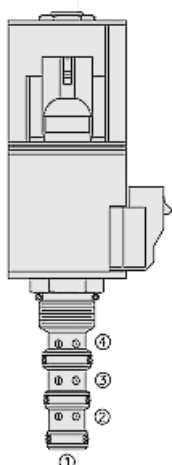
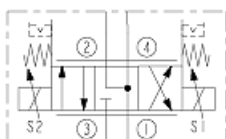




## Overview



### 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) 420 bar (6090 psi)	- <b>Note:</b> (10% cycle life)
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 <sup>3</sup> /min) (5075 psi)	- <b>Note:</b> Port 3 to port 1, at de-energized 350 bar
Hysteresis per cent	10 %	- <b>Note:</b> 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) -26 to 204 °C (-15 to 400 °F) -54 to 107 °C (-65 to 225 °F)	- <b>Note:</b> With buna N seals - <b>Note:</b> With fluorocarbon seals - <b>Note:</b> 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

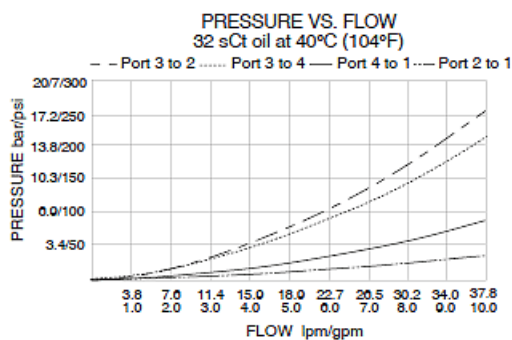
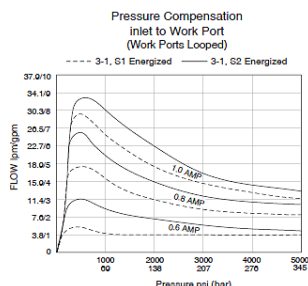
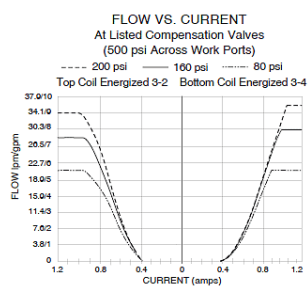
## Properties

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

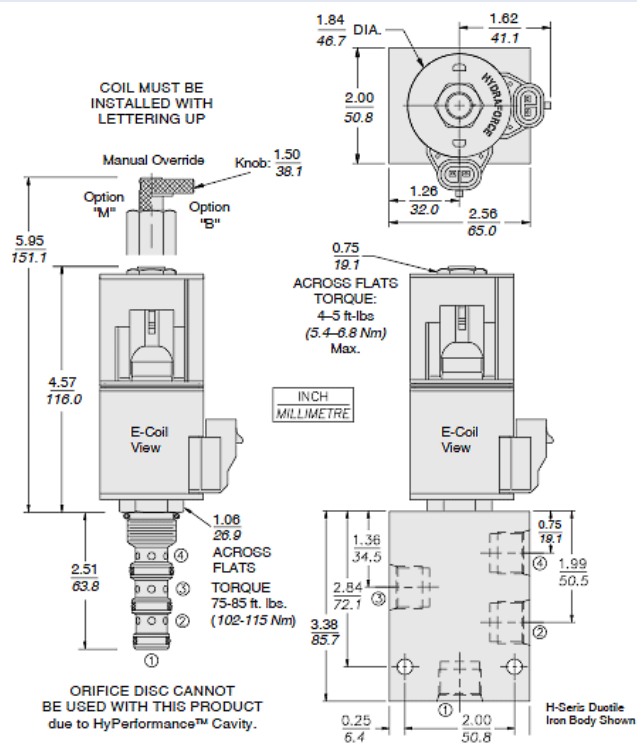
## Electrical Parameters

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

## Performance



## Dimensions





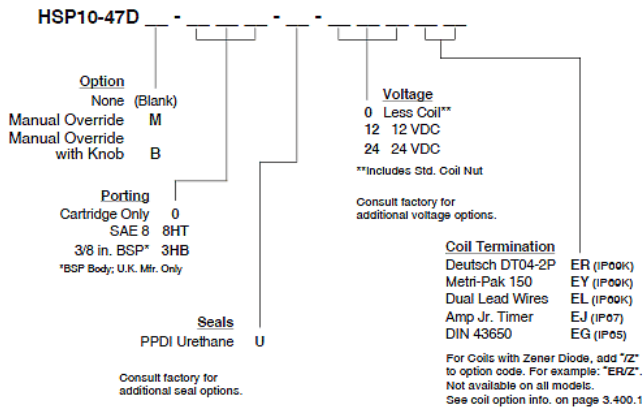
## Installation Specifications

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

## Accessories

Seal kit	SK10-4N-MMM	<b>- Note:</b> Buna N
	SK10-4V-MMM	<b>- Note:</b> Fluorocarbon
	SK10-4U-OOO	<b>- Note:</b> Urethane

## Order Code



### Model Options

#### HSP10-47DE-H-J-L

#### E Manual Override

CODE	DESCRIPTION
B	Momentary Push/Pull Override, 1.5" Diameter Aluminum Knob
BLANK	NONE
K	Three Position Override, 1.5" Diameter Aluminum Knob
M	Momentary Push/Pull Override, Red Knurled Knob

#### H Line Body

CODE	DESCRIPTION
0	No Body
8HT	Ductile Iron SAE 8

#### J Seal

CODE	DESCRIPTION
N	Buna-N
V	Fluorocarbon
U	PPDI Urethane

#### L Coil

CODE	DESCRIPTION
0E	No Coil, E-Coil Spacer
10EL	10 VDC, E-Coil, Dual Lead Wires
10ER	10 VDC, E-Coil, Deutsch
12EG	12 VDC, E-Coil, DIN 43650
12EJ	12 VDC, E-Coil, AMP Jr.



CODE	DESCRIPTION
12EL	12 VDC, E-Coil, Dual Lead Wires, 18 inches long
12EL/36	12 VDC, E-Coil, Dual Lead Wires, 36 inches long
12ER	12 VDC, E-Coil, Deutsch
12EY	12 VDC, E-Coil, Metri-Pack 150
20ER	20 VDC, E-Coil, Deutsch
24EG	24 VDC, E-Coil, DIN 43650
24EJ	24 VDC, E-Coil, AMP Jr.
24EL	24 VDC, E-Coil, Dual Lead Wires, 18 inches long
24EL/36	24 VDC, E-Coil, Dual Lead Wires, 36 inches long
24ER	24 VDC, E-Coil, Deutsch
24EY	24 VDC, E-Coil, Metri-Pack 150