



**SOLENOID VALVES**  
MEETING CHALLENGES AND  
CUSTOMIZING SOLUTIONS

- 1/8", 1/4", 3/8"  
Direct Acting Solenoid Valves
- 1/2", 3/8", 3/4", 1"  
Solenoid Piloted Valves
- Specialty Manifolds

**Your Global Source for Today's Most Popular Solenoid Valves**



Commercial & Municipal Watering Systems



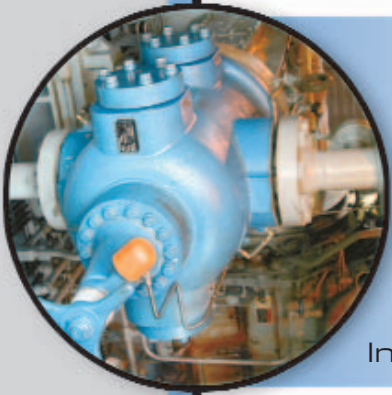
Agricultural Irrigation



Onshore Oil, Gas & Petroleum



Car Wash Industry



Industrial Machinery

**Alcon/ECI** formerly Evolutionary Concepts, Inc. (ECI), a division of International Motion Control, was founded in 1980. Alcon/ECI recognized the need for a low cost, general purpose, solenoid valve line that could be economically modified to accommodate customer's specifications.

A wide variety of voltages, body and seal materials, and actuator configurations make Alcon/ECI valves one of the most versatile solenoid valve lines in the industry.

**Our Products**

Our unique designs are well-suited for applications requiring exposure to humid or aggressive environments. Products are constructed to the standards of many certifying agencies including UL, CSA and NSF.

Alcon/ECI's Direct Acting Solenoid Valves are designed for general purpose applications requiring precise control of air, inert gases, water, oils and many other media.

Alcon/ECI's Solenoid Piloted Diaphragm Valves offer maximum flow over a wide range of pressures. The internal diaphragm allows smooth opening and closing reducing surge hazards and water hammer.

The range of valves shown in this catalog covers standard products supplied on a regular basis for "General Purpose" applications. Consult factory for Aerospace, Medical, Life Support, Combustion or similar applications.

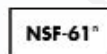
**Customer Service and Request for Quotation (RFQ)**

Alcon/ECI's business is built on supplying modified standard product and 100% special solenoid valves to our ever-changing market place. We welcome the opportunity to meet your individual needs.

To request a quote, please use our on-line RFQ form or the one located within this catalog. Ongoing developments will result in new products being added to our valve range.

For all of your customer support requirements, or to request a catalog, please contact us:

Phone: (909) 305-2363  
Fax: (909) 305-2373  
[www.alcon-ecivalves.com](http://www.alcon-ecivalves.com)



**Evolutionary Concepts Inc.**  
General Purpose Solenoid Valves

### Alcon/ECI Valve Range

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**Mailing Address:**

Company: \_\_\_\_\_  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ Email: \_\_\_\_\_

Complete this form and fax to:  
**Alcon/ECI North America**  
**(909) 305-2373**

Please call us at:  
**(909) 305-2363**  
 regarding your specific application  
 or to request a catalog.

**Line Fluid:**

Air  Water  Hot Water  Steam  Natural Gas  Oil  Other Gas or Liquid \_\_\_\_\_

**Line Pressure:**

(a) Inlet: \_\_\_\_\_ psi  
 (b) Downstream: \_\_\_\_\_ psi  
 (a-b) Maximum O.P.D. \_\_\_\_\_ psi  
 Minimum O.P.D. \_\_\_\_\_ psi

**Line Fluid Temperature:**

Minimum: \_\_\_\_\_ °F  
 Maximum: \_\_\_\_\_ °F

**Ambient Temperature:**

Minimum: \_\_\_\_\_ °F  
 Maximum: \_\_\_\_\_ °F

**Valve Type:**

2-Way  3-Way  Other

**Mode of Operation:**

Normally Closed  Normally Open  Other

**Valve Connection (Port Size):**

\_\_\_\_\_ NPT

**Orifice Size:**

\_\_\_\_\_

**Maximum Allowable Pressure Drop:**

\_\_\_\_\_ psi

**Flow:**

\_\_\_\_\_ Cv \_\_\_\_\_ GPM \_\_\_\_\_ SCFM

**Body Material:**

Plastic  Brass  Stainless Steel  Other \_\_\_\_\_

**Seal Material:**

Nitrile  Viton®  EPDM  Other \_\_\_\_\_

**Operating Voltage:**

|                               |                            |                              |                              |                                   |
|-------------------------------|----------------------------|------------------------------|------------------------------|-----------------------------------|
| <b>AC Voltages</b>            | <b>Frequency</b>           | <b>DC Voltages</b>           | <input type="radio"/> 9 VDC  | <input type="radio"/> Other _____ |
| <input type="radio"/> 12 VAC  | <input type="radio"/> 60Hz | <input type="radio"/> 6 VDC  | <input type="radio"/> 18 VDC |                                   |
| <input type="radio"/> 24 VAC  | <input type="radio"/> 50Hz | <input type="radio"/> 12 VDC |                              |                                   |
| <input type="radio"/> 120 VAC |                            | <input type="radio"/> 24 VDC |                              |                                   |
| <input type="radio"/> 240 VAC |                            |                              |                              |                                   |

**Desired Power Consumption:**

\_\_\_\_\_ Watts  Y /  N Magnetic Latching

**Specify Series: Coil Configuration/Electrical Connection:**

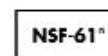
200  300  400  500  1000  1200  1300  Other \_\_\_\_\_  
 2200  2400  2500

**Make/Catalog Number:**

Alcon/ECI Catalog Number: \_\_\_\_\_

Make/Model of Current Valve in service: \_\_\_\_\_

Quantity Required: \_\_\_\_\_  Single Shipment  Annually Target Price (\$): \_\_\_\_\_



### Alcon/ECI Catalog Use

This catalog is designed for ease-of-use by anyone needing to learn more about Alcon/ECI solenoid valves. Whether you are a System Designer or Purchaser, this resource has been developed with you in mind.

### Selection Process

Alcon/ECI's solenoid valves within this catalog are conveniently organized by valve series. Refer to table of contents and page tabs. Numerous configurations of body material, seal packages, and electrical connections are available. Each valve series has unique Features, Options and Technical Specifications.

To determine the Alcon/ECI solenoid valve required to meet your needs, fundamental information is required:

1. Media being passed through the valve
2. Flow Rate
3. Working Pressure Range
4. Media Temperature

We recommend providing as much information as possible when ordering an Alcon/ECI Solenoid Valve, assuring that we deliver the correct valve for your application.

Please specify the following information:

#### ORDERING INFORMATION

#### Example for 1/8" valve

|  |                 |
|--|-----------------|
| Flow Pattern.....                                | 2-way NC        |
| Required Valve Body Material.....                | Stainless Steel |
| Required Seal Package .....                      | EPDM            |
| Required Voltage .....                           | 12 Volt DC      |
| Electrical Connection .....                      | Series 400      |
| Required Body Orifice.....                       | 1/32"           |
| Maximum System Pressure .....                    | 150 PSI         |
| Operating Pressure Differential Range (OPD)..... | 10 PSI          |
| Media/Fluid .....                                | Drain Water     |
| Fluid Temperature Range .....                    | 55°F - 120°F    |
| Ambient Temperature Range .....                  | 55°F - 95°F     |
| Corrosive Properties, if applicable.....         | pH = 7.2        |

*(Refer to our Compatibility Reference Guide, see Appendix)*

Catalog Number.....04A012DC4D233BB2A1

*All of the above information is used to create your Alcon/ECI solenoid valve.* For Features, Options and Technical Specifications that are not cataloged – *please contact us using our Request for Quotation (RFQ) form located on the facing page or on our website at [www.alcon-ecivalves.com](http://www.alcon-ecivalves.com).*



## Selecting & Ordering

Alcon/ECI's **Valve or Actuator** Series is determined by the coil configuration. All series valves and actuators are available in every flow pattern (See Appendix) except for series 1200 and adjustable flow valves which are available in the two-way, normally closed flow pattern only.

**Series 200**



**Series 300**



**Series 400**



**Series 500**



**Series 1000**



**Series 1200**



**Series 1300**



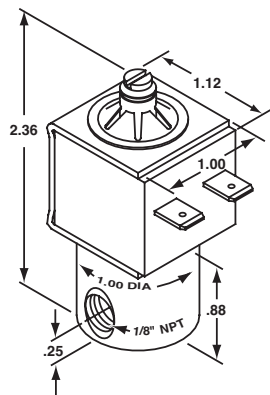
### Catalog Number and Construction Features

| 1-2  | 3   | 4-5-6   | 7  | 8  | 9   | 10   |
|--|---|---|--|--|---|--|
| Series   | Flow Pattern (1/8" NPT)   | Operating Voltage   | Frequency  | Condition  | Stop Orifice  | Top Fitting* Fastener  |
| 02: 200<br>03: 300<br>04: 400<br>05: 500<br>10: 1000<br>12: 1200<br>13: 1300 | A: 2-way<br>NC<br>B: 2-way<br>NO<br>C: 3-way<br>NC<br>D: 3-way<br>NO<br>E: Multi-purpose<br>Selector<br>F: Multi-purpose<br>Diverting | 006: 6 Volts<br>009: 9 Volts<br>012: 12 Volts<br>018: 18 Volts<br>024: 24 Volts<br>120: 120 Volts<br>240: 240 Volts | A: AC-60 cycle<br>B: AC-50 cycle<br>D: DC<br>L: Magnetic Latching<br>(available on Series 200, Series 400 & Series 500 only) | C: Not Rectified<br>DC, or 2 wire<br>Magnetic Latching<br>M: 3 wire Magnetic<br>Latching (Series 400 & Series 500 only)<br>R: Rectified AC | 1: 1/32 (.031) 3-way<br>NO/NC or<br>2-way NO<br>2: 3/64 (.047) 3-way<br>NO/NC or<br>2-way NO<br>3: 1/16 (.063) 3-way<br>NO/NC or<br>2-way NO<br>4: None<br>2-way NC | <b>3-way NO/NC<br/>or 2-way NO</b><br>A: 1/8" Barb<br>B: 1/8" NPT (female)<br>C: 10-32 THD<br>(female)<br><b>2-way NC</b><br>D: Push-on Fastener<br>E: Removable 5/16"<br>Hexnut<br>F: Epoxy Fill<br>(Series 300<br>1000 & 1200) |

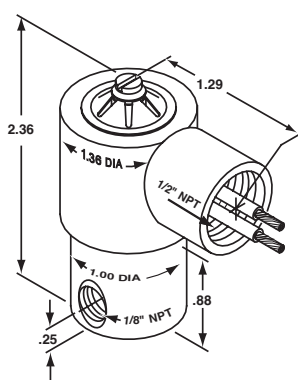
\*Top Fitting or Fastener material (position 10) will be compatible with Base Nut (position 11) as specified.

Note: NO = Normally Open, NC = Normally Closed.

