

**General Description**

Series SEMT mini-valve is a two stage, 4-way, flap-per and nozzle style servovalve. Its remarkably small size makes it optimal for Remotely Operated Vehicles (ROV), motorsport suspension control, or any application requiring a compact, and light-weight, high performance servovalve.

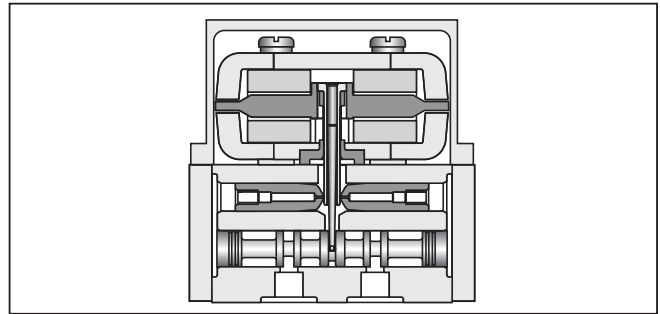
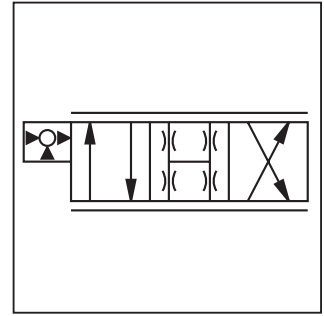
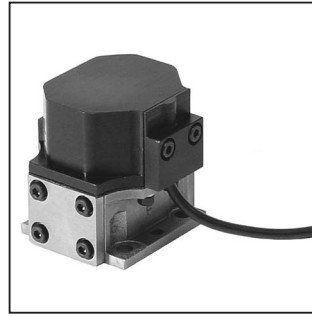
A special jewel feedback design enhances durability and prevents ball glitch problems, which can occur in other types of servovalves. This valve is rated for 210 Bar (3000 PSI) service. Higher pressure capability is available upon request.

**Features**

- Jewel feedback ball for durability
- Compact steel body
- High performance
- ISO 10372 standard 12.2 mm (0.480 in.) port circle

