

ECS 5/3 Servo Proportional Directional Valves



The ECS 5 port 3 position (5/3) servo proportional directional valve is designed for operation with compressed air and other neutral gases. Its high frequency response (110 Hz), pressure balanced design and low leakage (100:1 turndown ratio) make it ultimate for both open and closed loop control systems.

Features

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

Applications

High performance open and closed loop systems.

Included but not limited to:

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

Industries

- Semiconductor
- Test & Measurement
- Food & Beverage
- Advanced Robotics
- Packaging & Labeling
- Industrial Automation
- Manufacturing

Mechanical Specifications

Pressure:
vac...20.7 bar (vac...300 psig)

Ports (with base):
1/8" NPTF

Connector:
8-pin M12 Code A (male)

Mounting:
4 x M3 (6-32) Thru Holes

Temperature Range:
0° - 50°C (32° - 12°F)

Media:
ISO 8573-1: 2010 [2.3.2]

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

Height x Width x Length:
41.4 x 40.0 x 111.2 mm
(1.63 x 1.57 x 4.38 in)

Weight:
0.91 kg (2.00 lbs)

Material Specifications

Body:
Aluminum 6061

Caps:
PA66 30% Glass Filled Nylon

Other:
Nitrile, 440C SS, Nickel Plated Steel

Electrical Specifications

Power Requirement:
6...30 VDC

Nominal Maximum Power Consumption:
0.72W

Command Input Impedance:
0...5VDC: 26Ω
0...10VDC: 40kΩ

Monitor Output Impedance:
100Ω

Command Inputs Available:
0...5 VDC; 0...10 VDC; +/-10VDC;
0...20 mA; 4...20 mA

Digital Output:
2 Digital Outputs

Digital Input:
1 Digital Input

Performance Specifications

Positional Accuracy:
±1% of Full Scale (typical)

Bandwidth:
110 Hz

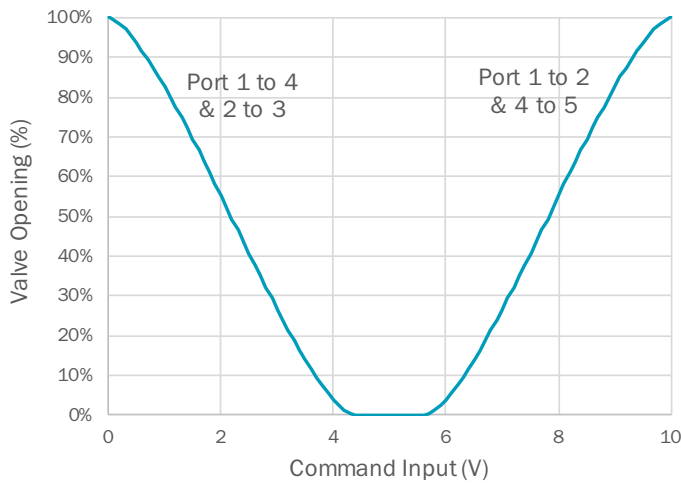
Flow:
ECS-01 Versions: 32 SLPM 5.5 → 0 bar
(6 SCFM 80 → 0 psi)
ECS-05 Versions: 170 SLPM 5.5 → 0 bar
(6 SCFM 80 → 0 psi)

Leak Rate:
1.7 SLPM 5.5 → 0 bar
(0.6 SCFM 80 → 0 psi)

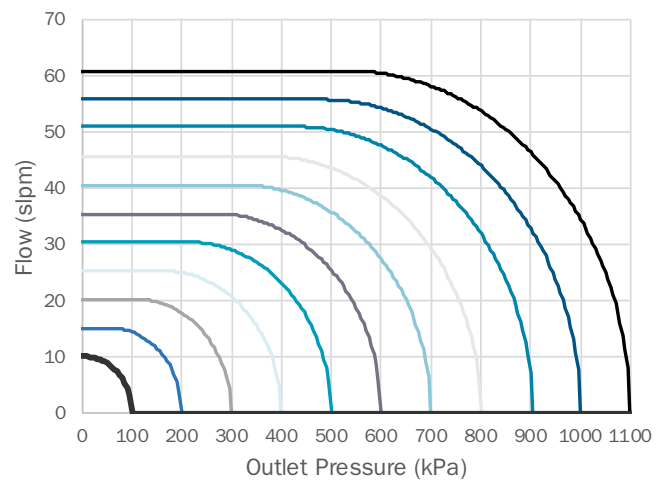
The ECS High Speed Servo Proportional Directional Control Valves is available in two different flow rates options, order codes 01 and 05, for maximum resolution across high and low flow applications. With two precision ground spool and sleeves, the gating element of the valve, flow rates from 0 to 585 slpm can be achieved across a wide pressure range of vac...20.7 bar (vac...300 psig).



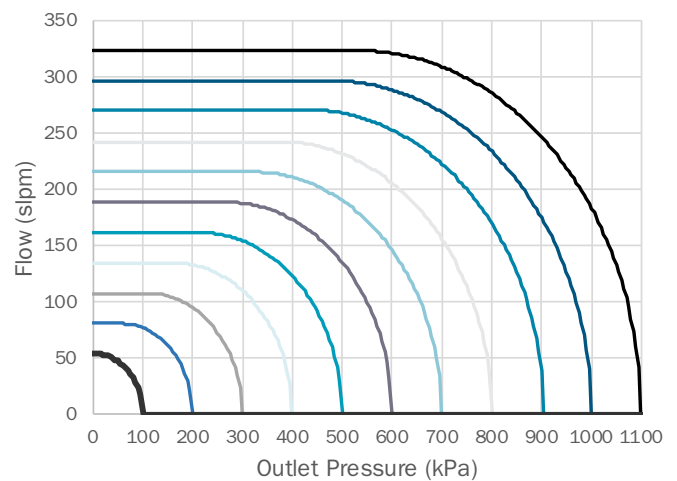
ECS Valve Opening vs. Command



ECS-01: Flow vs. Outlet P at Various Inlet P



ECS-05: Flow vs. Outlet P at Various Inlet P



Enfield Technologies
 35 Nutmeg Drive
 Trumbull, CT 06611
 USA

+1 203 375 3100

enfieldtech.com