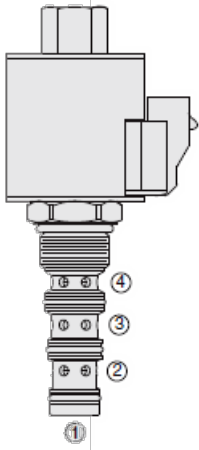




Overview



Description

The HSV12-40RB is a high pressure, 4 port, 2 position, spool type, screw-in, cartridge style, hydraulic, direct acting, solenoid valve intended for use in fan drive applications when shifting at maximum rated flow is not necessary. The spool has an open transitional state

Operation

When de-energized, flow is allowed from port 3 to 4 and from port 2 to port 1. When energized, flow is allowed from port 3 to port 2 and from port 4 to port 1

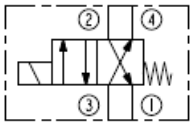
Manual Override Operation

To activate the manual override, turn the knurled adjustment knob clockwise until the valve shifts. To deactivate, turn the adjustment knob counterclockwise until it stops

Features

- o Manual override option.
- o Hardened precision spool and cage for long life.
- o Waterproof E&C Coils rated up to IP69K; optional voltages and terminations.
- o Efficient wet-armature construction.
- o Cartridges are voltage-interchangeable.
- o Corrosion-resistant plating.
- o All HyPerformance products are tested to the rigorous standards of the NFPA specification T2.6.1.
- o 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% cycle life
Proof pressure	690 bar (10000 psi)	
Burst pressure	1380 bar (20000 psi)	

Flow Ratings

Flow rating	60 lpm (16 gpm)	- Note: Max de-energized or energized see performance graph for shifting limits
Maximum internal leakage	246 ml/min (15 in ³ /min)	- Note: Ports 3-1 at de-energized 350 bar (5075 psi)
	246 ml/min (15 in ³ /min)	- Note: Ports 3-1 at energized 350 bar (5075 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 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 70 °C (-40 to 160 °F)	

Other Ratings

Response	23 ms	- Note: Energized (first indication of change of state with 100% voltage applied to the coil with flow at with inlet at port 3, ports 2 and 4 looped, port 1 to tank) 24 lpm (6.3 gpm)
	38 ms	- Note: De-energized (first indication of change of state with 100% voltage applied to the coil with flow at with inlet at port 3, ports 2 and 4 looped, port 1 to tank) 24 lpm (6.3 gpm)
Corrosion protection	960 hr salt spray per ASTM b117	

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



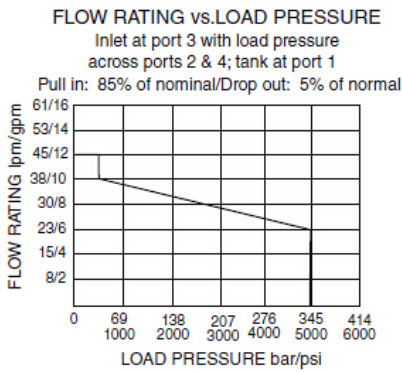
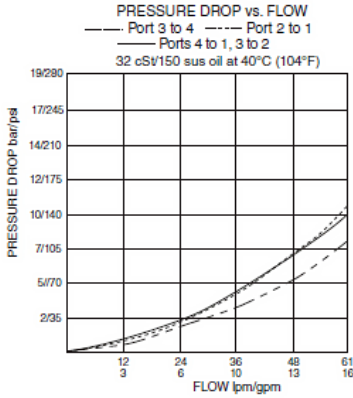
Properties

Unit weight	0.4 kg (0.89 lb)	- Note: (without coil and nut)
Internal wetted surface area	297 cm ² (46 in ²)	- Note: HSV12-40RB
	298 cm ² (46.3 in ²)	- Note: HSV12-40RBT

