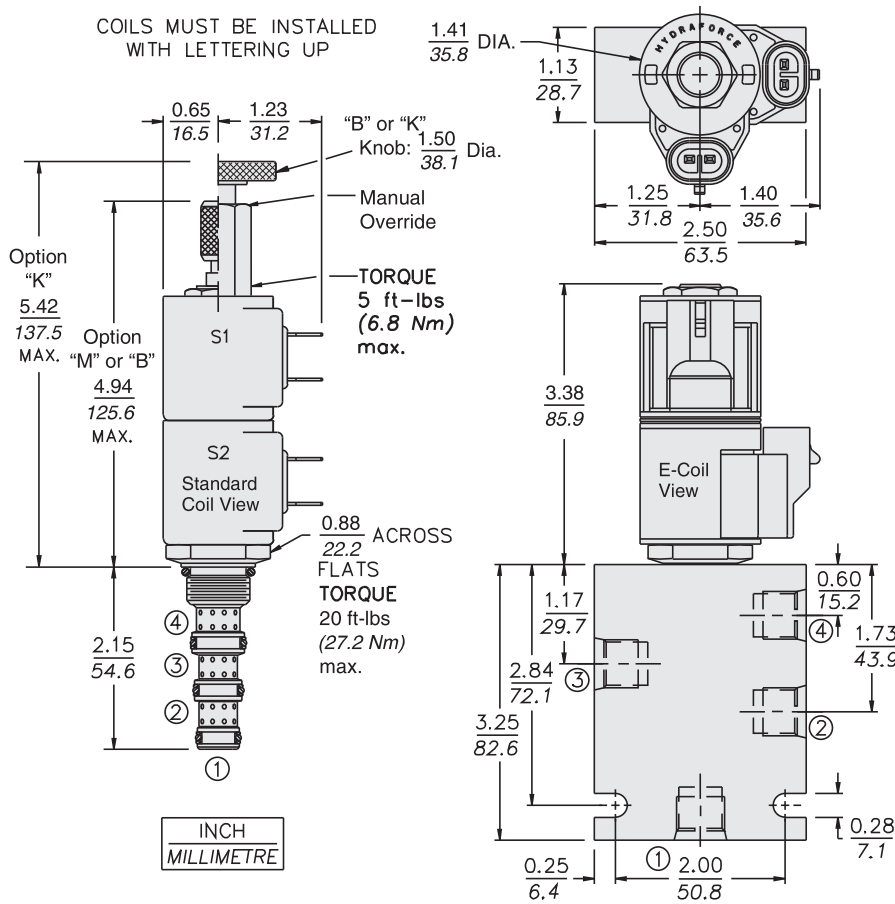
ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

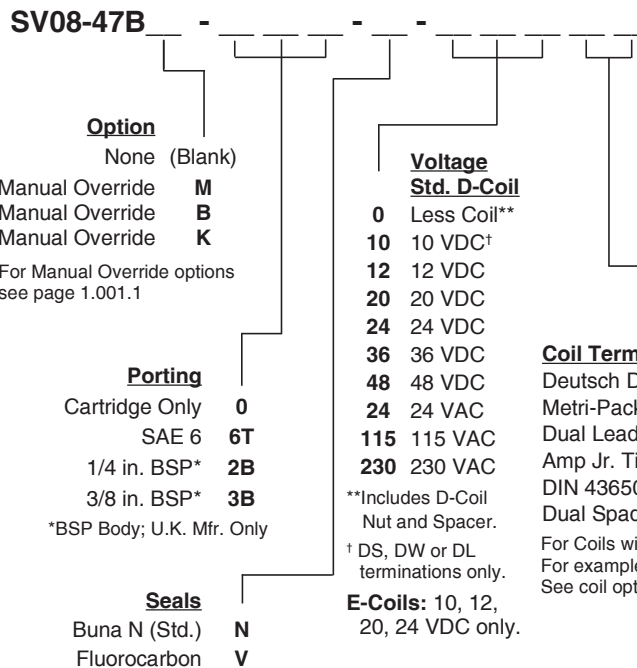
Cartridge: Weight: 0.13 kg. (0.28 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.27 kg. (0.60 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight each: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

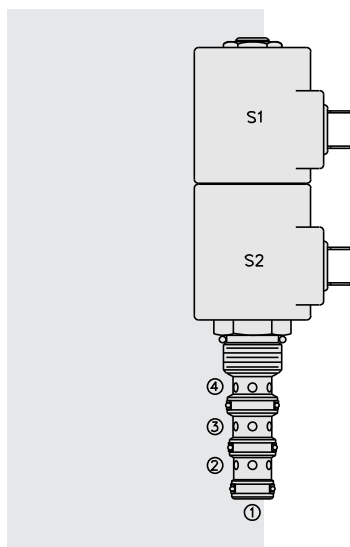
E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors. See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER



For Coils with Zener Diode, add “Z” to option code. For example: “ER/Z”. Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1

SV10-47B Spool, 4-Way, 3-Position, Open Center



DESCRIPTION

A solenoid-operated, 4-way, 3-position, direct-acting, spool-type, open center, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, **SV10-47B** cylinder ports are open and common to 3 and 1.

When coil #1 is energized, flow is allowed from 3 to 4, and from 2 to 1.

When coil #2 is energized, flow is allowed from 3 to 2, and from 4 to 1.

In circuits where work port flows are unequal due to cylinder ratios, the higher return flow should be directed to port 2.

While 1 may be fully pressurized, it is not intended for use as the valve's inlet.

Operation of Manual Override Option: To override, push the knurled button to activate the coil #2 (S2) function, or pull the knob to activate the coil #1 (S1) function.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Industry common cavity.

RATINGS

Operating Pressure: 240 bar (3500 psi)

Proof Pressure: 390 bar (5700 psi)

Flow: 22.7 lpm (6 gpm) max.

Internal Leakage: 328 cc/minute (20 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 30 msec.; De-energized: 10 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC; 0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-4; See page 9.110.1; **Cavity Tool:** CT10-4XX; See page 8.600.1

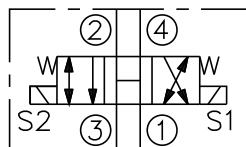
Seal Kit: SK10-4X-MMM; See page 8.650.1

Coil Nut: Part No. 7004400; **Manual Override Coil Nut:** Part No. 4528180

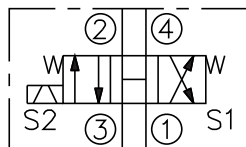
Coil Spacer: E-Coil Spacer Part No. 4539700; Std. D-Coil Spacer Part No. 7000280; If cartridge is ordered "Less Coil," D-Coil spacer will be provided.

SYMBOLS

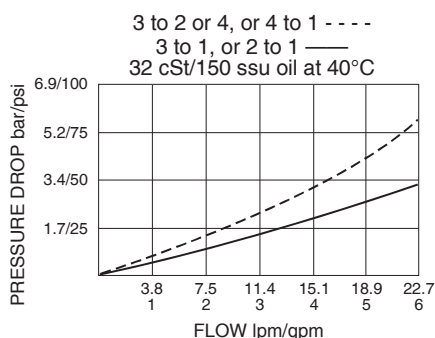
USASI:



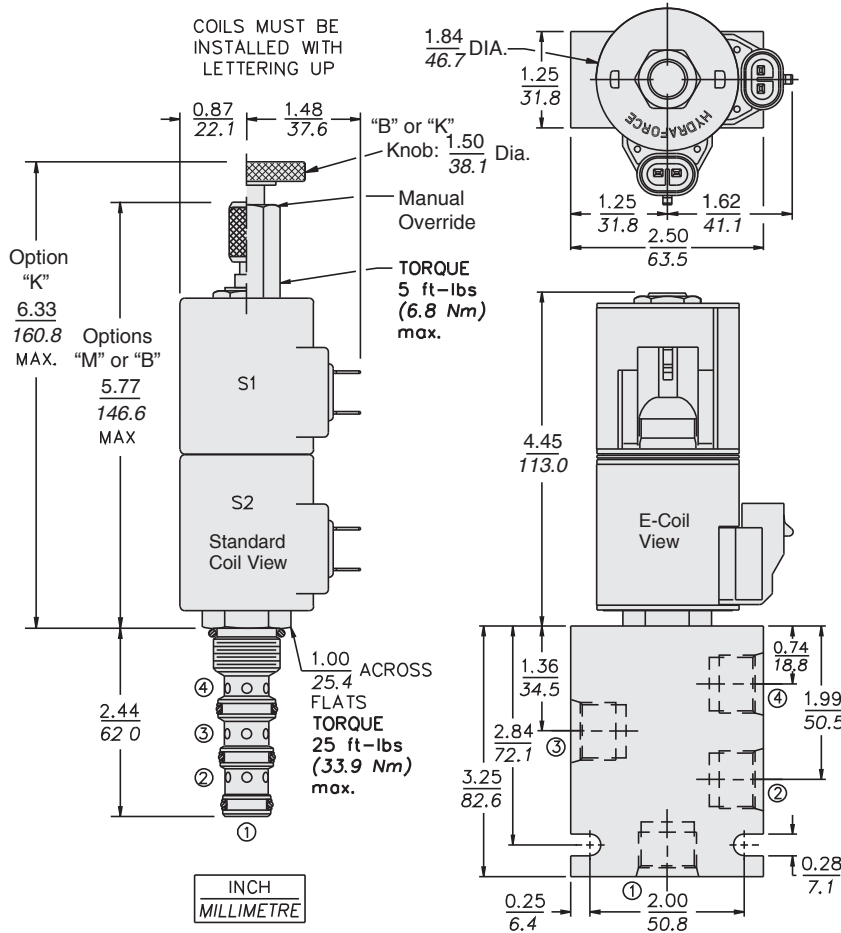
ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.30 kg. (0.65 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.36 kg. (0.80 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight each: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors. See page 3.400.1

TO ORDER

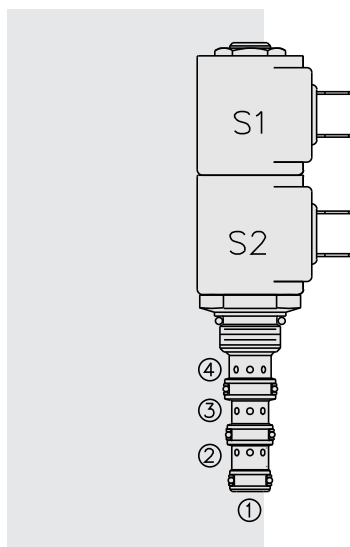
SV10-47B

Option	None (Blank)	Voltage	
Manual Override	M	Std. D-Coil	
Manual Override	B	0	Less Coil**
Manual Override	K	10	10 VDC†
For Manual Override options	see page 1.001.1	12	12 VDC
		20	20 VDC
		24	24 VDC
		36	36 VDC
		48	48 VDC
		24	24 VAC
		115	115 VAC
		230	230 VAC
		**Includes D-Coil Nut and Spacer.	
		† DS, DW or DL terminations only.	
		E-Coils: 10, 12, 20, 24 VDC only.	
Porting		Coil Termination	E-Coil
Cartridge Only	0	Deutsch DT04-2P	ER (IP69K)
SAE 6	6T	Metri-Pack® 150	EY (IP69K)
SAE 8	8T	Dual Lead Wires	EL (IP69K)
1/4 in. BSP*	2B	Amp Jr. Timer	EJ (IP67)
3/8 in. BSP*	3B	DIN 43650	EG (IP65)
*BSP Body; U.K. Mfr. Only		Dual Spades	—
			DS (IP65)
Seals			
Buna N (Std.)	N		
Fluorocarbon	V		

D-Coil	
DR (IP65)	
DY (IP65)	
DL (IP65)	
—	
DG (IP65)	
DS (IP65)	

For Coils with Zener Diode, add "Z" to option code. For example: "ERZ". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1

SV08-47C Spool, 4-Way, 3-Position, Closed Center



DESCRIPTION

A solenoid-operated, 4-way, 3-position, direct-acting, spool-type, closed center, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV08-47C** blocks flow to all ports. When coil #1 is energized, flow is allowed from 3 to 4, and from 2 to 1. When coil #2 is energized, flow is allowed from 3 to 2, and from 4 to 1.

In circuits where work port flows are unequal due to cylinder ratios, the higher return flow should be directed to port 2.

While 1 may be fully pressurized, it is not intended for use as the valve's inlet.

Operation of Manual Override Option: To override, push the knurled button to activate the coil #2 (S2) function, or pull the knob to activate the coil #1 (S1) function.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Compact size.
- Optional waterproof E-Coils rated up to IP69K.
- Manual override option.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: 11.4 lpm (3 gpm) max.

Internal Leakage: 164 cc/minute (10 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20° C: Standard Coil: 1.2 amps at 12 VDC; 0.13 amps at 115 VAC (full wave rectified). E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-4; See page 9.108.1

Cavity Tool: CT08-4XX; See page 8.600.1

Seal Kit: SK08-4X-MMM; See page 8.650.1

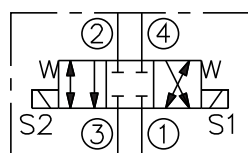
Coil Nut: Part No. 7004400; **Manual Override Coil Nut:** Part No. 4528180;

Coil Spacer: Part No. 4534720

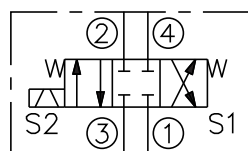
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut & spacer info.

SYMBOLS

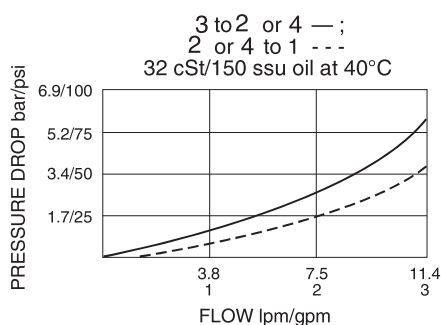
USASI:



ISO:

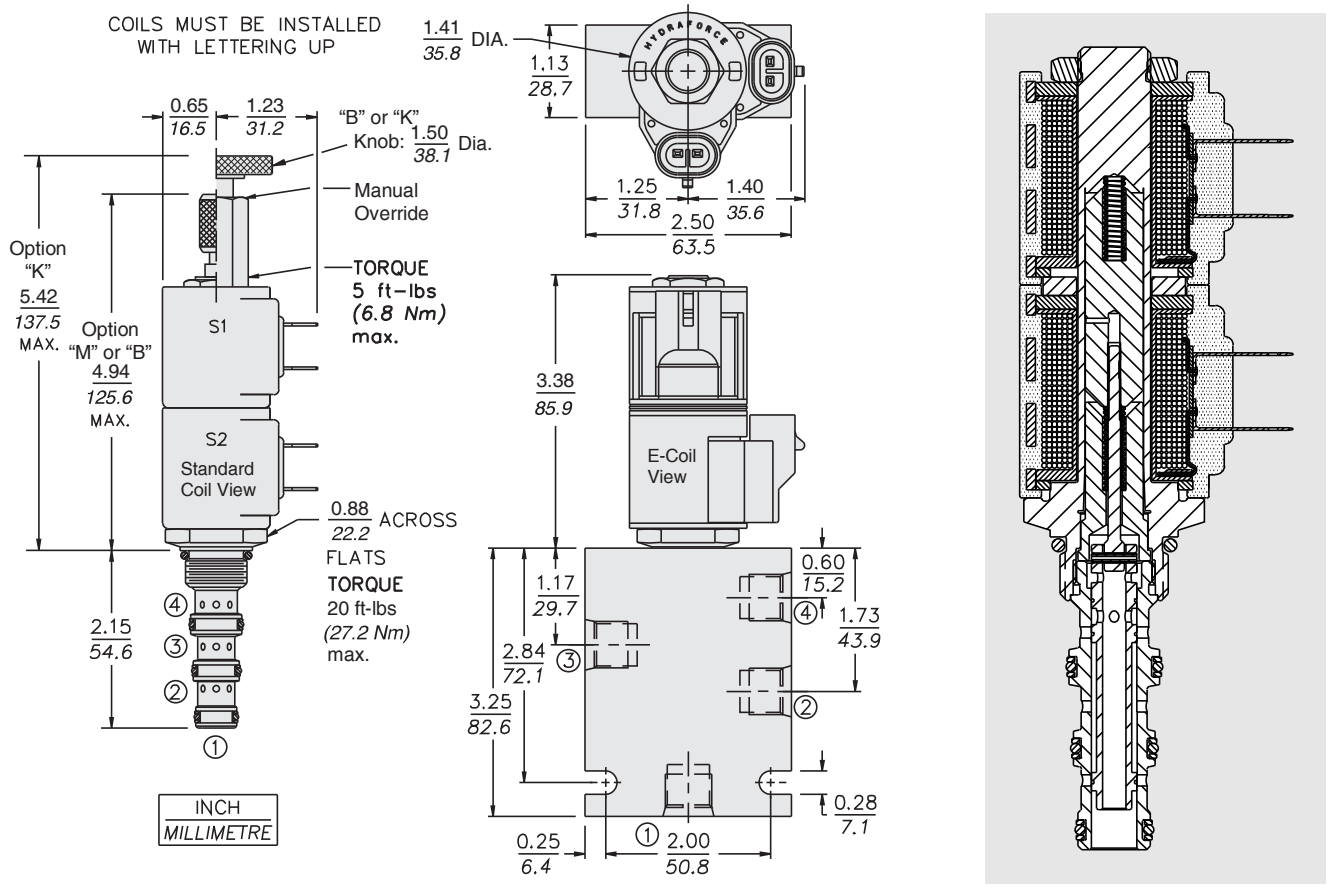


PERFORMANCE (Cartridge Only)



SV08-47C

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.13 kg. (0.28 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.27 kg. (0.60 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight each: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors. See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

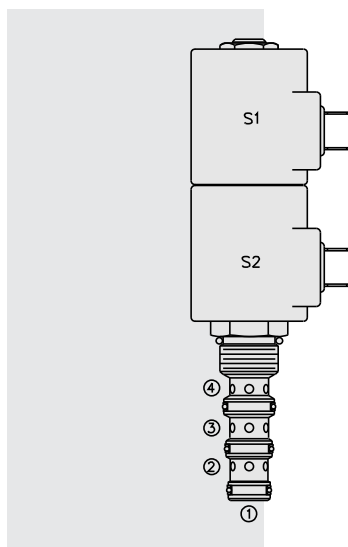
SV08-47C

Option	None (Blank)	Voltage Std. D-Coil	0 Less Coil**
Manual Override	M	10	10 VDC†
Manual Override	B	12	12 VDC
Manual Override	K	20	20 VDC
		24	24 VDC
		36	36 VDC
		48	48 VDC
Porting	Cartridge Only 0	24	24 VAC
	SAE 6 6T	115	115 VAC
	1/4 in. BSP* 2B	230	230 VAC
	3/8 in. BSP* 3B	**Includes D-Coil Nut and Spacer.	
	*BSP Body; U.K. Mfr. Only	† DS, DW or DL terminations only.	
Seals	Buna N (Std.) N	E-Coils: 10, 12, 20, 24 VDC only.	
	Fluorocarbon V		

Coil Termination	E-Coil	D-Coil
Deutsch DT04-2P	ER (IP69K)	DR (IP65)
Metri-Pack® 150	EY (IP69K)	DY (IP65)
Dual Lead Wires	EL (IP69K)	DL (IP65)
Amp Jr. Timer	EJ (IP67)	—
DIN 43650	EG (IP65)	DG (IP65)
Dual Spades	—	DS (IP65)

For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1

SV10-47C Spool, 4-Way, 3-Position, Closed Center



DESCRIPTION

A solenoid-operated, 4-way, 3-position, direct-acting, spool-type, closed center, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV10-47C** blocks flow to all ports. When coil #1 is energized, flow is allowed from 3 to 4, and from 2 to 1. When coil #2 is energized, flow is allowed from 3 to 2, and from 4 to 1.

