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**2-Way**  
**3-Way**  
**4-Way**  
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# How to order (see coil section for part numbering charts)

## Valves using Coil Charts 1-6 (Gold Ring Series Valves)

**Step 1:** Select the pressure vessel catalog number based on the application requirements. The catalog number is specified in the individual catalog sections.

**Step 2:** Select one enclosure code, one coil termination code and one voltage code. Standard leads are 18-inches long with all enclosures, except splice box where six-inch leads are standard.

**Step 3:** When separate valve and solenoid, the last two digits of the valve must match the first two digits of the solenoid. **Example:** Valve: 04F20C1103AAF Solenoid: AF4C05

**Step 4:** Valves with enclosure Types 7 & 9 must be ordered factory assembled and not as modular.

## Valves using Coil Charts 7, 8, 10, 11 & 12 (Skinner 7000 Series Valves)

### Ordering items 1 and 2, fully assembled valves

**Step 1:** Select the pressure vessel catalog number based on the application requirements. The catalog number is specified in the individual catalog sections.

**Step 2:** Use the mechanical options table, if required, to write the option code in place of the last two pressure vessel digits - "00."

**Step 3:** Select the appropriate integrated coil, and enter (NO=Nut & Washer as the 13th/14th digits), or enclosure and conventional coil.

**Step 4:** Use the electrical options table, if required, to write the option code in place of the last two coil digits.

**Step 5:** Use the voltage code to specify the correct voltage for the valve.

| Item | Description   |
|------|---|
| 1    | Fully assembled valves with integrated coils                  |
| 2    | Fully assembled valves with conventional coils and enclosures |

| Pressure Vessels | Enclosure | Coil     | Voltage Code |
|------------------|-----------|----------|--------------|
| 7121KBN2NV00 +   | N0        | + C111 + | P3           |

**Example:** 7121KBN2NV00N0C111P3

## Valves using Coil Chart 9 (Miniature 2-way/3-way valves and Miniature Manifold Mounted Cartridge Valves)

These valves can be ordered in two parts: pressure vessel and solenoid coil.

To order modular units, select the pressure vessel, then mix and match one of the three different coil styles to meet your application requirement.

The available modular coils consist of the following coils:

- C4 conduit coil
- B4 leaded coil
- D6 DIN coil

### To order pressure vessel:

Choose your pressure vessel from the the technical specification pages. The pressure vessel will contain the required coil retaining nut.

### To order coil:

- Select either the C4 (Conduit), B4 (leaded) or D6 (DIN) coil required.
- Select voltage code
- Add voltage code to end of the coil number
- The coil assembly will contain the O-ring seals.

### Assembled Valve Units:

To order a complete valve follow these three easy steps:

**Step 1:** Choose your pressure vessel from the technical specification pages.

**Step 2:** Select either the encapsulated (Integrated) or conventional coil. Apply that two-digit code to the end of the pressure vessel part number.

**Step 3:** Lastly, go to the voltage code chart and select the one digit voltage code and add the code to the end of the coil code to create the final complete assembled valve part number.



# 2-Way Miniature

Direct Acting Valves  
1/8" NPT



2-Way

## General Description:

2-way Miniature Direct Acting valves are available in Normally Closed and Normally Open constructions with interchangeable AC/DC coils. Valves are standard with 303 stainless steel bodies and FKM seals. These compact valves are durable with the potential for long life. Under lab conditions, these valves have survived 20 million cycles.

### Installation

Valves can be mounted in any position. The preferred orientation is with the coil vertical and upright.

### Standard Materials of Construction

Please refer to page A4

### Compatible Fluids

Lubricated Air, Inert Gases, Water, Light Oil (300 SSU) and additional fluids compatible with materials of construction.

Use of non-lubricated gaseous media can affect valve life.

## Electrical Characteristics:

### Standard Voltages:

AC –24/60  
120/60–110/50  
240/60–220/50

DC –12, 24

For other voltages – consult factory



### Coil Classification:

Class F standard/Class H available  
AC & DC coils are interchangeable on the same pressure vessel.