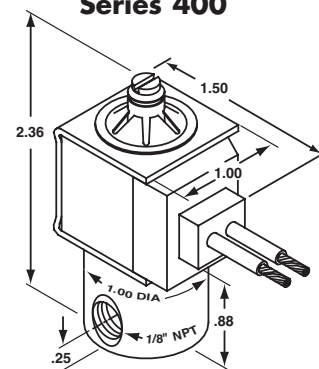
**Series 200**



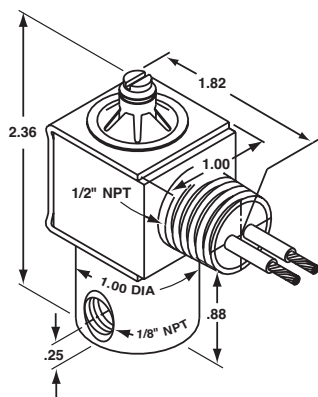
**Series 300**



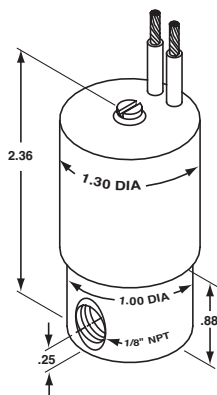
**Series 400**



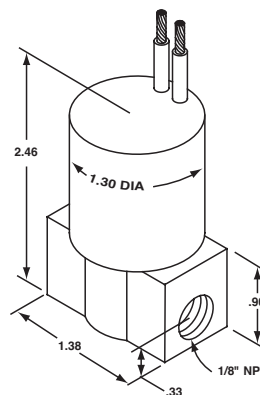
**Series 500**



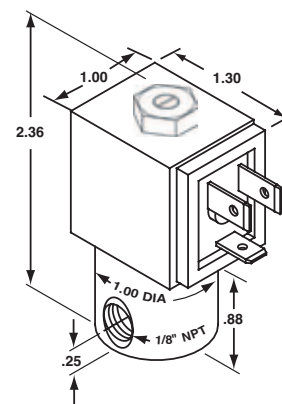
**Series 1000**



**Series 1200**



**Series 1300**



1/8" Selecting & Ordering

### Catalog Number and Construction Features

| 11  | 12  | 13  | 14   | 15  | 16   | 17   | 18   |
|---|---|---|--|---|--|--|--|
| Base Nut  | Shading Ring  | External Yoke   | Seals  | Body Type <sup>♦</sup>  | Body Material  | Body Orifice Diameter  | Mounting Hole Pattern  |
| 1: Brass<br>2: Stainless Steel<br>3: Plastic (Series 1200 only) | 1: OFHC Copper (standard AC)<br>2: Silver<br>3: None (DC or rectified AC)   | P: Plated Steel<br>S: Stainless Steel<br>N: None (Series 300, 1000, 1200) | 1: Nitrile<br>2: Ethylene Propylene<br>3: Fluoro-elastomer | A: Actuator <sup>♦</sup><br>B: Single Valve<br>C: 4 Station Manifold<br>D: 6 Station Manifold<br>E: Adjustable Flow <sup>♦♦</sup> | 1: Brass (valves only)<br>2: Stainless Steel (valves only)<br>3: Polypropylene (valves only)<br>4: Acetal (manifolds only) | A: 1/32" (.031)<br>B: 3/64" (.047)<br>C: 1/16" (.063)<br>D: 3/32" (.094)<br>E: 1/8" (.125)<br>F: 5/32" (.156)<br>N: None (2-way NO ) | 1: Standard (diagonal)<br>2: Alternate (PP body only)<br>3: None (PP body or adjustable flow)<br>4: Manifold |
| <b>NSF-61</b>   | NSF-61 requires "non brass" and EPDM seal configurations. User must specify proper components such as Stainless Steel Base Nut, EPDM Seals and Stainless Steel Fittings, when applicable. |   |  |   |  |  |  |

<sup>♦</sup>If body type is designation "A: Actuator," position 16, 17 and 18 do not apply.

<sup>♦♦</sup>PP = Polypropylene body material (position 16, designation 3).

Alcon/ECI's **Series 200** Direct Acting Solenoid Valve is a low cost, lightweight, compact size valve featuring two 1/4" spade terminations, external yoke and molded coil for maximum protection and insulation.

### Features

- 2-way & 3-way flow patterns
- Magnetic latching option available
- "Actuator only" for manifold mounting or to pilot larger valves

### Technical Specification

#### Electrical:

**Voltages Available:** AC 50/60Hz - 12, 24, 120 or 240 volts  
 DC - 6, 12, 18 or 24 volts  
 DC Latching - 9, 12, 18 or 24 volts

**Power Consumption:** AC - 5 watts, DC - 6 watts

**Coil Construction:** Class A, as standard (221°F/105°C)

**Coil Encapsulant:** Thermoplastic Polyester (PET)

**Operating Temperature:** to 120°F (49°C)

#### Materials:

**Seals:** Nitrile, Fluoroelastomer or EPDM

**Internal Components:** Stainless Steel

**Shading Ring (AC units):** Copper or Silver

**Yoke:** Zinc Plated Steel or Stainless Steel

**Base Nut:** Brass or Stainless Steel

**Valve Body Material:** Glass filled Polypropylene, Brass or Stainless Steel

**Top Fitting:** 1/8" NPT (female) Brass or Stainless Steel,  
**(3-way or 2-way NO):** 1/8" Brass barb, 10 - 32 (female) thread

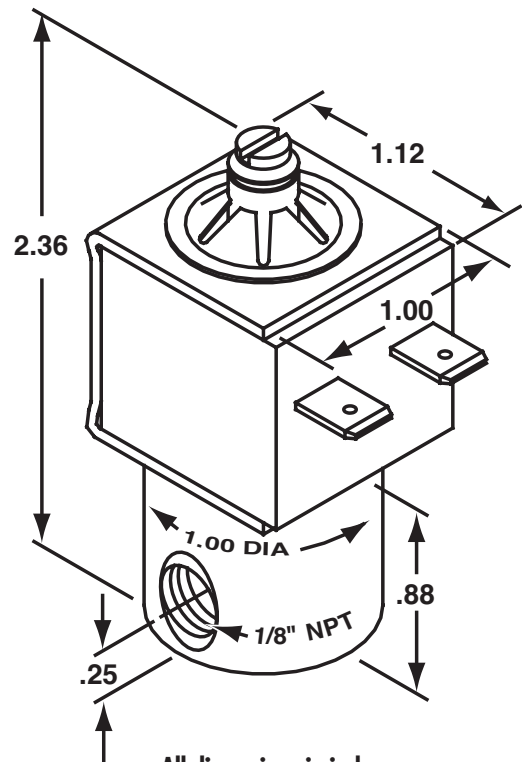
Special voltages, coil construction, seals, or materials are available.



2-way Series 200



#### Dimensions



All dimensions in inches.  
 Add .19 inches to height for latching coil.

### Standard Flow Data - 1/8" NPT Polypropylene and Metal Bodies

#### Flow-H<sub>2</sub>O (GPM)

#### Flow-Air (SCFM)

| Nominal Orifice Diameter | Maximum GPM Water Flow |        |        |         |         |         |         | Nominal Orifice Diameter | Maximum SCFM Air Flow |        |        |         |         |         |         |
|--------------------------|------------------------|--------|--------|---------|---------|---------|---------|--------------------------|-----------------------|--------|--------|---------|---------|---------|---------|
|                          | 10 psi                 | 25 psi | 50 psi | 100 psi | 150 psi | 200 psi | 250 psi |                          | 10 psi                | 25 psi | 50 psi | 100 psi | 150 psi | 200 psi | 250 psi |
| 1/32 (.031)              | 0.06                   | 0.10   | 0.14   | 0.20    | 0.24    | 0.28    | .032    | 1/32 (.031)              | 0.30                  | 0.56   | 0.80   | 1.70    | 2.10    | 2.70    | 3.30    |
| 3/64 (.047)              | 0.15                   | 0.24   | 0.35   | 0.46    | 0.61    | 0.70    | 0.80    | 3/64 (.047)              | 0.75                  | 1.40   | 2.00   | 3.50    | 5.25    | 6.75    | 8.25    |
| 1/16 (.063)              | 0.24                   | 0.38   | 0.56   | 0.80    | 0.98    | 1.12    | 1.28    | 1/16 (.063)              | 1.20                  | 2.24   | 3.20   | 5.60    | 8.40    | 10.80   | 13.20   |
| 3/32 (.094)              | 0.51                   | 0.82   | 1.19   | 1.70    | 2.05    |         |         | 3/32 (.094)              | 2.55                  | 4.76   | 6.80   | 11.90   | 18.60   |         |         |
| 1/8 (.125)               | 0.84                   | 1.34   | 1.96   | 2.80    |         |         |         | 1/8 (.125)               | 4.20                  | 7.84   | 11.20  | 19.60   |         |         |         |
| 5/32 (.156)              | 1.19                   | 1.90   |        |         |         |         |         | 5/32 (.156)              | 5.93                  | 11.06  |        |         |         |         |         |

For additional technical information visit [www.alcon-ecivalves.com](http://www.alcon-ecivalves.com)

Alcon/ECI's **Series 300** Direct Acting Solenoid Valve features a coil enclosure with a 1/2" NPT internally threaded hub designed to accommodate conduit or fittings required for hard wiring.

### Features

- 2-way & 3-way flow patterns
- Epoxy encapsulated coil
- 18 Gauge, 18" Leads
- "Actuator only" for manifold mounting or to pilot larger valves

### Technical Specification

#### Electrical:

**Voltages Available:** AC 50/60 Hz - 12, 24, 120 or 240 volts  
 DC - 6, 12 or 24 volts

**Power Consumption:** AC - 5 watts, DC - 6 watts

**Coil Construction:** Class A, as standard (221°F/105°C)

**Canister Material:** ABS Plastic

**Coil Encapsulant:** Epoxy (221°F/105°C)

**Coil Leads:** 18 AWG Stranded Copper  
 PVC Insulation (UL type 1015)

**Operating Temperature:** to 120°F (49°C)

#### Materials:

**Seals:** Nitrile, Fluoroelastomer or EPDM

**Internal Components:** Stainless Steel

**Shading Ring (AC units):** Copper or Silver

**Base Nut:** Brass or Stainless Steel

**Valve Body Material:** Glass filled Polypropylene, Brass or Stainless Steel

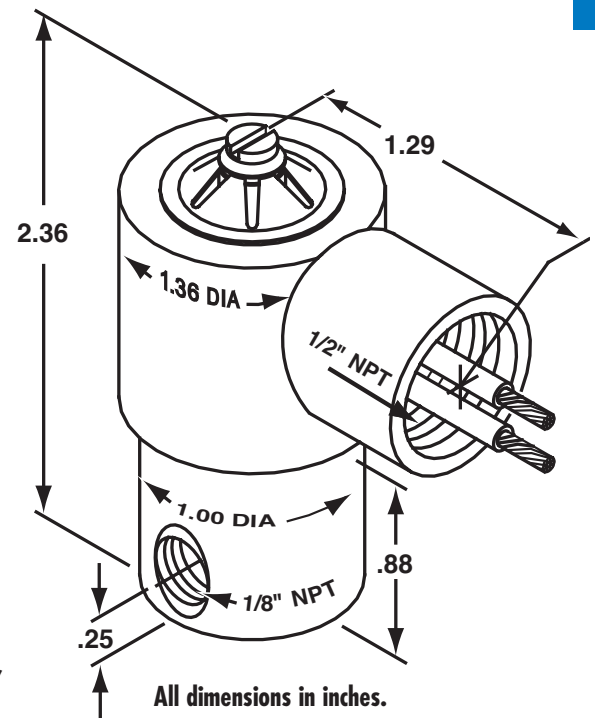
**Top Fitting:** 1/8" NPT (female) Brass or Stainless Steel,  
 (3-way or 2-way NO): 1/8" Brass barb, 10 - 32 (female) thread

Special voltages, coil construction, seals, or materials are available.



2-way Series 300 NSF-61"

#### Dimensions



All dimensions in inches.

### Standard Flow Data - 1/8" NPT Polypropylene and Metal Bodies

#### Flow-H2O (GPM)

#### Flow-Air (SCFM)

| Nominal Orifice Diameter | Maximum GPM Water Flow |        |        |         |         |         |         | Nominal Orifice Diameter | Maximum SCFM Air Flow |        |        |         |         |         |         |
|--------------------------|------------------------|--------|--------|---------|---------|---------|---------|--------------------------|-----------------------|--------|--------|---------|---------|---------|---------|
|                          | 10 psi                 | 25 psi | 50 psi | 100 psi | 150 psi | 200 psi | 250 psi |                          | 10 psi                | 25 psi | 50 psi | 100 psi | 150 psi | 200 psi | 250 psi |
| 1/32 (.031)              | 0.06                   | 0.10   | 0.14   | 0.20    | 0.24    | 0.28    | .032    | 1/32 (.031)              | 0.30                  | 0.56   | 0.80   | 1.70    | 2.10    | 2.70    | 3.30    |
| 3/64 (.047)              | 0.15                   | 0.24   | 0.35   | 0.46    | 0.61    | 0.70    | 0.80    | 3/64 (.047)              | 0.75                  | 1.40   | 2.00   | 3.50    | 5.25    | 6.75    | 8.25    |
| 1/16 (.063)              | 0.24                   | 0.38   | 0.56   | 0.80    | 0.98    | 1.12    | 1.28    | 1/16 (.063)              | 1.20                  | 2.24   | 3.20   | 5.60    | 8.40    | 10.80   | 13.20   |
| 3/32 (.094)              | 0.51                   | 0.82   | 1.19   | 1.70    | 2.05    |         |         | 3/32 (.094)              | 2.55                  | 4.76   | 6.80   | 11.90   | 18.60   |         |         |
| 1/8 (.125)               | 0.84                   | 1.34   | 1.96   | 2.80    |         |         |         | 1/8 (.125)               | 4.20                  | 7.84   | 11.20  | 19.60   |         |         |         |
| 5/32 (.156)              | 1.19                   | 1.90   |        |         |         |         |         | 5/32 (.156)              | 5.93                  | 11.06  |        |         |         |         |         |

For additional technical information visit [www.alcon-ecivalves.com](http://www.alcon-ecivalves.com)

Alcon/ECI's **Series 400** Direct Acting Solenoid Valve is a low cost, lightweight, compact size valve featuring external yoke and molded coil for maximum protection and insulation.