In circuits where work port flows are unequal due to cylinder ratios, the higher return flow should be directed to port 2.

While 1 may be fully pressurized, it is not intended for use as the valve's inlet.

Operation of Manual Override Option: To override, push the knurled button to activate the coil #2 (S2) function, or pull the knob to activate the coil #1 (S1) function.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Industry common cavity.

RATINGS

Operating Pressure: 240 bar (3500 psi)

Proof Pressure: 390 bar (5700 psi)

Flow: 23 lpm (6 gpm) max.

Internal Leakage: 328 cc/minute (20 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20° C: Standard Coil: 1.67 amps at 12 VDC;

0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-4; See page 9.110.1; **Cavity Tool:** CT10-4XX; See page 8.600.1

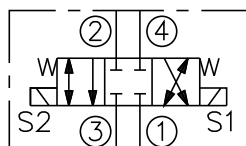
Seal Kit: SK10-4X-MMM; See page 8.650.1

Coil Nut: Part No. 7004400; **Manual Override Coil Nut:** Part No. 4528180

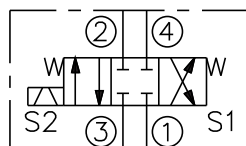
Coil Spacer: E-Coil Spacer Part No. 4539700; Std. D-Coil Spacer Part No. 7000280; If cartridge is ordered "Less Coil," D-Coil spacer will be provided.

SYMBOLS

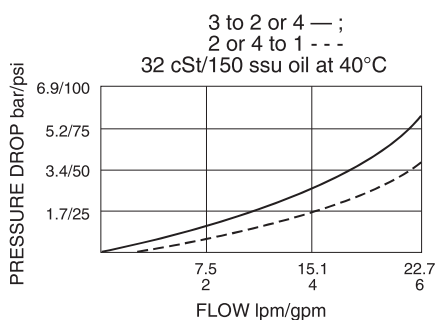
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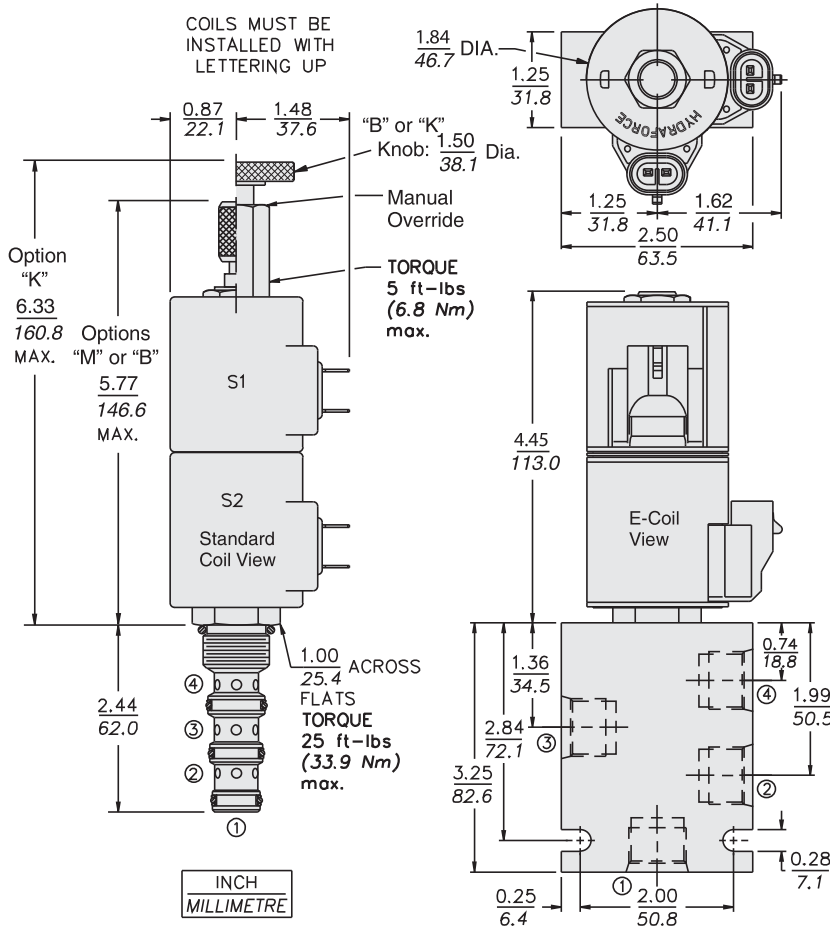
ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.30 kg. (0.65 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.36 kg. (0.80 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight each: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors. See page 3.400.1

TO ORDER

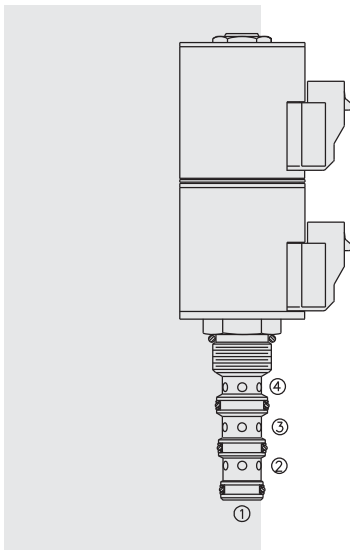
SV10-47C

Option	None (Blank)	Voltage	Std. D-Coil
Manual Override	M	0	Less Coil**
Manual Override	B	10	10 VDC†
Manual Override	K	12	12 VDC
For Manual Override options see page 1.001.1		20	20 VDC
		24	24 VDC
		36	36 VDC
		48	48 VDC
Porting		24	24 VAC
Cartridge Only	0	115	115 VAC
SAE 6	6T	230	230 VAC
SAE 8	8T	**Includes D-Coil Nut and Spacer.	
1/4 in. BSP*	2B	† DS, DW or DL terminations only.	
3/8 in. BSP*	3B	E-Coils: 10, 12, 20, 24 VDC only.	
*BSP Body; U.K. Mfr. Only			
Seals			
Buna N (Std.)	N		
Fluorocarbon	V		

Coil Termination	E-Coil	D-Coil
Deutsch DT04-2P	ER (IP69K)	DR (IP65)
Metri-Pack® 150	EY (IP69K)	DY (IP65)
Dual Lead Wires	EL (IP69K)	DL (IP65)
Amp Jr. Timer	EJ (IP67)	—
DIN 43650	EG (IP65)	DG (IP65)
Dual Spades	—	DS (IP65)

For Coils with Zener Diode, add "Z" to option code. For example: "ERZ". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1

HSV10-47C HyPerformance™ Spool, 4-Port,



DESCRIPTION

A solenoid-operated, 4-port, 3-position, direct-acting, spool-type, closed center, screw-in hydraulic cartridge valve for use in high pressure applications.

OPERATION

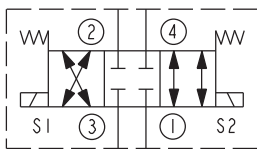
When de-energized, the HSV10-47C blocks flow to all ports. When coil #1 is energized, flow is allowed from 3 to 4, and from 2 to 1. When coil #2 is energized, flow is allowed from 3 to 2, and from 4 to 1.

In circuits where work port flows are unequal due to cylinder ratios, the higher return flow should be directed to port 2.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Manual override option.
- Waterproof E-Coils rated up to IP69K.
- All ports may be fully pressurized.
- Unitized, molded coil design.
- Industry common cavity.
- All HyPerformance™ products are tested to the rigorous standards of the NFPA specification T2.6.1.
- All HyPerformance™ valves are tested at a verification level of 90% and an assurance of 99%.

ISO SYMBOL



RATINGS

Operating Pressure: 350 bar (5075 psi); 10% cycle life: 420 bar (6090 psi)

Note: All HyPerformance™ products are tested for 900K cycles at 350 bar and 100K cycles at 420 bar.

Proof Pressure: 690 bar (10000 psi)

Burst Pressure: 1380 bar (20000 psi)

Flow: 37.9 lpm (10 gpm)

Internal Leakage: 245 ml/min (15 cu.in./min) at 350 bar (5075) de-energized

Temperature: -54° to 107°C (-65° to 225°F) with urethane seals

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

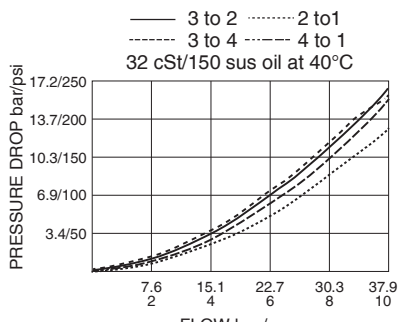
Installation: No restrictions; See page 9.020.1

Cavity: HVC10-4; See page 9.110.1

Cavity Tool: HCT10-4XX; See page 8.600.1

Seal Kit: SK10-4U-000; See page 8.650.1

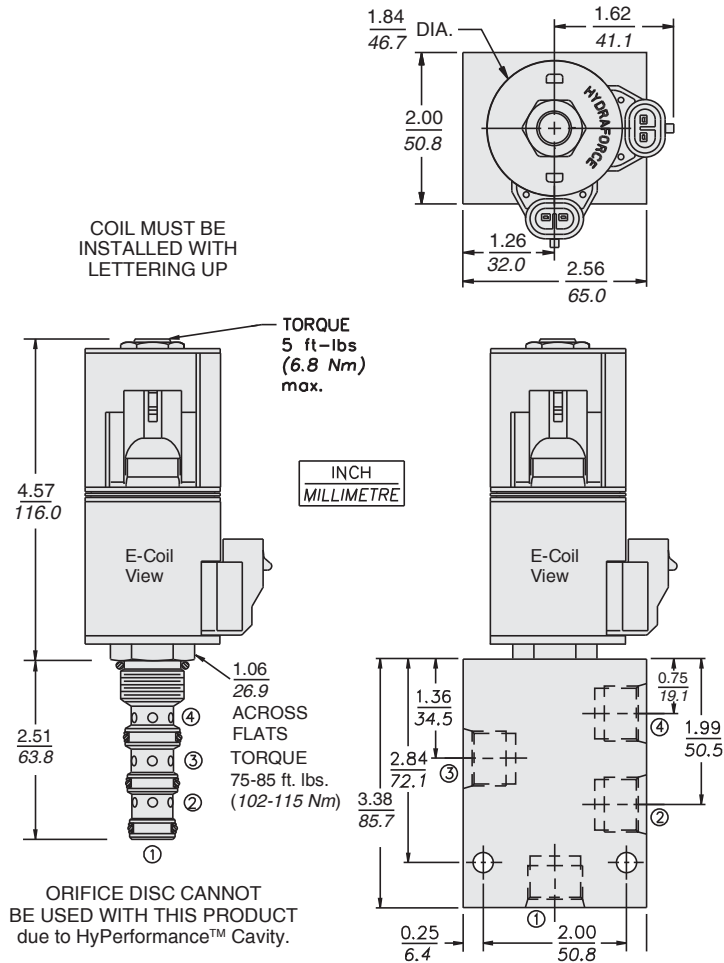
PERFORMANCE (Cartridge Only)



3-Position, Closed Center

HSV10-47C

DIMENSIONS



MATERIALS

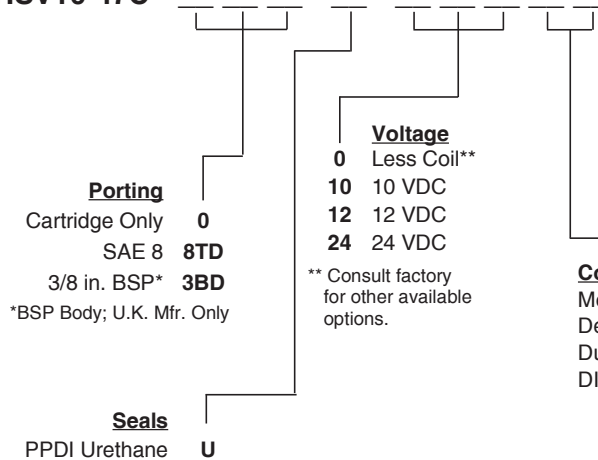
Cartridge: Weight (without coil and nut): 0.28 kg. (0.61 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; urethane seals without back-ups standard.

Ported Body: Weight: 1.71 kg (3.76 lbs.) HyPerformance™ Ductile iron (code 'D') standard. Rated to 345 bar (5000 psi). See page 8.010.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors. See page 3.400.1

TO ORDER

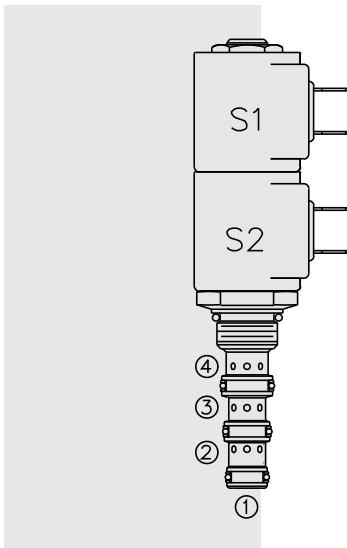
HSV10-47C -



Note: PPDI Urethane seals are recommended for pressures over 241 bar (3500 psi).

Note: Consult factory for additional seal options.

SV08-47D Spool, 4-Way, 3-Position, "Motor Spool"



DESCRIPTION

A solenoid-operated, 4-way, 3-position, direct-acting, spool-type, motor spool, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV08-47D** blocks flow to 3, while allowing flow from 2 to 1, and from 4 to 1. When coil #1 is energized, flow is allowed from 3 to 4, and from 2 to 1. When coil #2 is energized, flow is allowed from 3 to 2, and from 4 to 1.

In circuits where work port flows are unequal due to cylinder ratios, the higher return flow should be directed to port 2.

While 1 may be fully pressurized, it is not intended for use as the valve's inlet.
Operation of Manual Override Option: To override, push the knurled button to activate the coil #2 (S2) function, or pull the knob to activate the coil #1 (S1) function.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Compact size.
- Optional waterproof E-Coils rated up to IP69K.
- Manual override option.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: 11.4 lpm (3 gpm) max.

Internal Leakage: 164 cc/minute (10 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20° C: Standard Coil: 1.2 amps at 12 VDC;
 0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-4; See page 9.108.1

Cavity Tool: CT08-4XX; See page 8.600.1

Seal Kit: SK08-4X-MMM; See page 8.650.1

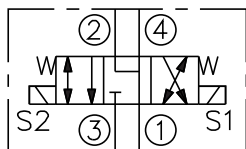
Coil Nut: Part No. 7004400; **Manual Override Coil Nut:** Part No. 4528180;

Coil Spacer: Part No. 4534720

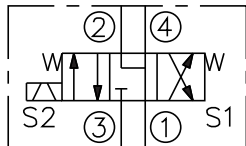
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut & spacer info.

SYMBOLS

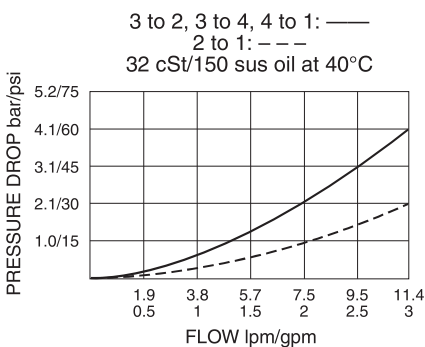
USASI:



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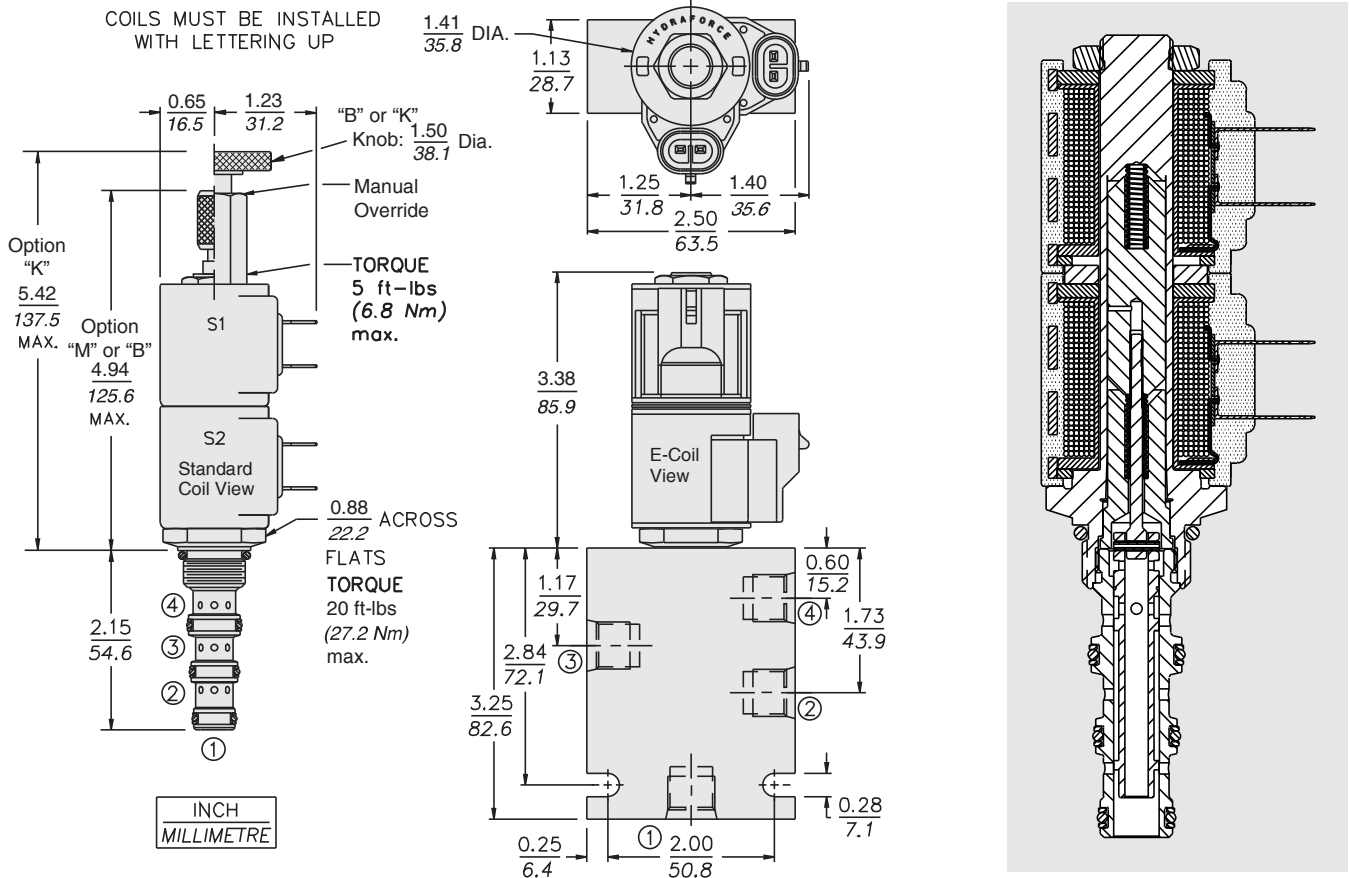


PERFORMANCE (Cartridge Only)



SV08-47D

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.13 kg. (0.28 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.27 kg. (0.60 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight each: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors. See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

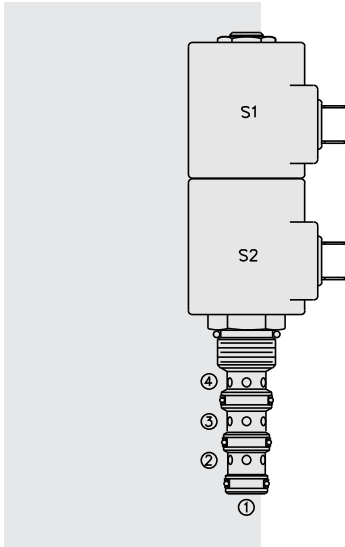
SV08-47D

Option	None (Blank)	Voltage	Std. D-Coil
Manual Override	M	0	Less Coil**
Manual Override	B	10	10 VDC†
Manual Override	K	12	12 VDC
		20	20 VDC
		24	24 VDC
		36	36 VDC
		48	48 VDC
		24	24 VAC
		115	115 VAC
		230	230 VAC
		**Includes D-Coil Nut and Spacer.	
		† DS, DW or DL terminations only.	
		E-Coils: 10, 12, 20, 24 VDC only.	
Porting			
Cartridge Only	0		
SAE 6	6T		
1/4 in. BSP*	2B		
3/8 in. BSP*	3B		
		*BSP Body; U.K. Mfr. Only	
Seals			
Buna N (Std.)	N		
Fluorocarbon	V		

Coil Termination	E-Coil	D-Coil
Deutsch DT04-2P	ER (IP69K)	DR (IP65)
Metri-Pack® 150	EY (IP69K)	DY (IP65)
Dual Lead Wires	EL (IP69K)	DL (IP65)
Amp Jr. Timer	EJ (IP67)	—
DIN 43650	EG (IP65)	DG (IP65)
Dual Spades	—	DS (IP65)

For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1

SV10-47D Spool, 4-Way, 3-Position, "Motor Spool"



DESCRIPTION

A solenoid-operated, 4-way, 3-position, direct-acting, spool-type, motor spool, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV10-47D** blocks flow to 3, while allowing flow from 2 to 1, and from 4 to 1. When coil #1 is energized, flow is allowed from 3 to 4, and from 2 to 1. When coil #2 is energized, flow is allowed from 3 to 2, and from 4 to 1.

