

# PORTER

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## MODEL EPC ELECTRONIC PROPORTIONAL CONTROL VALVE

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### DESCRIPTION

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The Porter Instrument Model EPC Electronic Proportional Control Valve is an electromagnetically-actuated, proportional control valve designed for use in closed loop flow or pressure control systems. When coupled with a flow sensor or pressure transducer and a proportional electronic controller, Model EPC is capable of providing steady and precise control of gas flow rates or pressures. The Model EPC is a DC-driven, normally-closed valve which includes an elastomeric valve seat to provide bubble-tight shut-off. A broad range of flow coefficients ( $C_v$ 's) is available for either flow or pressure control.

The Model EPC is offered with either integral compression fittings for in-line mounting or as a manifold-mount version. To allow design and user flexibility, custom configurations in OEM-scale quantities are also available.



Model EPC with Valve Base



Manifold-Mount Model EPC (Less Valve Base)

### DESIGN FEATURES AND BENEFITS

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- LOW COST
- CLEANED FOR USE IN ANALYTICAL INSTRUMENTATION
- GREATER THAN 50:1 DYNAMIC RANGE
- MANY ELECTRICAL AND MECHANICAL CONFIGURATIONS AVAILABLE
- EASILY CUSTOMIZED
- LOW POWER CONSUMPTION
- BUBBLE-TIGHT SHUT-OFF

### ELECTRICAL SPECIFICATIONS

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Coil and Connection Resistance: 75-85 ohms  
Coil Inductance: 25 mH  
Opening Voltage: 2.5-7 Vdc  
Control Range Span: 1-2 Vdc  
Power Dissipation: 0.8 watts typical

### MECHANICAL SPECIFICATIONS

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Maximum Operating Pressure: 200 PSIG  
Maximum Operating Temperature: 85°C (185°F)  
Custom configurations available to 200°C (392°F)  
Available  $C_v$ 's range from  $1.6 \times 10^{-4}$  to  $4.0 \times 10^{-2}$   
Flow Capacity: Maximum ranges from 40 SCCM up to 10,000 SCCM (nitrogen at 70°F & 5 PSID)  
Rangeability (typical): 50:1  
Fitting Sizes and Type: 1/16", 1/8" or 1/4" compression fittings

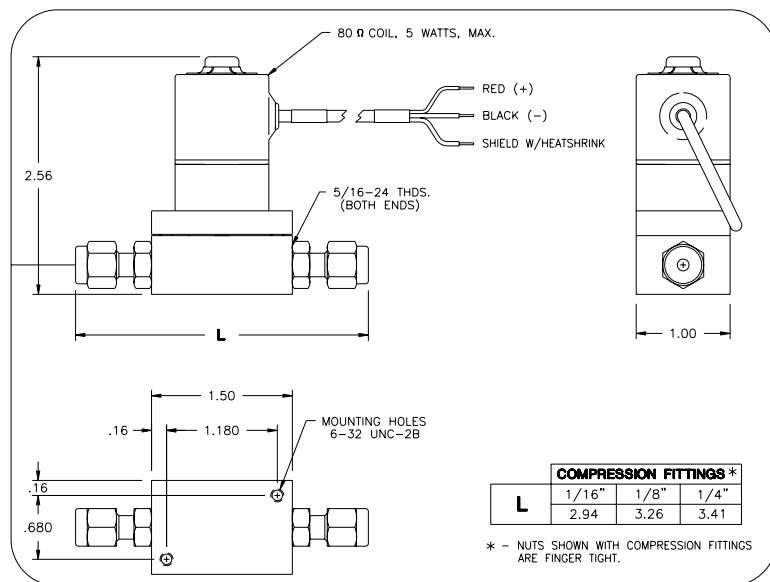
### MATERIALS OF CONSTRUCTION

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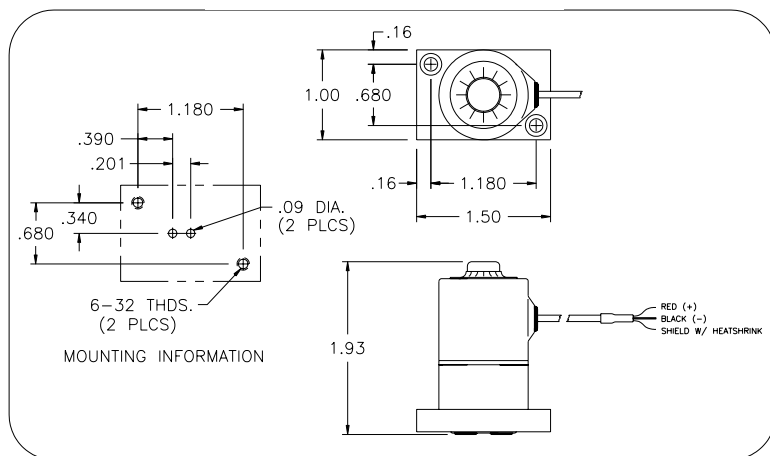
Valve Base (Body): Aluminum (black-anodized) or stainless steel  
Orifice: Brass or stainless steel  
Valve Trim: Stainless steel  
O-rings and Valve Seat: Buna N, EPDM, Kalrez®, Neoprene or Viton®  
Fittings: Brass or stainless steel

*Kalrez®, Viton® - DuPont Dow Elastomers L.L.C.*

## DIMENSIONAL DATA *(dimensions shown in inches)*

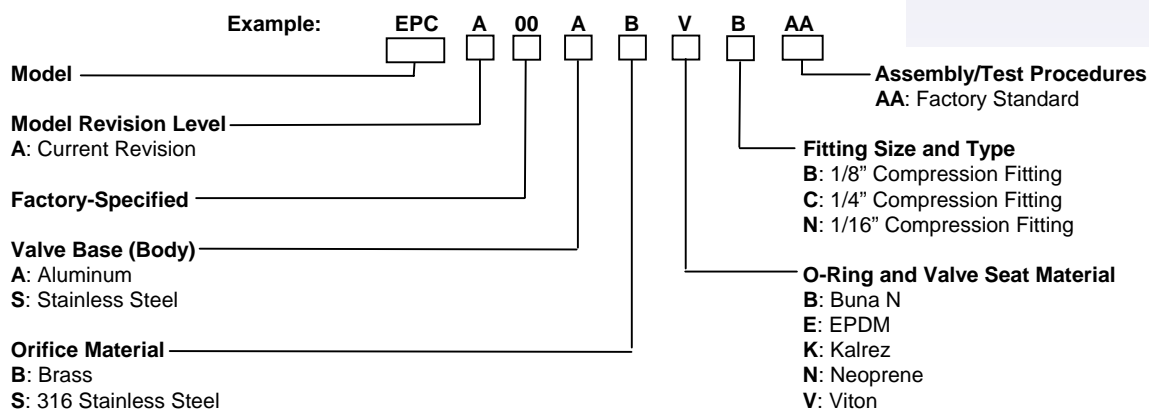


**Model EPC with Valve Base**



**Manifold-Mount Model EPC**

## MODEL NUMBER AND DESCRIPTION



## ORDERING INFORMATION

To order, please specify:

1. Model number
2. Valve base (body) material
3. O-ring material
4. Valve seat material
5. Fitting size and type
6. Gas type
7. System flows (minimum, nominal and maximum)
8. Operating temperature
9. Upstream (inlet) pressure
10. Downstream (outlet) pressure

# PORTER INSTRUMENT COMPANY, INC.

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