### Features

- 2-way & 3-way flow patterns
- 18 Gauge, 18" Leads
- Magnetic latching option available
- "Actuator only" for manifold mounting or to pilot larger valves

### Technical Specification

#### Electrical:

**Voltages Available:** AC 50/60 Hz - 12, 24, 120 or 240 volts  
 DC - 6, 12 or 24 volts  
 DC Latching - 9, 12, 18 or 24 volts

**Power Consumption:** AC - 5 watts, DC - 6 watts

**Coil Construction:** Class A, as standard (221°F/105°C)

**Coil Encapsulant:** Thermoplastic Polyester (PET)

**Coil Leads:** 18 AWG Stranded Copper  
 Cross Link Polyethylene Insulation (UL type 3173)

**Operating Temperature:** to 120°F (49°C)

#### Materials:

**Seals:** Nitrile, Fluoroelastomer or EPDM

**Internal Components:** Stainless Steel

**Shading Ring (AC units):** Copper or Silver

**Yoke:** Zinc Plated Steel or Stainless Steel

**Base Nut:** Brass or Stainless Steel

**Valve Body Material:** Glass filled Polypropylene, Brass or Stainless Steel

**Top Fitting:** 1/8" NPT (female) Brass or Stainless Steel,  
 (3-way or 2-way NO): 1/8" Brass barb, 10 - 32 (female) thread

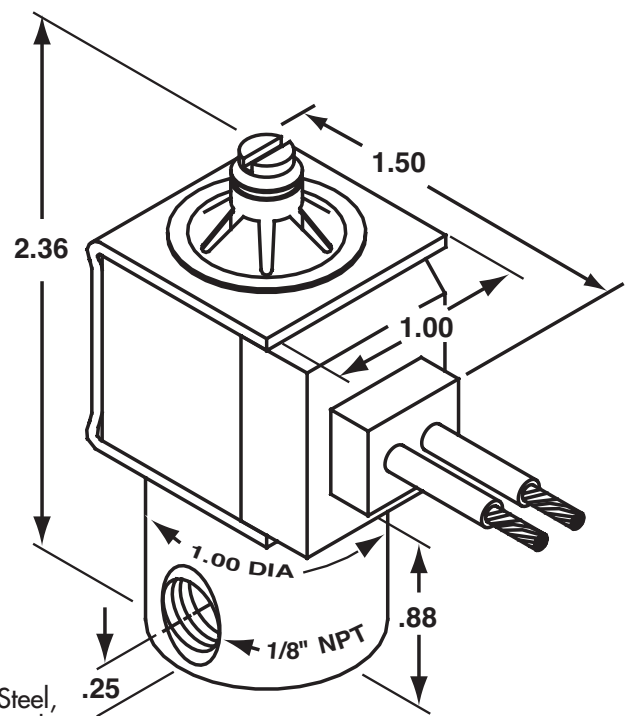
Special voltages, coil construction, seals, or materials are available.



2-way Series 400



#### Dimensions



All dimensions in inches.  
 Add .19 inches to height for latching coil.

### Standard Flow Data - 1/8" NPT Polypropylene and Metal Bodies

#### Flow-H2O (GPM)

#### Flow-Air (SCFM)

| Nominal Orifice Diameter | Maximum GPM Water Flow |        |        |         |         |         |         | Nominal Orifice Diameter | Maximum SCFM Air Flow |        |        |         |         |         |         |
|--------------------------|------------------------|--------|--------|---------|---------|---------|---------|--------------------------|-----------------------|--------|--------|---------|---------|---------|---------|
|                          | 10 psi                 | 25 psi | 50 psi | 100 psi | 150 psi | 200 psi | 250 psi |                          | 10 psi                | 25 psi | 50 psi | 100 psi | 150 psi | 200 psi | 250 psi |
| 1/32 (.031)              | 0.06                   | 0.10   | 0.14   | 0.20    | 0.24    | 0.28    | .032    | 1/32 (.031)              | 0.30                  | 0.56   | 0.80   | 1.70    | 2.10    | 2.70    | 3.30    |
| 3/64 (.047)              | 0.15                   | 0.24   | 0.35   | 0.46    | 0.61    | 0.70    | 0.80    | 3/64 (.047)              | 0.75                  | 1.40   | 2.00   | 3.50    | 5.25    | 6.75    | 8.25    |
| 1/16 (.063)              | 0.24                   | 0.38   | 0.56   | 0.80    | 0.98    | 1.12    | 1.28    | 1/16 (.063)              | 1.20                  | 2.24   | 3.20   | 5.60    | 8.40    | 10.80   | 13.20   |
| 3/32 (.094)              | 0.51                   | 0.82   | 1.19   | 1.70    | 2.05    |         |         | 3/32 (.094)              | 2.55                  | 4.76   | 6.80   | 11.90   | 18.60   |         |         |
| 1/8 (.125)               | 0.84                   | 1.34   | 1.96   | 2.80    |         |         |         | 1/8 (.125)               | 4.20                  | 7.84   | 11.20  | 19.60   |         |         |         |
| 5/32 (.156)              | 1.19                   | 1.90   |        |         |         |         |         | 5/32 (.156)              | 5.93                  | 11.06  |        |         |         |         |         |

For additional technical information visit [www.alcon-ecivalves.com](http://www.alcon-ecivalves.com)

Alcon/ECI's **Series 500** Direct Acting Solenoid Valve features a patented coil design with 1/2" external threads to accommodate a variety of fittings used for hard wiring or panel mount applications.

### Features

- 2-way & 3-way flow patterns
- 18 Gauge, 18" Leads
- Magnetic latching option available
- "Actuator only" for manifold mounting or to pilot larger valves

### Technical Specification

#### Electrical:

**Voltages Available:** AC 50/60 Hz - 12, 24, 120 or 240 volts  
 DC - 6, 12 or 24 volts  
 DC Latching - 9, 12, 18 or 24 volts

**Power Consumption:** AC - 5 watts, DC - 6 watts

**Coil Construction:** Class A, as standard (221°F/105°C)

**Coil Encapsulant:** Thermoplastic Polyester (PET)

**Coil Leads:** 18 AWG Stranded Copper  
 Cross Link Polyethylene Insulation  
 (UL type 3173)

**Operating Temperature:** to 120°F (49°C)

#### Materials:

**Seals:** Nitrile, Fluoroelastomer or EPDM

**Internal Components:** Stainless Steel

**Shading Ring (AC units):** Copper or Silver

**Yoke:** Zinc Plated Steel or Stainless Steel

**Base Nut:** Brass or Stainless Steel

**Valve Body Material:** Glass filled Polypropylene, Brass or Stainless Steel

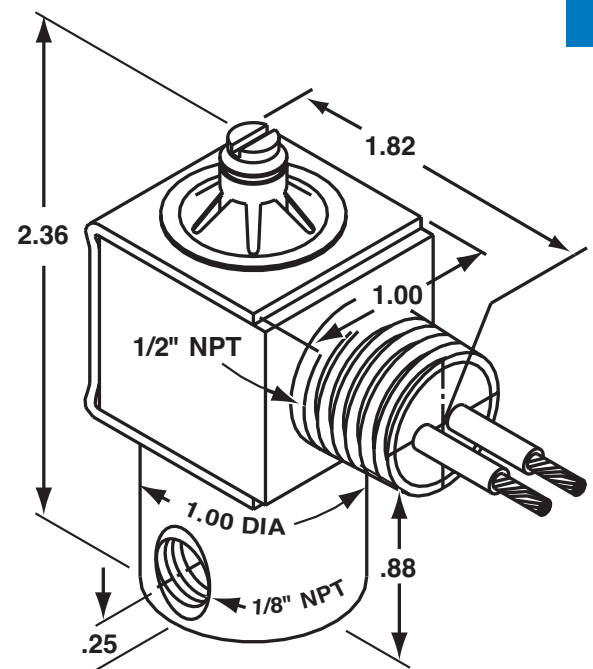
**Top Fitting:** 1/8" NPT (female) Brass or Stainless Steel,  
 (3-way or 2-way NO): 1/8" Brass barb, 10 - 32 (female) thread

Special voltages, coil construction, seals, or materials are available.



2-way Series 500  

#### Dimensions



All dimensions in inches.  
 Add .19 inches to height for latching coil.

### Standard Flow Data - 1/8" NPT Polypropylene and Metal Bodies

#### Flow-H2O (GPM)

#### Flow-Air (SCFM)

| Nominal Orifice Diameter | Maximum GPM Water Flow |        |        |         |         |         |         | Nominal Orifice Diameter | Maximum SCFM Air Flow |        |        |         |         |         |         |
|--------------------------|------------------------|--------|--------|---------|---------|---------|---------|--------------------------|-----------------------|--------|--------|---------|---------|---------|---------|
|                          | 10 psi                 | 25 psi | 50 psi | 100 psi | 150 psi | 200 psi | 250 psi |                          | 10 psi                | 25 psi | 50 psi | 100 psi | 150 psi | 200 psi | 250 psi |
| 1/32 (.031)              | 0.06                   | 0.10   | 0.14   | 0.20    | 0.24    | 0.28    | 0.32    | 1/32 (.031)              | 0.30                  | 0.56   | 0.80   | 1.70    | 2.10    | 2.70    | 3.30    |
| 3/64 (.047)              | 0.15                   | 0.24   | 0.35   | 0.46    | 0.61    | 0.70    | 0.80    | 3/64 (.047)              | 0.75                  | 1.40   | 2.00   | 3.50    | 5.25    | 6.75    | 8.25    |
| 1/16 (.063)              | 0.24                   | 0.38   | 0.56   | 0.80    | 0.98    | 1.12    | 1.28    | 1/16 (.063)              | 1.20                  | 2.24   | 3.20   | 5.60    | 8.40    | 10.80   | 13.20   |
| 3/32 (.094)              | 0.51                   | 0.82   | 1.19   | 1.70    | 2.05    |         |         | 3/32 (.094)              | 2.55                  | 4.76   | 6.80   | 11.90   | 18.60   |         |         |
| 1/8 (.125)               | 0.84                   | 1.34   | 1.96   | 2.80    |         |         |         | 1/8 (.125)               | 4.20                  | 7.84   | 11.20  | 19.60   |         |         |         |
| 5/32 (.156)              | 1.19                   | 1.90   |        |         |         |         |         | 5/32 (.156)              | 5.93                  | 11.06  |        |         |         |         |         |

For additional technical information visit [www.alcon-ecivalves.com](http://www.alcon-ecivalves.com)

Alcon/ECI's **Series 1000** Direct Acting Solenoid Valve is an epoxy filled, plastic canister valve. This design is excellent for use in high humidity environment and applications where exposure to the elements is a factor.