In circuits where work port flows are unequal due to cylinder ratios, the higher return flow should be directed to port 2.

While 1 may be fully pressurized, it is not intended for use as the valve's inlet.
Operation of Manual Override Option: To override, push the knurled button to activate the coil #2 (S2) function, or pull the knob to activate the coil #1 (S1) function.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Industry common cavity.

RATINGS

Operating Pressure: 240 bar (3500 psi)

Proof Pressure: 390 bar (5700 psi)

Flow: 23 lpm (6 gpm) max.

Internal Leakage: 328 cc/minute (20 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;

0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-4; See page 9.110.1; **Cavity Tool:** CT10-4XX; See page 8.600.1

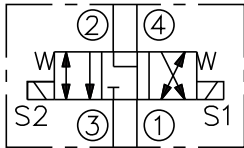
Seal Kit: SK10-4X-MMM; See page 8.650.1

Coil Nut: Part No. 7004400; **Manual Override Coil Nut:** Part No. 4528180

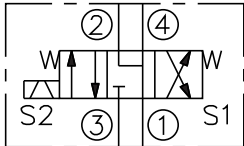
Coil Spacer: E-Coil Spacer Part No. 4539700; Std. D-Coil Spacer Part No. 7000280; If cartridge is ordered "Less Coil," D-Coil spacer will be provided.

SYMBOLS

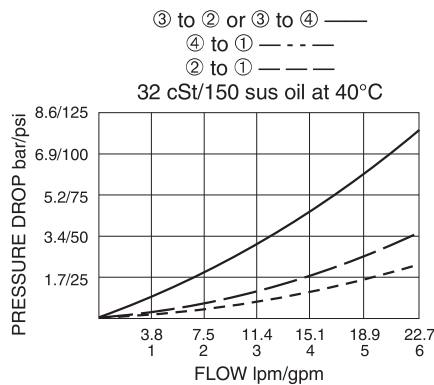
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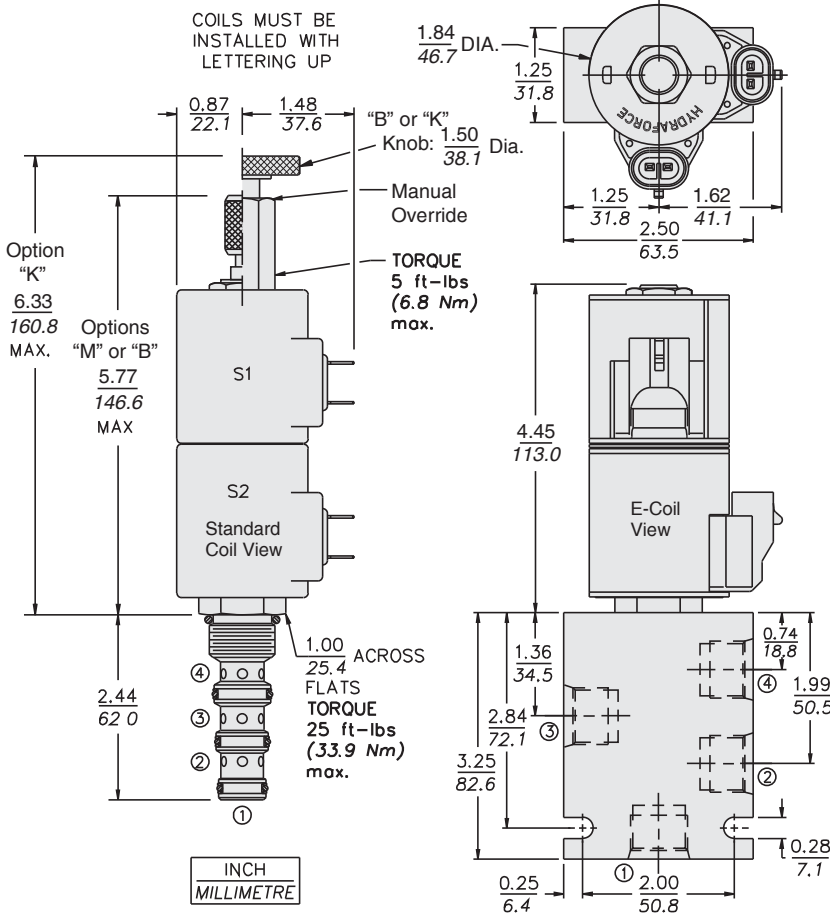
ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.30 kg. (0.65 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.36 kg. (0.80 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight each: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors. See page 3.400.1

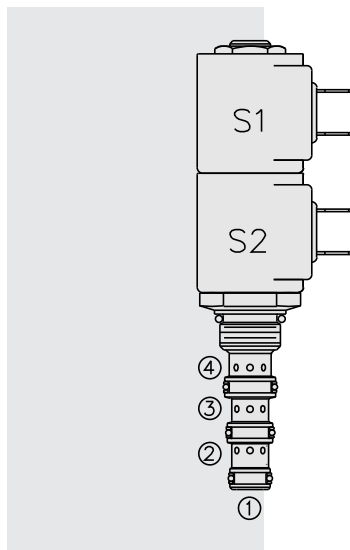
TO ORDER

SV10-47D

Option	None (Blank)	Voltage	Std. D-Coil
Manual Override	M	0	Less Coil**
Manual Override	B	10	10 VDC [†]
Manual Override	K	12	12 VDC
For Manual Override options see page 1.001.1		20	20 VDC
		24	24 VDC
		36	36 VDC
		48	48 VDC
		24	24 VAC
		115	115 VAC
		230	230 VAC
		**Includes D-Coil Nut and Spacer.	
		[†] DS, DW or DL terminations only.	
Porting		E-Coils: 10, 12, 20, 24 VDC only.	
Cartridge Only	0		
SAE 6	6T		
SAE 8	8T		
1/4 in. BSP*	2B		
3/8 in. BSP*	3B		
*BSP Body; U.K. Mfr. Only			
Seals			
Buna N (Std.)	N		
Fluorocarbon	V		
		Coil Termination	E-Coil D-Coil
		Deutsch DT04-2P	ER (IP69K) DR (IP65)
		Metri-Pack® 150	EY (IP69K) DY (IP65)
		Dual Lead Wires	EL (IP69K) DL (IP65)
		Amp Jr. Timer	EJ (IP67) —
		DIN 43650	EG (IP65) DG (IP65)
		Dual Spades	— DS (IP65)

For Coils with Zener Diode, add "Z" to option code. For example: "ERZ". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1

SV08-47E Spool, 4-Way, 3-Position



DESCRIPTION

A solenoid-operated, four-way, three-position, direct-acting, spool-type, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV08-47E** blocks flow at 3 and 4, while allowing flow from 2 to 1. When coil #1 (S1) is energized, the spool shifts to allow flow from 3 to 4 and 2 to 1. When coil #2 (S2) is energized flow is allowed from 2 to 3 and from 4 to 1.

In circuits where work port flows are unequal due to cylinder ratios, the higher return flow should be directed to port 2.

While 1 may be fully pressurized, it is not intended for use as the valve's inlet.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Industry common cavity.
- Optional waterproof E-Coils rated up to IP69K.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: 11.4 lpm (3 gpm) max.

Internal Leakage: 164 cc/minute (10 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20° C: Standard Coil: 1.2 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-4; See page 9.108.1

Cavity Tool: CT08-4XX; See page 8.600.1

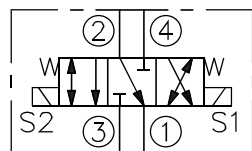
Seal Kit: SK08-4X-MMM; See page 8.650.1

Coil Nut: Part No. 7004400; **Coil Spacer:** Part No. 4534720

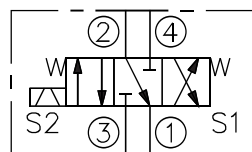
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut & spacer info.

SYMBOLS

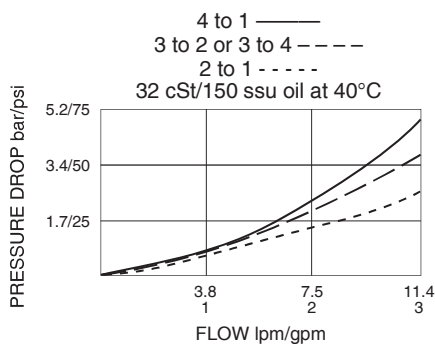
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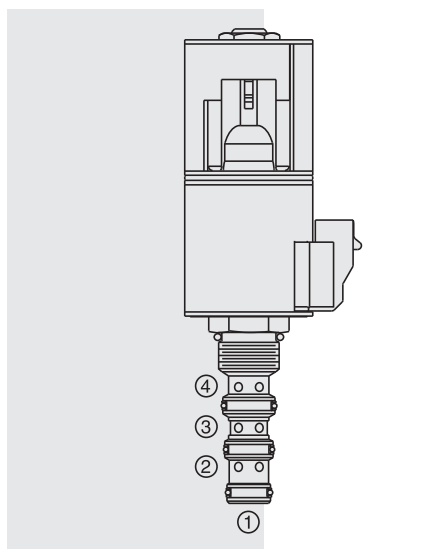
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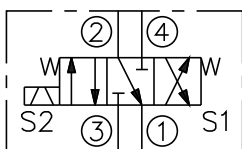
PERFORMANCE (Cartridge Only)



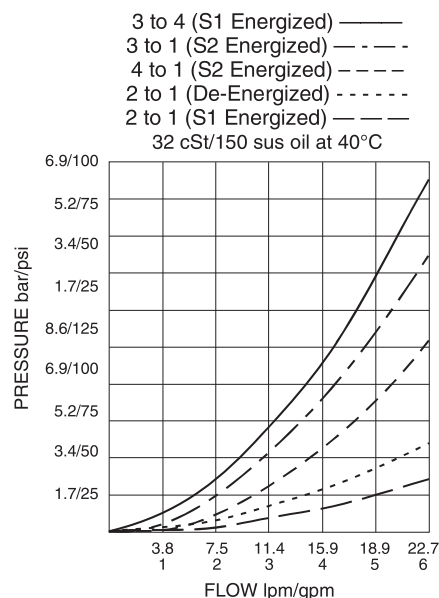
SV10-47E Spool, 4-Way, 3-Position



SYMBOL



PERFORMANCE (Cartridge Only)



See following page for additional performance information.

DESCRIPTION

A solenoid-operated, 4-way, 3-position, direct-acting, spool-type, motor center, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV10-47E** blocks flow at 3 and 4, while allowing flow from 2 to 1. When coil #1 (S1) is energized, the spool shifts to allow flow from 3 to 4 and 2 to 1. When coil #2 (S2) is energized flow is allowed from 2 to 3 and from 4 to 1.

In circuits where work port flows are unequal due to cylinder ratios, the higher return flow should be directed to port 2.

While 1 may be fully pressurized, it is not intended for use as the valve's inlet.

FEATURES

- Continuous-duty rated solenoid with optional coil voltages and terminations.
- Hardened precision spool and cage for long life.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Industry common cavity.

RATINGS

Operating Pressure: 250 bar (3625 psi)

Proof Pressure: 344 bar (5000 psi)

Flow: Up to 30.2 (8 gpm); see performance chart

Internal Leakage: 328 cc/minute (20 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 100°C (-40° to 212°F) with standard Buna N seals;
 -26 to 204°C (-15°F to 400°F) with Fluorocarbon seals;
 -54 to 107°C (-65°F to 225°F) with Polyurethane seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 40 msec.; De-energized: 10 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC;
 0.18 amps at 115 VAC (full wave rectified).
 E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

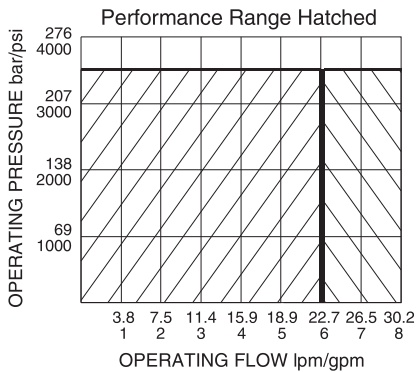
Cavity: VC10-4; See page 9.110.1; **Cavity Tool:** CT10-4XX; See page 8.600.1

Seal Kit: SK10-4X-MMM; See page 8.650.1

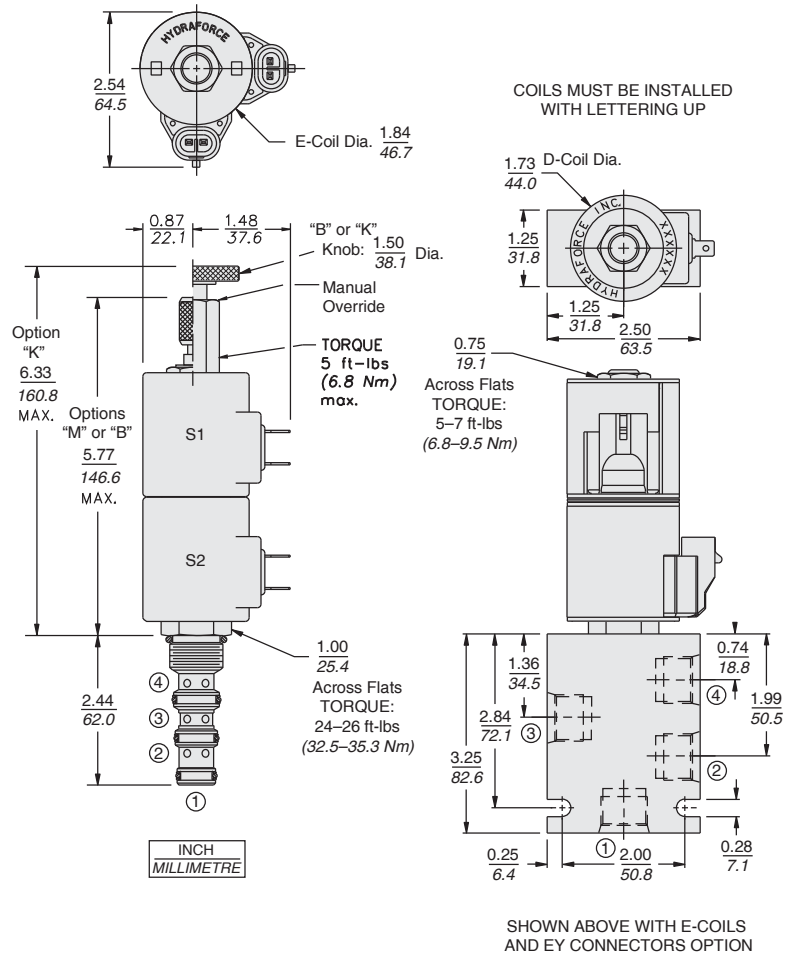
Coil Nut: Part No. 7004400; **Manual Override Coil Nut:** Part No. 4528180

Coil Spacer: E-Coil Spacer Part No. 4539700; Std. D-Coil Spacer Part No. 7000280;
 If cartridge is ordered "Less Coil," D-Coil spacer will be provided.

PERFORMANCE (Continued)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.26 kg. (0.57 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.36 kg. (0.80 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard D-Coil: Weight each: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors. See page 3.400.1

TO ORDER

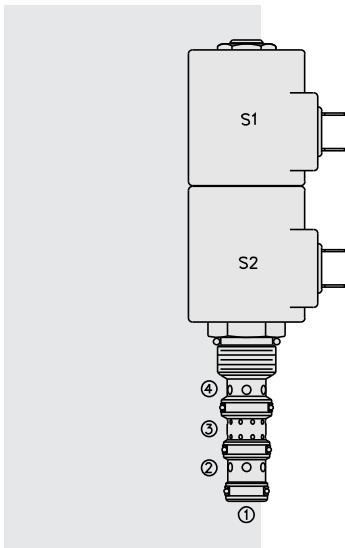
SV10-47E

Option	None (Blank)			
Manual Override	M			
Manual Override	B			
Manual Override	K			
For Manual Override option info., see page 1.001.1				
Porting				
Cartridge Only	0			
SAE 6	6T			
SAE 8	8T			
1/4 in. BSP*	2B			
3/8 in. BSP*	3B			
*BSP Body; U.K. Mfr. Only				
Seals				
Buna N (Std.)	N			
Fluorocarbon	V			
Polyurethane	P			
		Voltage		
		Std. D-Coil		
		0	Less Coil**	
		10	10 VDC†	
		12	12 VDC	
		20	20 VDC	
		24	24 VDC	
		36	36 VDC	
		48	48 VDC	
		24	24 VAC	
		115	115 VAC	
		230	230 VAC	
		**Includes D-Coil Nut and Spacer.		
		† DS, DW or DL terminations only.		
		E-Coils: 10, 12, 20, 24 VDC only.		

Coil Termination	E-Coil	D-Coil
Deutsch DT04-2P	ER (IP69K)	DR (IP65)
Metri-Pack® 150	EY (IP69K)	DY (IP65)
Dual Lead Wires	EL (IP69K)	DL (IP65)
Amp Jr. Timer	EJ (IP67)	—
DIN 43650	EG (IP65)	DG (IP65)
Dual Spades	—	DS (IP65)

For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1

SV10-47F Spool, 4-Way, 3-Position, Tandem Center



DESCRIPTION

A solenoid-operated, 4-way, 3-position, direct-acting, spool-type, tandem center, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SV10-47F** blocks cylinder ports, while allowing flow from 3 to 1. When coil #1 is energized, flow is allowed from 3 to 2, and from 4 to 1. When coil #2 is energized, flow is allowed from 2 to 3, while blocking flow to 1 and 4.