### Agency Approvals:

Standard valves with NEMA 4X are C-UL-US Listed or Recognized. For additional details, consult factory.

NSF Certification available on 2-way Normally Closed Valves. (Consult Factory)

### Maximum Ambient Temperature

135°F (AC)/125°F (DC)

In absence of moisture, applications at temps as low as -20°F are possible. Please refer to page A4 for details.

## Applications:

- Instrumentation equipment
- Analyzers and diagnostic equipment
- Gas analyzers
- Medical and dental equipment
- Portable welding equipment
- Spraying equipment
- Lubrication equipment
- Beverage dispensing & vending machines
- Oil burners
- Humidification and misting equipment
- Mobile fuel shut off
- Textile and dry cleaning equipment
- Air horns
- Pneumatic fan clutch
- Irrigation equipment



**2-Way Miniature Direct Acting - Normally Closed - Stainless Steel**

| Port Size<br>NPT | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure<br>Differential (MOPD) PSI |                      |       |              | Watt | Max.<br>Media<br>Temp.<br>°F | Seal | Pressure Vessel<br>Number | Reference |       |
|------------------|---------------------|-------------------|---|----------------------|-------|--------------|------|------------------------------|------|---------------------------|-----------|-------|
|                  |                     |                   | Min.  | Air,<br>Inert<br>Gas | Water | Light<br>Oil |      |                              |      |                           | Coil      | Valve |

**AC TECHNICAL SPECIFICATIONS**

|     |      |      |   |     |     |     |     |     |     |           |   |    |
|-----|------|------|---|-----|-----|-----|-----|-----|-----|-----------|---|----|
| 1/8 | 3/64 | 0.06 | 0 | 950 | 950 | 950 | 8.5 | 240 | FKM | 20CC02EV4 | 9 | A1 |
| 1/8 | 1/16 | 0.10 | 0 | 625 | 625 | 625 | 8.5 | 240 | FKM | 20CC02GV4 | 9 | A1 |
| 1/8 | 5/64 | 0.15 | 0 | 450 | 450 | 450 | 8.5 | 240 | FKM | 20CC02JV4 | 9 | A1 |
| 1/8 | 3/32 | 0.22 | 0 | 320 | 320 | 320 | 8.5 | 240 | FKM | 20CC02LV4 | 9 | A1 |
| 1/8 | 7/64 | 0.28 | 0 | 245 | 245 | 245 | 8.5 | 240 | FKM | 20CC02MV4 | 9 | A1 |
| 1/8 | 1/8  | 0.32 | 0 | 175 | 175 | 175 | 8.5 | 240 | FKM | 20CC02PV4 | 9 | A1 |
| 1/8 | 5/32 | 0.38 | 0 | 100 | 100 | 100 | 8.5 | 240 | FKM | 20CC02QV4 | 9 | A1 |

**DC TECHNICAL SPECIFICATIONS**

|     |      |      |   |     |     |     |   |     |     |           |   |    |
|-----|------|------|---|-----|-----|-----|---|-----|-----|-----------|---|----|
| 1/8 | 3/64 | 0.06 | 0 | 390 | 390 | 390 | 8 | 240 | FKM | 20CC02EV4 | 9 | A1 |
| 1/8 | 1/16 | 0.10 | 0 | 255 | 255 | 255 | 8 | 240 | FKM | 20CC02GV4 | 9 | A1 |
| 1/8 | 5/64 | 0.15 | 0 | 180 | 180 | 180 | 8 | 240 | FKM | 20CC02JV4 | 9 | A1 |
| 1/8 | 3/32 | 0.22 | 0 | 130 | 130 | 130 | 8 | 240 | FKM | 20CC02LV4 | 9 | A1 |
| 1/8 | 7/64 | 0.28 | 0 | 100 | 100 | 100 | 8 | 240 | FKM | 20CC02MV4 | 9 | A1 |
| 1/8 | 1/8  | 0.32 | 0 | 60  | 60  | 60  | 8 | 240 | FKM | 20CC02PV4 | 9 | A1 |
| 1/8 | 5/32 | 0.38 | 0 | 30  | 30  | 30  | 8 | 240 | FKM | 20CC02QV4 | 9 | A1 |

