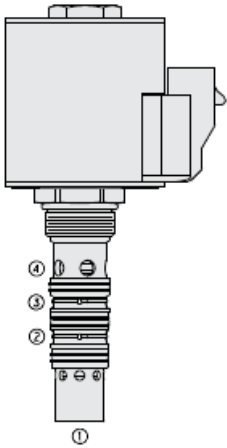




Overview



Description

A solenoid-operated, 4 port, normally closed, poppet-type, proportional, screw-in hydraulic cartridge valve, designed for low leakage, blocking and load-holding applications.

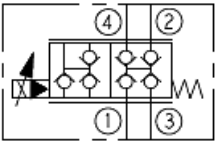
Operation

When energized, the poppet lifts to allow flow from port 4 to ports 1, 2 and 3, flow at port 2 and 3 are typical for load sensing applications and includes a check valve for isolation.

Features

- Industry-common cavity.
- Continuous-duty rated coils.
- Reduce manifold space claim.
- Efficient wet-armature construction.
- Optional waterproof E-Coils rated up to IP69K.

Symbol



Ratings

Pressure Ratings

Pressure rating	250 bar (3625 psi)
Proof pressure	345 bar (5000 psi)
Burst pressure	779 bar (11300 psi)

Flow Ratings

Flow rating	See performance graphs	
Maximum internal leakage	5 drops/min	- Note: Port 1 and 4 at 250 bar (3625 psi)
	10 drops/min	- Note: Port 2 and 4 at 250 bar (3625 psi)
Hysteresis per cent	10 %	- Note: Of max flow (at max control current)

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 polyurethane seals
Storage temperature	-40 to 70 °C (-40 to 160 °F)	
Ambient temperature	-40 to 70 °C (-40 to 160 °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	20/18/14 per ISO 4406

Properties

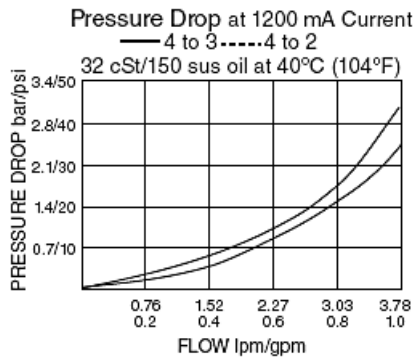
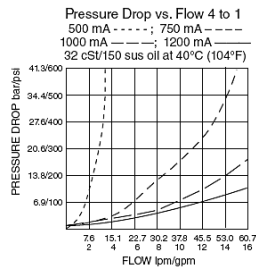
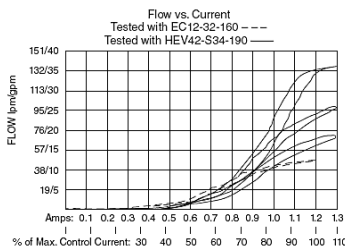
Unit weight	0.21 kg (0.46 lb)
Internal wetted surface area	189 cm ² (29.3 in ²)