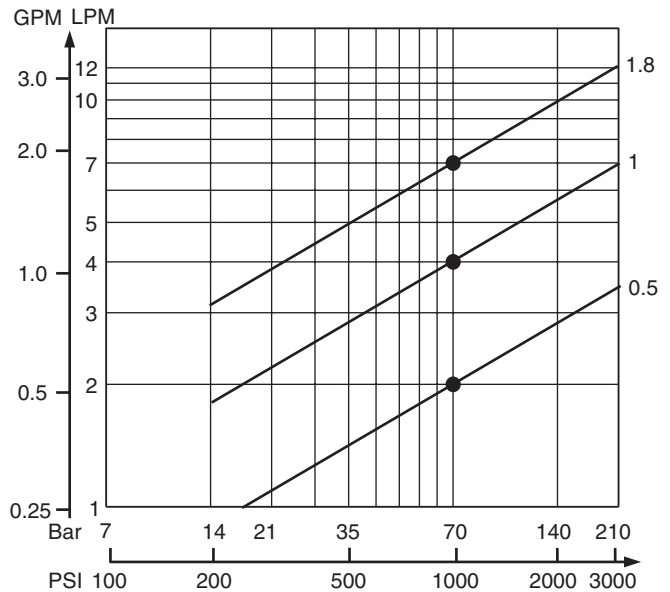
**Specifications**

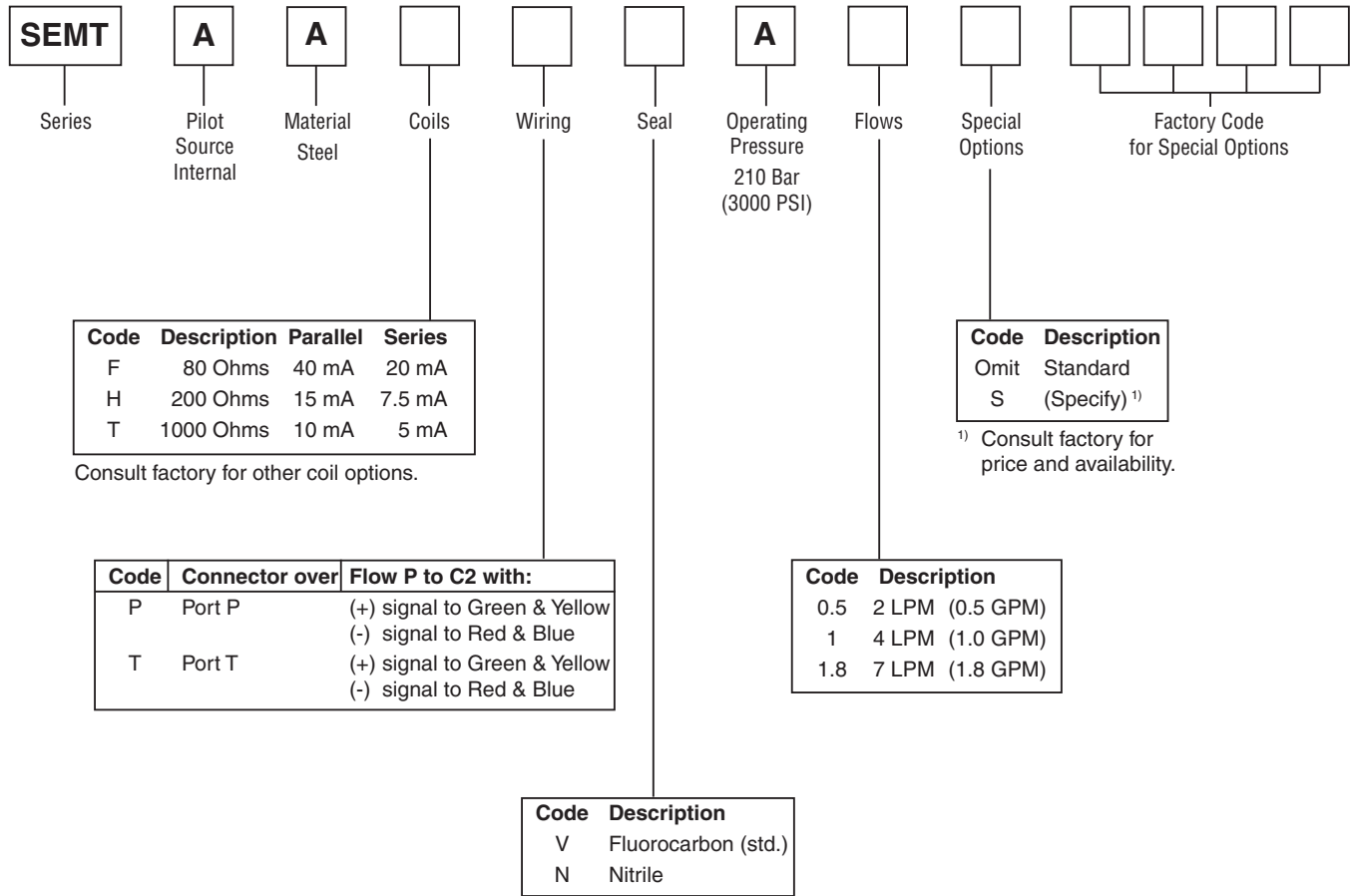
<b>Flow Rating ±10%</b> @ 70 Bar (1000 PSI)	2, 4, 7 LPM (0.5, 1.0, 1.8 GPM)
<b>Supply Pressure</b>	15 – 210 Bar (220 – 3000 PSI)
<b>Tank Port Pressure</b>	210 Bar (3000 PSI) Max. < 10 Bar (145 PSI) for best performance
<b>Pilot &amp; Null Leakage Flow</b> per 140 Bar (2000 PSI)	0.4 – 0.7 LPM (0.1 – 0.2 GPM)
<b>Input Command</b>	±10 mA std.
<b>Frequency Response</b> @ 90° phase shift	> 170 Hz (See Performance Curves)
<b>Non-Linearity</b>	≤ 10%
<b>Hysteresis</b>	≤ 3%
<b>Threshold</b>	≤ 0.5%
<b>Null Shift</b> with temperature with pressure	≤ 2% per 55°C (100°F) ≤ 2% per 70 Bar (1000 PSI)
<b>Pressure Gain</b> change in pressure per 1% change in input command	60% typical
<b>Step Response</b>	10 – 100%, < 4 ms
<b>Fluid</b>	Petroleum based Mineral Oil, 10 – 110 cSt at 38°C (100°F)
<b>Fluid Cleanliness</b>	ISO 4406 15/12 or better
<b>Operating Temperature</b>	-30°C to +130°C (-22°F to +266°F)
<b>Protection Class</b>	NEMA 4, IP65