### Features

- 2-way & 3-way flow patterns
- 18 Gauge, 18" Leads
- "Actuator only" for manifold mounting or to pilot larger valves

### Technical Specification

#### Electrical:

**Voltages Available:** AC 50/60 Hz - 12, 24, 120 or 240 volts  
 DC - 6, 12 or 24 volts

**Power Consumption:** AC - 5 watts, DC - 6 watts

**Coil Construction:** Class A, as standard (221°F/105°C)

**Canister Material:** Polyphenylene Sulfide

**Coil Encapsulant:** Thermoplastic Polyester (PET)

**Coil Leads:** 18 AWG Stranded Copper  
 PVC Insulation (UL type 1015)

**Operating Temperature:** to 120°F (49°C)

#### Materials:

**Seals:** Nitrile, Fluoroelastomer or EPDM

**Internal Components:** Stainless Steel

**Shading Ring (AC units):** Copper or Silver

**Base Nut:** Brass or Stainless Steel

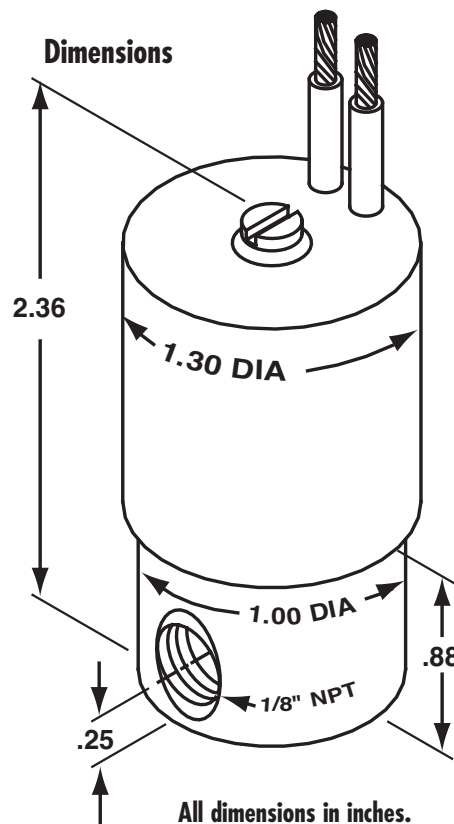
**Valve Body Material:** Glass filled Polypropylene, Brass or Stainless Steel

**Top Fitting:** 1/8" NPT (female) Brass or Stainless Steel,  
 1/8" Brass barb, 10 - 32 (female) thread

Special voltages, coil construction, seals, or materials are available.



2-way Series 1000



### Standard Flow Data - 1/8" NPT Polypropylene and Metal Bodies

#### Flow-H<sub>2</sub>O (GPM)

#### Flow-Air (SCFM)

| Nominal Orifice Diameter | Maximum GPM Water Flow |        |        |         |         |         |         | Nominal Orifice Diameter | Maximum SCFM Air Flow |        |        |         |         |         |         |
|--------------------------|------------------------|--------|--------|---------|---------|---------|---------|--------------------------|-----------------------|--------|--------|---------|---------|---------|---------|
|                          | 10 psi                 | 25 psi | 50 psi | 100 psi | 150 psi | 200 psi | 250 psi |                          | 10 psi                | 25 psi | 50 psi | 100 psi | 150 psi | 200 psi | 250 psi |
| 1/32 (.031)              | 0.06                   | 0.10   | 0.14   | 0.20    | 0.24    | 0.28    | .032    | 1/32 (.031)              | 0.30                  | 0.56   | 0.80   | 1.70    | 2.10    | 2.70    | 3.30    |
| 3/64 (.047)              | 0.15                   | 0.24   | 0.35   | 0.46    | 0.61    | 0.70    | 0.80    | 3/64 (.047)              | 0.75                  | 1.40   | 2.00   | 3.50    | 5.25    | 6.75    | 8.25    |
| 1/16 (.063)              | 0.24                   | 0.38   | 0.56   | 0.80    | 0.98    | 1.12    | 1.28    | 1/16 (.063)              | 1.20                  | 2.24   | 3.20   | 5.60    | 8.40    | 10.80   | 13.20   |
| 3/32 (.094)              | 0.51                   | 0.82   | 1.19   | 1.70    | 2.05    |         |         | 3/32 (.094)              | 2.55                  | 4.76   | 6.80   | 11.90   | 18.60   |         |         |
| 1/8 (.125)               | 0.84                   | 1.34   | 1.96   | 2.80    |         |         |         | 1/8 (.125)               | 4.20                  | 7.84   | 11.20  | 19.60   |         |         |         |
| 5/32 (.156)              | 1.19                   | 1.90   |        |         |         |         |         | 5/32 (.156)              | 5.93                  | 11.06  |        |         |         |         |         |

For additional technical information visit [www.alcon-ecivalves.com](http://www.alcon-ecivalves.com)

Alcon/ECI's **Series 1200** Direct Acting Solenoid Valve is a lower cost version of the Series 1000 constructed with a glass filled polypropylene body. This design offers private labeling for the high volume user. Electrical specifications, company logos, or part numbers can be molded into the flat space on the side of the canister. Contact the factory for set-up charges and minimums.



2-way Series 1200



### Features

- Available as 2-way normally closed, only
- 18 Gauge, 18" Leads as standard
- "Actuator only" to pilot larger non-metallic valves

### Technical Specification

#### Electrical:

**Voltages Available:** AC 50/60 Hz - 12, 24, 120 or 240 volts  
 DC - 6, 12 or 24 volts

**Power Consumption:** AC - 5 watts, DC - 6 watts

**Coil Construction:** Class A, as standard (221°F/105°C)

**Canister Material:** Glass Filled Nylon

**Coil Encapsulant:** Epoxy (221°F/105°C)

**Coil Leads:** 18 AWG Stranded Copper  
 PVC Insulation (UL type 1015)

**Operating Temperature:** to 120°F (49°C)

#### Materials:

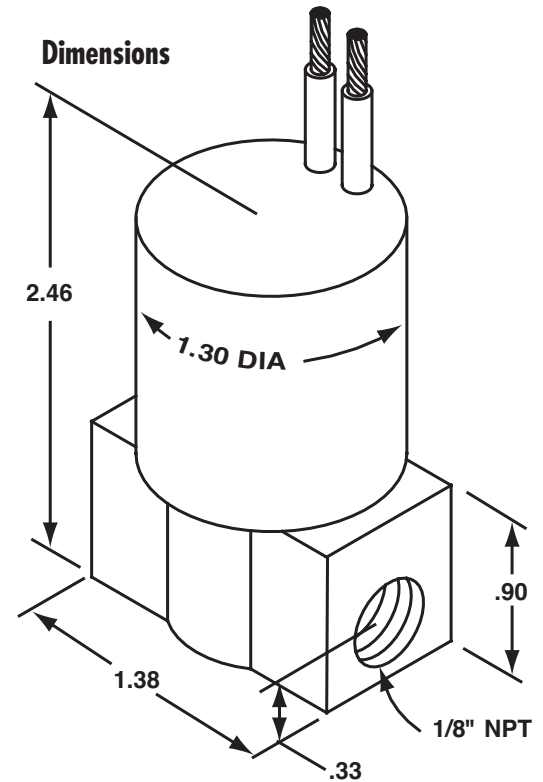
**Seals:** Nitrile, Fluoroelastomer or EPDM

**Internal Components:** Stainless Steel

**Shading Ring (AC units):** Copper or Silver

**Valve Body Material:** Glass filled Polypropylene

Special voltages, coil construction, seals, or materials are available.



All dimensions in inches.

### Standard Flow Data - 1/8" NPT Polypropylene

#### Flow-H2O (GPM)

#### Flow-Air (SCFM)

| Nominal Orifice Diameter | Maximum GPM Water Flow |        |        |         |         |         |         | Nominal Orifice Diameter | Maximum SCFM Air Flow |        |        |         |         |         |         |
|--------------------------|------------------------|--------|--------|---------|---------|---------|---------|--------------------------|-----------------------|--------|--------|---------|---------|---------|---------|
|                          | 10 psi                 | 25 psi | 50 psi | 100 psi | 150 psi | 200 psi | 250 psi |                          | 10 psi                | 25 psi | 50 psi | 100 psi | 150 psi | 200 psi | 250 psi |
| 1/32 (.031)              | 0.06                   | 0.10   | 0.14   | 0.20    | 0.24    | 0.28    | .032    | 1/32 (.031)              | 0.30                  | 0.56   | 0.80   | 1.70    | 2.10    | 2.70    | 3.30    |
| 3/64 (.047)              | 0.15                   | 0.24   | 0.35   | 0.46    | 0.61    | 0.70    | 0.80    | 3/64 (.047)              | 0.75                  | 1.40   | 2.00   | 3.50    | 5.25    | 6.75    | 8.25    |
| 1/16 (.063)              | 0.24                   | 0.38   | 0.56   | 0.80    | 0.98    | 1.12    | 1.28    | 1/16 (.063)              | 1.20                  | 2.24   | 3.20   | 5.60    | 8.40    | 10.80   | 13.20   |
| 3/32 (.094)              | 0.51                   | 0.82   | 1.19   | 1.70    | 2.05    |         |         | 3/32 (.094)              | 2.55                  | 4.76   | 6.80   | 11.90   | 18.60   |         |         |
| 1/8 (.125)               | 0.84                   | 1.34   | 1.96   | 2.80    |         |         |         | 1/8 (.125)               | 4.20                  | 7.84   | 11.20  | 19.60   |         |         |         |
| 5/32 (.156)              | 1.19                   | 1.90   |        |         |         |         |         | 5/32 (.156)              | 5.93                  | 11.06  |        |         |         |         |         |

For additional technical information visit [www.alcon-ecivalves.com](http://www.alcon-ecivalves.com)

Alcon/ECI's **Series 1300** Direct Acting Solenoid Valve is DIN 43650 mini (11mm) terminal configuration molded coil. Available for use with all valve body materials. Compact size with mounting holes in the valve or with optional mounting bracket.

### Features

- 2-way & 3-way flow patterns
- "Actuator only" to pilot larger valves
- Strain-relief connector option available

### Technical Specification

#### Electrical:

**Voltages Available:** AC 50/60 Hz - 12, 24, 120 or 240 volts  
 DC - 6, 12 or 24 volts

**Power Consumption:** AC - 5 watts, DC - 6 watts

**Coil Construction:** Class A, as standard (221°F/105°C)

**Coil Encapsulant:** Thermoplastic Polyester

**Operating Temperature:** to 120°F (49°C)

#### Materials:

**Seals:** Nitrile, Fluoroelastomer or EPDM

**Internal Components:** Stainless Steel

**Shading Ring (AC units):** Copper or Silver

**Yoke:** Zinc Plated Steel or Stainless Steel

**Base Nut:** Brass or Stainless Steel

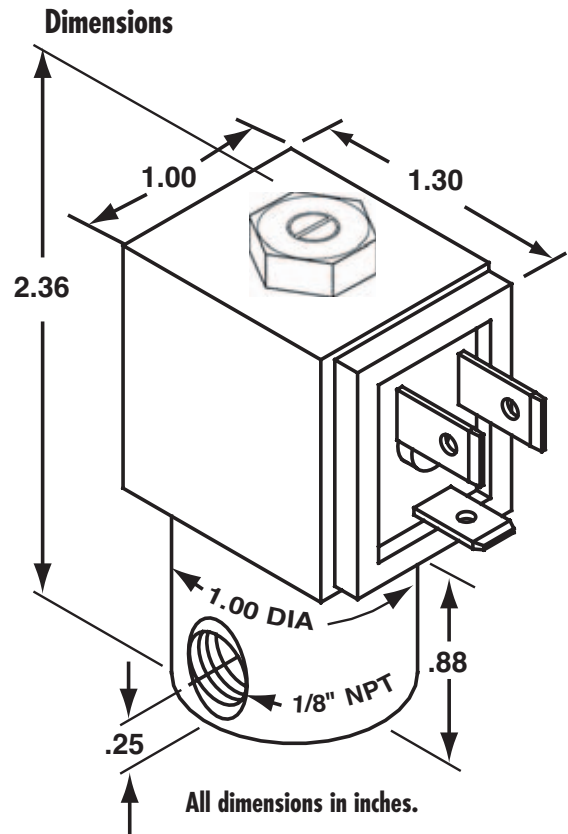
**Valve Body Material:** Brass, Stainless Steel or Glass filled Polypropylene

**Top Fitting:** 1/8" NPT (female) Brass or S.S.,  
 1/8" Brass Barb, 10/32 female thread



2-way Series 1300

NSF-61<sup>®</sup>



Special voltages, coil construction, seals, or materials are available.