**2-Way Miniature Direct Acting - Normally Open - Stainless Steel**

| Port Size<br>NPT | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure<br>Differential (MOPD) PSI |                      |       |              | Watt | Max.<br>Media<br>Temp.<br>°F | Seal | Pressure Vessel<br>Number | Reference |       |
|------------------|---------------------|-------------------|---|----------------------|-------|--------------|------|------------------------------|------|---------------------------|-----------|-------|
|                  |                     |                   | Min.  | Air,<br>Inert<br>Gas | Water | Light<br>Oil |      |                              |      |                           | Coil      | Valve |

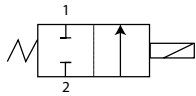
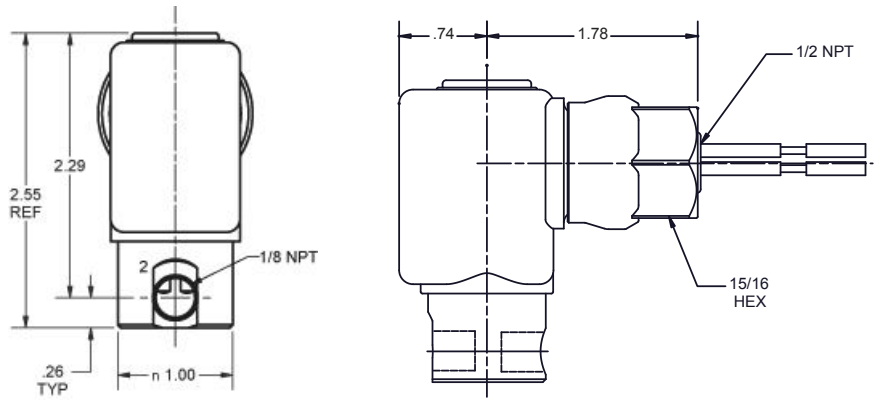
**AC TECHNICAL SPECIFICATIONS**

|     |      |      |   |     |     |     |    |     |     |           |   |    |
|-----|------|------|---|-----|-----|-----|----|-----|-----|-----------|---|----|
| 1/8 | 1/32 | 0.02 | 0 | 375 | 375 | 375 | 10 | 240 | FKM | 20CF02AV4 | 9 | A2 |
| 1/8 | 3/64 | 0.06 | 0 | 230 | 230 | 230 | 10 | 240 | FKM | 20CF02EV4 | 9 | A2 |
| 1/8 | 1/16 | 0.10 | 0 | 150 | 150 | 150 | 10 | 240 | FKM | 20CF02GV4 | 9 | A2 |
| 1/8 | 5/64 | 0.14 | 0 | 105 | 105 | 105 | 10 | 240 | FKM | 20CF02JV4 | 9 | A2 |
| 1/8 | 3/32 | 0.20 | 0 | 80  | 80  | 80  | 10 | 240 | FKM | 20CF02LV4 | 9 | A2 |

