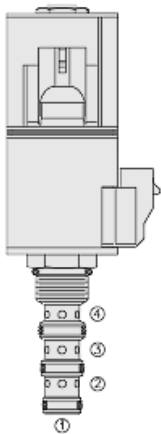




Overview



Description

The HSV10-47DX is a high pressure, 4 port, 3 position, spool type, screw-in, cartridge style, hydraulic solenoid valve.

Operation

When de-energized, the HSV10-47DX 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.

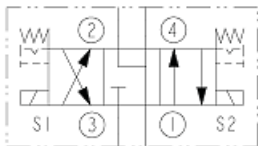
Manual Override Operation

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

- o Manual override option.
- o Unitized, molded coil design.
- o Waterproof E&C Coils rated up to IP69K.
- o Corrosion-resistant plating.
- o Continuous-duty rated solenoid with patented, high-strength solenoid tube.
- o Hardened precision spool and cage for long life.
- o All ports may be fully pressurized.
- o All HyPerformance[®] products are tested to the rigorous standards of the NFPA specification T2.6.1.
- o All HyPerformance[®] valves are tested at a verification level of 90% and an assurance of 99%.

Symbol



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	575 ml/min (35 in ³ /min) - Note: Port 3 to port 1, at de-energized 350 bar (5075 psi)

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

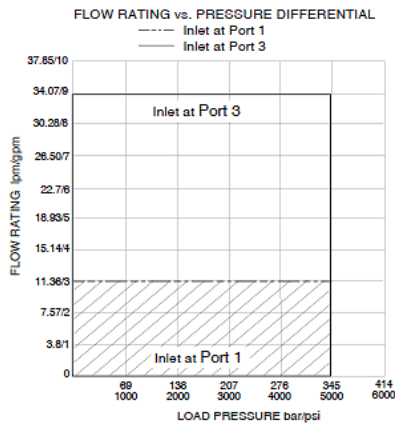
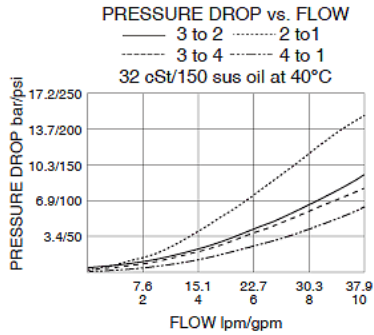
Fluids	Mineral based or synthetic hydraulic fluid with lubricating properties
Fluid viscosity range	7.4 to 420 cSt
Maximum operating contamination level	18/16/13 per ISO 4406



Properties

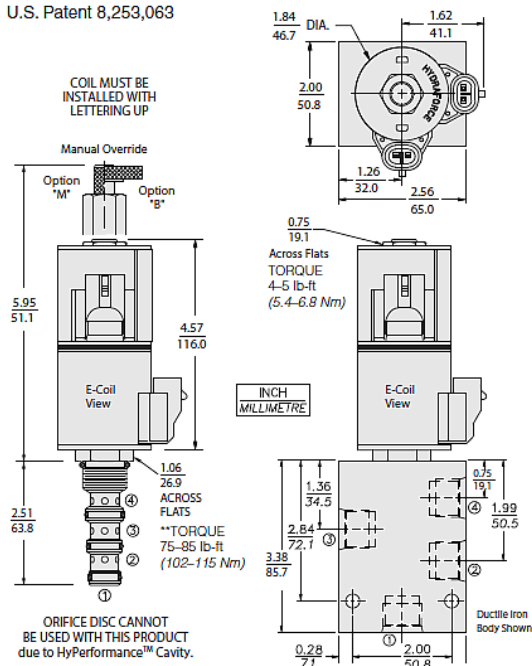
Unit weight	0.31 kg (0.68 lb) 0.35 kg (0.78 lb)	- Note: HSV10-47D without coil and nut - Note: HSV10-47DM HSV10-47DB without coil and nut
Internal wetted surface area	248 cm ² (38.4 in ²) 301 cm ² (46.7 in ²)	- Note: HSV10-47D - Note: HSV10-47DM HSV10-47DB

Performance



Dimensions

U.S. Patent 8,253,063



**Cartridge torque shown for ductile iron manifold. Torque 60-65 lb-ft (81-88 Nm) in aluminum. Aluminum housing is rated to 207 bar (3000 psi).



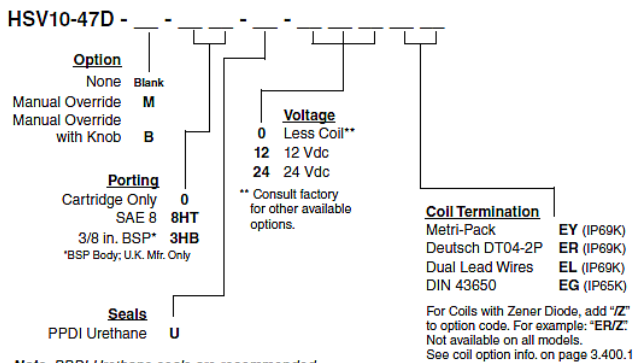
Installation Specifications

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
Coil nut torque	5.4 to 6.8 N-m (4 to 5 ft-lb)	
Orientation restriction	None	

Accessories

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

Order Code



Note: PPDl Urethane seals are recommended for pressures over 241 bar (3500 psi).

Note: Consult factory for additional seal options.

POSITION	CODE	DESCRIPTION
		HSV10-47DE-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	10ER/Z	10 VDC, E-Coil, Deutsch with Zener Diode
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



POSITION	CODE	DESCRIPTION
L	12EL/W/Z	12 VDC, E-Coil, Dual Lead Wires with WeatherPak and Zener Diode
L	12EL/Z	12 VDC, E-Coil, Dual Lead Wires with Zener Diode
L	12ER	12 VDC, E-Coil, Deutsch
L	12ER/Z	12 VDC, E-Coil, Deutsch with Zener Diode
L	12EY	12 VDC, E-Coil, Metri-Pack 150
L	12EY/Z	12 VDC, E-Coil, Metri-Pack 150 with Zener Diode
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	24EL/W/Z	24 VDC, E-Coil, Dual Lead Wires with WeatherPak and Zener Diode
L	24ER	24 VDC, E-Coil, Deutsch
L	24ER/Z	24 VDC, E-Coil, Deutsch with Zener Diode
L	24EY	24 VDC, E-Coil, Metri-Pack 150
L	24EY/Z	24 VDC, E-Coil, Metri-Pack 150 with Zener Diode