### Standard Flow Data - 1/8" NPT Polypropylene and Metal Bodies

#### Flow-H<sub>2</sub>O (GPM)

#### Flow-Air (SCFM)

| Nominal Orifice Diameter | Maximum GPM Water Flow |        |        |         |         |         |         | Nominal Orifice Diameter | Maximum SCFM Air Flow |        |        |         |         |         |         |
|--------------------------|------------------------|--------|--------|---------|---------|---------|---------|--------------------------|-----------------------|--------|--------|---------|---------|---------|---------|
|                          | 10 psi                 | 25 psi | 50 psi | 100 psi | 150 psi | 200 psi | 250 psi |                          | 10 psi                | 25 psi | 50 psi | 100 psi | 150 psi | 200 psi | 250 psi |
| 1/32 (.031)              | 0.06                   | 0.10   | 0.14   | 0.20    | 0.24    | 0.28    | .032    | 1/32 (.031)              | 0.30                  | 0.56   | 0.80   | 1.70    | 2.10    | 2.70    | 3.30    |
| 3/64 (.047)              | 0.15                   | 0.24   | 0.35   | 0.46    | 0.61    | 0.70    | 0.80    | 3/64 (.047)              | 0.75                  | 1.40   | 2.00   | 3.50    | 5.25    | 6.75    | 8.25    |
| 1/16 (.063)              | 0.24                   | 0.38   | 0.56   | 0.80    | 0.98    | 1.12    | 1.28    | 1/16 (.063)              | 1.20                  | 2.24   | 3.20   | 5.60    | 8.40    | 10.80   | 13.20   |
| 3/32 (.094)              | 0.51                   | 0.82   | 1.19   | 1.70    | 2.05    |         |         | 3/32 (.094)              | 2.55                  | 4.76   | 6.80   | 11.90   | 18.60   |         |         |
| 1/8 (.125)               | 0.84                   | 1.34   | 1.96   | 2.80    |         |         |         | 1/8 (.125)               | 4.20                  | 7.84   | 11.20  | 19.60   |         |         |         |
| 5/32 (.156)              | 1.19                   | 1.90   |        |         |         |         |         | 5/32 (.156)              | 5.93                  | 11.06  |        |         |         |         |         |

For additional technical information visit [www.alcon-ecivalves.com](http://www.alcon-ecivalves.com)

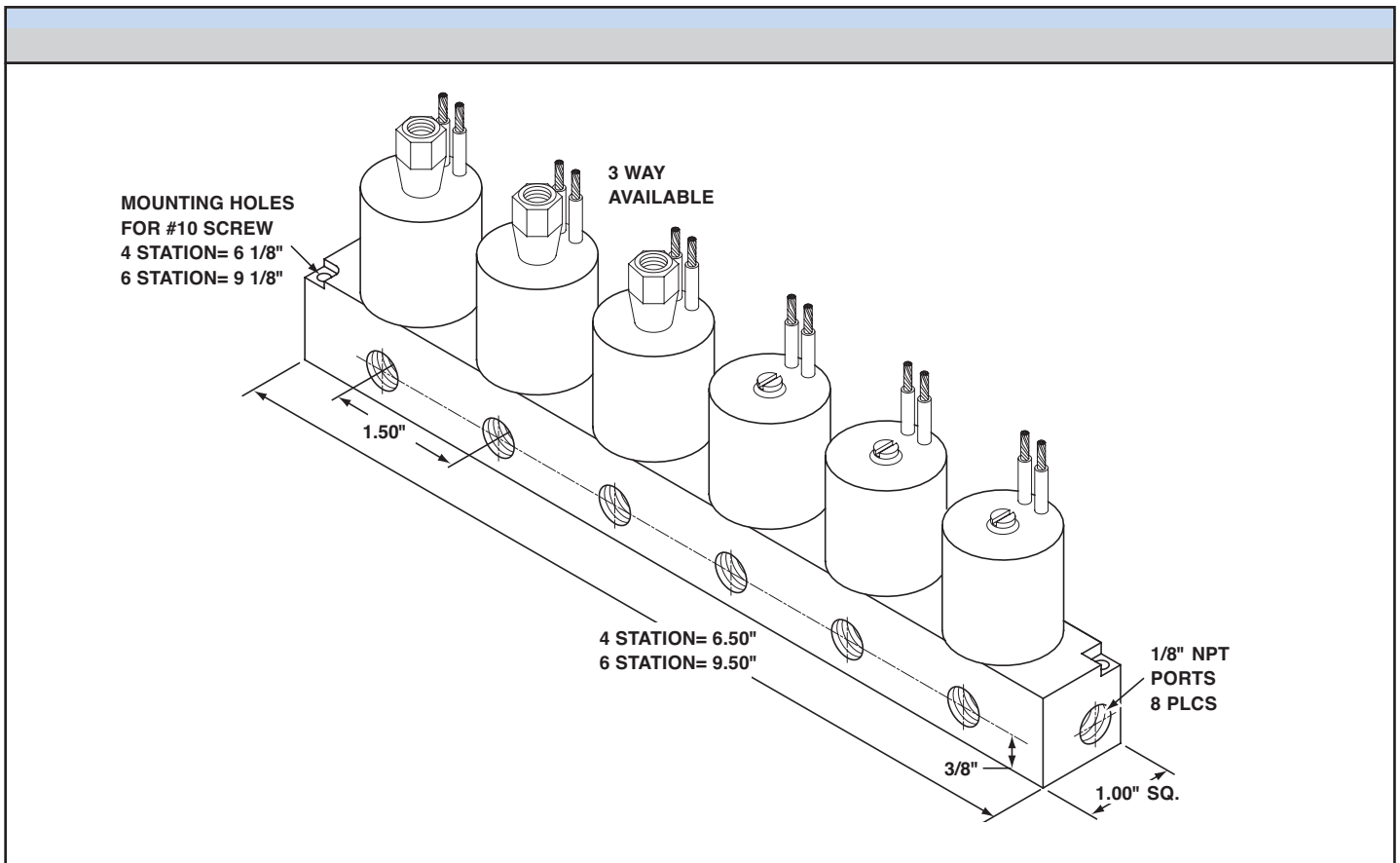
Alcon/ECI's **MultiValve Manifolds** are available in four and six station configurations, as standard. Any Series Alcon/ECI Actuator will operate these manifolds. The ports are located 1-1/2" on-center, on an acetal manifold. Orifice sizes available are 3/64", 1/16" and 3/32". Consult factory for special configurations and materials.

Refer to the Standard Data of the Alcon/ECI Series actuator for features, technical specification and standard flow data. Flow pattern information is located in the Appendix.



6 Station Acetal Manifold with Series 1000 actuators

### Standard Data



All dimensions in inches.

1/8" Manifolds

Alcon/ECI's **Adjustable Flow** (metering) Solenoid Valves are designed for use in applications where flow adjustment is required.

### Features

- Available as 2-way normally closed, only
- Compatible with any Alcon/ECI Series Actuators
- Magnetic latching option\* available

### Technical Specification

#### Electrical:

**Voltages Available:** AC 50/60 Hz - 12, 24 or 120 volts  
 DC - 6, 12 or 24 volts  
 \*DC Latching - 9, 12, 18 or 24 volts

**Coil Construction:** Units available with all Alcon/ECI Series Actuators

**Coil Encapsulant:** Refer to selected series for coil construction

**Coil Leads:** Refer to selected series for electrical connections

**Operating Temperature:** to 120°F (49°C)

#### Materials:

**Seals:** Nitrile, Fluoroelastomer or EPDM

**Internal Components:** Stainless Steel

**Valve Body Material:** Glass filled Polypropylene

**Base Nut:** Brass or Stainless Steel (except Series 1200: Glass Filled Nylon)

#### Flow Data:

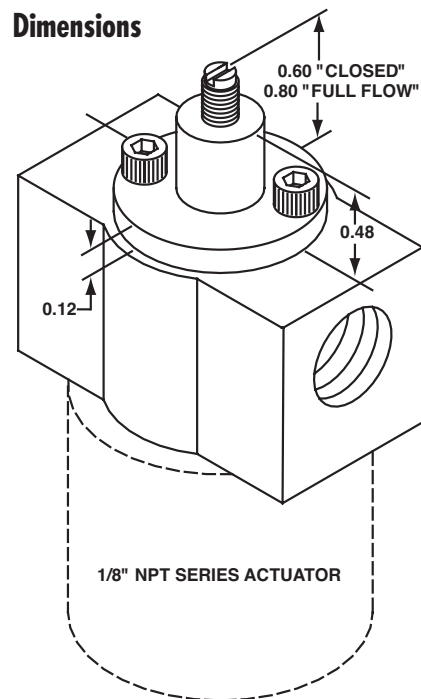
**Maximum Flow:** Refer to selected Series for flow data

**Minimum Flow:** 90% shut off (depending on viscosity of media)



Adjustable Flow Valve with Series 200 actuator

#### Dimensions



All dimensions in inches.  
 Add dimensions to appropriate polypropylene series valve.

Special voltages, coil construction, seals, and materials are available; please consult factory.

Note: mounting bracket and/or mounting holes not available.

\*Series 200, 400 or 500 only.

1/8" Adjustable Flow

Alcon/ECI's **Latching Solenoid Valves and Actuators** are available as Series 200, 400 or 500. They are designed to remain unenergized in two stable operating positions, without power consumption. The plunger changes positions by means of a momentary pulse moving the plunger within a magnetic field created by a permanent magnet. The only power consumption is during the period of changing plunger positions (a few milliseconds). Actuators are available, less bodies, for use as pilots on larger valves or for manifolds.

### Latching Solenoid Valves and Actuators

Series 200 2-Wire Latching Valve

Series 400 3-Wire Latching Valve



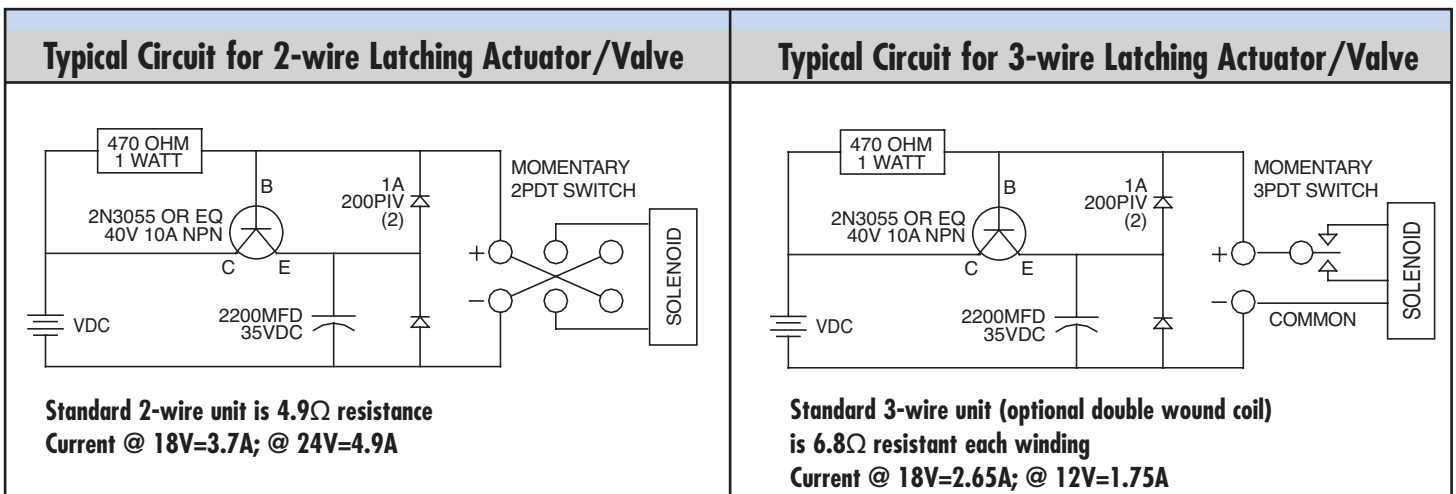
1/8" Latching Valves

- 2-wire Coil Lead Marking:** Red is + for latching  
Black is common
- 3-wire Coil Lead Marking:** Red is + for latching  
Black is common  
Green is for unlatching

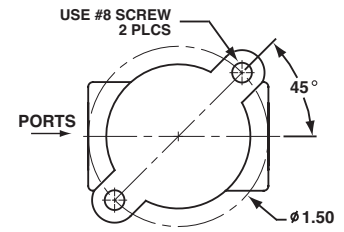
**Standard Voltage:** 18VDC  
 Although coils can be provided for pulse voltage as low as 6VDC, a corresponding higher pulse current is required. Coils with various resistances can be provided to accommodate customer's electronic circuitry.