**Flow vs. Pressure Drop**

at 100% command  
Flow Path: P→C1→C2→R





**Weight:** 0.23 kg (0.5 lbs.)  
**Bolt kit:** Qty 4 of M4 x 10 mm, or Qty 4 of # 6-32 x 7/16"  
**Subplate:** Consult factory.  
**Electronics:** BD101, 23-7030, BD90, or BD95

**Performance Curves**

**Frequency Response at 210 Bar (3000 PSI)**

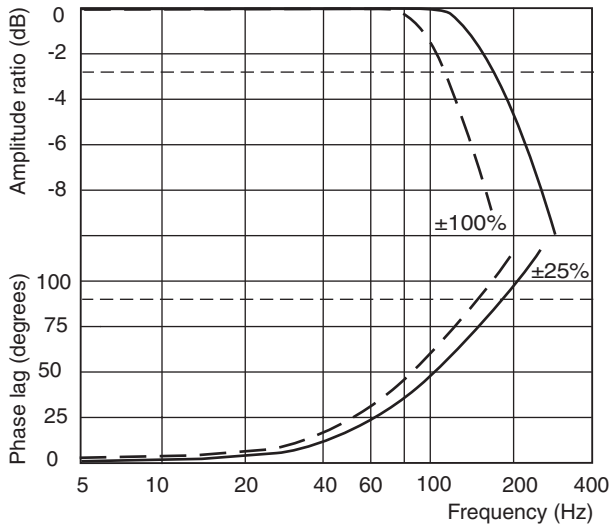
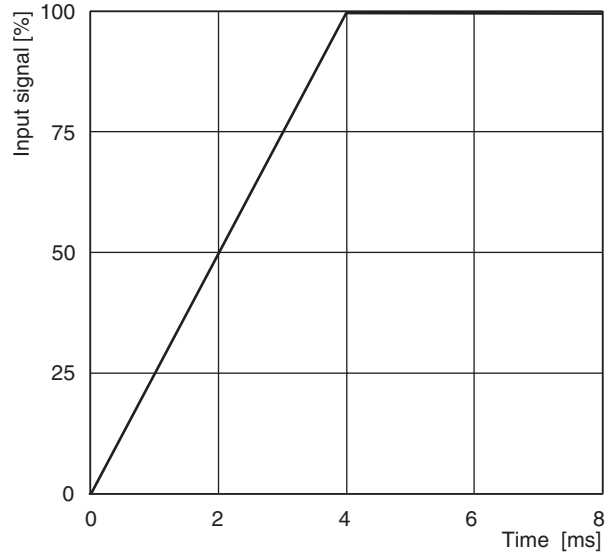


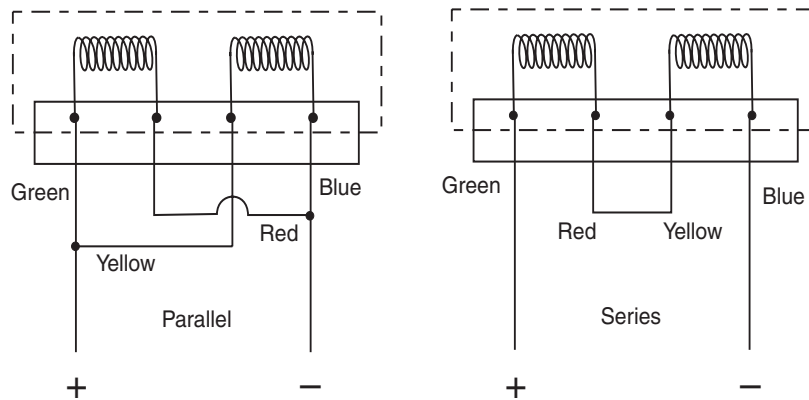
Figure for 7 LPM (1.8 GPM).

