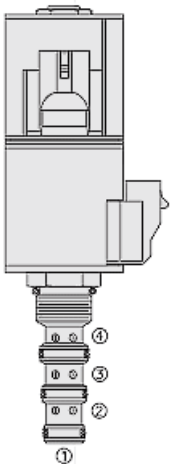
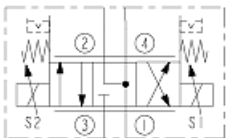




Overview



Symbol



Description

The HSP10-47DX is a high pressure, proportional, 4 port, 3 position, spool type, motor spool, screw-in, cartridge style, hydraulic solenoid valve.

Operation

When de-energized, the HSP10-47DX blocks inlet port, while allowing flow from ports 2 and 4 to port 1. When s1 coil is energized, flow is allowed from 3 to 4, and from 2 to 1. When s2 coil is energized, flow is allowed from port 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.

Manual Override Operation

For normal valve operation (neutral) the manual override pin must be seated in the center detent groove (id groove on knob is in-line with top of coil nut). To shift the valve manually from neutral to activate coil s1 function the knob is pushed down slightly and rotated 90° counterclockwise and pulled. To detent in this position rotate the knob an additional 90° counterclockwise to lock in the upper detent groove. To shift manually from neutral to activate coil s2 function the knob is push down all the way. To detent in this position rotate the knob 90° clockwise to lock in the lower detent groove. The manual override feature is intended for emergency use, not for continuous operation.

Features

- Industry-common cavity.
- Continuous-duty rated coil.
- Efficient wet-armature construction.
- Waterproof E-Coils rated up to IP69K.
- Patented high strength solenoid tube
- 960 hour salt-spray rated solenoid tubes.
- All HyPerformance products are tested to NFPA specification T2.6.1.
- and are tested at a verification level of 90% and an assurance of 99%

Ratings

Pressure Ratings

Pressure rating	350 bar (5075 psi)	- Note: (10% cycle life)
	420 bar (6090 psi)	
Proof pressure	690 bar (10000 psi)	
Burst pressure	1380 bar (20000 psi)	

Flow Ratings

Flow rating	See performance graph
Maximum internal leakage	508 ml/min (30 in ³ /min) - Note: Port 3 to port 1, at de-energized 350 bar (5075 psi)
Hysteresis per cent	10 % - Note: Of flow rating between 3.8 to 20.8 lpm (1.0 to 5.5 gpm)

Other Ratings

Cycle life	One million cycles
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Temperature Ratings

Operating fluid temperature	-40 to 100 °C (-40 to 212 °F)	- Note: With buna N seals
	-26 to 204 °C (-15 to 400 °F)	- Note: With fluorocarbon seals
	-54 to 107 °C (-65 to 225 °F)	- Note: With urethane seals
Storage temperature	-40 to 70 °C (-40 to 160 °F)	
Ambient temperature	-40 to 90 °C (-40 to 194 °F)	

Operating Parameters

Fluids	Mineral based or synthetic hydraulic fluid with lubricating properties
Fluid viscosity range	7.4 to 420 cSt
Maximum operating contamination level	18/16/13 per ISO 4406



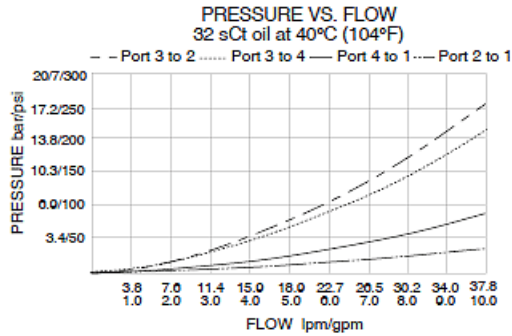
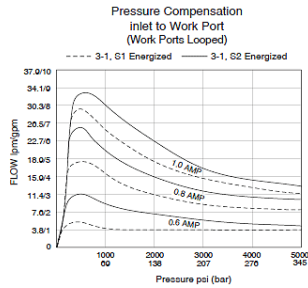
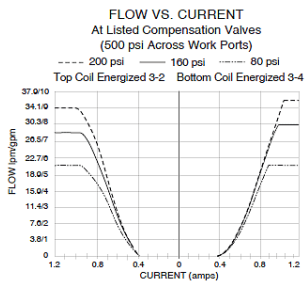
Properties

Unit weight	0.28 kg (0.61 lb)	- Note: Without coil and nut
Internal wetted surface area	243 cm ² (37.62 in ²)	

