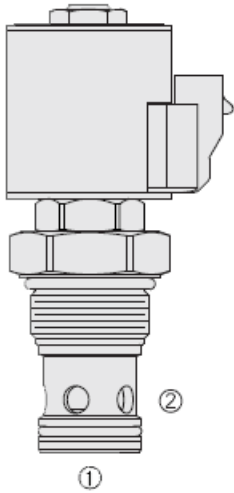




Overview



Description

The HSP16-20X is a high pressure 2-way, piloted, poppet-type, proportional, normally closed screw-in hydraulic cartridge valve designed for low leakage blocking in load holding applications.

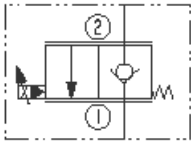
Operation

When de-energized, the HSP16-20X blocks flow from ports 2 to 1. In this mode the cartridge will allow flow from ports 1 to 2 after overcoming the spring forces (see performance graph). When energized, the valve will allow flow from ports 2 to 1 while severely restricting flow from ports 1 to 2.

Features

- Continuous-duty rated coil.
- Manual override option.
- Linear metering option.
- Industry-common cavity.
- Waterproof E-Coils rated up to IP69K.
- All HyPerformance™ products are tested to NFPA specification T2.6.1.
- and are tested at a verification level of 90% and an assurance of 99%.

Symbol



Ratings

Pressure Ratings

Pressure rating	350 bar (5075 psi) 420 bar (6090 psi)	- Note: (10% cycle life)
Proof pressure	690 bar (10000 psi)	
Burst pressure	1380 bar (20000 psi)	

Flow Ratings

Flow rating	61 lpm (16 gpm) 102 lpm (27 gpm)	- Note: With compensation 5.5 bar (80 psi) - Note: With compensation 11.0 bar (160 psi)
Maximum internal leakage	7 drops/min	- Note: With 350 bar (5075 psi) at port 2

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

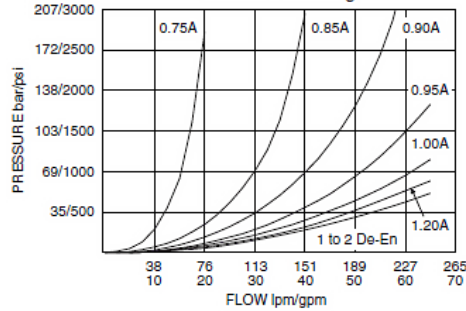


Properties

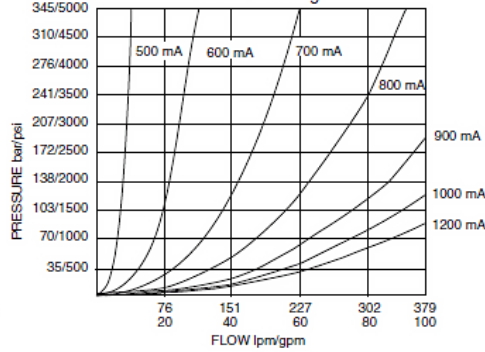
Unit weight	0.55 kg (1.22 lb) 0.56 kg (1.24 lb)	- Note: HSP16-20 without coil and nut - Note: HSP16-20T without coil and nut
Internal wetted surface area	292 cm ² (45.3 in ²) 289 cm ² (44.8 in ²)	- Note: HSP16-20 - Note: HSP16-20T

Performance

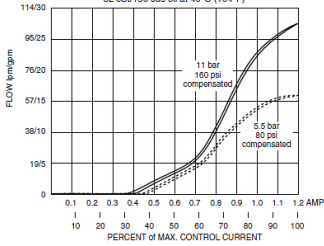
TYPICAL PRESSURE RESPONSE
Standard Metering



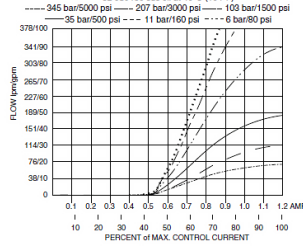
TYPICAL PRESSURE RESPONSE
Linear Metering