**Standard Current Pulse:** 50 ms  
 Unlatching pulse time exceeding 50 ms is undesirable as the armature may reactuate momentarily. Coil resistance, and therefore pulse current, is selected appropriate to the valve or actuator function - i.e. 2-way or 3-way, orifice sizes, pressure, etc. Momentary pulse current is generally higher than a corresponding DC steady state coil for comparable service.

Special voltages, coil construction, seals, and materials are available; please consult factory.



Alcon/ECI's Direct Acting **1/4" and 3/8"** NPT port plastic body solenoid valves are used for applications requiring precise control of air, inert gas, water, beverages, oils, and many other media. The plastic body provides a lightweight and cost effective alternative to brass and stainless steel body valves. A wide variety of voltages, seal materials, flow patterns, and orifice diameters make these valves one of the most versatile general-purpose valves in the industry.



**1/4" & 3/8" NPT Mounting Holes with Acetal Body**

### Technical Specification

**Electrical:**

**Coil Construction:** UL Class F, as standard (311°F/155°C)  
**Coil Encapsulant:** Polyphenylene Sulfide  
**AC Voltages:** 12, 24, 120 or 240 VAC (50 or 60 cycles)  
**DC Voltages:** 12, or 24 VDC  
**DC Latching:** 6, 9, 12, 18 or 24 VDC Pulse  
**Power Consumption:** AC 12 watts, DC 14 watts

**Materials:**

**Seals:** Nitrile, EPDM or Fluoroelastomer  
**Internal Components:** Stainless Steel  
**Shading Ring: (AC Units)** OFHC Copper  
**Valve Body Material:** Acetal (NSF)  
**Valve Body Ports:** 1/4" NPT or 3/8" NPT  
**Top Port:** Stainless Steel 1/4" NPT

### Standard Flow Data - 1/4 & 3/8" NPT Acetal Body

**Flow-H2O (GPM)**

**Flow-Air (SCFM)**

| Nominal Orifice Diameter | Maximum GPM Water Flow |        |        |         |         |         |         | Nominal Orifice Diameter | Maximum SCFM Air Flow |        |        |         |         |         |         |
|--------------------------|------------------------|--------|--------|---------|---------|---------|---------|--------------------------|-----------------------|--------|--------|---------|---------|---------|---------|
|                          | 10 psi                 | 25 psi | 50 psi | 100 psi | 150 psi | 200 psi | 250 psi |                          | 10 psi                | 25 psi | 50 psi | 100 psi | 150 psi | 200 psi | 250 psi |
| 3/32 (.093)              | 0.38                   | 0.62   | 0.91   | 1.32    | 1.58    | 1.82    | 2.03    | 3/32 (.093)              | 0.13                  | 1.3    | 5.2    | 9.1     | 12.4    | 18.2    | 20.8    |
| 1/8 (.125)               | 0.58                   | 0.95   | 1.40   | 2.04    | 2.44    | 2.80    | 3.08    | 1/8 (.125)               | 0.20                  | 2.0    | 8.0    | 14.0    | 19.0    | 28.0    | 32.0    |
| 5/32 (.156)              | 0.73                   | 1.18   | 1.75   | 2.48    | 3.05    |         |         | 5/32 (.156)              | 0.33                  | 3.3    | 13.2   | 23.1    | 31.2    |         |         |
| 3/16 (.188)              | 0.96                   | 1.56   | 2.32   | 3.34    |         |         |         | 3/16 (.188)              | 0.45                  | 4.5    | 18.0   | 31.5    |         |         |         |
| 1/4 (.250)               | 1.80                   | 2.95   | 4.34   |         |         |         |         | 1/4 (.250)               | 0.62                  | 6.2    | 24.8   |         |         |         |         |

For additional technical information visit [www.alcon-ecivalves.com](http://www.alcon-ecivalves.com)

### Catalog Number and Construction Features

| 1-2                              | 3   | 4-5-6   | 7   | 8   |
|----------------------------------|---|---|---|---|
| Series                           | Flow Pattern  | Operating Voltage   | Frequency   | Stop Orifice  |
| 22: 2200<br>24: 2400<br>25: 2500 | A: 2-way NC<br>B: 2-way NO<br>C: 3-way NC<br>D: 3-way NO<br>E: Multi Purpose Selector<br>F: Multi Purpose Diverting | 006: 6 Volts<br>009: 9 Volts<br>012: 12 Volts<br>018: 18 Volts<br>024: 24 Volts<br>120: 120 Volts<br>240: 240 Volts | A: AC-60 HZ<br>B: AC-50 HZ<br>D: DC<br>L: Magnetic Latching | 1: .062<br>2: .094<br>3: .125<br>4: None (2-way NC) |



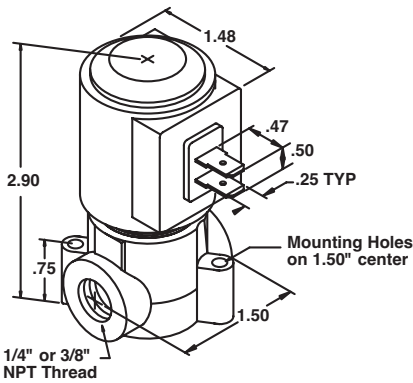
**Series 2200 NSF-61<sup>®</sup>**



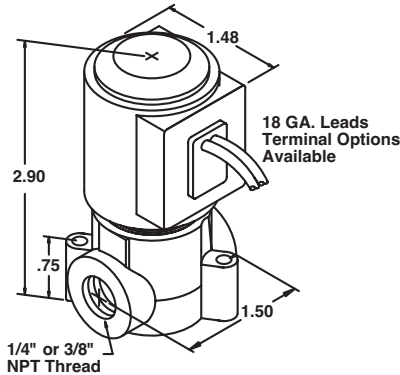
**Series 2400 NSF-61<sup>®</sup>**



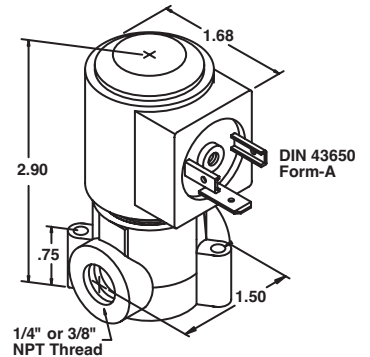
**Series 2500 NSF-61<sup>®</sup>**



**Spade Terminals**



**Leads**



**DIN Terminals**

1/4" & 3/8" Series 2000

**Catalog Number and Construction Features**

| 9   | 10  | 11                         | 12   | 13  |
|---|---|----------------------------|--|---|
| <b>Top Fitting Fasteners</b>  | <b>Seals</b>                                | <b>Body Ports</b>          | <b>Body Orifice Diameter</b>   | <b>Din Connection</b>   |
| 1: 1/4" NPT<br>(3-way or 2-way NO)<br>2: 1/2" Hexnut<br>(2-way NO)<br>or Exhaust to<br>Atmosphere)  | 1: Nitrile<br>2: EPDM<br>3: Fluoroelastomer | 1: 1/4" NPT<br>2: 3/8" NPT | A: 3/32" (.093)<br>B: 1/8" (.125)<br>C: 5/32" (.156)<br>D: 3/16" (.188)<br>E: 1/4" (.250)<br>N: None<br>(2-way NO) | 1: Strain Relief<br>(Series 2500 Only)<br>2: ISO 1/2" Conduit<br>Connector<br>(Series 2500 Only)<br>3: None |
| <b>NSF-61<sup>®</sup></b> NSF-61 requires "non brass" and EPDM seal configurations. User must specify proper components such as EPDM Seals and Stainless Steel Fittings, when applicable. |   |                            |  |   |

Alcon/ECI's 3/8" & 1/2" Solenoid Valves allow maximum water flow over a wide range of pressures. The internal diaphragm allows smooth opening and closing, reducing surge hazards and water hammer.

### Features

- Lightweight plastic construction
- Smooth valve opening and closing
- Normally open or closed flow patterns available
- High flow with minimum pressure loss

### Technical Specification

#### Electrical:

**Voltage Available:** AC 50/60Hz - 12, 24, 120 or 240 volts  
 DC - 6, 12, 18 or 24 volts

**Power Consumption:** AC 5 watts, DC 6 watts

**Coil Construction:** Class A, as standard (221°F/105°C)

**Note:** These valves can be piloted by any series Alcon/ECI actuator.



3/8" & 1/2" Series

#### Materials:

**Body & Cover:** Noryl® GTX830

**Diaphragm:** Nitrile, EPDM or Fluoroelastomer

**Seals:** Nitrile, EPDM or Fluoroelastomer

**Base Nut:** Brass or Stainless Steel

**Internal Components:** Stainless Steel

#### General:

**Pressure Rating:** ANSI Class 125

**3/8" NPT Max. Flow (GPM):** 30 GPM @ 150 PSI

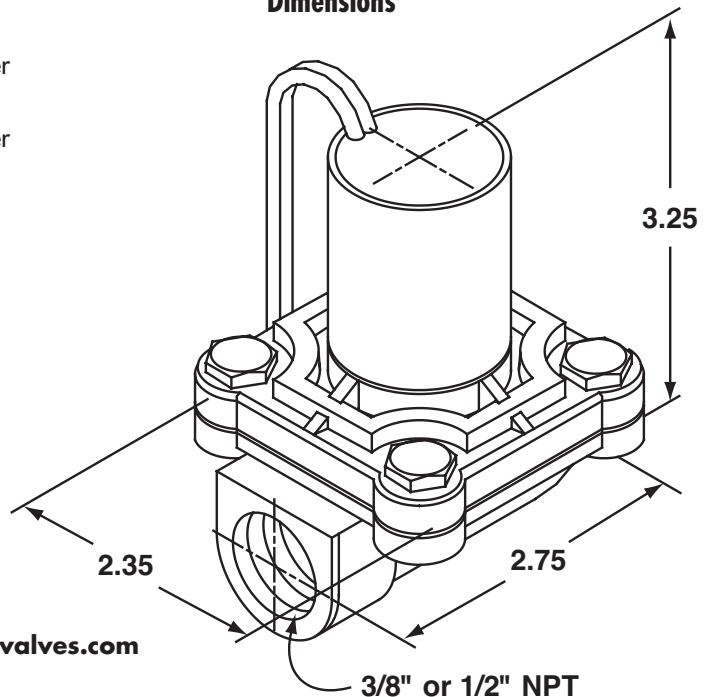
**1/2" NPT Max. Flow (GPM):** 36 GPM @ 150 PSI

**Operating Pressures:** 10 - 150 PSI

**Temperature Range:** Water up to 180°F (82°C)

For additional technical specifications visit [www.alcon-ecivalves.com](http://www.alcon-ecivalves.com)

#### Dimensions



### 3/8" & 1/2" Dimensions

|                         |               |
|-------------------------|---------------|
| Length:                 | 2-3/4 inches  |
| Height (less solenoid): | 1-3/4 inches  |
| Height (with solenoid): | 3-1/4 inches* |
| Width:                  | 2-3/8 inches  |
| Weight (with solenoid): | 10 ounces*    |

\*May vary slightly depending on solenoid configuration

Alcon/ECI's **3/4"** Solenoid Valves allow maximum water flow over a wide range of pressures. The internal diaphragm allows smooth opening and closing, reducing surge hazards and water hammer.