**Step Response**  
 at 100% command



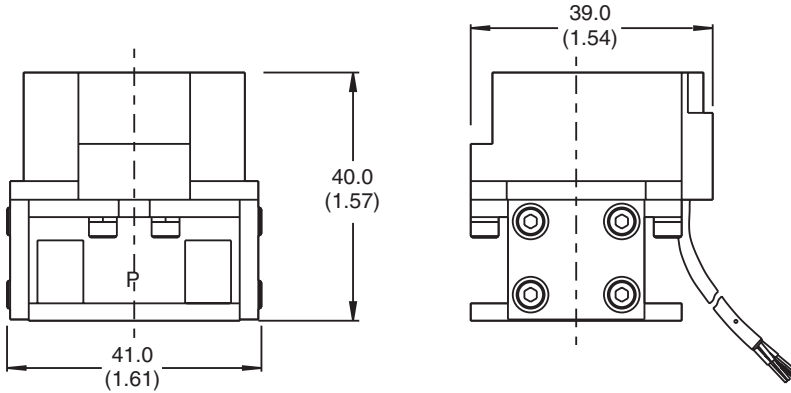
**Installation Wiring Options**

This servovalve has two coils. When connecting the valve to a drive amplifier, the user's external wiring may put the coils either in parallel or in series as needed. Refer to the illustrations below and to the mounting pattern for this valve to insure proper control phasing.

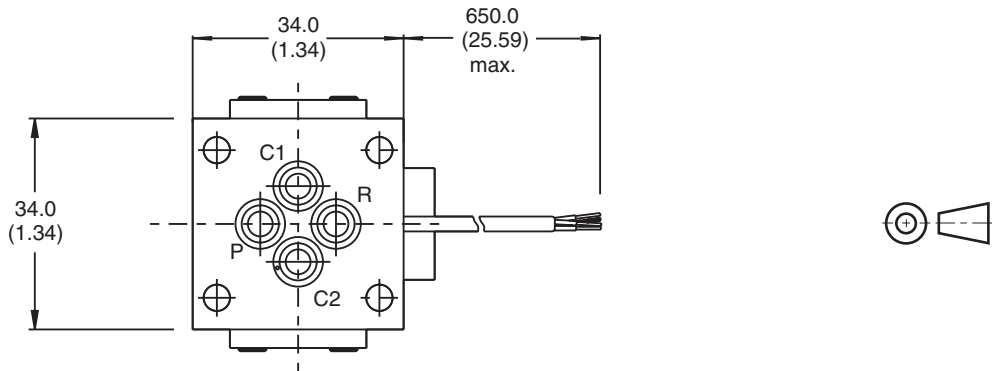


Polarity shown connects flow from P to C2 port.

Inch equivalents for millimeter dimensions are shown in (\*\*)



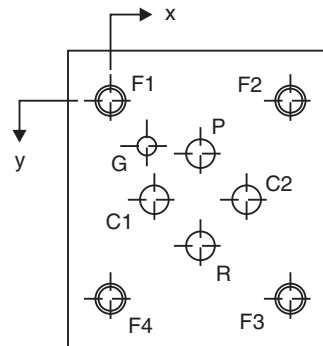
1. Recommended mounting bolts  
M4 x 10 mm or #6-32 x 7/16" high  
tensile steel socket-head cap screws.
2. Base O-Rings: 6 mm x 1 mm section,  
70 durometer.



**Mounting Surface**

ISO 10372-01-01-0-92

1. The minimum engagement of mounting threads is 1.5D, where D is the screw diameter.  
The ISO recommended full-thread depth is 14 mm (0.551 in.).
2. The minimum depth of hole G is 2 mm (0.079 in.).
3. Surface roughness Ra < 0.8 μm [N6], as specified in ISO 468 and ISO 1302.
4. Surface flatness: 0.025 mm (0.001) as specified in ISO 1101.



Metric Dimensions (mm)						(± 0.1 mm)			
Axis	P	C1	R	C2	G	F1	F2	F3	F4
	Ø 3.8 max	Ø 3.8 max	Ø 3.8 max	Ø 3.8 max	Ø 2.5	M4	M4	M4	M4
x	11.9	5.8	11.9	18.0	4.8	0	23.8	23.8	0
y	7.0	13.1	19.2	13.1	6.0	0	0	26.2	26.2

U.S. Dimensions (inches)						(± 0.004 in.)			
Axis	P	C1	R	C2	G	F1	F2	F3	F4
	Ø 0.15 max	Ø 0.15 max	Ø 0.15 max	Ø 0.15 max	Ø 0.10	# 6 - 32	# 6 - 32	# 6 - 32	# 6 - 32
x	0.469	0.228	0.469	0.709	0.189	0	0.937	0.937	0
y	0.276	0.516	0.756	0.516	0.238	0	0	1.031	1.031

SEMT.indd, ddp