In circuits where work port flows are unequal due to cylinder ratios, the higher return flow should be directed to port 2.

While 1 may be fully pressurized, it is not intended for use as the valve's inlet.

Operator of Manual Override Option: To override, push the knurled button to activate the coil #2 (S2) function, or pull the knob to activate the coil #1 (S1) function.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Manual override option.
- Optional waterproof E-Coils rated up to IP69K.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Industry common cavity.

RATINGS

Operating Pressure: 240 bar (3500 psi)

Proof Pressure: 390 bar (5700 psi)

Flow: 15 lpm (4 gpm) max.

Internal Leakage: 328 cc/minute (20 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 40 msec.; De-energized: 10 msec.

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC; 0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-4; See page 9.110.1; **Cavity Tool:** CT10-4XX; See page 8.600.1

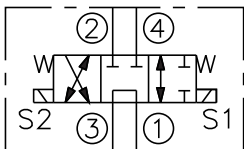
Seal Kit: SK10-4X-MMM; See page 8.650.1

Coil Nut: Part No. 7004400; **Manual Override Coil Nut:** Part No. 4528180

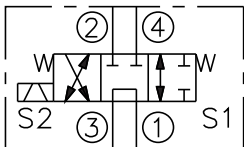
Coil Spacer: E-Coil Spacer Part No. 4539700; Std. D-Coil Spacer Part No. 7000280; If cartridge is ordered "Less Coil," D-Coil spacer will be provided.

SYMBOLS

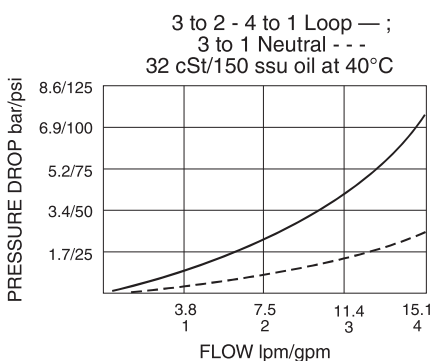
USASI:



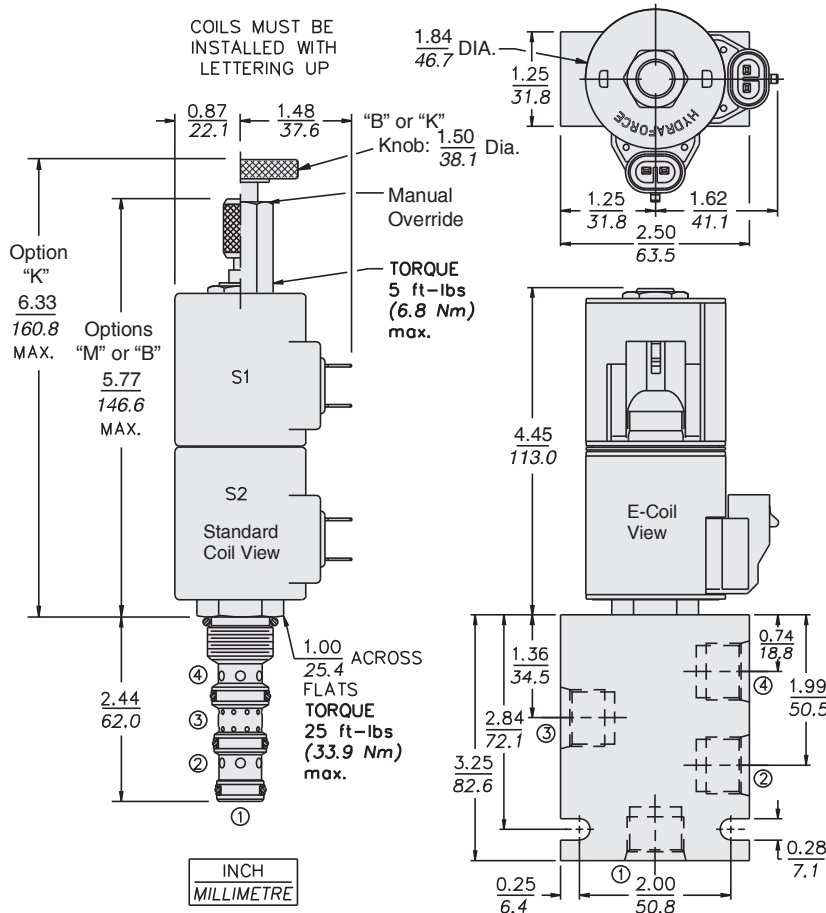
ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.30 kg. (0.65 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.36 kg. (0.80 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight each: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors. See page 3.400.1

TO ORDER

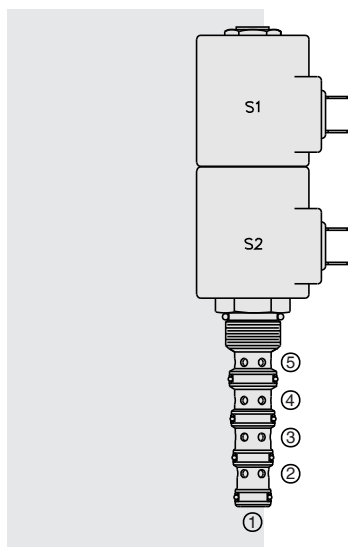
SV10-47F

Option	None (Blank)	Voltage	Std. D-Coil
Manual Override	M	0	Less Coil**
Manual Override	B	10	10 VDC†
Manual Override	K	12	12 VDC
For Manual Override options see page 1.001.1		20	20 VDC
		24	24 VDC
		36	36 VDC
		48	48 VDC
Porting		24	24 VAC
Cartridge Only	0	115	115 VAC
SAE 6	6T	230	230 VAC
SAE 8	8T	**Includes D-Coil Nut and Spacer.	
1/4 in. BSP*	2B	† DS, DW or DL terminations only.	
3/8 in. BSP*	3B	E-Coils: 10, 12, 20, 24 VDC only.	
*BSP Body; U.K. Mfr. Only			
Seals			
Buna N (Std.)	N		
Fluorocarbon	V		

Coil Termination	E-Coil	D-Coil
Deutsch DT04-2P	ER (IP69K)	DR (IP65)
Metri-Pack® 150	EY (IP69K)	DY (IP65)
Dual Lead Wires	EL (IP69K)	DL (IP65)
Amp Jr. Timer	EJ (IP67)	—
DIN 43650	EG (IP65)	DG (IP65)
Dual Spades	—	DS (IP65)

For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1

SV10-57C Spool, 5-Way, 3-Position . . .



DESCRIPTION

A solenoid-operated, five-way, three-position, screw-in hydraulic cartridge valve with integral load-sense port.

OPERATION

When de-energized, the **SV10-57C** blocks flow to all ports. When coil #1 is energized, flow is allowed from 5 to 2 and from 4 to 3. When coil #2 is energized, flow is allowed from 5 to 4, and from 2 to 3. Load sense is connected to port 1 when the spool is in shifted positions.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Optional waterproof E-Coils rated up to IP69K.
- Optional manual override.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.

RATINGS

Operating Pressure: 247 bar (3625 psi) with standard Buna N seals

Flow: 20 lpm (4 gpm) max. See performance chart

Internal Leakage: 164 cc/minute (10 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20° C: Standard Coil: 1.67 amps at 12 VDC; 0.18 amps at 115 VAC (full wave rectified). E-Coil: 1.6 amps at 12 VDC; 0.8 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-5; See page 9.110.1

Cavity Tool: CT10-5XX; See page 8.600.1

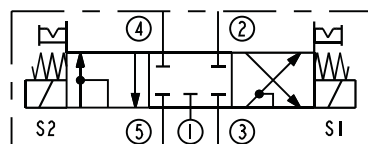
Seal Kit: SK10-5X-MMMM; See page 8.650.1

Coil Nut: Part No. 7004400; **Coil Spacer** for E-Coils: Part No. 4539700

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut & spacer info.

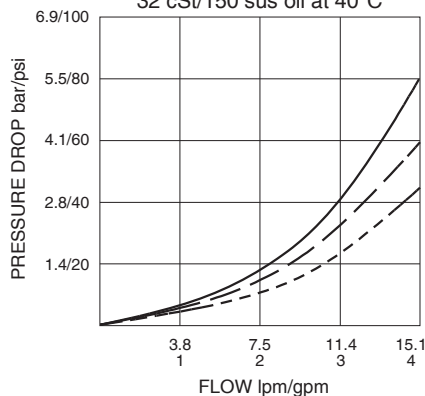
SYMBOLS

ISO:



PERFORMANCE (Cartridge Only)

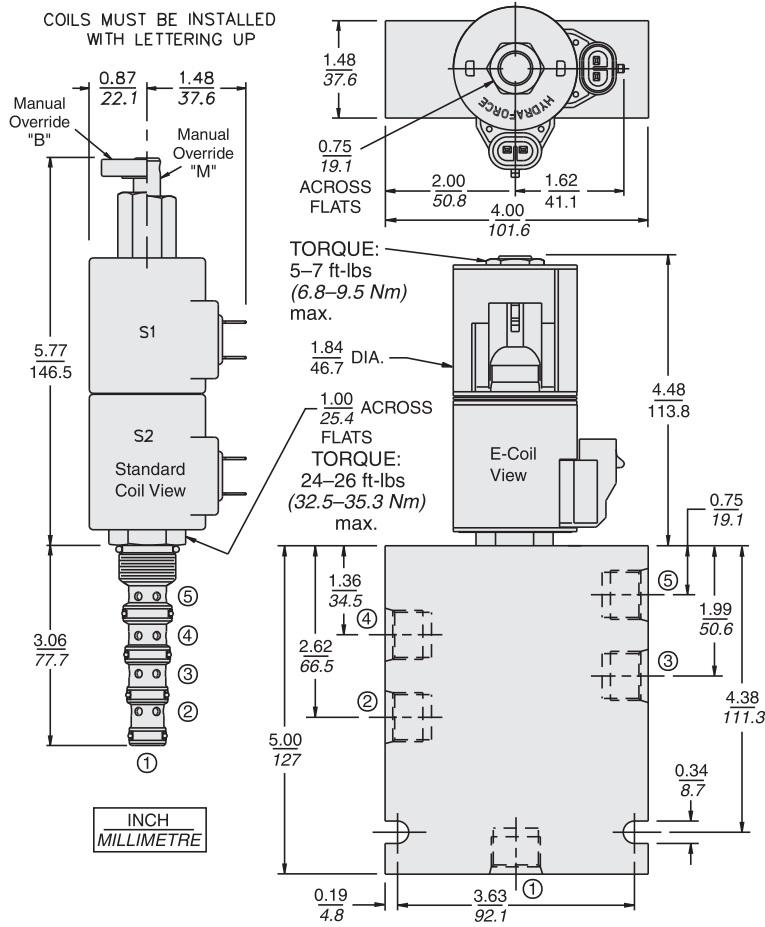
- 5 to 2, S1 energized: ———
 - 5 to 4, S2 energized: - - - -
 - 4 to 3, S1 energized
 - or 2 to 3, S2 energized: - - - - -
- 32 cSt/150 sus oil at 40°C



for Load Sense Applications

SV10-57C

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.36 kg. (0.80 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.41 kg. (0.85 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight each: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV10-57C

Option
 None (Blank)
 Manual Override **B**
 Manual Override **M**
 For Manual Override options see page 1.001.1

Porting
 Cartridge Only **0**
 SAE 6 **6T**
 SAE 8 **8T**

Seals
 Buna N (Std.) **N**
 Fluorocarbon **V**

Voltage Std. Coil
0 Less Coil**
10 10 VDC†
12 12 VDC
24 24 VDC
36 36 VDC
48 48 VDC
24 24 VAC
115 115 VAC
230 230 VAC

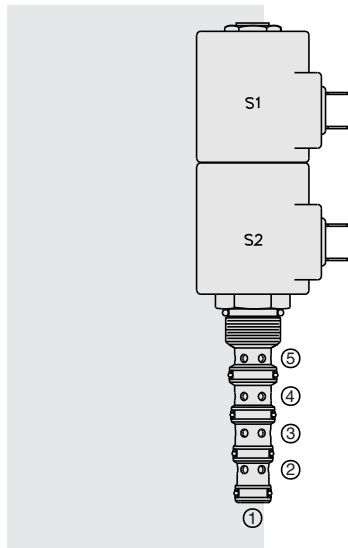
**Includes Std. Coil Nut
 † DS, DW or DL terminations only.

E-Coil
10 10 VDC
12 12 VDC
20 20 VDC
24 24 VDC

Termination (VDC) Std. Coil
DS Dual Spades
DG DIN 43650
DL Leadwires (2)
DL/W Leads w/Weatherpak® Connectors
DR Deutsch DT04-2P
Termination (VAC) Std. Coil
AG DIN 43650
AP 1/2 in. Conduit
Termination (VDC) E-Coil
ER Deutsch DT04-2P (IP69K Rated)
EY Metri-Pack® 150 (IP69K Rated)

Coils with internal diode are available. Consult factory.

SV10-57D Spool, 5-Way, 3-Position . . .



DESCRIPTION

A solenoid-operated, five-way, three-position, screw-in hydraulic cartridge valve with integral load-sense port.

OPERATION

When de-energized, the **SV10-57D** blocks flow at 5 while allowing flow from both 2 and 4 to 3. When coil #1 is energized, flow is allowed from 5 to 2, and from 4 to 3. When coil #2 is energized, flow is allowed from 5 to 4 and from 2 to 3. Load sense is connected to port 5 when the spool is in shifted positions.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Optional waterproof E-Coils rated up to IP69K.
- Optional manual override.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.

RATINGS

Operating Pressure: 247 bar (3625 psi) with standard Buna N seals

Flow: 20 lpm (4 gpm) max. See performance chart

Internal Leakage: 164 cc/minute (10 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20° C: Standard Coil: 1.67 amps at 12 VDC;
0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.6 amps at 12 VDC; 0.8 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-5; See page 9.110.1

Cavity Tool: CT10-5XX; See page 8.600.1

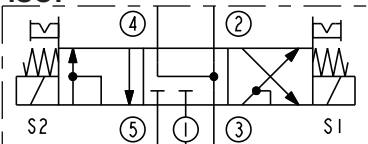
Seal Kit: SK10-5X-MMMM; See page 8.650.1

Coil Nut: Part No. 7004400; **Coil Spacer** for E-Coils: Part No. 4539700

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut & spacer info.

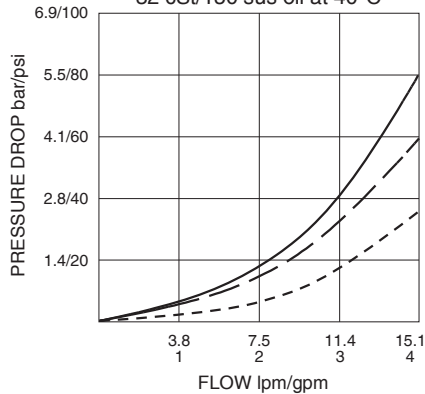
SYMBOLS

ISO:



PERFORMANCE (Cartridge Only)

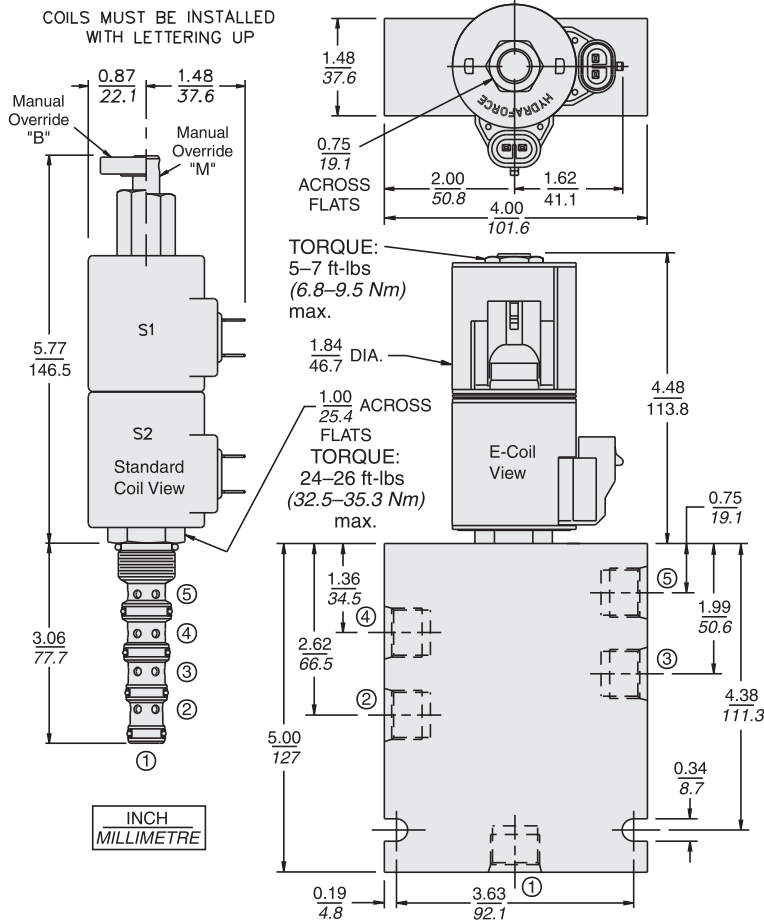
5 to 2, S1 energized: ———
 5 to 4, S2 energized: - - - -
 4 to 3, S1 energized
 or 2 to 3, S2 energized: - - - - -
 32 cSt/150 sus oil at 40°C



for Load Sense Applications

SV10-57D

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.36 kg. (0.80 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.41 kg. (0.85 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight each: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV10-57D

Option
None (Blank)
Manual Override **B**
Manual Override **M**
For Manual Override options see page 1.001.1

Porting
Cartridge Only **0**
SAE 6 **6T**
SAE 8 **8T**

Seals
Buna N (Std.) **N**
Fluorocarbon **V**

Voltage Std. Coil

0 Less Coil**
10 10 VDC†
12 12 VDC
24 24 VDC
36 36 VDC
48 48 VDC
24 24 VAC
115 115 VAC
230 230 VAC

**Includes Std. Coil Nut
† DS, DW or DL terminations only.

E-Coil

10 10 VDC
12 12 VDC
20 20 VDC
24 24 VDC

Termination (VDC) Std. Coil

DS Dual Spades
DG DIN 43650
DL Leadwires (2)
DL/W Leads w/Weatherpak® Connectors
DR Deutsch DT04-2P

Termination (VAC) Std. Coil

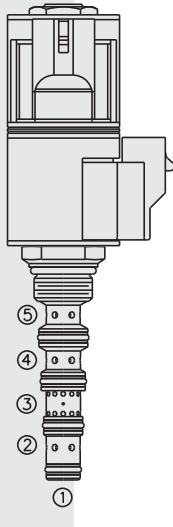
AG DIN 43650
AP 1/2 in. Conduit

Termination (VDC) E-Coil

ER Deutsch DT04-2P (IP69K Rated)
EY Metri-Pack® 150 (IP69K Rated)

Coils with internal diode are available. Consult factory.

SV08-58C Spool, 5-Way, 3-Position . . .



DESCRIPTION

A solenoid-operated, five-way, three-position, direct acting, screw-in hydraulic cartridge valve with integral load-sense port.

OPERATION

When de-energized, the **SV08-58C** blocks flow between all work ports and load sense at port 1 is vented to 3. When coil #1 is energized, flow is allowed from 5 to 2 and from 4 to 3. When coil #2 is energized, flow is allowed from 5 to 4 and from 2 to 3. Load sense at port 1 is connected to port 5 when spool is in the shifted positions.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Optional waterproof E-Coils rated up to IP69K.
- Compact size.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.