### Features

- Lightweight plastic construction
- Smooth valve opening and closing
- Normally open or closed flow patterns available
- High flow with minimum pressure loss

### Technical Specification

#### Electrical:

**Voltage Available:** AC 50/60Hz - 12, 24, 120 or 240 volts  
 DC - 6, 12, 18 or 24 volts

**Power Consumption:** AC 5 watts, DC 6 watts

**Coil Construction:** Class A, as standard (221°F/105°C)

**Note:** These valves can be piloted by any series Alcon/ECI actuator.



**3/4" Series**

#### Materials:

**Body & Cover:** Noryl® GTX830

**Diaphragm:** Nitrile, EPDM or Fluoroelastomer

**Seals:** Nitrile, EPDM or Fluoroelastomer

**Base Nut:** Brass or Stainless Steel

**Internal Components:** Stainless Steel

#### General:

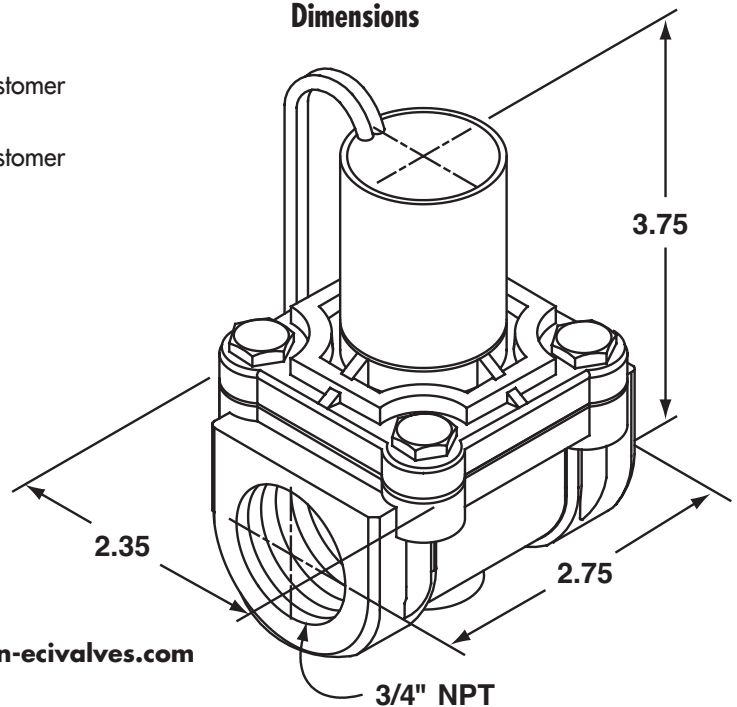
**Pressure Rating:** ANSI Class 125

**3/4" NPT Max. Flow (GPM):** 36 GPM @ 150 PSI

**Operating Pressures:** 10 - 150 PSI

**Temperature Range:** Water up to 180°F (82°C)

#### Dimensions



For additional technical specifications visit [www.alcon-ecivalves.com](http://www.alcon-ecivalves.com)

| 3/4" Dimensions         |               |
|-------------------------|---------------|
| Length:                 | 2-3/4 inches  |
| Height (less solenoid): | 2-1/4 inches  |
| Height (with solenoid): | 3-3/4 inches* |
| Width:                  | 2-3/8 inches  |
| Weight (with solenoid): | 14 ounces*    |

\*May vary slightly depending on solenoid configuration

3/4" Series 992-994

Alcon/ECI's **Miniature, 3/4"** Valves are low cost, reduced profile, solenoid piloted valves for applications requiring flow to 9 GPM. The internal diaphragm provides smooth opening and closing preventing problems with surge hazards and water hammer.



**Series 200    Series 300    Series 400    Series 500    Series 1000    Series 1200    Series 1300**

### Features

- Compact, lightweight construction
- 3/4" NPT externally threaded ports

### Technical Specification

#### Electrical:

**Voltage Available:** AC 50/60Hz - 12, 24, 120 or 240 volts  
 DC - 6, 12, 18 or 24 volts  
 DC Latching; Series 200, 400 & 500

**Power Consumption:** AC 5 watts, DC 6 watts

**Coil Construction:** Class A, as standard (221°F/105°C)

**Note:** These valves can be piloted by any series Alcon/ECI actuator.

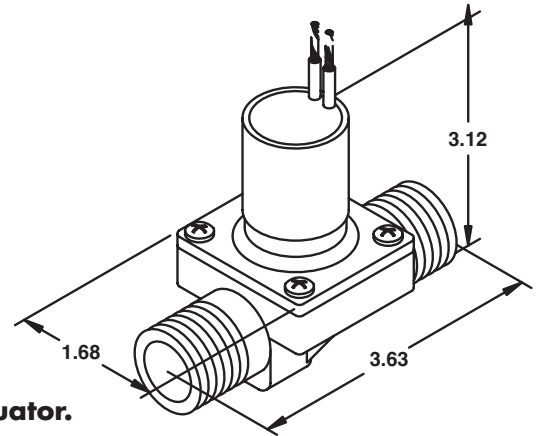
#### Materials:

**Body & Cover:** Glass Reinforced Polypropylene  
**Diaphragm:** EPDM  
**Seals & O-Rings:** Nitrile (Buna-N), EPDM or Fluoroelastomer  
**Base Nut:** Brass or Stainless Steel

#### General:

**Operating Pressures:** 10 - 80 PSI  
**Temperature Range:** Water up to 180°F (82°C)  
**Flow Pattern:** 2-Way NC

**For additional technical specifications visit [www.alcon-ecivalves.com](http://www.alcon-ecivalves.com)**



**3/4" NPT External Port**

| Dimensions              |               |
|-------------------------|---------------|
| Length:                 | 3-5/8 inches  |
| Height (less solenoid): | 1-3/4 inches  |
| Height (with solenoid): | 3-1/2 inches* |
| Width:                  | 1-1/2 inches  |
| Weight (with solenoid): | 6 ounces*     |

\*May vary slightly depending on solenoid configuration

3/4" Mini Series 955

| Catalog Number & Construction Features   | Prefix                                |          |              |                   |   |
|--|---------------------------------------|----------|--------------|-------------------|---|
|  |                                       | 1-2      | 3            | 4-5-6             | 7   |
|  |                                       | Series   | Flow Pattern | Operating Voltage | Frequency   |
| 1. Choose prefix code to select valve configuration.<br>2. Choose actuator series from photographs and enter the two digit code (items 1 and 2) after the prefix number.<br>3. Choose options (items 3 through 14) to determine actuator configuration. Detailed specifications are available from Alcon/ECI's master catalog.<br><br><b>Sample:</b> 953B12A024DC4F33N1A<br>3/4" port valve with flow control, Series 1200 actuator, 24 VDC, Nitrile seals, 2-way normally closed. | <b>Normally Closed</b>                |          |              |                   |   |
|  | 953A: 3/4" ports without flow control | 02: 200  | A: 2-way     | 006: 6 Volts      | A: AC-60 cycle  |
|  | 953B: 3/4" ports with flow control    | 03: 300  | NC           | 009: 9 Volts      | B: AC-50 cycle  |
|  | 954A: 1" ports without flow control   | 04: 400  | B: 2-way     | 012: 12 Volts     | D: DC   |
|  | 954B: 1" ports with flow control      | 05: 500  | NO           | 018: 18 Volts     | L: Magnetic Latching (available on Series 200, 400, and 500 only) |
|  | 955: 3/4" ports miniature             | 10: 1000 |              | 024: 24 Volts     |   |
|  | <b>Normally Open</b>                  | 12: 1200 |              | 120: 120 Volts    |   |
|  | 953C: 3/4" ports without flow control | 13: 1300 |              | 240: 240 Volts    |   |
|  | 953D: 3/4" ports with flow control    |          |              |                   |   |
|  | 954C: 1" ports without flow control   |          |              |                   |   |
| 954D: 1" ports with flow control   |                                       |          |              |                   |   |

Alcon/ECI's **3/4" and 1"** Valves are designed to allow maximum water flow over a wide range of pressures. The internal diaphragm allows smooth opening and closing preventing problems with surge hazards and water hammer. The overall dimensions of either port size valves are identical, with the exception of the port threads.

### Features

- Compact, lightweight construction
- High flow with minimum pressure loss
- 3/4" or 1" NPT threaded ports
- Manual solenoid override
- Optional flow control available

### Technical Specification

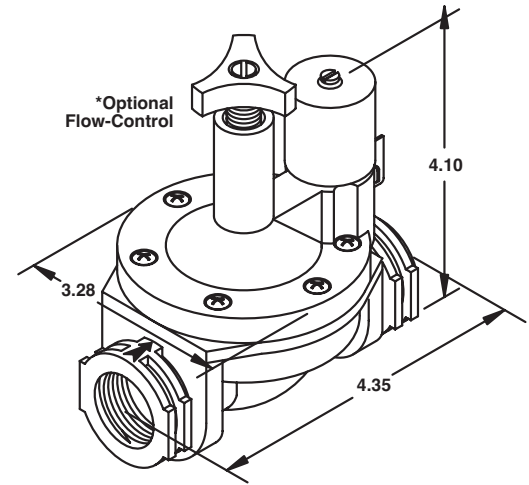
#### Electrical

**Voltage Available:** AC 50/60Hz - 12, 24, 120 or 240 Volts  
 DC - 6, 12, 18 or 24 Volts  
 DC Latching; Series 200, 400 & 500

**Power Consumption:** AC 5 Watts, DC 6 Watts

**Coil Construction:** Class A, as standard (221°F/105°C)

**Note:** These valves can be piloted by any series Alcon/ECI actuator.



3/4" & 1" Port

#### Materials:

**Body & Cover:** Glass Reinforced Nylon

**Diaphragm:** Fabric Reinforced Nitrile

**Plunger Seals:** Nitrile (Buna-N), EPDM or Fluoroelastomer

**Base Nut:** Brass or Stainless Steel

#### General:

**Pressure Rating:** ANSI Class 125

**3/4" NPT Max. Flow (GPM):** 40 GPM @ 150 PSI

**1" NPT Max. Flow (GPM):** 45 GPM @ 150 PSI

**Operating Pressures:** 10 - 150 PSI

**Temperature Range:** Water up to 180°F (82°C)

**Flow Pattern:** 2-Way NC or NO

| Dimensions                                 |               |
|--|---------------|
| Length:                                    | 4-5/16 inches |
| Overall Height:                            | 4-1/4 inches  |
| Height (without flow control or solenoid): | 2-1/2 inches  |
| Height (with flow control and solenoid):   | 4-1/2 inches* |
| Width:                                     | 3-1/16 inches |
| Weight (with solenoid):                    | 12 ounces*    |

\*May vary slightly depending on solenoid configuration

For additional technical specifications visit [www.alcon-ecivalves.com](http://www.alcon-ecivalves.com)

### Catalog Number and Construction Features

| 8   | 9                                      | 10   | 11  | 12  | 13  | 14   |
|---|--|--|---|---|---|--|
| Condition   | Stop Orifice                           | Fastener or Encapsulant  | Base Nut  | Shading Ring  | External Yoke   | Plunger Seals  |
| C: Not Rectified, DC, or 2 wire<br>Magnetic Latching<br>M: 3 wire<br>Magnetic Latching<br>R: Rectified AC | 3: 1/16" (.063)<br>NO<br>4: None<br>NC | D: Push-on Fastener<br>E: Removable 5/16" Hexnut<br>F: Epoxy Fill (Series 300, 1000, 1200) | 1: Brass<br>2: Stainless Steel<br>3: Plastic (Series 1200 only) | 1: OFHC Copper (Standard AC)<br>2: Silver<br>3: None (DC or Rectified AC) | P: Plated Steel<br>S: Stainless Steel<br>N: None (Series 300, 1000, 1200) | 1: Nitrile<br>2: Ethylene Propylene<br>3: Fluoro-elastomer |

