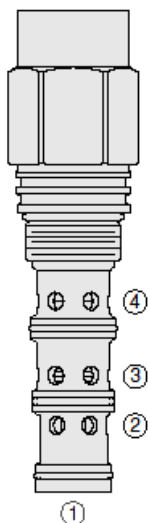




Overview



Description

The HPE42-M45 is a high pressure, screw-in, cartridge-style, pilot-operated, proportional, spool-type, hydraulic directional valve.

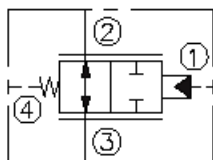
Operation

In neutral position (unpiloted) the valve allows flow from ports 2 to 3 bi-directionally. On remote pilot signal at port 1 the spool shifts proportionally to the applied pilot pressure to gradually close flow path until spool is fully shifted blocking flow. The spring chamber is vented to port 4. Pressure at port 4 will directly (1:1) affect the pilot pressure required and must be added to bias spring value.

Features

- Multiple function/application potential.
- Smooth shift transition.
- Low pressure drop.
- Hardened spool and cage for long life.
- Optional sealed pilot.
- Industry-standard ISO cavity
- All HyPerformance products are tested to the rigorous standards of the NFPA specification T2.6.1.
- All HyPerformance valves 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% duty cycle)
Proof pressure	690 bar (10000 psi)	
Burst pressure	1380 bar (20000 psi)	
Pilot pressure required	27 bar (400 psi)	- Note: Minimum to fully shift

Flow Ratings

Flow rating	170 lpm (45 gpm)	
Maximum internal leakage	490 ml/min (30 in ³ /min)	- Note: At 350 bar (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)	- 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

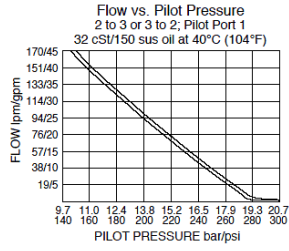
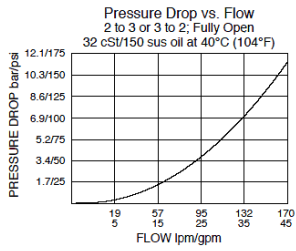
Fluids	Mineral based or synthetic hydraulic fluid with lubricating properties
Fluid viscosity range	7.4 to 420 cSt
Maximum operating contamination level	18/16/13 per ISO 4406



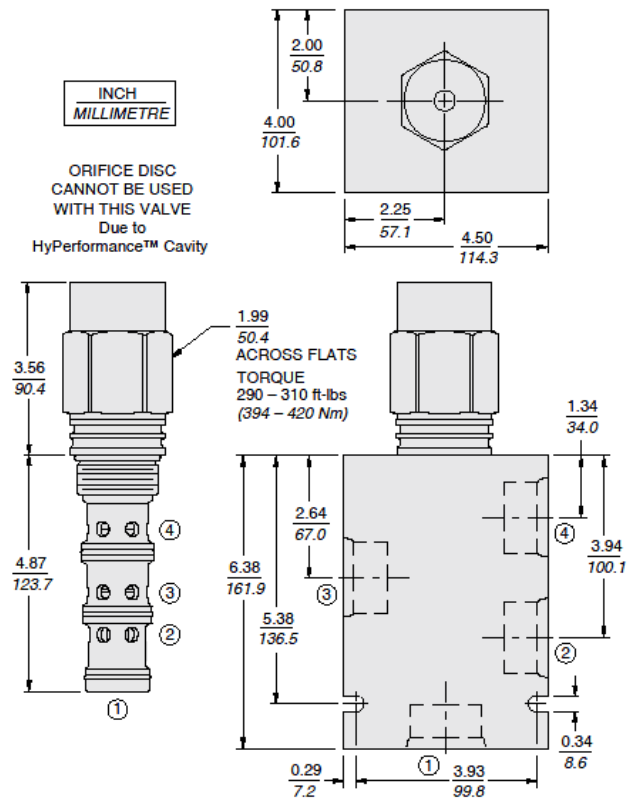
Properties

Unit weight	2.0 kg (4.5 lb)
Internal wetted surface area	775 cm ² (120 in ²)

Performance



Dimensions



Installation Specifications

Cavity	HVC42-m4	
Cartridge installation torque	394 to 420 N-m (290 to 310 ft-lb)	- Note: Steel/ductile iron cavity
	298 to 311 N-m (220 to 230 ft-lb)	- Note: Aluminum cavity
Orientation restriction	None	

Accessories

Seal kit	SK42-M4N-MMM	- Note: Buna N
	SK42-M4V-MMM	- Note: Fluorocarbon
	SK42-M4U-OOO	- Note: Urethane
Housings		



Order Code

HPE42-M45 -



Porting
Cartridge Only 0
SAE 20 20HT
1-1/4" BSP* 10HB

* BSP body; U.K. mfr. only

Seals
*U PPDI Urethane

*Urethane seals recommended for operating pressures above 241 bar (3500 psi).

NOTE: Consult factory for additional seal options.

POSITION	CODE	DESCRIPTION
		HPE42-M45-H-J
H		Line Body
H	0	No Body
J		Seal
J	N	Buna-N
J	V	Fluorocarbon
J	U	PPDI Urethane