RATINGS

Operating Pressure: 241 bar (3500 psi)

Proof Pressure: 345 bar (5000 psi)

Flow: 13.3 lpm (3.5 gpm) maximum; see performance chart

Internal Leakage: 197 cc/minute (12 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20° C: Standard Coil: 1.2 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-5; See page 9.108.1

Cavity Tool: CT08-5XX; See page 8.600.1

Seal Kit: SK08-5X-MMM; See page 8.650.1

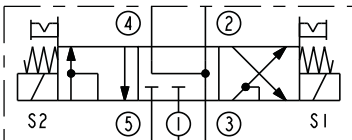
Coil Nut: Part No. 7004400

Coil Spacer: Part No. 4534720

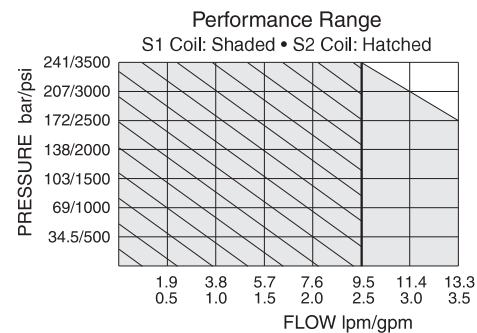
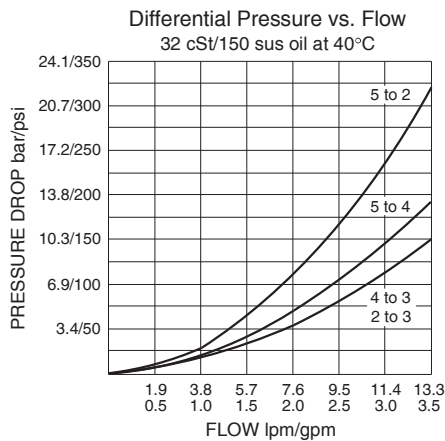
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut & spacer info.

SYMBOLS

USASI/ISO:



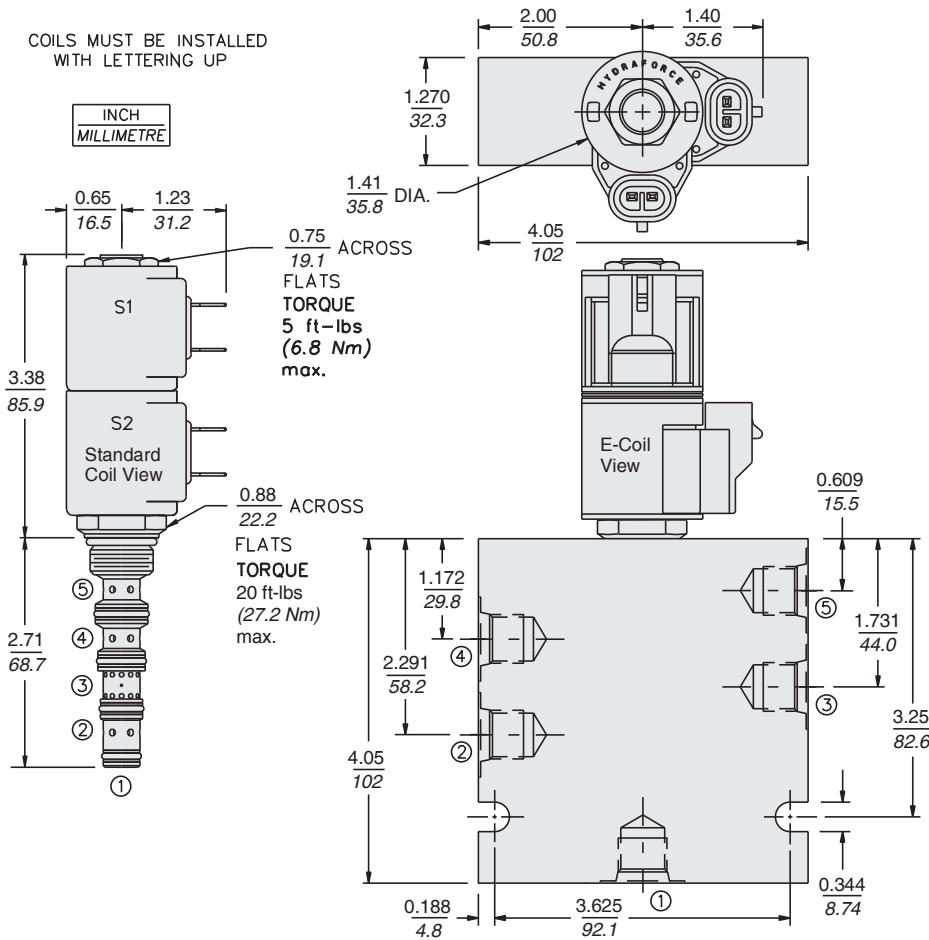
PERFORMANCE (Cartridge Only)



for Load Sense Applications

SV08-58C

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.15 kg. (0.34 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.41 kg. (0.85 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight each: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

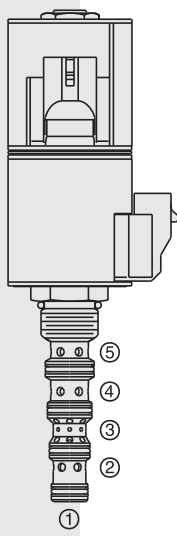
See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV08-58C

Option	None (Blank)	Voltage	Termination (VDC)
		Std. Coil	Std. Coil
		0 Less Coil**	DS Dual Spades
		10 10 VDC†	DG DIN 43650
		12 12 VDC	DL Leadwires (2)
		24 24 VDC	DL/W Leads w/Weatherpak® Connectors
		36 36 VDC	DR Deutsch DT04-2P
		48 48 VDC	
		24 24 VAC	Termination (VAC)
		115 115 VAC	Std. Coil
		230 230 VAC	AG DIN 43650
			AP 1/2 in. Conduit
			Termination (VDC)
			E-Coil
			ER Deutsch DT04-2P (IP69K Rated)
			EY Metri-Pack® 150 (IP69K Rated)
			Coils with internal diode are available. Consult factory.
Porting	Cartridge Only 0 SAE 4 4T SAE 6 6T	E-Coil	
		10 10 VDC	
		12 12 VDC	
		20 20 VDC	
		24 24 VDC	
Seals	Buna N (Std.) N Fluorocarbon V Polyurethane P		

SV10-58C Spool, 5-Way, 3-Position . . .



DESCRIPTION

A solenoid-operated, five-way, three-position, direct acting, screw-in hydraulic cartridge valve with integral load-sense port.

OPERATION

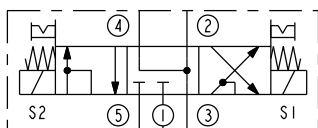
When de-energized, the **SV10-58C** blocks flow between all work ports and load sense at port 1 is vented to 3. When coil #1 is energized, flow is allowed from 5 to 2 and from 4 to 3. When coil #2 is energized, flow is allowed from 5 to 4 and from 2 to 3. Load sense at port 1 is connected to port 5 when spool is in the shifted positions.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Optional waterproof E-Coils rated up to IP69K.
- Optional manual override.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.

SYMBOLS

USASI/ISO:



RATINGS

Operating Pressure: 247 bar (3625 psi) with standard Buna N seals

Flow: 30.3 lpm (8 gpm) maximum; see performance charts

Internal Leakage: 164 cc/minute (10 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20° C: Standard Coil: 1.67 amps at 12 VDC; 0.18 amps at 115 VAC (full wave rectified). E-Coil: 1.6 amps at 12 VDC; 0.8 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

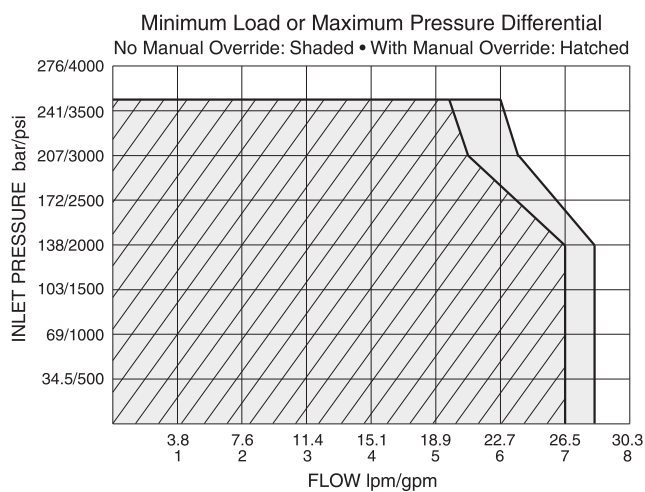
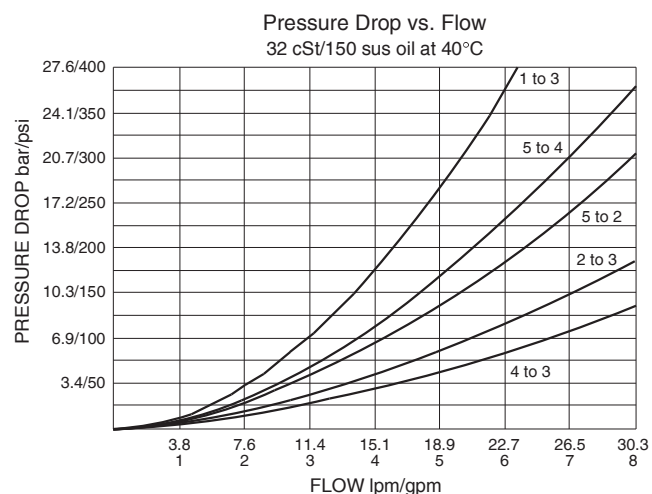
Cavity: VC10-5; See page 9.110.1

Cavity Tool: CT10-5XX; See page 8.600.1

Seal Kit: SK10-5X-MMMM; See page 8.650.1

Coil Nut: Part No. 7004400; **Coil Spacer** for E-Coils: Part No. 4539700

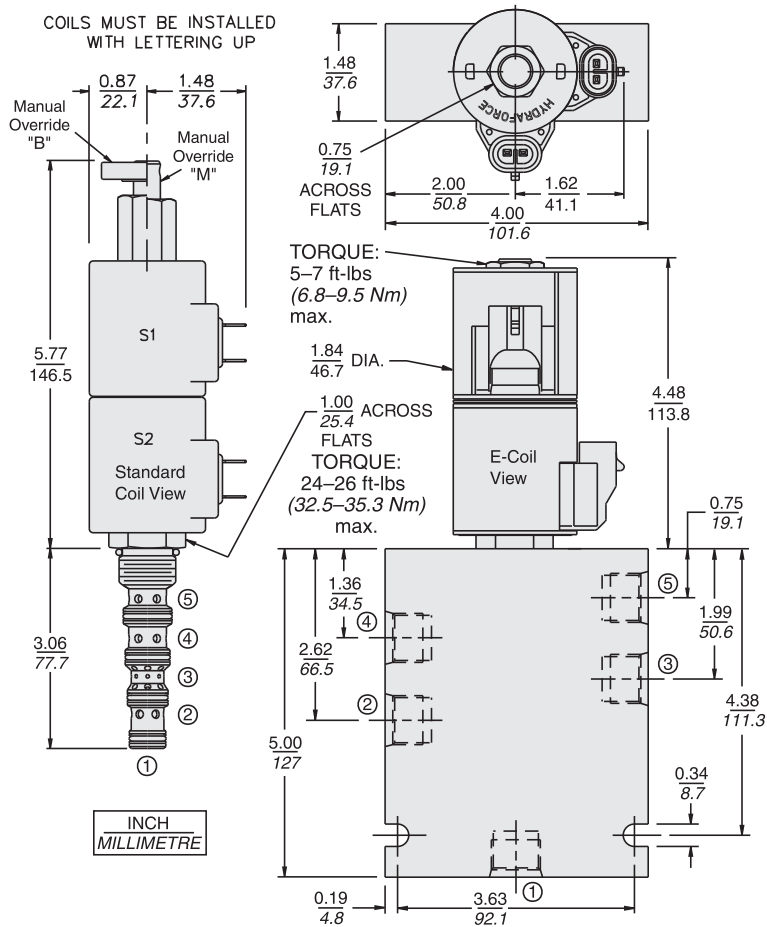
PERFORMANCE (Cartridge Only)



for Load Sense Applications

SV10-58C

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.35 kg. (0.76 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.41 kg. (0.85 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight each: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV10-58C

Option
None (Blank)
Manual Override **B**
Manual Override **M**
For Manual Override options see page 1.001.1

Porting
Cartridge Only **0**
SAE 6 **6T**
SAE 8 **8T**

Seals
Buna N (Std.) **N**
Fluorocarbon **V**

Voltage Std. Coil

0 Less Coil**
10 10 VDC†
12 12 VDC
24 24 VDC
36 36 VDC
48 48 VDC
24 24 VAC
115 115 VAC
230 230 VAC

**Includes Std. Coil Nut
† DS, DW or DL terminations only.

E-Coil

10 10 VDC
12 12 VDC
20 20 VDC
24 24 VDC

Termination (VDC) Std. Coil

DS Dual Spades
DG DIN 43650
DL Leadwires (2)
DL/W Leads w/Weatherpak® Connectors

DR Deutsch DT04-2P

Termination (VAC) Std. Coil

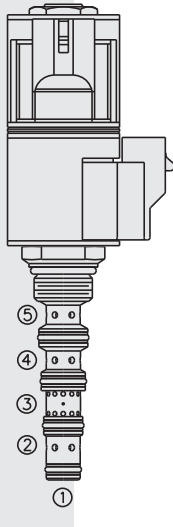
AG DIN 43650
AP 1/2 in. Conduit

Termination (VDC) E-Coil

ER Deutsch DT04-2P (IP69K Rated)
EY Metri-Pack® 150 (IP69K Rated)

Coils with internal diode are available. Consult factory.

SV08-58D Spool, 5-Way, 3-Position . . .



DESCRIPTION

A solenoid-operated, five-way, three-position, motor-spool-type, screw-in hydraulic cartridge valve with integral load-sense port.

OPERATION

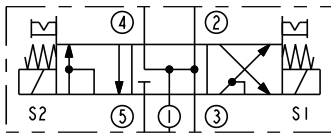
When de-energized, the **SV08-58D** blocks inlet flow at port 5 while load sense at port 1 is vented to port 3, and ports 2 and 4 are connected to port 3. When coil #1 is energized, flow is allowed from 5 to 2 and from 4 to 3. When coil #2 is energized, flow is allowed from 5 to 4 and from 2 to 3. Load sense at 1 is connected to port 5 when spool is in shifted positions.

FEATURES

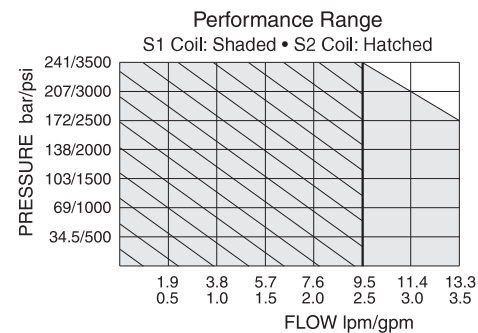
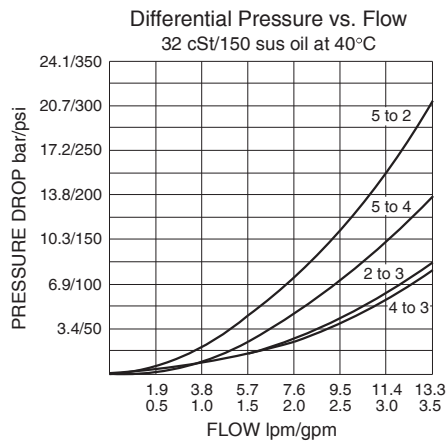
- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Optional waterproof E-Coils rated up to IP69K.
- Compact size.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.

SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 241 bar (3500 psi)

Proof Pressure: 345 bar (5000 psi)

Flow: 13.3 lpm (3.5 gpm) maximum; see performance chart

Internal Leakage: 197 cc/minute (12 cu. in./minute) max. at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20° C: Standard Coil: 1.2 amps at 12 VDC;
0.13 amps at 115 VAC (full wave rectified).

E-Coil: 1.4 amps at 12 VDC; 0.7 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC08-5; See page 9.108.1

Cavity Tool: CT08-5XX; See page 8.600.1

Seal Kit: SK08-5X-MMM; See page 8.650.1

Coil Nut: Part No. 7004400

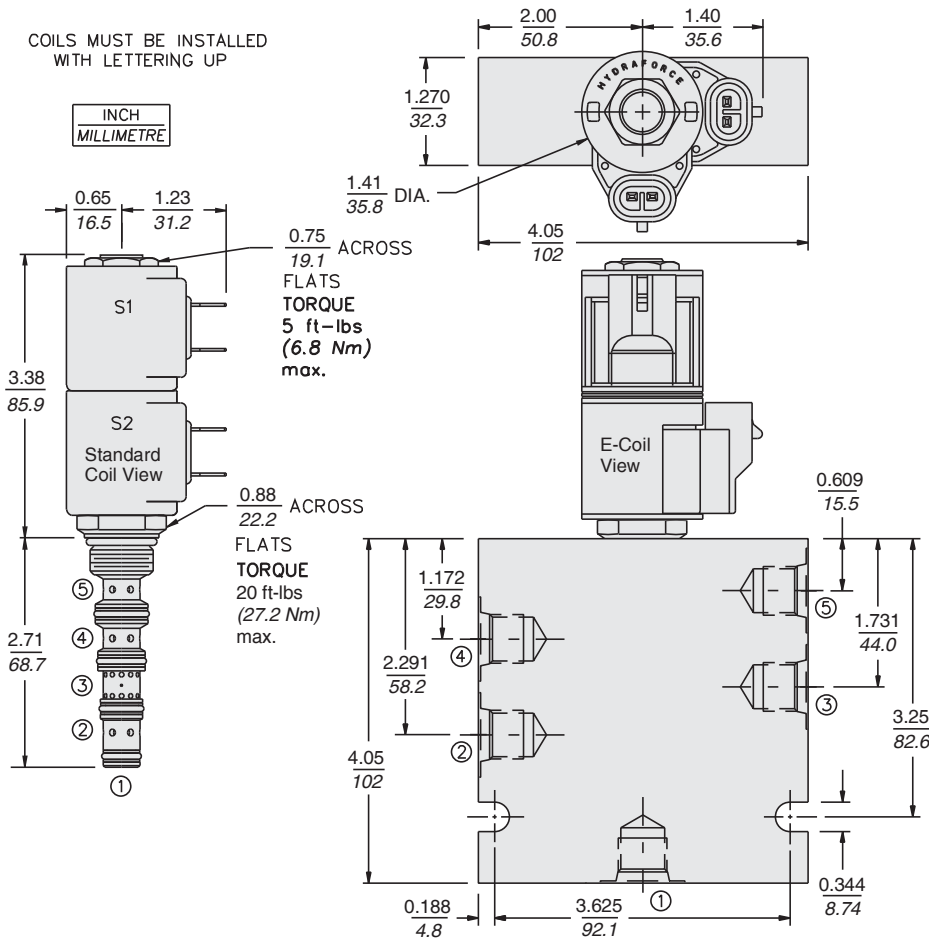
Coil Spacer: Part No. 4534720

For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut & spacer info.

for Load Sense Applications

SV08-58D

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.15 kg. (0.34 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.41 kg. (0.85 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.008.1.

