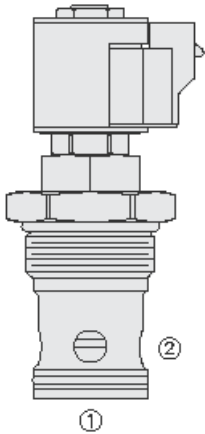




Overview



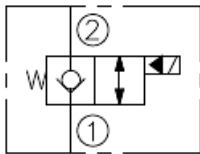
Description

A solenoid-operated, 2 way, normally closed, poppet-type, screw in hydraulic cartridge valve, designed to function as a load holding or blocking valve in applications requiring low internal leakage at high pressure. When de-energized, the SF20-22 acts as a check valve, allowing flow to pass from port 1 to port 2, while blocking flow in the reverse direction. When energized, the poppet lifts to open the port 2 to port 1 flow path. In the energized mode, flow is also allowed from port 1 to port 2

Features

- Continuous-duty rated coil.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Optional waterproof E-Coils rated up to IP69K.
- Corrosion-resistant plating.
- Industry common cavity.

Symbol



Ratings

Pressure Ratings

Pressure rating 1.4 to 345 bar (20 to 5000 psi)

Flow Ratings

Flow rating 303 lpm (80 gpm)
Maximum internal leakage 10 drops/min - **Note:** Max at 345 bar (5000 psi)

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

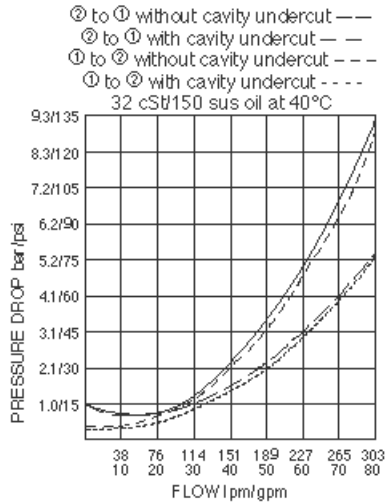
Fluids	Mineral based or synthetic hydraulic fluid with lubricating properties
Fluid viscosity range	7.4 to 420 cSt
Maximum operating contamination level	20/18/14 per ISO 4406

Properties

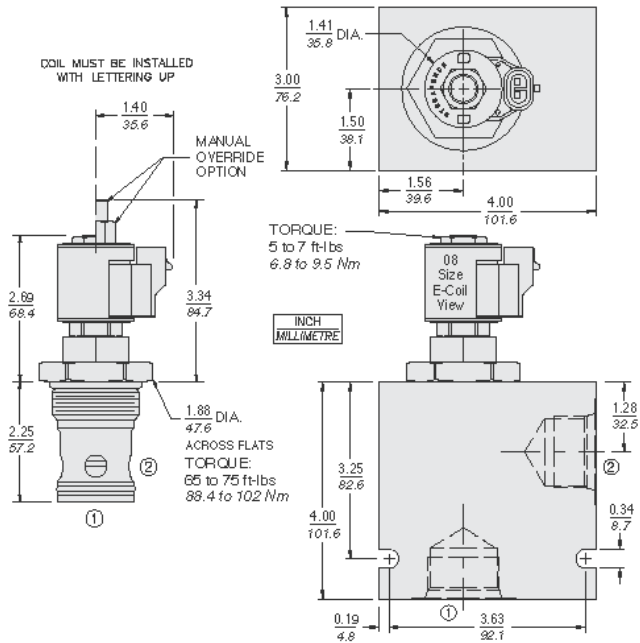
Unit weight	1.43 lb (0.65 kg)
Internal wetted surface area	378 cm ² (58.6 in ²)



Performance



Dimensions



Materials

Materials

Cartridge: Weight: 0.61 kg (1.35 lb); Steel with hardened work surfaces. Corrosion-resistant zinc-nickel plated exposed surfaces; Buna N O-rings and polyester elastomer back-up standard.

Standard Ported Body: Weight: 4.51 kg (9.94 lb); Ductile iron standard, rated to 345 bar (5000 psi); Aluminum bodies available; dimensions may differ.

Standard D-Coil: Weight each: 0.11 kg (0.25 lb); Unitized thermoplastic encapsulated, Class H high temperature magnet wire.

E-Coil: Weight: 0.14 kg (0.3 lb); Perfect wound, fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors.