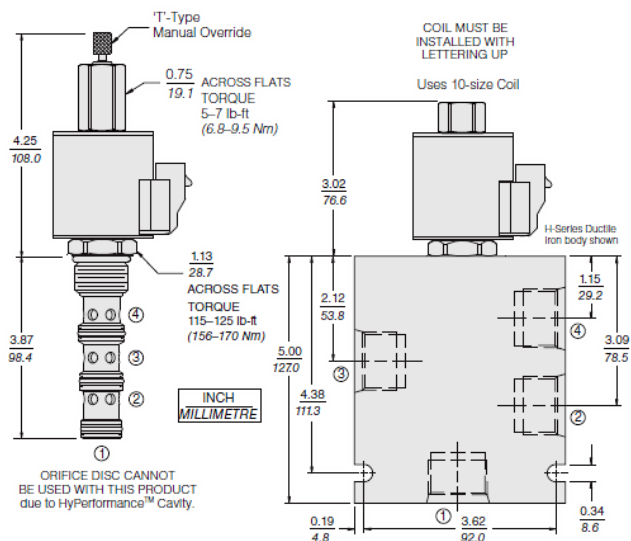
Electrical Parameters

Minimum pull in voltage	10.2 Vdc	- Note: 12 Vdc coil
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Performance



Dimensions



**Cartridge torque shown for ductile iron manifold. Torque 90-100 lb-ft (81-88 Nm) in aluminum. Aluminum housing is rated to 207 bar (3000 psi).



Materials

Materials

Cartridge: Weight: 0.4 kg (0.89 lb); Steel with hardened work surfaces. Corrosion-resistant zinc-nickel plated exposed surfaces. Urethane seals without back-up rings standard

Standard Ported Body: Weight: 5.04 kg (0.916 lb); H-series ductile iron standard. Rated to 350 bar (5075 psi).

Coil: Weight: 0.41 kg (0.9 lb); Perfect wound, fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors.

Installation Specifications

Cavity	Hvc12-4	
Cartridge installation torque	156 to 170 N-m (115 to 125 ft-lb)	- Note: Steel/ductile iron cavity
	122 to 136 N-m (90 to 100 ft-lb)	- Note: Aluminum cavity
Coil nut torque	5.4 to 6.8 N-m (4 to 5 ft-lb)	
Orientation restriction	None	

Accessories

Seal kit	Hsk12-4n-mmm	- Note: Buna N
	Hsk12-4v-mmm	- Note: Fluorocarbon
	Hsk12-4u-0	- Note: Urethane
Housings		
Coils		

Order Code

POSITION	CODE	DESCRIPTION
		HSV12-40RBE-H-J-L
E		Manual Override
E	BLANK	NONE
E	T	Variable Position Override, Red Knurled Knob
H		Line Body
H	0	No Body
H	12HT	Ductile Iron SAE 12
J		Seal
J	N	Buna-N
J	V	Fluorocarbon
J	U	PPDI Urethane
L		Coil
L	0	No Coil
L	10EL	10 VDC, E-Coil, Dual Lead Wires
L	10ER	10 VDC, E-Coil, Deutsch
L	10ER/Z	10 VDC, E-Coil, Deutsch with Zener Diode
L	12EG	12 VDC, E-Coil, DIN 43650
L	12EJ	12 VDC, E-Coil, AMP Jr.
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/W/Z	12 VDC, E-Coil, Dual Lead Wires with WeatherPak and Zener Diode
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



POSITION	CODE	DESCRIPTION
L	12EY/Z	12 VDC, E-Coil, Metri-Pack 150 with Zener Diode
L	20ER	20 VDC, E-Coil, Deutsch
L	24EG	24 VDC, E-Coil, DIN 43650
L	24EJ	24 VDC, E-Coil, AMP Jr.
L	24EL	24 VDC, E-Coil, Dual Lead Wires, 18 inches long
L	24EL/36	24 VDC, E-Coil, Dual Lead Wires, 36 inches long
L	24EL/W/Z	24 VDC, E-Coil, Dual Lead Wires with WeatherPak and Zener 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

HSV12-40RB