Standard Coil: Weight each: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.14 kg. (0.3 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

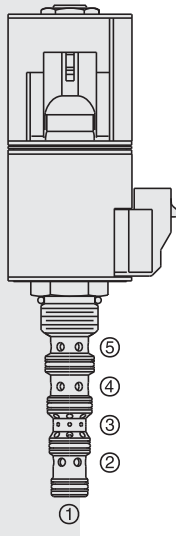
SV08-58D

Option	None (Blank)	Voltage Std. Coil	Termination (VDC) Std. Coil
		0 Less Coil**	DS Dual Spades
		10 10 VDC [†]	DG DIN 43650
		12 12 VDC	DL Leadwires (2)
		24 24 VDC	DL/W Leads w/Weatherpak [®] Connectors
		36 36 VDC	DR Deutsch DT04-2P
		48 48 VDC	Termination (VAC) Std. Coil
Porting	Cartridge Only 0	24 24 VAC	AG DIN 43650
	SAE 4 4T	115 115 VAC	AP 1/2 in. Conduit
	SAE 6 6T	230 230 VAC	Termination (VDC) E-Coil
Seals		**Includes Std. Coil Nut	ER Deutsch DT04-2P (IP69K Rated)
Buna N (Std.)	N	E-Coil	EY Metri-Pack [®] 150 (IP69K Rated)
Fluorocarbon	V	10 10 VDC	
Polyurethane	P	12 12 VDC	
		20 20 VDC	
		24 24 VDC	

[†] DS, DW or DL terminations only.

Coils with internal diode are available. Consult factory.

SV10-58D Spool, 5-Way, 3-Position . . .



DESCRIPTION

A solenoid-operated, five-way, three-position, motor-spool-type, screw-in hydraulic cartridge valve with integral load-sense port.

OPERATION

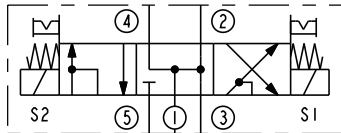
When de-energized, the **SV10-58D** blocks inlet flow at port 5 while load sense at port 1 is vented to port 3, and ports 2 and 4 are connected to port 3. When coil #1 is energized, flow is allowed from 5 to 2 and from 4 to 3. When coil #2 is energized, flow is allowed from 5 to 4 and from 2 to 3. Load sense at 1 is connected to port 5 when spool is in shifted positions.

FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Optional waterproof E-Coils rated up to IP69K.
- Optional manual override.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.

SYMBOLS

USASI/ISO:



RATINGS

Operating Pressure: 247 bar (3625 psi) with standard Buna N seals

Flow: 30.3 lpm (8 gpm) maximum; see performance charts

Internal Leakage: 164 cc/minute (10 cu. in./minute) max. at 250 bar (3625 psi)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20° C: Standard Coil: 1.67 amps at 12 VDC; 0.18 amps at 115 VAC (full wave rectified). E-Coil: 1.6 amps at 12 VDC; 0.8 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

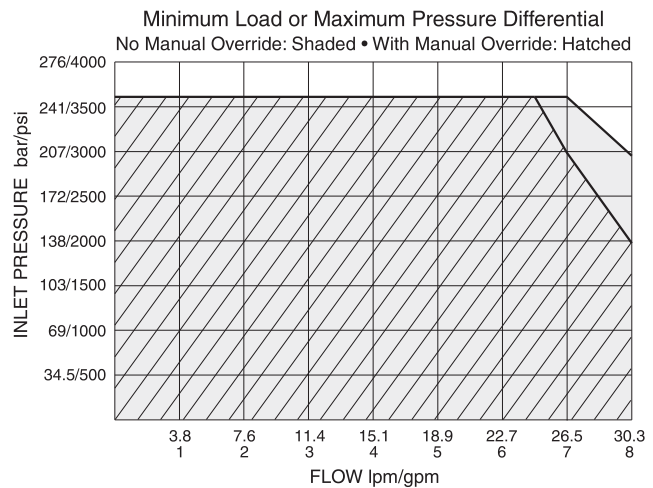
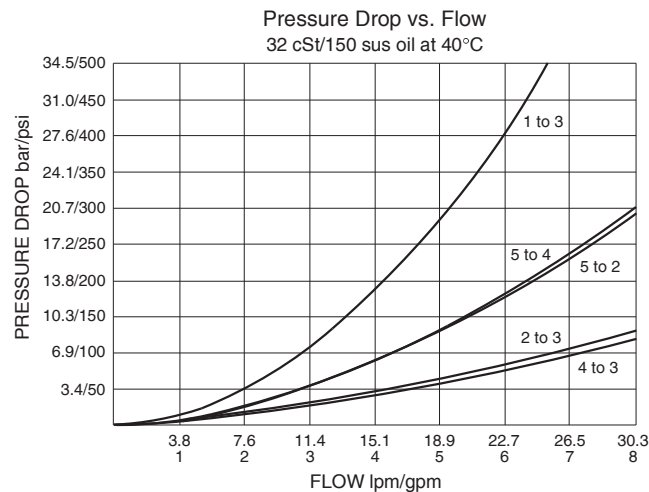
Cavity: VC10-5; See page 9.110.1

Cavity Tool: CT10-5XX; See page 8.600.1

Seal Kit: SK10-5X-MMMM; See page 8.650.1

Coil Nut: Part No. 7004400; **Coil Spacer** for E-Coils: Part No. 4539700

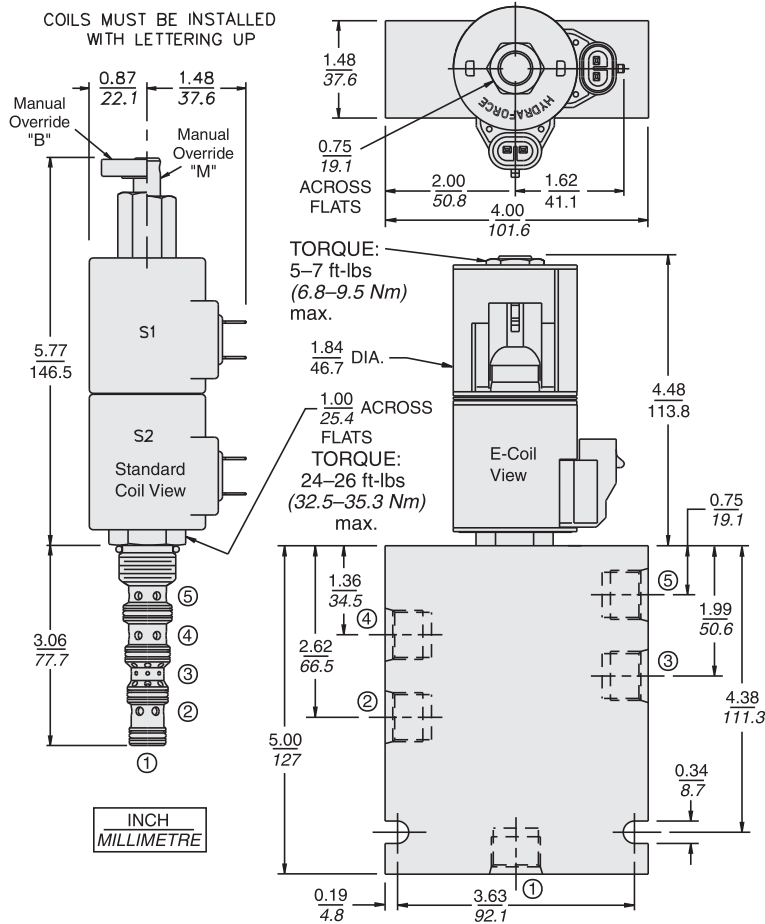
PERFORMANCE (Cartridge Only)



for Load Sense Applications

SV10-58D

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.35 kg. (0.76 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

Standard Ported Body: Weight: 0.41 kg. (0.85 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight each: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

See page 3.400.1 for all E-Coil retrofit applications.

TO ORDER

SV10-58D

Option
None (Blank)
Manual Override **B**
Manual Override **M**
For Manual Override options see page 1.001.1

Porting
Cartridge Only **0**
SAE 6 **6T**
SAE 8 **8T**

Seals
Buna N (Std.) **N**
Fluorocarbon **V**

Voltage Std. Coil

0 Less Coil**
10 10 VDC†
12 12 VDC
24 24 VDC
36 36 VDC
48 48 VDC
24 24 VAC
115 115 VAC
230 230 VAC

**Includes Std. Coil Nut
† DS, DW or DL terminations only.

E-Coil

10 10 VDC
12 12 VDC
20 20 VDC
24 24 VDC

Termination (VDC) Std. Coil

DS Dual Spades
DG DIN 43650
DL Leadwires (2)
DL/W Leads w/Weatherpak® Connectors
DR Deutsch DT04-2P

Termination (VAC) Std. Coil

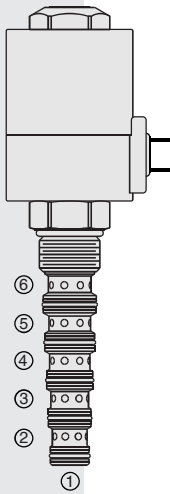
AG DIN 43650
AP 1/2 in. Conduit

Termination (VDC) E-Coil

ER Deutsch DT04-2P (IP69K Rated)
EY Metri-Pack® 150 (IP69K Rated)

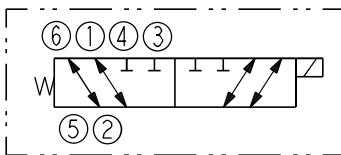
Coils with internal diode are available. Consult factory.

SV12-60 Spool, 2-Position, 6-Way

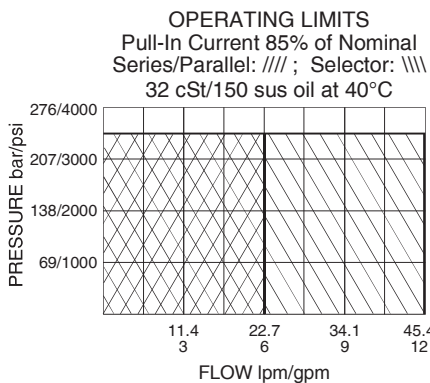
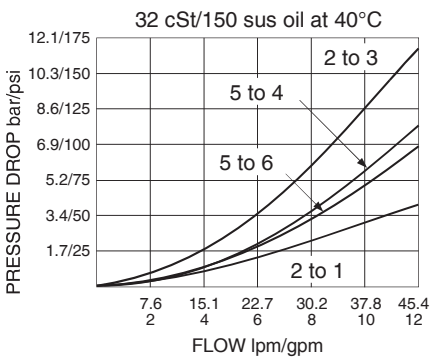


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

A solenoid-operated, 2-position, 6-way, direct-acting spool-type, screw-in hydraulic cartridge valve. It is intended for use as a selector valve in selector or series/parallel drive circuits.

OPERATION

When de-energized, the **SV12-60** allows bi-directional flow between 5 and 6, and between 1 and 2, while blocking flow at 3 and 4. When energized, the spool shifts to allow bidirectional flow between 4 and 5 and between 3 and 2, while blocking flow at 1 and 6.

FEATURES

- Heavy-duty water resistant E-Coils rated up to IP69K.
- Hardened spool and cage for long life.
- Optional coil voltages and terminations.
- All ports may be fully pressurized.
- External metal-shell coil design.

RATINGS

Operating Pressure: 240 bar (3500 psi) max.

Flow: Up to 45.4 lpm (12 gpm); See Performance Chart

Leakage: 295 cc/minute (18 cu. in./minute) at 240 bar (3500 psi)

Temperature: -40 to 120°C with Buna N seals

Coil Duty Rating: See Chart

Response Time: Pull-In: 135 msec; Drop-Out: 30 msec

Initial Coil Current Draw at 20°C: 2.8 amps at 12 VDC

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

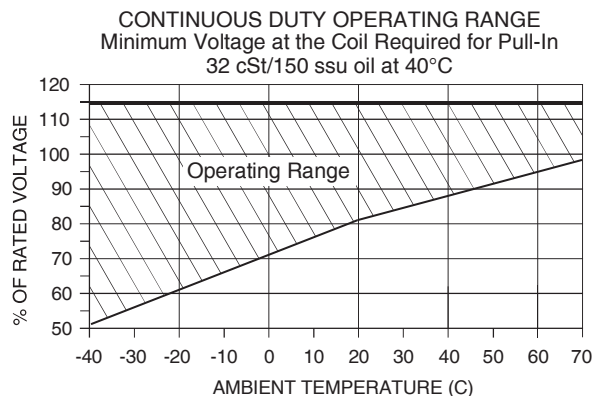
Installation: No restrictions; See page 9.020.1

Cavity: VC12-6; See page 9.112.1

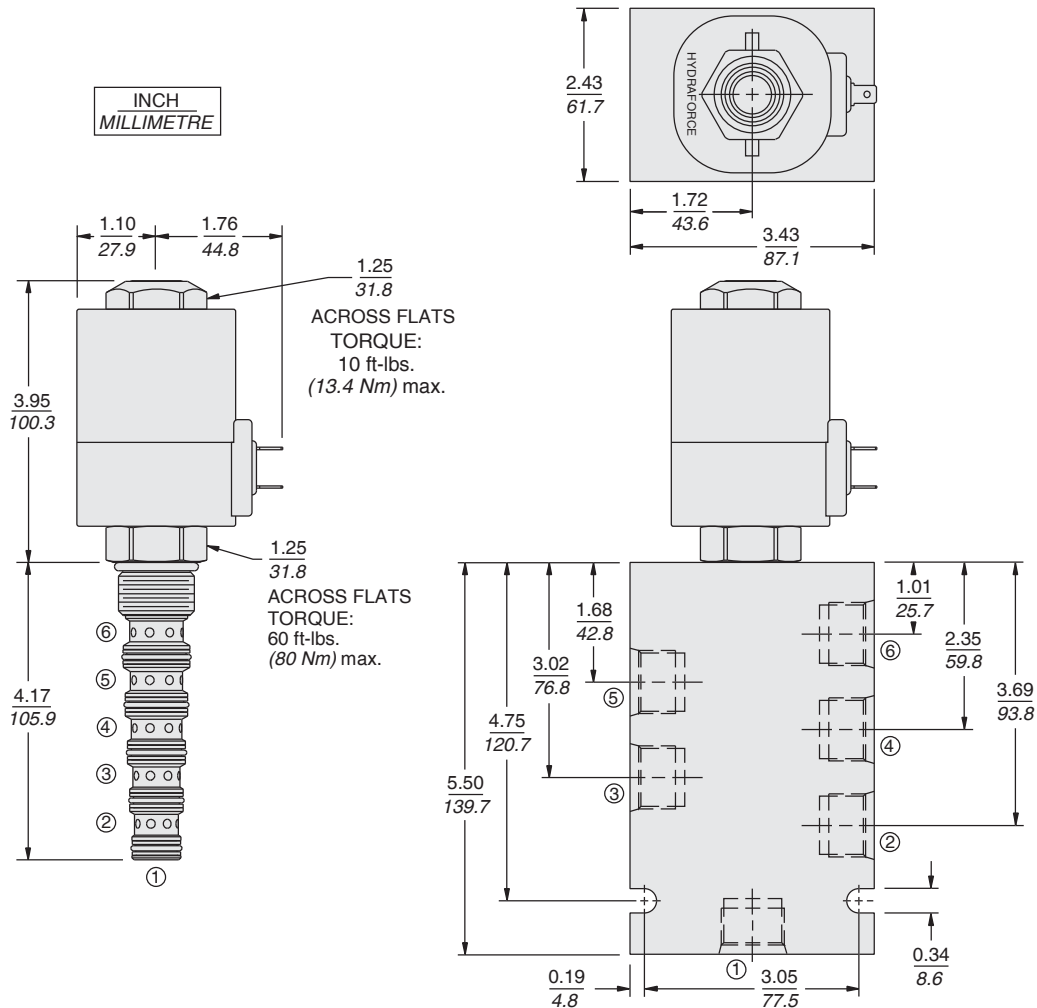
Cavity Tool: CT12-6XX; See page 8.600.1

Seal Kit: SK12-6X-MMMMM; See page 8.650.1

E-Coil Nut: Part No. 7085180



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.54 kg. (1.20 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and TFE back-ups standard.

Standard Ported Body: Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); See page 8.012.1.

E-Coil: Weight: 1.36 kg. (3.0 lbs.); Fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors; See Page 3.400.1.

TO ORDER

SV12-60

Porting

Cartridge Only **0**
SAE 6 **6T**
SAE 8 **8T**
SAE 10 **10T**

Seals

Buna N (Std.) **N**
Fluorocarbon **V**

Voltage

0 Less Coil
12 12 VDC
24 24 VDC
36 36 VDC
48 48 VDC

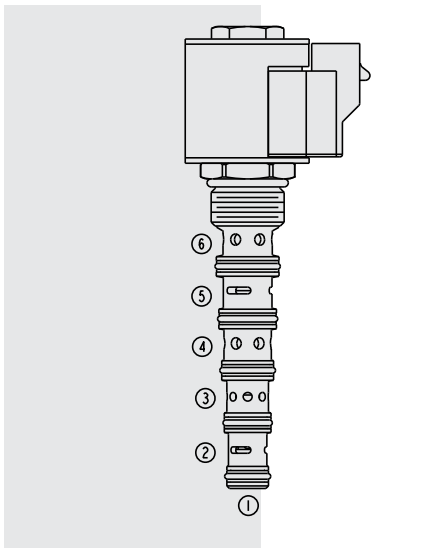
Terminations (VDC)

EL Leadwires (2), IP65 Rated
ES Dual Spades, IP65 Rated
EG DIN 43650, IP65 Rated
EW Leads w/Weather-Pack® Connector, IP65 Rated
EY Metri-Pack® 150 Connector, IP69K Rated

Coils with internal diode are available. Consult factory.

Other coil voltages may be available for OEM applications. Consult factory.

SV80-61 Spool, 6-Way, 2-Position, Selector Valve



DESCRIPTION

A solenoid-operated, two-position, six-way, direct-acting spool-type, screw-in hydraulic cartridge valve. It is intended for use as a selector valve in selector or series/parallel drive circuits.

OPERATION

When de-energized, the **SV80-61** blocks flow to 5 and 6, and allows flow between 4 and 3, and between 1 and 2. When energized, the spool shifts to block flow to ports 2 and 3, while allowing flow between 4 and 5, and between 1 and 6.

Note: In circuits where this valve is used as a selector valve to direct flow between two cylinders of unequal area ratios, the cylinder head sides should be connected to ports 3 and 5, and the rod sides to ports 2 and 6.

FEATURES

- Continuous-duty rated solenoid.
- Hardened parts for long life.
- Optional coil voltages and terminations.
- Optional waterproof E-Coils rated up to IP69K.
- Cartridges are voltage interchangeable.

