

LS High Speed Proportional Pneumatic Control Valves



The LS-Series valves are the ultimate in proportional control for both closed loop and open loop systems. With shifting times less than 2.5 ms and linear proportionality, the LS-Series surpasses even high performance solenoids, allowing designers to create breakthrough applications.

Features

- 5/3 Bi-Directional Proportional Flow Control Valve
- Direct Acting Linear Force Motor
- Infinitely Variable Valve Positioning (3 Extreme Positions)
- Low Hysteresis
- High Bandwidth
- Fast Shifting Time
- Low Leakage

Applications

High performance open and closed loop systems:

- Motion Control
- Flow Control
- Pressure Control
- Force Control
- Vacuum Control
- Mixing
- Ultra-Fast Switching (<5 ms)

Compatibility

Controllers

- C1 Controller & Driver
- LS-C10 Controller & Driver
- LS-C41 Controller & Driver

Drivers

- D1 Proportional Linear Motor Valve Driver

Mechanical Specifications

Pressure:
vac...10 bar (vac...150 psi)

Connector:
3-pin M8 x 1 (male)

Gating Element:
Spool and Sleeve

Mounting:
(2) Through Holes

Temperature Range:
0° - 50°C (32° - 122°F)

Typical Point-of Use Filtration:
5 µm Particulate & 0.3 µm, ≥99.75%
Efficient Coalescing Filters

Media:
ISO 8573-1: 2010 [2.3.2]

Material Specifications

Body:
Aluminum 6061

Spool & Sleeve:
Stainless Steel 440C

Seals & Gaskets:
Nitrile

Other:
Nickel Plated Steel & Copper

Electrical Specifications

Current:
-1A...0...1A from Enfield Electronics

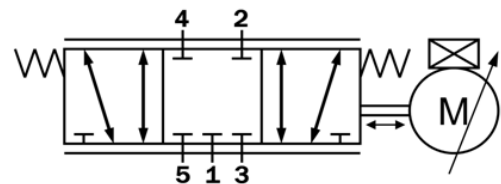
Nominal Maximum Power Consumption:
4.2W

Performance Specifications

Shifting Time:
< 2.5 ms

Hysteresis:
Average Hysteresis < 5 %
of Full Scale Range
Maximum Hysteresis <10%
of Full Scale Range

Valve Type:
5-Port, 3-Position, Proportional



LS-Series ISO Diagram

The **LS High Speed Proportional Pneumatic Control Valves** deliver highly linear flow output overcoming traditional speed and control barriers. With three different valve sizes, the LS-Series can cover a wide range of applications with unprecedented valve aperture control. Designers can use one valve where two or more are often needed, decreasing complexity and lowering both purchase and maintenance costs – a simple and cost effective solution.



Valve Specifications	LS-V05s	LS-V15s	LS-V25s
Max Aperture	5 mm ²	15 mm ²	25 mm ²
Flow Capacity 5.5 → 0 bar	170 SLPM (6 SCFM)	460 SLPM (16 SCFM)	1300 SLPM (46 SCFM)
Ports	10-32 UNF-3B	1/8" NPTF	1/4" NPTF
Dimensions	71 x 41 x 25 mm (2.8 x 1.6 x 1.0 in)	99 x 61 x 35 mm (3.9 x 2.4 x 1.4 in)	122 x 72 x 45 mm (4.8 x 2.9 x 1.7 in)
Weight	158 g (5.6 oz)	462 g (16.4 oz)	824 g (29.1 oz)
Turndown Ratio	100:1	150:1	200:1

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