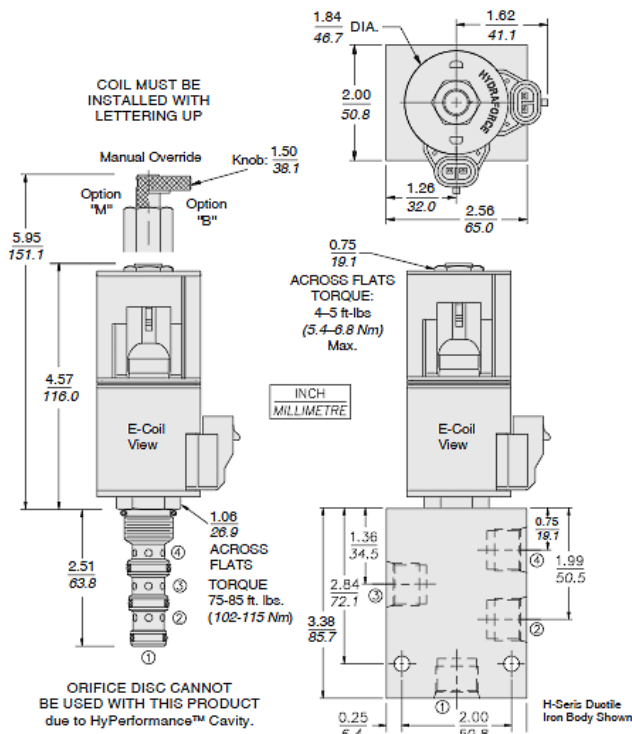
Electrical Parameters

Maximum control current	1.2 A	- Note: For coil 12 Vdc
Threshold current	0.44 A	- Note: Nominal for coil s1 12 Vdc
	0.38 A	- Note: Nominal for coil s2 12 Vdc
Dither PWM frequency	100 Hz	

Performance



Dimensions



Installation Specifications

Cavity	HVC10-4	
Cartridge installation torque	102 to 115 N-m (75 to 85 ft-lb)	- Note: Steel/ductile iron cavity
	81 to 88 N-m (60 to 65 ft-lb)	- Note: Aluminum cavity
Orientation restriction	None	

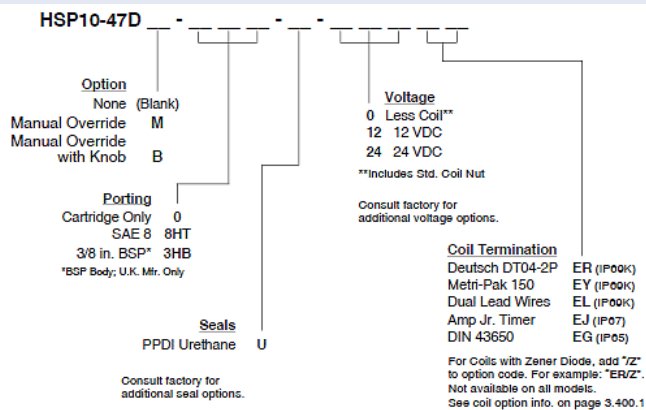


Accessories

Seal kit	SK10-4N-MMM	- Note: Buna N
	SK10-4V-MMM	- Note: Fluorocarbon
	SK10-4U-OOO	- Note: Urethane
Housings		
Coils		



Order Code



POSITION	CODE	DESCRIPTION
		HSP10-47DE-H-J-L
E		Manual Override
E	B	Momentary Push/Pull Override, 1.5" Diameter Aluminum Knob
E	BLANK	NONE
E	K	Three Position Override, 1.5" Diameter Aluminum Knob
E	M	Momentary Push/Pull Override, Red Knurled Knob
H		Line Body
H	0	No Body
H	8HT	Ductile Iron SAE 8
J		Seal
J	N	Buna-N
J	V	Fluorocarbon
J	U	PPDI Urethane
L		Coil
L	0E	No Coil, E-Coil Spacer
L	10EL	10 VDC, E-Coil, Dual Lead Wires
L	10ER	10 VDC, E-Coil, Deutsch
L	12EG	12 VDC, E-Coil, DIN 43650
L	12EJ	12 VDC, E-Coil, AMP Jr.
L	12EL	12 VDC, E-Coil, Dual Lead Wires, 18 inches long
L	12EL/36	12 VDC, E-Coil, Dual Lead Wires, 36 inches long
L	12ER	12 VDC, E-Coil, Deutsch
L	12EY	12 VDC, E-Coil, Metri-Pack 150
L	20ER	20 VDC, E-Coil, Deutsch
L	24EG	24 VDC, E-Coil, DIN 43650
L	24EJ	24 VDC, E-Coil, AMP Jr.
L	24EL	24 VDC, E-Coil, Dual Lead Wires, 18 inches long
L	24EL/36	24 VDC, E-Coil, Dual Lead Wires, 36 inches long
L	24ER	24 VDC, E-Coil, Deutsch
L	24EY	24 VDC, E-Coil, Metri-Pack 150