RATINGS

Operating Pressure: 207 bar (3000 psi) with standard Buna N seals

Flow: 7.6 lpm (2 gpm) max. See performance chart

Internal Leakage: 164 ml/minute (10 cu. in./minute) at 207 bar (3000 psi)

Temperature: -40 to 120°C with standard Buna seals

Filtration: Recommend ISO 4406 16/13; See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-6; See page 9.110.1

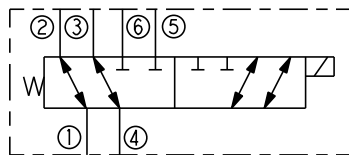
Cavity Tool: CT10-6XX; See page 8.600.1

Seal Kit: SK80-6X-MMMMM; See page 8.650.1

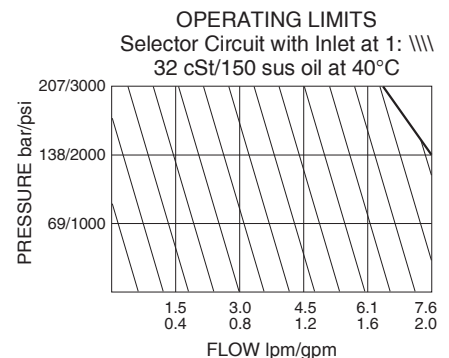
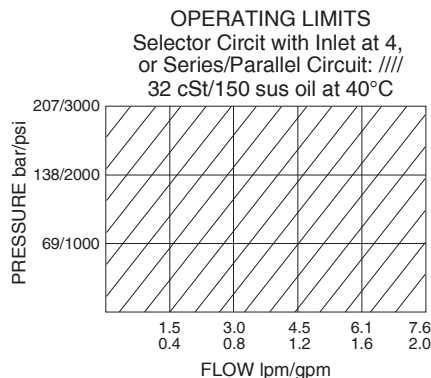
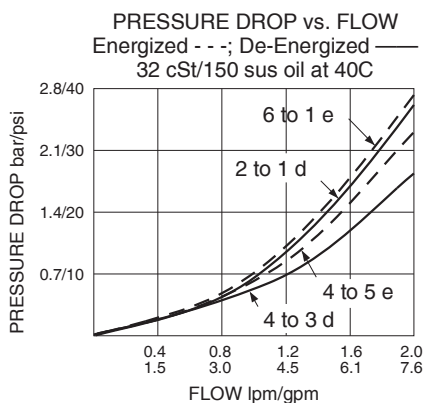
Coil Nut: Part No. 7004400

SYMBOLS

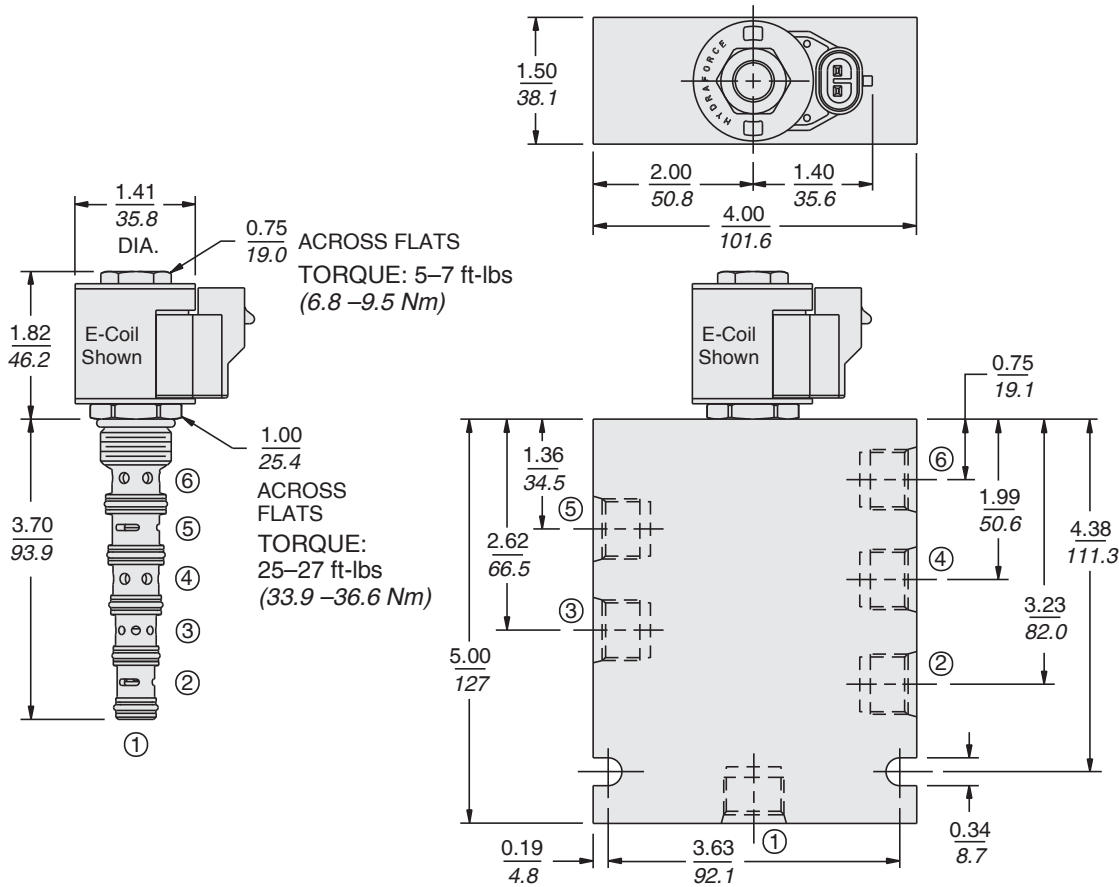
USASI/ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.36 kg. (0.80 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and back-ups standard.

Standard Ported Body: Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). See page 8.010.1.

Standard Coil: Weight: 0.11 kg. (0.25 lbs.) Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

E-Coil: Weight: 0.14 kg. (0.3 lbs.) Perfect wound, fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors.

See page 3.400.1 for all E-Coil retrofit applications.

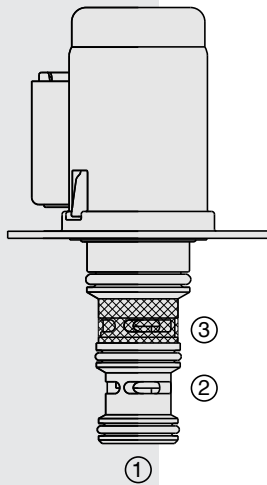
TO ORDER

SV80-61

Option	None (Blank)	Voltage Std. Coil	Termination (VDC) Std. Coil
		0 Less Coil**	DS Dual Spades
		10 10 VDC [†]	DG DIN 43650
		12 12 VDC	DL Leadwires (2)
		24 24 VDC	DL/W Leads w/Weatherpak® Connectors
		36 36 VDC	DR Deutsch DT04-2P
		48 48 VDC	
Porting	Cartridge Only 0	24 24 VAC	Termination (VAC) Std. Coil
	SAE 6 6T	115 115 VAC	AG DIN 43650
	SAE 8 8T	230 230 VAC	AP 1/2 in. Conduit
		**Includes Std. Coil Nut	Termination (VDC) E-Coil
		[†] DS, DW or DL terminations only.	ER Deutsch DT04-2P (IP69K Rated)
Seals		E-Coil	EY Metri-Pack® 150 (IP69K Rated)
Buna N (Std.)	N	10 10 VDC	
Fluorocarbon	V	12 12 VDC	
		20 20 VDC	
		24 24 VDC	

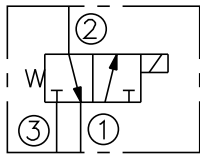
Coils with internal diode are available. Consult factory.

SV98-T39 Spool, 3-Way, 2-Position, Drop-In-Style

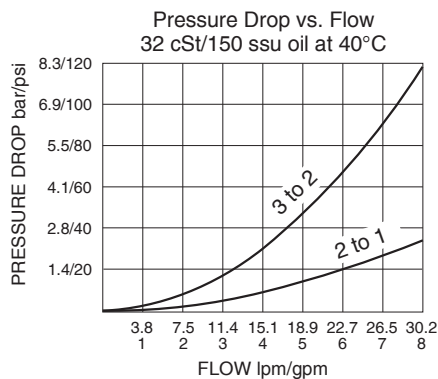


SYMBOLS

USASI/ISO:



PERFORMANCE (Cartridge Only)



DESCRIPTION

An economical drop-in-style, direct-acting, balanced spool, two-position, three-way, directional control valve. It is well suited for use in specialized low-pressure pilot systems or power shift transmission control.

OPERATION

When de-energized, the **SV98-T39** allows flow from 2 to 1, while blocking flow at 3. When energized, the cartridge's spool shifts to open from 3 to 2, while blocking flow out 1. Pressure at 1 (tank) should not exceed 3.4 bar (50 psi). The coil is an integral part of the valve and is not serviceable.

FEATURES

- Economical drop-in style.
- Integral waterproof coil standard.
See page 3.400.1 for a description of tests conducted to verify coil waterproofing.
- 12 or 24 VDC coils.
- Several push-on termination options.

RATINGS

Operating Pressure: 45 bar (650 psi)

Flow: 30 lpm (8 gpm)

Internal Leakage: 60 ml/minute (3.7 cu. in./minute)

Temperature: -40 to 120°C

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage and flow rating: Pull-in: 50 ms; Drop-out: 30 ms.

Initial Coil Current Draw at 20°C: 1.68 amps at 12 VDC

Minimum Pull-in Voltage: 85% of nominal at 30 bar (435 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: Flange Mount

Flange Mounting Screws: M5 x 8; Part No. 4000039 (not provided with valve)

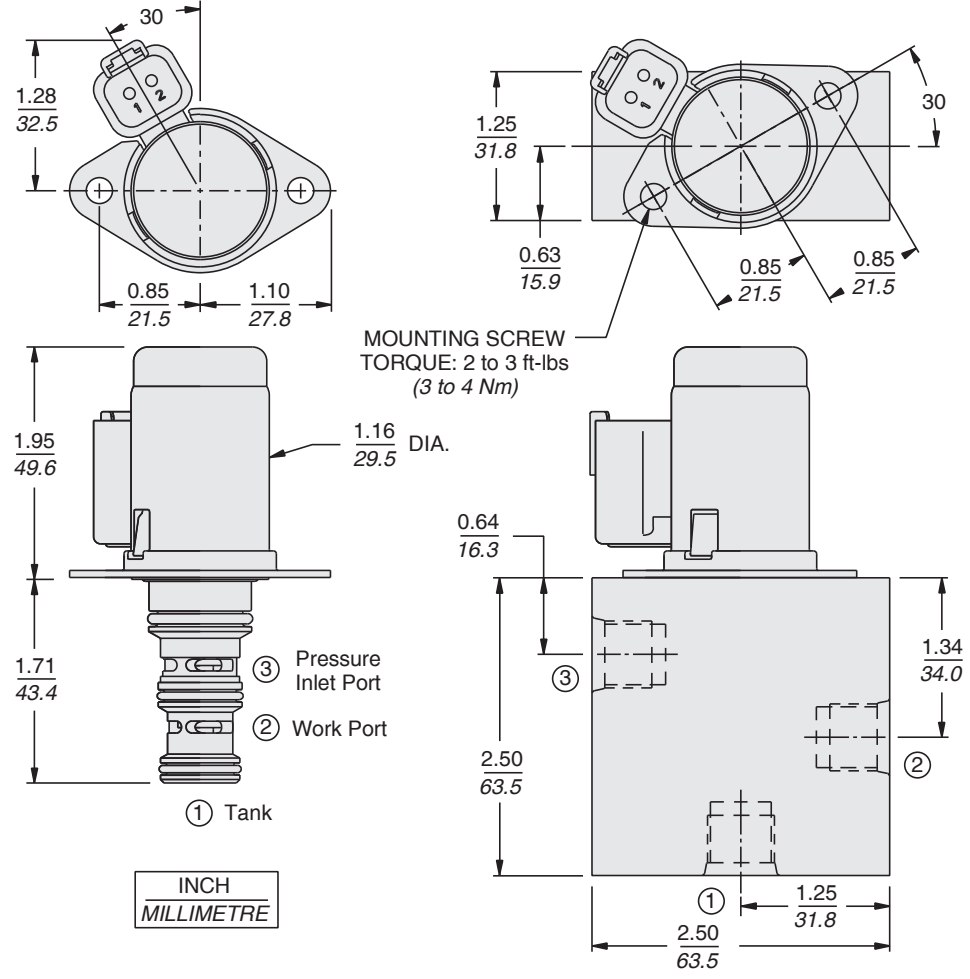
Cavity: VC-T001; See page 9.111.1

Cavity Tool: CT-T001R0-x-G; See page 8.600.1

Seal Kit: SK98-T39X-000; See page 8.650.1

SV98-T39

DIMENSIONS



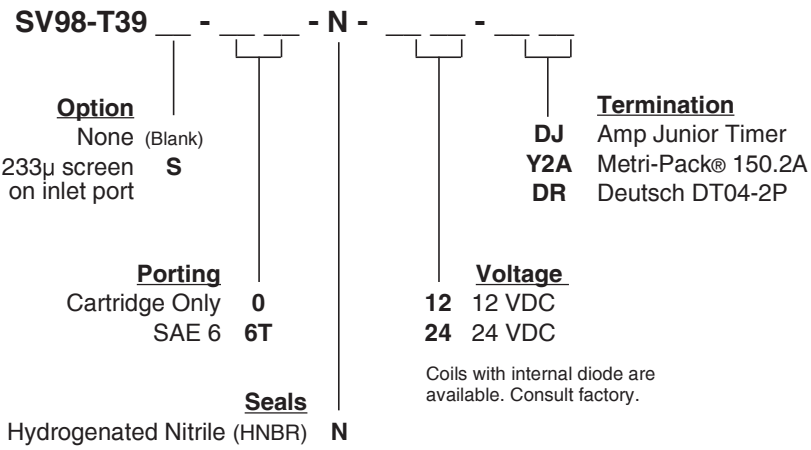
MATERIALS

Cartridge including Coil: Weight: 0.23 kg. (0.50 lbs.) Steel with hardened work surfaces. Zinc-Nickel plated exposed surfaces. HNBR O-rings standard. Coil is encapsulated, class H high-temperature magnetwire, with zinc-nickel plated shell.

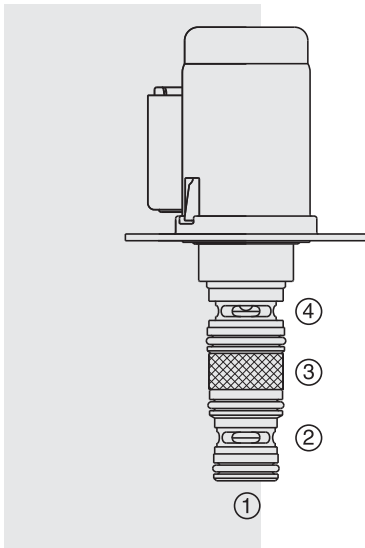
Standard Ported Test Body: Weight: 0.11 kg. (0.25 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). See page 8.010.1.

Mounting Screws: Must be ordered separately: Part No. 4000039

TO ORDER



SV98-T40 Spool, 4-Way, 2-Position, Drop-In-Style



DESCRIPTION

An economical drop-in-style, direct-acting, balanced spool, two-position, four-way, directional control valve. It is well suited for use in specialized low-pressure pilot systems or power shift transmission control.

OPERATION

When de-energized, the **SV98-T40** allows flow from 3 to 2 and from 4 to 1. When energized, the cartridge's spool shifts to allow flow from 2 to 1 and from 3 to 4.

Pressure at 1 (tank) should not exceed 3.4 bar (50 psi).

The coil is an integral part of the valve and is not serviceable.

FEATURES

- Economical drop-in style.
- Integral waterproof coil standard.
See page 3.400.1 for a description of tests conducted to verify coil waterproofing.
- 12 or 24 VDC coils.
- Several push-on termination options.

RATINGS

Operating Pressure: up to 30 bar (435 psi)

Flow: 30 lpm (8 gpm)

Internal Leakage: 70 ml/minute (4.3 cu. in./minute) maximum from inlet to tank at 30 bar (435 psi)

Temperature: -40 to 120°C

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Response Time: First indication of change of state with 100% voltage and flow rating: Pull-in: 50 ms; Drop-out: 30 ms.

Initial Coil Current Draw at 20°C: 1.68 amps at 12 VDC

Minimum Pull-in Voltage: 85% of nominal at 30 bar (435 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: Flange Mount

Flange Mounting Screws: M5 x 8; Part No. 4000039 (not provided with valve)

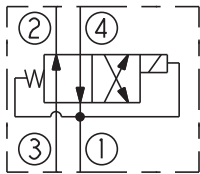
Cavity: VC-T004; See page 9.111.1

Cavity Tool: CT-T004R0-x-G; See page 8.600.1

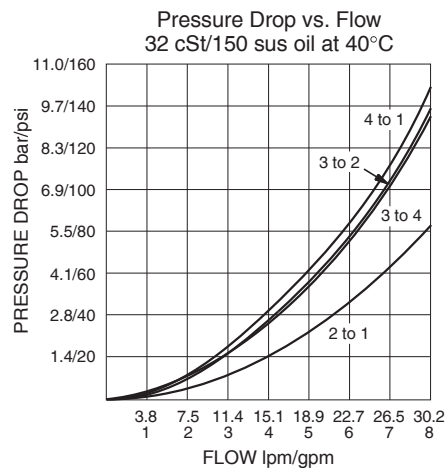
Seal Kit: SK98-T4N-000; See page 8.650.1

SYMBOLS

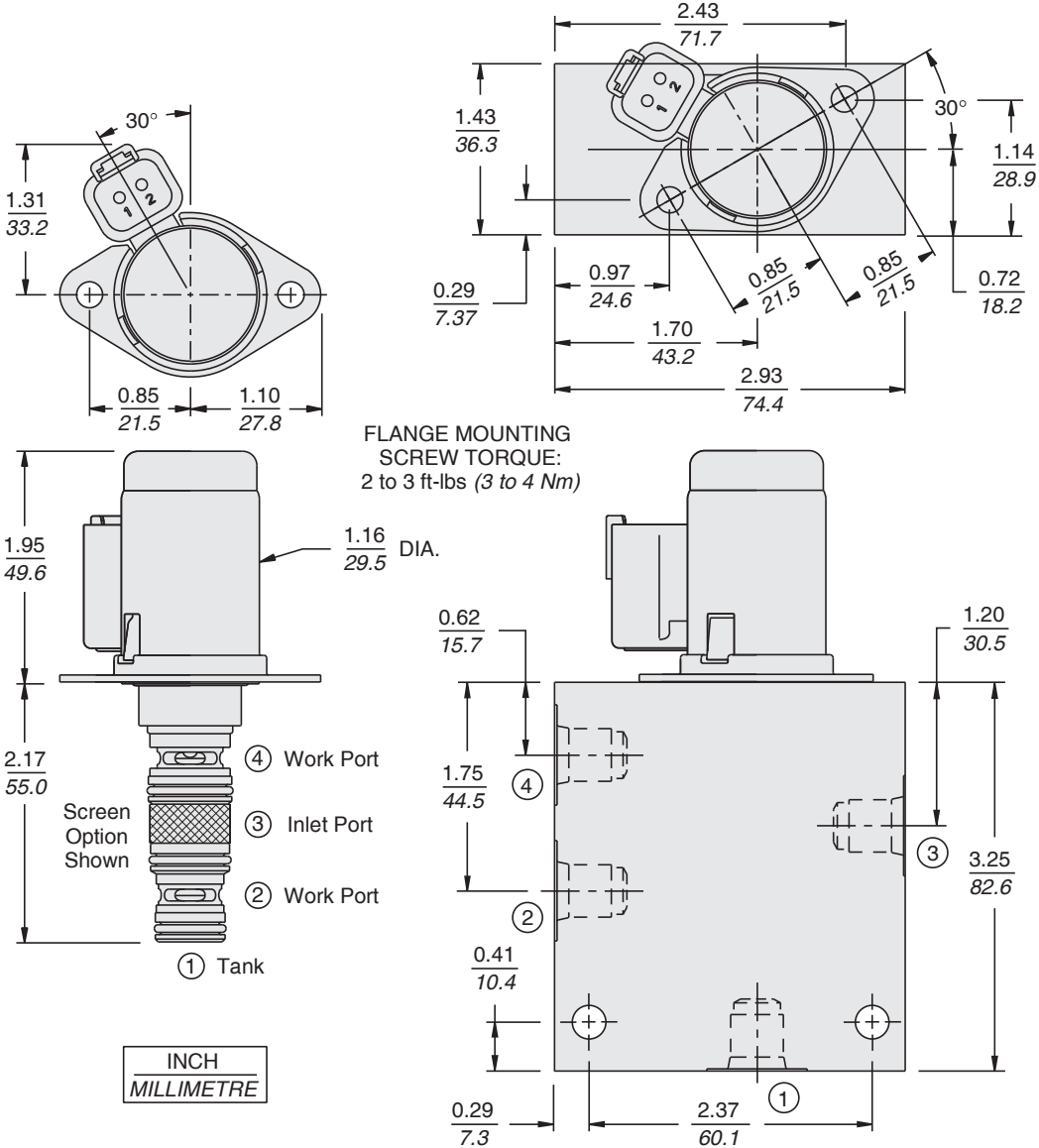
USASI/ISO:



PERFORMANCE (Cartridge Only)



DIMENSIONS



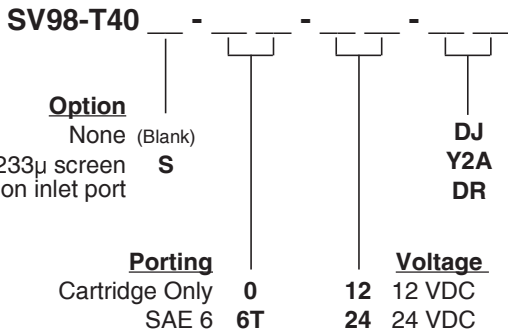
MATERIALS

Cartridge including Coil: Weight: 0.26 kg. (0.57 lbs.) Steel with hardened work surfaces. Zinc-Nickel plated exposed surfaces. HNBR O-rings standard. Coil is encapsulated, class H high-temperature magnetwire, with zinc-nickel plated shell.