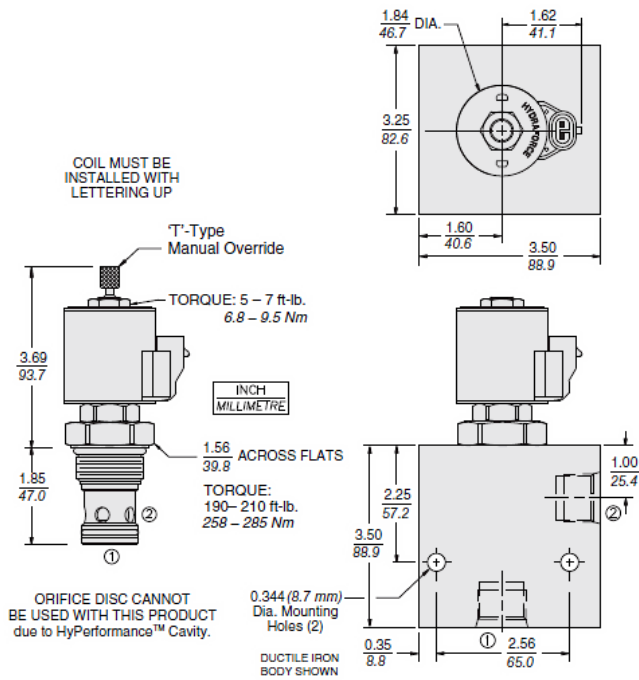
FLOW vs. CURRENT, Standard Metering
32 cSt/150 sus oil at 40°C (104°F)



FLOW vs. CURRENT, Linear Metering
32 cSt/150 sus oil at 40°C (104°F)



Dimensions





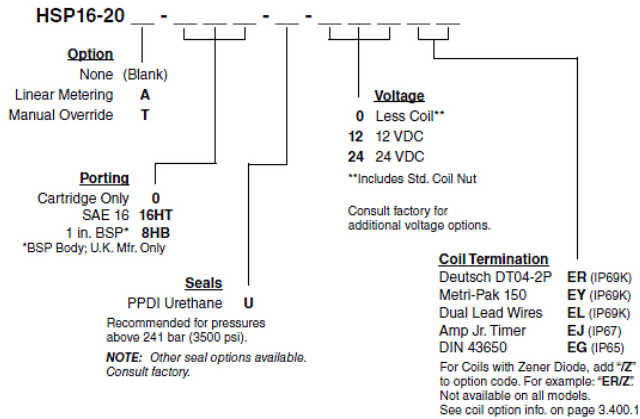
Installation Specifications

Cavity	HVC16-2	
Cartridge installation torque	258 to 285 N-m (190 to 210 ft-lb)	- Note: Steel/ductile iron cavity
	237 to 250 N-m (175 to 185 ft-lb)	- Note: Aluminum cavity
Orientation restriction	None	

Accessories

Seal kit	SK16-2N-M	- Note: Buna N
	SK16-2V-M	- Note: Fluorocarbon
	SK16-2U-O	- Note: Urethane

Order Code



Model Options

HSP16-20DE-H-J-L

D Poppet Metering

CODE	DESCRIPTION
A	Linear Poppet Metering
BLANK	Standard Poppet Metering

E Manual Override

CODE	DESCRIPTION
BLANK	NONE
T	Variable Position Override, Red Knurled Knob

H Line Body

CODE	DESCRIPTION
0	No Body

J Seal

CODE	DESCRIPTION
N	Buna-N
V	Fluorocarbon
U	PPDI Urethane

L Coil

CODE	DESCRIPTION
0	No Coil
10EL	10 VDC, E-Coil, Dual Lead Wires
10ER	10 VDC, E-Coil, Deutsch
12EG	12 VDC, E-Coil, DIN 43650



CODE	DESCRIPTION
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
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
24ER	24 VDC, E-Coil, Deutsch
24EY	24 VDC, E-Coil, Metri-Pack 150