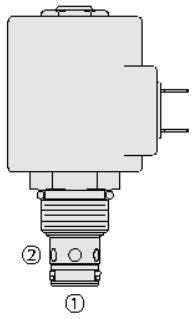
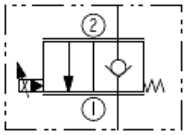
SOLENOID VALVE POPPET, 2 WAY NORMALLY CLOSED

Overview



SYMBOL



Description

A solenoid-operated, 2-way, normally closed, poppet-type, proportional, screw-in hydraulic cartridge valve, designed for low leakage blocking and load-holding applications.

Operation

When de-energized, the SP10-20xxx acts as a check valve, allowing flow from 1 to 2, while blocking flow from 2 to 1. When energized, the poppet lifts to open the 2 to 1 flow path.

Features

- Continuous-duty rated coil.
- Efficient wet-armature construction.
- Manual override options.
- Optional waterproof E-Coils rated up to IP69K.
- Industry common cavity.
- Metering option.

Ratings

Pressure Ratings

Pressure rating: 250 bar (3625 psi)

Proof pressure: 345 bar (5000 psi)

Burst pressure: 827 bar (12000 psi)

Flow Ratings

Flow rating: See performance graphs

Maximum internal leakage: 5 drops/min

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 viton 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: 0.16 kg (0.34 lb)

Internal wetted surface area: 12065 mm^2 (18.7 in^2)

Electrical Parameters

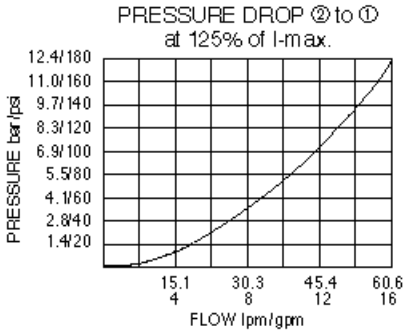
Valve inductance: 173.3 mH

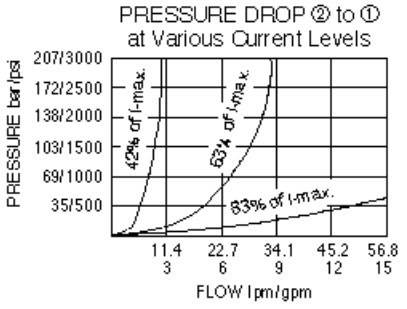
SOLENOID VALVE POPPET, 2 WAY NORMALLY CLOSED

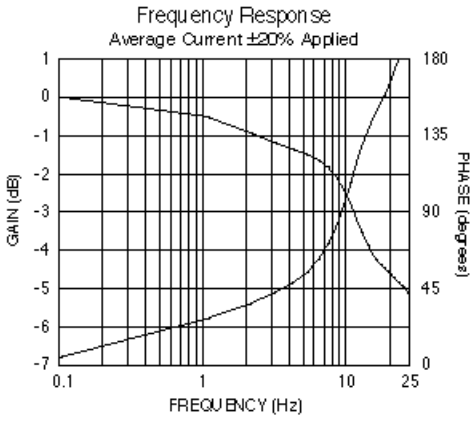
Dither PWM frequency: 100 Hz

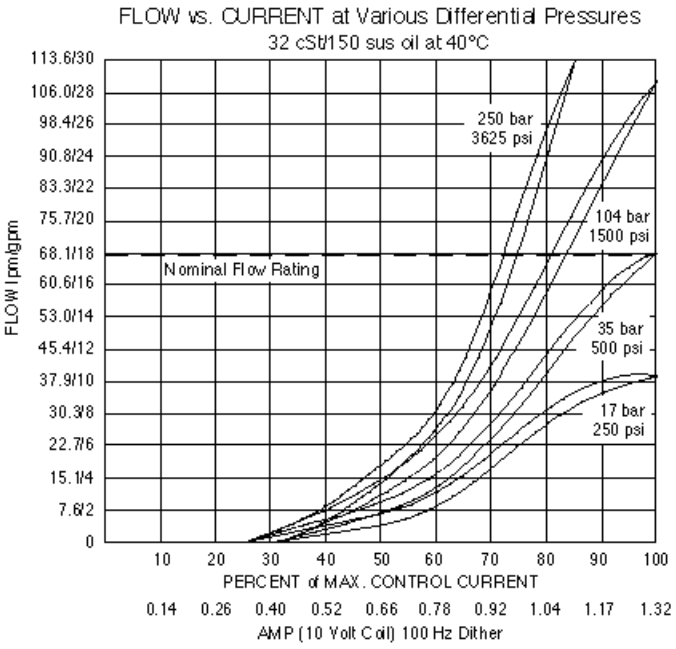
	10 V D-series coil	12 V D-series coil	12 V E-series coil	20 V D-series coil	24 V D-series coil	24 V E-series coil
Maximum control current	1.44 A	1.20 A	1.40 A	0.74 A	0.60 A	0.70 A
Threshhold current	0.36 A	0.30 A	0.30 A	0.18 A	0.15 A	0.15 A

