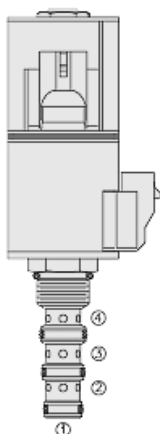
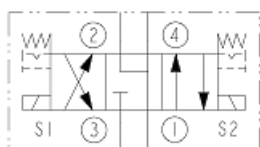




## Overview



### Symbol



### 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

- Manual override option.
- Unitized, molded coil design.
- Waterproof E-Coils rated up to IP69K.
- Corrosion-resistant plating.
- Continuous-duty rated solenoid with patented, high-strength solenoid tube.
- Hardened precision spool and cage for long life.
- All ports may be fully pressurized.
- All HyPerformance<sup>®</sup> products are tested to the rigorous standards of the NFPA specification T2.6.1.
- All HyPerformance<sup>®</sup> valves 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	<b>- Note:</b> Port 3 to port 1, at de-energized 350 bar
Maximum internal leakage	575 ml/min (35 in <sup>3</sup> /min) (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)	<b>- Note:</b> With buna N seals
	-26 to 204 °C (-15 to 400 °F)	<b>- Note:</b> With fluorocarbon seals
	-54 to 107 °C (-65 to 225 °F)	<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)	



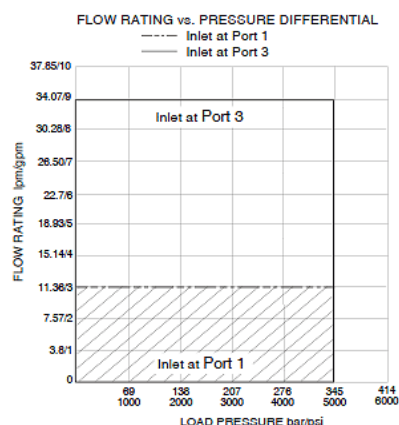
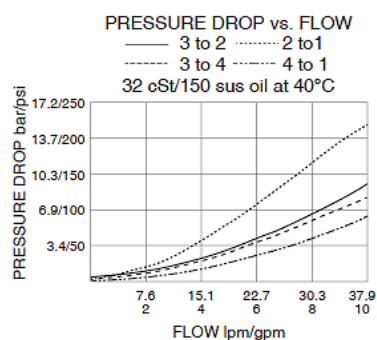
## Operating Parameters

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

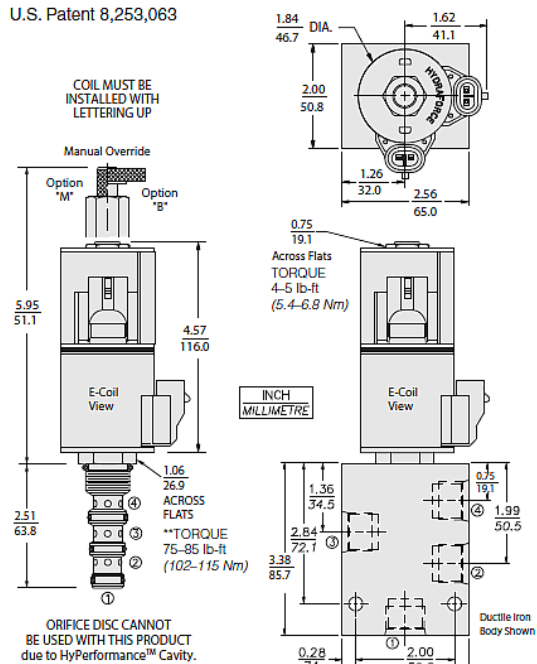
## Performance





## 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).

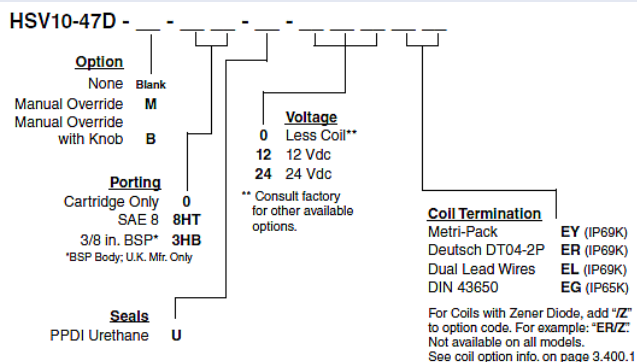
## Installation Specifications

Cavity	HVC10-4	
Cartridge installation torque	102 to 115 N-m (75 to 85 ft-lb) 81 to 88 N-m (60 to 65 ft-lb)	- <b>Note:</b> Steel/ductile iron cavity - <b>Note:</b> 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	- <b>Note:</b> Buna N
	SK10-4V-MMM	- <b>Note:</b> Fluorocarbon
	SK10-4N-OOO	- <b>Note:</b> Urethane

## Order Code



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

**Note:** Consult factory for additional seal options.

### Model Options

#### HSV10-47DE-H-J-L

#### E Manual Override

CODE	DESCRIPTION
B	Momentary Push/Pull Override, 1.5" Diameter Aluminum Knob
BLANK	NONE



CODE	DESCRIPTION
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
10ER/Z	10 VDC, E-Coil, Deutsch with Zener Diode
12EG	12 VDC, E-Coil, DIN 43650
12EJ	12 VDC, E-Coil, AMP Jr.
12EL	12 VDC, E-Coil, Dual Lead Wires, 18 inches long
12EL/36	12 VDC, E-Coil, Dual Lead Wires, 36 inches long
12EL/W/Z	12 VDC, E-Coil, Dual Lead Wires with WeatherPak and Zener Diode
12EL/Z	12 VDC, E-Coil, Dual Lead Wires with Zener Diode
12ER	12 VDC, E-Coil, Deutsch
12ER/Z	12 VDC, E-Coil, Deutsch with Zener Diode
12EY	12 VDC, E-Coil, Metri-Pack 150
12EY/Z	12 VDC, E-Coil, Metri-Pack 150 with Zener Diode
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
24EL/W/Z	24 VDC, E-Coil, Dual Lead Wires with WeatherPak and Zener Diode
24ER	24 VDC, E-Coil, Deutsch
24ER/Z	24 VDC, E-Coil, Deutsch with Zener Diode
24EY	24 VDC, E-Coil, Metri-Pack 150
24EY/Z	24 VDC, E-Coil, Metri-Pack 150 with Zener Diode