Proportional Valves

ESVL9-10-F-C

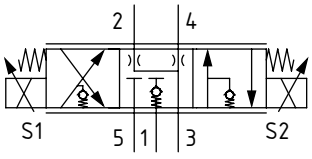
Proportional Directional Valve, 5-way, 3-position, Spool Type, Non-Compensated, Load Sense Check

250 bar [3600 psi] • 23 l/min [6 US gpm]

DESCRIPTION AND OPERATION

This is a 5-way, 3-position, spool type, non-compensated proportional directional valve. In its de-energized condition, ports 5 and 1 are blocked, while ports 2 and 4 are open to port 3. Increasing the current to the bottom coil will cause the spool to move, proportionally opening flow from port 5 to 4 with return flow from port 2 to 3. Increasing the current to the top coil will proportionally open flow from port 5 to 2 with return flow from port 4 to 3. In both cases, port 5 will also be opened to port 1, which acts as the load sense port. An integral check valve in port 1 prevents reverse flow and allows separation of the load sense pressures of valves in parallel. Using this as a variable orifice in conjunction with a compensator, the valve will provide compensated flow to an actuator in both directions. For optimal performance, install with the solenoid valve below the tank oil level in the horizontal or inverted position, reducing the chance for trapped air in the valve.

SCHEMATIC

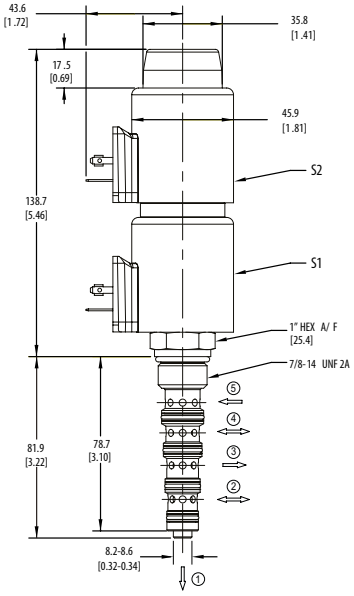


DIMENSIONS

mm [in]

Coil Nut Torque

5-8 Nm [4-6 ft lbs]



Installation torque

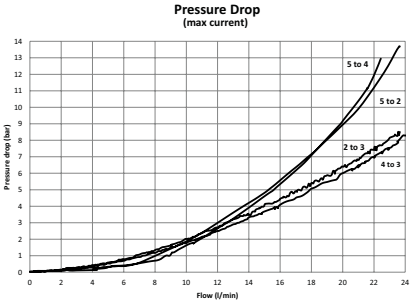
S -68 - 75 Nm [50 - 55 ft. lbs.]

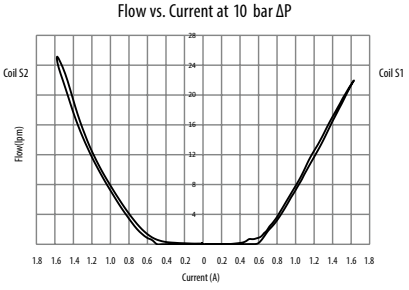
PERFORMANCE DATA

Rated pressure*	**250 bar [3600 psi]**
Rated flow@ 10 bar [145 psi]	**23 l/min [6 US gpm]**
Leakage	250 ml/min (10 in³/min) max. @ 210 bar [3000 psi]
Maximum Hysteresis	5%
Recommended PWM frequency	100 Hz
Maximum control current	1.6 A [12 VDC coil] 0.8 A [24 VDC coil]
Coil Options	L series
Weight	1.25 kg [2.76 lb]
Cavity	SDC10-5

*Rated pressure based on NFPA fatigue test standards (at 1 million cycles)

PERFORMANCE CURVES





MODEL CODE

ESVL9 - 10 - V - F - M - S - 3G - 012D - N - L - C - A

Seal Option

Code	Seal kit
Omit - Buna - N	9901261-000
V - Viton	9901262-000

Manual Override Option

0 - No manual override
M - Push and Pull

Housing Material

Omit - No Housing
S - Steel

Housing

Code	Ports	Steel
0	No housing	
3G	3/8" BSP	6042921-001

* Aluminum bodies are to be used for pressures less than 210 bar [3000 psi].
* Additional housings available

Load Sense Check Valve

Coil series

Omit - No coil
L - L series, 28W

Connector Types

Omit - No coil
N - Deutsch

Coil Voltage

00 - No coil, nut and spacer included
012D - 12V DC without diode
024D - 24V DC without diode

Spare parts

Coil Nut for MO 6038813-001
Coil Nut w/o MO 02-148332
Coil Spacer 6038409-001