Performance



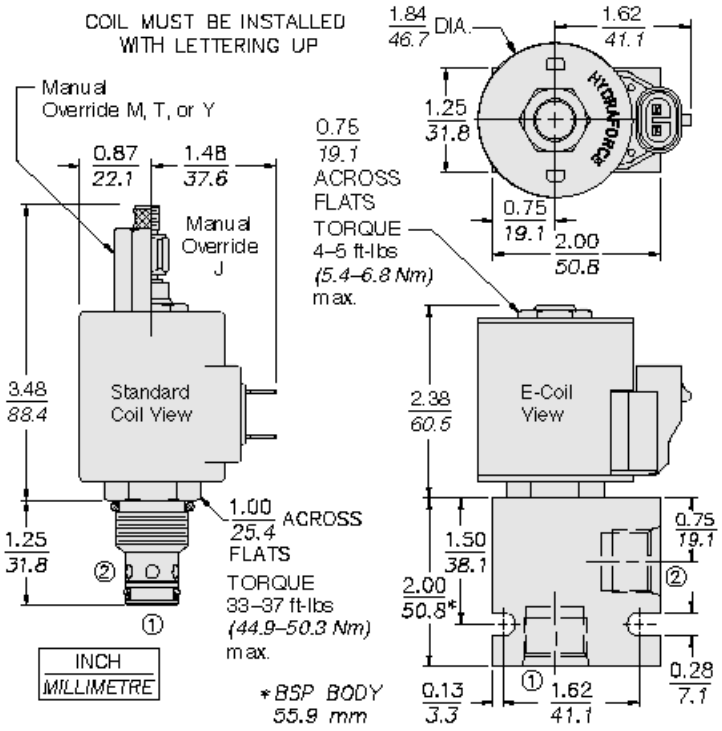






SOLENOID VALVE POPPET, 2 WAY NORMALLY CLOSED

Dimensions



Installation Specifications

Cavity: VC10-2

10-size-2-way Cavities

Cartridge installation torque: 44.9 to 50.3 N-m (33 to 37 ft-lb)

Maximum allowable torque: 67.8 N-m (50 ft-lb)

Coil nut torque: 6.8 to 9.5 N-m (5 to 7 ft-lb)

Orientation restriction: None

Accessories

Seal kit: SK10-2X-T

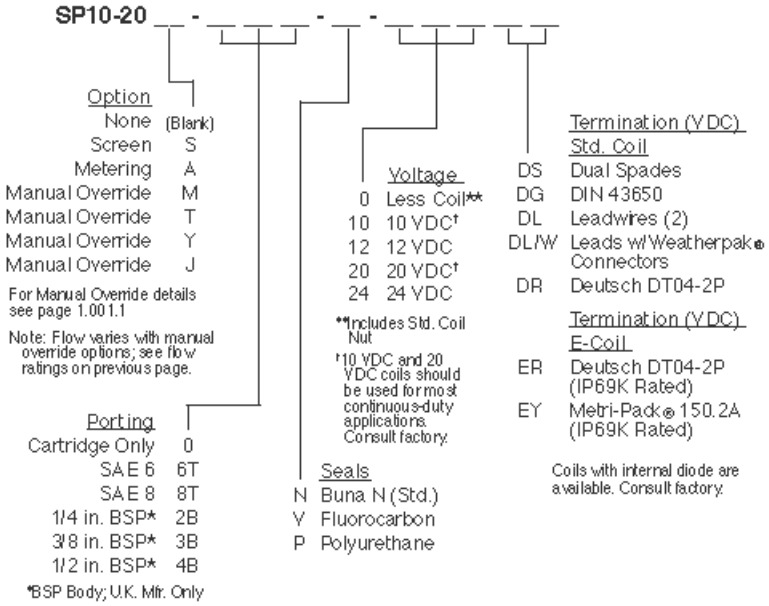
Seal kit installation instructions

Housings: Available 10-2w valve bodies

Coils: 10 size D coils; 10 size E coils

SOLENOID VALVE POPPET, 2 WAY NORMALLY CLOSED

Order Code



Model Options

SP10-20DEG-H-J-L

D Poppet Metering

CODE	DESCRIPTION
A	Linear Poppet Metering
BLANK	Standard Poppet Metering

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

G Screen

CODE	DESCRIPTION
BLANK	NONE
S	100 Mesh Screen

H Line Body

CODE	DESCRIPTION
0	No Body
6T	Aluminum SAE 6
8T	Aluminum SAE 8
6TD	Ductile Iron SAE 6
8TD	Ductile Iron SAE 8
2B	Aluminum BSPP 1/4" (2)
3B	Aluminum BSPP 3/8" (3)
4B	Aluminum BSPP 1/2" (4)
4BD	Ductile Iron BSPP 1/2" (4)

SOLENOID VALVE POPPET, 2 WAY NORMALLY CLOSED

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
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