Standard Ported Test Body: Weight: 0.11 kg. (0.25 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). See page 8.010.1.

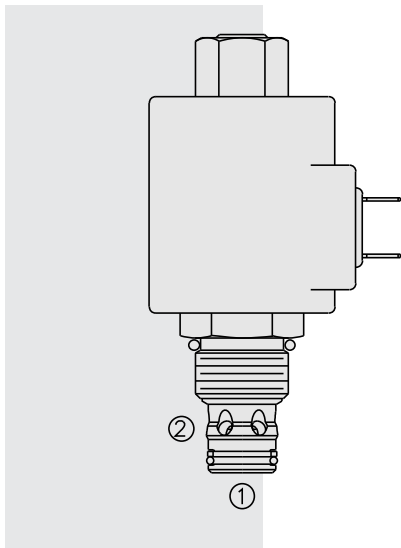
Mounting Screws: Must be ordered separately: Part No. 4001015

TO ORDER



Coils with internal diode are available. Consult factory.

SVRV10-26 Spool, 2-Way, Normally Open,



DESCRIPTION

A solenoid-operated, two-way, spool-type, normally open, screw-in, hydraulic relief valve.

OPERATION

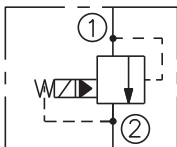
When the coil is de-energized, the valve is open, allowing flow from 1 to 2. When the coil is energized, flow from 1 to 2 is blocked. When the coil is energized and the pressure at 1 exceeds the relief setting, the valve will open to allow flow from 1 to 2.

FEATURES

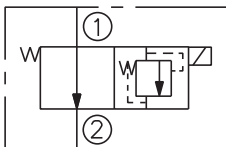
- Various pressure ranges.
- Continuous-duty rated solenoid.
- Hardened spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Industry common cavity.

SYMBOLS

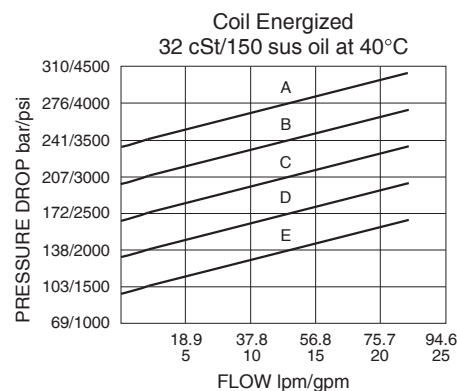
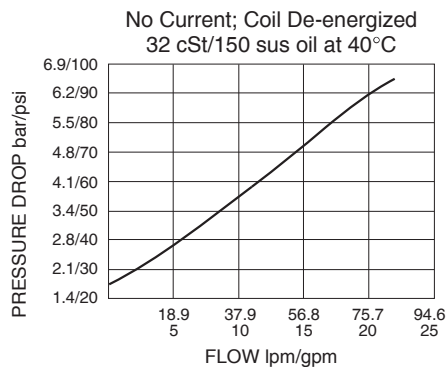
USASI/ISO:



Expanded:



PERFORMANCE (Cartridge Only)



RATINGS

Operating Pressure: 297 bar (4300 psi)

Flow: 0 to 75 lpm (0 to 20 gpm)

Relief Pressure Settings – defined as pressure evident at 7.57 lpm (2 gpm):

- A: 240 ±12 bar (3500 ±175 psi)
- B: 207 ±10.4 bar (3000 ±150 psi)
- C: 172 ±10.3 bar (2500 ±150 psi)
- D: 138 ±9.7 bar (2000 ±140 psi)
- E: 104 ±8.3 bar (1500 ±120 psi)

For custom OEM settings, consult factory.

Reseat Pressure: 80% of relief pressure setting

Pilot Flow & Leakage at 80% of relief pressure setting: 350 ml per minute max.

Pressure Rise at Max. Current (Relief Mode): 0.73 ±0.09 bar/lpm (40.0 ±5.0 psi/gpm)

Temperature: -40 to 120°C with standard Buna seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Initial Coil Current Draw at 20°C: Standard Coil: 1.67 amps at 12 VDC; 0.18 amps at 115 VAC (full wave rectified).

E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC10-2; See page 9.110.1

Cavity Tool: CT10-2XX; See page 8.600.1

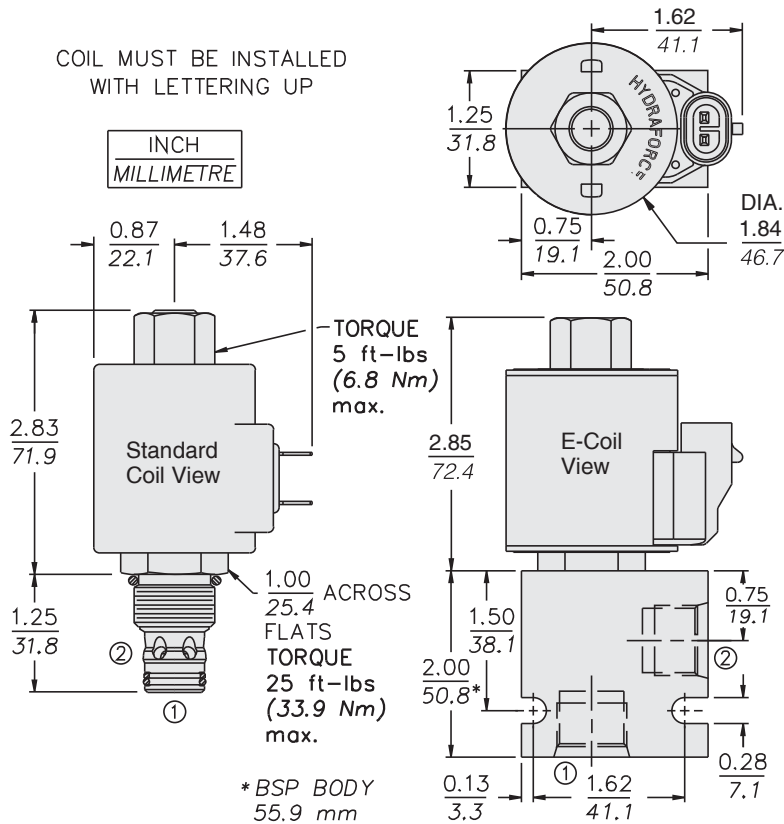
Seal Kit: SK10-2N-B; See page 8.650.1

Coil Nut: Part No. 7004420

with Internal Relief

SVRV10-26

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.19 kg. (0.41 lbs.)
 Steel with hardened work surfaces.
 Zinc-plated exposed surfaces.
 Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.)
 Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight: 0.27 kg. (0.60 lbs.);
 Unitized thermoplastic encapsulated, Class H high temperature magnetwire; See page 3.200.1.

E-Coil: Weight: 0.41 kg. (0.9 lbs.);
 Fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors; See page 3.400.1.

TO ORDER

SVRV10-26

Pressure Settings

- 240 ±12.0 bar (3500 ±175 psi) **A**
- 207 ±10.4 bar (3000 ±150 psi) **B**
- 172 ±10.3 bar (2500 ±150 psi) **C**
- 138 ±9.7 bar (2000 ±140 psi) **D**
- 104 ±8.3 bar (1500 ±120 psi) **E**

For custom OEM settings, consult factory.

Porting

- Cartridge Only **0**
- SAE 6 **6T**
- SAE 8 **8T**
- 1/4 in. BSP* **2B**
- 3/8 in. BSP* **3B**
- 1/2 in. BSP* **4B**

*BSP Body; U.K. Mfr. Only

Seals

- N** Buna N (Std.)
- V** Fluorocarbon
- P** Polyurethane

Voltage

- **Less Coil **0**
- 10 VDC (D- or E-Coil) **10**
- 12 VDC (D- or E-Coil) **12**
- 20 VDC (E-Coil) **20**
- 24 VDC (D- or E-Coil) **24**
- 36 VDC (D-Coil) **36**
- 48 VDC (D-Coil) **48**
- 24 VAC (D-Coil) **24**
- 115 VAC (D-Coil) **115**
- 230 VAC (D-Coil) **230**

**Includes Std. D-Coil Nut.

Coil Termination

- Deutsch DT04-2P **ER** (IP69K)
- Metri-Pak 150 **EY** (IP69K)
- Dual Lead Wires **EL** (IP69K)
- Amp Jr. Timer **EJ** (IP67)
- DIN 43650 **EG** (IP65)
- Dual Spades **—**

E-Coil

- ER** (IP69K)
- EY** (IP69K)
- EL** (IP69K)
- EJ** (IP67)
- EG** (IP65)
-

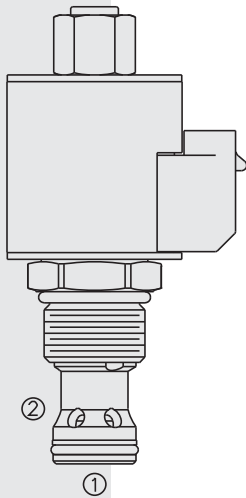
D-Coil

- DR** (IP65)
- DY** (IP65)
- DL** (IP65)
-
- DG** (IP65)
- DS** (IP65)

For Coil with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1

SVRV12-26F Spool, 2-Way, Normally Open,

U.S. Patent
7,137,406



DESCRIPTION

A solenoid-operated, two-way, spool-type, normally open, screw-in, hydraulic pressure-relief valve.

OPERATION

When the coil is de-energized, the **SVRV12-26F** is open, allowing flow from 1 to 2. When the coil is energized, flow from 1 to 2 is blocked. When the coil is energized and the pressure at 1 exceeds the relief setting, the valve will open to allow flow from 1 to 2.

FEATURES

- Continuous-duty rated solenoid.
- Hardened spool and cage for long life.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Industry common cavity.

RATINGS

Operating Pressure: 297 bar (4300 psi)

Flow: 0 to 189 lpm (0 to 50 gpm)

Relief Pressure Range – setting defined as pressure evident at 7.57 lpm (2 gpm):
20.7 to 296.5 bar (300 to 4300 psi)

Reseat Pressure: 80% of relief pressure setting

Pilot Flow & Leakage at 80% of relief pressure setting: 350 ml per minute max.

Temperature: -40 to 100°C with standard Buna seals
-26 to 204°C with Fluorocarbon seals

Coil Duty Rating: Continuous from 85% to 115% of nominal voltage

Pull-In Amps: 1.14 amps maximum

Minimum Pull-in Voltage: 85% of nominal at 207 bar (3000 psi)

Drop-Out Amps: 0.08 amps minimum – defined as relief pressure returning to pressure drop across valve

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

Cavity: VC12-2; See page 9.112.1

Cavity Tool: CT12-2XX; See page 8.600.1

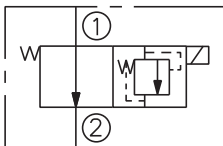
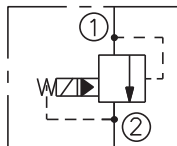
Seal Kit: SK12-2X-B; See page 8.650.1

Coil Nut: Part No. 7004420

SYMBOLS

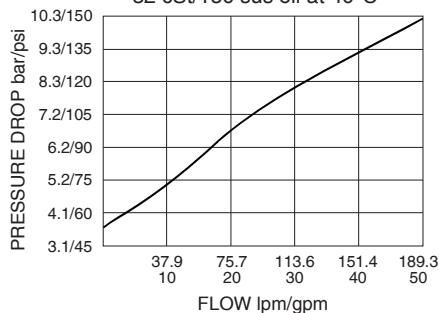
USASI/ISO:

Expanded:

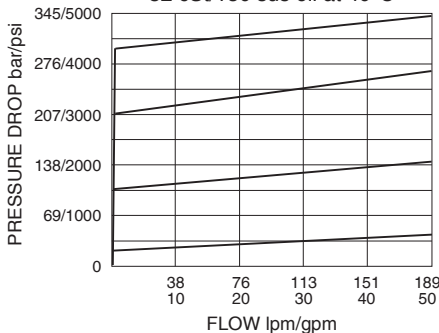


PERFORMANCE (Cartridge Only)

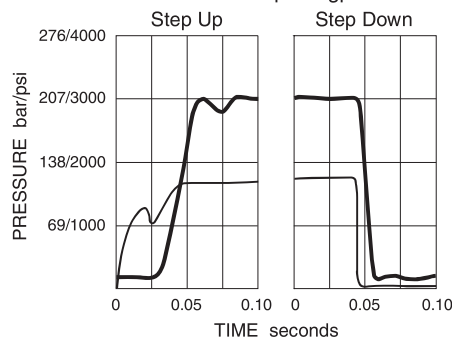
Pressure vs. Flow; Coil De-Energized
32 cSt/150 sus oil at 40°C



Pressure vs. Flow; Coil Energized
32 cSt/150 sus oil at 40°C



Response to Inlet Pressure
Supporting Valve Upstream
Flow 7.6 lpm/2 gpm

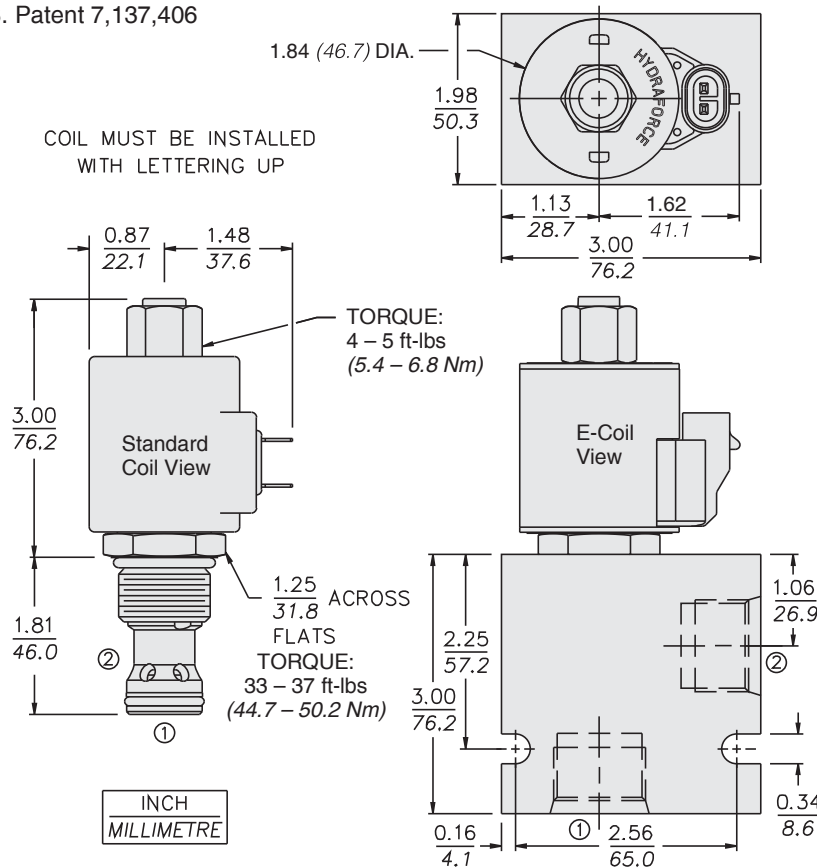


with Internal Relief

SVRV12-26F

DIMENSIONS

U.S. Patent 7,137,406



MATERIALS

Cartridge: Weight: 0.25 kg. (0.56 lbs.)
Steel with hardened work surfaces.
Zinc-plated exposed surfaces.
Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 0.57 kg. (1.25 lbs.)
Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.012.1

Standard Coil: Weight: 0.27 kg. (0.60 lbs.)
Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

E-Coil: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. **Note: See page 3.400.1 for all E-Coil retrofit applications.**

TO ORDER

SVRV12-26F - - - /

<p>Porting</p> <p>Cartridge Only 0</p> <p>Alum. Body</p> <p>SAE 10 10T</p> <p>SAE 12 12T</p> <p>SAE 16 16T</p> <p>1/2 in. BSP* 4B</p> <p>3/4 in. BSP* 6B</p> <p>1 in. BSP* 8B</p> <p>Duct. Iron Body</p> <p>SAE 10 10TD</p> <p>SAE 12 12TD</p> <p>SAE 16 16TD</p> <p>1/2 in. BSP* 4BD</p> <p>3/4 in. BSP* 6BD</p> <p>1 in. BSP* 8BD</p> <p>*BSP Body; U.K. Mfr. Only</p>	<p>Voltage Std. or E-Coil</p> <p>0 Less Coil**</p> <p>12 12 VDC</p> <p>24 24 VDC</p> <p>**Includes Std. Coil Nut.</p> <p>For other voltages, see pages 3.200.1 & 3.400.1</p>	<p>Setting in bar</p> <p>21 to 297 bar</p> <p>Examples:</p> <p>M75 75 bar</p> <p>M190 190 bar</p> <p>Setting in psi</p> <p>300 to 4300 psi</p> <p>Examples:</p> <p>6.0 600 psi</p> <p>30.0 3000 psi</p>
<p>Seals</p> <p>Buna N (Std.) N</p> <p>Fluorocarbon V</p> <p>Polyurethane P</p>	<p>Coil Termination</p> <p>Deutsch DT04-2P ER (IP69K)</p> <p>Metri-Pak 150 EY (IP69K)</p> <p>Dual Lead Wires EL (IP69K)</p> <p>Amp Jr. Timer EJ (IP67)</p> <p>DIN 43650 EG (IP65)</p> <p>Dual Spades —</p>	<p>E-Coil</p> <p>DR (IP65)</p> <p>DY (IP65)</p> <p>DL (IP65)</p> <p>—</p> <p>DG (IP65)</p> <p>DS (IP65)</p>

For Coil with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1