Installation Specifications

Cavity	VC20-2
Cartridge installation torque	88.4 to 102 N-m (65 to 75 ft-lb)
Coil nut torque	5.4 to 6.8 N-m (4 to 5 ft-lb)
Orientation restriction	None



Accessories

Seal kit SK20-2X-T - **Note:** X = seal option
Housings
Coils

Order Code

POSITION	CODE	DESCRIPTION
		SF20-22E-H-J-L
E		Manual Override
E	BLANK	NONE
E	J	Momentary Pull Override, #10-32 threads
E	M	Two Position Override, Red Knurled Knob
E	Y	Momentary Pull Override, Red Knurled Knob
H		Line Body
H	0	No Body
H	16T	Aluminum SAE 16
H	20T	Aluminum SAE 20
H	16TD	Ductile Iron SAE 16
H	20TD	Ductile Iron SAE 20
J		Seal
J	N	Buna-N
J	V	Fluorocarbon
J	P	Polyurethane
L		Coil
L	0	No Coil
L	10DL	10 VDC, D-Coil, Dual Lead Wires
L	10DR/D	10 VDC, D-Coil, Deutsch with Diode
L	10DS	10 VDC, D-Coil, Dual Spade
L	10EL	10 VDC, E-Coil, Dual Lead Wires, 18 inches long
L	10EL/36	10 VDC, E-Coil, Dual Lead Wires, 36 inches long
L	10ER	10 VDC, E-Coil, Deutsch
L	10ER/Z	10 VDC, E-Coil, Deutsch with Zener Diode
L	12DG	12 VDC, D-Coil, DIN 43650
L	12DL	12 VDC, D-Coil, Dual Lead Wires, 18 inches long
L	12DL/36	12 VDC, D-Coil, Dual Lead Wires, 36 inches long
L	12DL/W	12 VDC, D-Coil, Dual Lead Wires with Weatherpak
L	12DL/W/D	12 VDC, D-Coil, Dual Lead Wires with Weatherpak with Diode
L	12DR	12 VDC, D-Coil, Deutsch
L	12DR/D	12 VDC, D-Coil, Deutsch with Diode
L	12DR/Z	12 VDC, D-Coil, Deutsch with Zener Diode
L	12DS	12 VDC, D-Coil, Dual Spade
L	12EG	12 VDC, E-Coil, DIN 43650
L	12EG/Z	12 VDC, E-Coil, DIN 43650 with Zener Diode
L	12EJ	12 VDC, E-Coil, AMP Jr.
L	12EJ/Z	12 VDC, E-Coil, AMP Jr. with Zener Diode



POSITION	CODE	DESCRIPTION
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
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	20DG	20 VDC, D-Coil, DIN 43650
L	20DS	20 VDC, D-Coil, Dual Spade
L	20ER	20 VDC, E-Coil, Deutsch
L	20ER/Z	20 VDC, E-Coil, Deutsch with Zener Diode
L	24AG	24 VDC, D-Coil, DIN 43650
L	24AP	24 VDC, D-Coil, 1/2" Conduit and Dual Lead Wires
L	24DG	24 VDC, D-Coil, DIN 43650
L	24DL	24 VDC, D-Coil, Dual Lead Wires, 18 inches long
L	24DL/36	24 VDC, D-Coil, Dual Lead Wires, 36 inches long
L	24DL/W	24 VDC, D-Coil, Dual Lead Wires with Weatherpak
L	24DR	24 VDC, D-Coil, Deutsch
L	24DR/D	24 VDC, D-Coil, Deutsch with Diode
L	24DR/Z	24 VDC, D-Coil, Deutsch with Zener Diode
L	24DS	24 VDC, D-Coil, Dual Spade
L	24EG	24 VDC, E-Coil, DIN 43650
L	24EG/Z	24 VDC, E-Coil, DIN 43650 with Zener Diode
L	24EJ	24 VDC, E-Coil, AMP Jr.
L	24EL/D	24 VDC, E-Coil, Dual Lead Wires with 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
L	36DG	36 VDC, D-Coil, DIN 43650
L	36DS	36 VDC, D-Coil, Dual Spade
L	115AG	115 VAC, D-Coil, DIN 43650
L	115AP	115 VAC, D-Coil, 1/2" Conduit and Dual Lead Wires
L	230AG	230 VAC, D-Coil, DIN 43650
L	230AP	230 VAC, D-Coil, 1/2" Conduit and Dual Lead Wires