3/4" & 1" Series 953, 954

**Flow Patterns**

| 1/8" Flow Patterns*              |           | Orifice Diameter |      | Max. Operating Pressure |     | C <sub>v</sub> Factor |      |
|----------------------------------|-----------|------------------|------|-------------------------|-----|-----------------------|------|
| De-energized                     | Energized | Body             | Stop | AC                      | DC  | Body                  | Stop |
| <b>2-way Normally Closed</b><br> |           | 1/32             |      | 250                     | 250 | .019                  |      |
|                                  |           | 3/64             |      | 250                     | 250 | .046                  |      |
|                                  |           | 1/16             |      | 250                     | 200 | .080                  |      |
|                                  |           | 2/32             |      | 150                     | 100 | .170                  |      |
|                                  |           | 1/8              |      | 90                      | 70  | .280                  |      |
|                                  |           | 5/32             |      | 30                      | 25  | .395                  |      |
| <b>2-way Normally Open</b><br>   |           |                  | 1/32 | 250                     | 250 |                       | .019 |
|                                  |           |                  | 3/64 | 200                     | 200 |                       | .046 |
|                                  |           |                  | 1/16 | 150                     | 150 |                       | .080 |
| <b>3-way Normally Closed</b><br> |           | 1/32             | 1/32 | 125                     | 125 | .019                  | .019 |
|                                  |           | 3/64             | 3/64 | 90                      | 90  | .046                  | .046 |
|                                  |           | 1/16             | 3/64 | 60                      | 60  | .080                  | .046 |
|                                  |           | 3/32             | 3/64 | 30                      | 30  | .170                  | .046 |
|                                  |           | 3/64             | 1/16 | 90                      | 90  | .046                  | .080 |
|                                  |           | 1/16             | 1/16 | 60                      | 60  | .080                  | .080 |
|                                  |           | 3/32             | 1/16 | 30                      | 30  | .170                  | .080 |
| <b>3-way Normally Open</b><br>   |           | 1/32             | 1/32 | 200                     | 200 | .019                  | .019 |
|                                  |           | 3/64             | 3/64 | 150                     | 150 | .046                  | .046 |
|                                  |           | 1/16             | 3/64 | 125                     | 125 | .080                  | .046 |
|                                  |           | 3/32             | 3/64 | 125                     | 125 | .170                  | .046 |
|                                  |           | 3/64             | 1/16 | 150                     | 150 | .046                  | .080 |
|                                  |           | 1/16             | 1/16 | 125                     | 125 | .080                  | .080 |
|                                  |           | 3/32             | 1/16 | 125                     | 125 | .170                  | .080 |
| <b>Diverting</b><br>             |           | 1/32             | 1/32 | 250                     | 200 | .019                  | .019 |
|                                  |           | 3/64             | 3/64 | 200                     | 180 | .046                  | .046 |
|                                  |           | 1/16             | 3/64 | 150                     | 135 | .080                  | .046 |
|                                  |           | 3/32             | 3/64 | 100                     | 90  | .170                  | .046 |
|                                  |           | 3/64             | 1/16 | 200                     | 180 | .046                  | .080 |
|                                  |           | 1/16             | 1/16 | 150                     | 150 | .080                  | .080 |
|                                  |           | 3/32             | 1/16 | 100                     | 100 | .170                  | .080 |
| <b>Selector</b><br>              |           | 1/32             | 1/32 | 125                     | 125 | .019                  | .019 |
|                                  |           | 3/64             | 3/64 | 90                      | 90  | .046                  | .046 |
|                                  |           | 1/16             | 3/64 | 60                      | 60  | .080                  | .046 |
|                                  |           | 3/32             | 3/64 | 30                      | 30  | .170                  | .046 |
|                                  |           | 3/64             | 1/16 | 90                      | 90  | .046                  | .080 |
|                                  |           | 1/16             | 1/16 | 60                      | 60  | .080                  | .080 |
|                                  |           | 3/32             | 1/16 | 30                      | 30  | .170                  | .080 |

\*All flow patterns are available with all Alcon/ECI Series valves except Series 1200 which is 2-way Normally Closed.

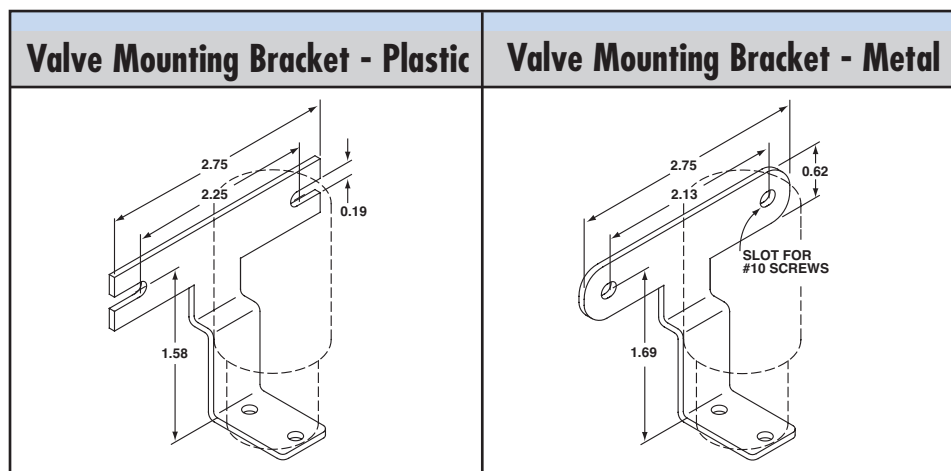
**Mounting Holes - 1/8" NPT Polypropylene and Metal Bodies**

| Standard | Alternate (Polypropylene Only) |
|----------|--------------------------------|
|          |                                |

Note: Lower cost versions of the polypropylene body are available without mounting holes.

| <b>Seal Material Compatibility Reference Guide</b>                            |                             |  |  |
|---|-----------------------------|--|--|
| <b>Ratings: 1. Minor Effect<br/>2. Moderate Effect<br/>3. Not Recommended</b> | <b>Nitrile<br/>(BUNA-N)</b> | <b>Fluoro<br/>Elastomer<br/>(VITON®)</b> | <b>Ethylene<br/>Propylene<br/>(EPDM)</b> |
| Acetic Acid   | 2                           | 2  | 1  |
| Acetone   | 3                           | 3  | 1  |
| Anhydrous Ammonia   | 2                           | 3  | 1  |
| Bleach Solutions  | 3                           | 1  | 1  |
| Chlorine (wet)  | 3                           | 1  | 3  |
| Citric Acid   | 1                           | 1  | 1  |
| Denatured Alcohol   | 1                           | 1  | 1  |
| Diesel Oil  | 1                           | 1  | 3  |
| Freon   | 3                           | 3  | 3  |
| Gasoline  | 2                           | 1  | 3  |
| Hydrochloric Acid (cold) 35%  | 3                           | 1  | 1  |
| Hydrochloric Acid (hot) 35%   | 3                           | 2  | 3  |
| Hydrofluoric Acid (cold) 35%  | 3                           | 1  | 3  |
| Hydrofluoric Acid (hot) 35%   | 3                           | 3  | 3  |
| Isopropyl Alcohol   | 2                           | 1  | 1  |
| Kerosene  | 1                           | 1  | 3  |
| Liquefied Petroleum Gas   | 1                           | 1  | 3  |
| Methane   | 1                           | 1  | 3  |
| Methylene Chloride  | 3                           | 2  | 3  |
| Methyl Ethyl Ketone   | 3                           | 3  | 1  |
| Mineral Oil   | 1                           | 1  | 3  |
| Natural gas   | 1                           | 1  | 3  |
| Nitrogen  | 1                           | 1  | 1  |
| Oxygen (cold)   | 2                           | 1  | 1  |
| Steam (under 300°F)   | 3                           | 3  | 1  |
| Vinegar   | 2                           | 3  | 2  |
| Water   | 1                           | 1  | 1  |

Notes: This is only a partial listing. Contact the factory if your media is not shown above. Special seal materials are available.



All dimensions in inches.

# Warnings, Terms and Conditions

## WARRANTY

Alcon/Evolutionary Concepts, Inc. (ECI) warrants its products to be free from defects in materials and workmanship for a period of one (1) year from date of shipment from its factory. If any product is found unsatisfactory under this warranty, the purchaser should notify us in writing and, after receipt of shipping approval, the purchaser may return it directly to our factory in San Dimas, California, shipping charges prepaid. Such products will be inspected by us. If determined defective due to material or workmanship, such products shall be replaced or put in proper operating condition, free of all charges except transportation. The correction of any defects by repair or replacement by us shall constitute fulfillment of all obligations and liability of Alcon/ECI.

We are not responsible for damage to our products through improper installation, maintenance, use or attempts to operate it beyond its mechanical or electrical capacity intentionally or otherwise, or for unauthorized repair. Any failure to notify us of unsatisfactory operation, or any improper or unauthorized installation, maintenance, use, repair or adjustments, shall terminate this warranty and shall relieve us from any further responsibility there under. We shall not be liable for special consequential damages in any claim, action, suit, or proceedings arising under this warranty, nor shall there be any liability there under for claims of labor, loss of profit or good will, repairs or other expenses incidental to replacement.

All information appearing in this catalog is based upon tests and data believed to be reliable. However, it is the user's responsibility to determine the suitability of our products for each application. No other warranties, expressed or implied, are made by Alcon/ECI. Any verbal agreements made by our representatives or agents will not apply.

## DESIGN, APPLICATION, INSTALLATION AND SERVICE WARNINGS

All warnings must be read and understood before designing a system utilizing, installing, servicing, or removing Alcon/ECI product. Improper use, installation or servicing of Alcon/ECI product could create a hazard to personnel and property. Do not use these products where pressures and temperatures, or any technical parameters can exceed those listed under Technical Specifications. Through misuse, age, or malfunction, Alcon/ECI products can fail in various modes. The system designer is warned to consider the failure modes of all components used in the system and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure modes.

Recommendations and considerations may be obtained directly from the Manufacturer regarding the applicability of an Alcon/ECI product for a given use. System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products. It should be recognized that warnings are valid for any product, regardless of manufacturer. All applicable electrical, mechanical, and safety codes, as well as governmental regulations and laws must be complied with when installing or servicing an Alcon/ECI product.

Alcon/ECI products must be installed or serviced by qualified, knowledgeable personnel who understand how these products are installed and operated. The responsible installing party must be familiar with the particular specifications for temperature, pressure, lubrication, environment and filtration of the Alcon/ECI product being installed or serviced. Additional specifications may be obtained upon request.

DO NOT install or service any Alcon/ECI product on a system or machine without first depressurizing the system and turning off any air, fluid, or electricity to the system or machine. If damage should occur to an Alcon/ECI product, do not operate the system containing the Alcon/ECI product until proper repair or replacement is performed.

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All prices subject to change without notice. Volume discounts are available. All taxes required by law are computed and added to your invoice.

### Terms and Conditions

Our open account terms are NET 30 days from date of invoice. A service charge of 1 1/2% per month will be charged on all past due invoices (beyond 30 days).

### Minimum Order

Our minimum order is \$75.00 net billing. Minimum per line item is \$15.00.

### Freight

All orders are shipped F.O.B. shipping point, San Dimas, California.

### Credit Policy

All orders will be shipped C.O.D. unless prior arrangements are made. To establish a credit rating, please send your bank reference and three trade references or a current certified financial statement.

### Delivery

Promises of delivery are estimated as accurately as current conditions permit. We will make every effort to meet such schedules, however, we assume no liability for additional cost or damages resulting from late deliveries.

### Claims

No claim will be allowed unless reported within five days after receipt of goods. Claims for goods damaged or lost in transit should be filed with the carrier.

### Returns & Cancellations

Orders cannot be cancelled and/or goods cannot be returned without our consent. All returned merchandise is a shipper's risk and subject to refusal if consent to return has not been granted. Orders for special goods or modifications of regular goods are not subject to cancellation, changes in specifications or changes in shipping schedule without our authorization. All returns and cancellations are subject to a minimum 20% service charge.

### Illustrations and Specifications

Designs, dimensions and specifications as shown in the catalog are subject to change without notice.

### General

Placement of an order with our company is a binding agreement to our terms and conditions of sale. We reserve the right to correct clerical errors in quotations, orders, invoices and other documents. The foregoing constitutes all of our terms and conditions of sale and we make no other agreement, representation or warranty, expressed or implied.

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- Nursery & Greenhouse Irrigation

- Food Handling

- Instrumentation

- Scientific Lab Equipment

- Freon Recovery Systems

- Water & Beverage Dispensing

HVAC Products



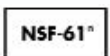
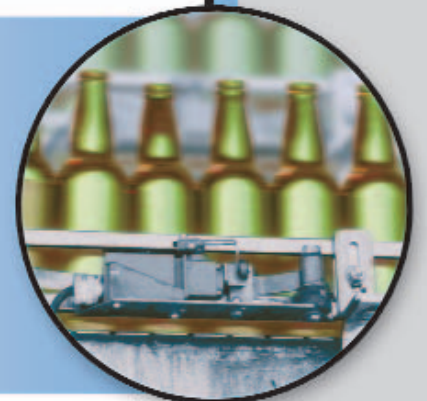
Produce Misting



Medical Devices



Automatic Rinse  
& Filling Systems



Engineered Plumbing

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