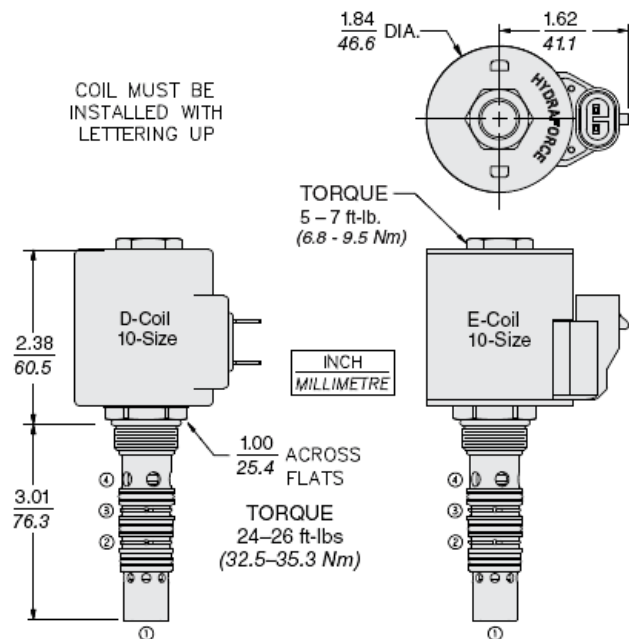
Electrical Parameters

Valve inductance	173.3 mH	- Note: At 1.2 A
Maximum control current	1.44 A	- Note: 10 V D-series coil
	1.20 A	- Note: 12 V D-series coil
	1.40 A	- Note: 12 V E-series coil
	0.74 A	- Note: 20 V D-series coil
	0.60 A	- Note: 24 V D-series coil
	0.70 A	- Note: 24 V E-series coil
Threshold current	0.36 A	- Note: 10 V D-series coil
	0.30 A	- Note: 12 V D-series coil
	0.30 A	- Note: 12 V E-series coil
	0.18 A	- Note: 20 V D-series coil
	0.15 A	- Note: 24 V D-series coil
	0.15 A	- Note: 24 V E-series coil
Dither PWM frequency	100 Hz	

Performance



Dimensions



Installation Specifications

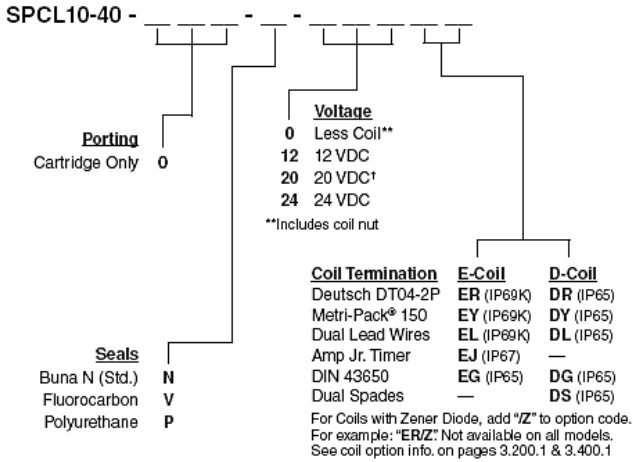
Cavity	VC10-4B
Cartridge installation torque	32.5 to 35.3 N-m (24 to 26 ft-lb)
Coil nut torque	6.8 to 9.5 N-m (5 to 7 ft-lb)
Orientation restriction	None

Accessories

Seal kit	SK10-4K-MMM	- Note: X = seal option
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Order Code



Model Options

SPCL10-40E-H-J-L

E Manual Override

CODE	DESCRIPTION
BLANK	NONE
J	Momentary Pull Override, #10-32 threads
M	Two Position Override, Red Knurled Knob
T	Variable Position Override, Red Knurled Knob
Y	Momentary Pull Override, Red Knurled Knob

H Line Body

CODE	DESCRIPTION
0	No Body

J Seal

CODE	DESCRIPTION
N	Buna-N
V	Fluorocarbon
P	Polyurethane
U	PPDI Urethane

L Coil

CODE	DESCRIPTION
0	No Coil
10DG	10 VDC, D-Coil, DIN 43650
10DL	10 VDC, D-Coil, Dual Lead Wires
10DS	10 VDC, D-Coil, Dual Spade
10EL	10 VDC, E-Coil, Dual Lead Wires
10ER	10 VDC, E-Coil, Deutsch
12DG	12 VDC, D-Coil, DIN 43650
12DL	12 VDC, D-Coil, Dual Lead Wires, 18 inches long
12DL/36	12 VDC, D-Coil, Dual Lead Wires, 36 inches long
12DL/W	12 VDC, D-Coil, Dual Lead Wires with Weatherpak
12DR	12 VDC, D-Coil, Deutsch



CODE	DESCRIPTION
12DS	12 VDC, D-Coil, Dual Spade
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
12ER	12 VDC, E-Coil, Deutsch
12EY	12 VDC, E-Coil, Metri-Pack 150
20DS	20 VDC, D-Coil, Dual Spade
20ER	20 VDC, E-Coil, Deutsch
24AG	24 VDC, D-Coil, DIN 43650
24AP	24 VDC, D-Coil, 1/2" Conduit and Dual Lead Wires
24DG	24 VDC, D-Coil, DIN 43650
24DL	24 VDC, D-Coil, Dual Lead Wires
24DL/W	24 VDC, D-Coil, Dual Lead Wires with Weatherpak
24DP	24 VDC, D-Coil, 1/2" Conduit and Dual Lead Wires
24DR	24 VDC, D-Coil, Deutsch
24DS	24 VDC, D-Coil, Dual Spade
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
36DS	36 VDC, D-Coil, Dual Spade