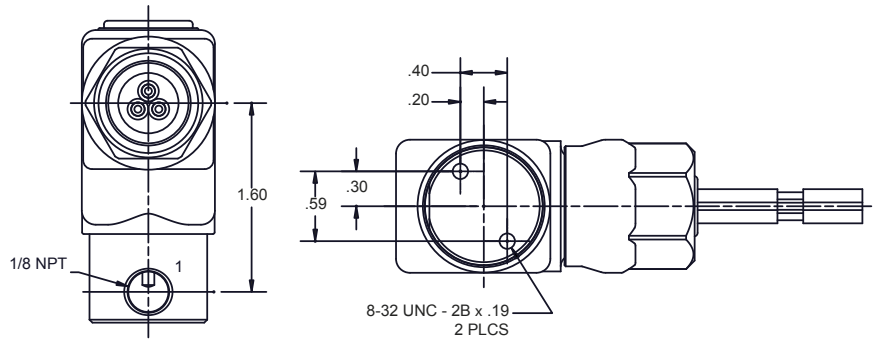
**DC TECHNICAL SPECIFICATIONS**

|     |      |      |   |     |     |     |   |     |     |           |   |    |
|-----|------|------|---|-----|-----|-----|---|-----|-----|-----------|---|----|
| 1/8 | 1/32 | 0.02 | 0 | 375 | 375 | 375 | 8 | 240 | FKM | 20CF02AV4 | 9 | A2 |
| 1/8 | 3/64 | 0.06 | 0 | 230 | 230 | 230 | 8 | 240 | FKM | 20CF02EV4 | 9 | A2 |
| 1/8 | 1/16 | 0.10 | 0 | 150 | 150 | 150 | 8 | 240 | FKM | 20CF02GV4 | 9 | A2 |
| 1/8 | 5/64 | 0.14 | 0 | 105 | 105 | 105 | 8 | 240 | FKM | 20CF02JV4 | 9 | A2 |
| 1/8 | 3/32 | 0.20 | 0 | 80  | 80  | 80  | 8 | 240 | FKM | 20CF02LV4 | 9 | A2 |

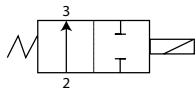
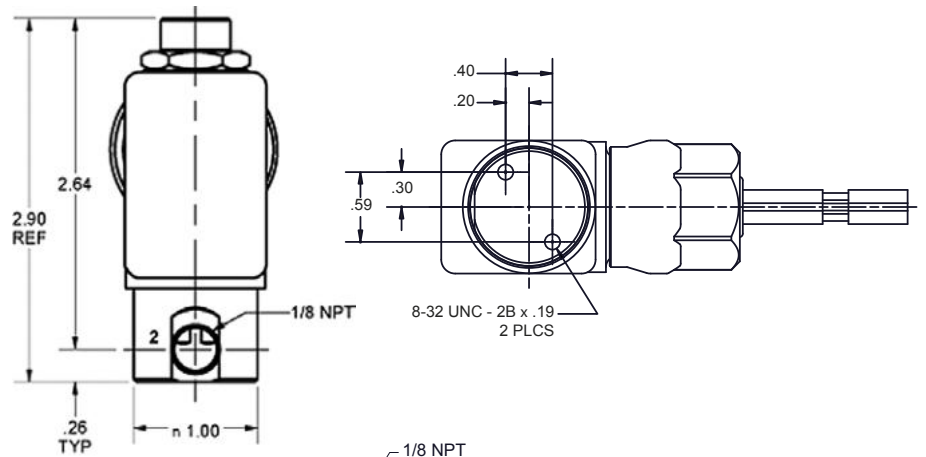
# Valve Reference A1



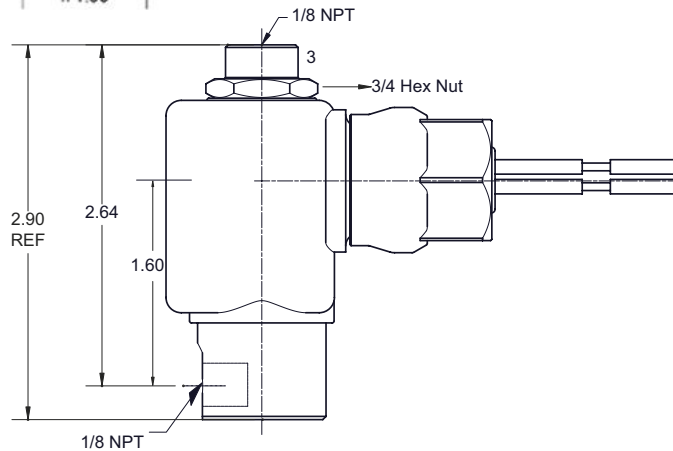
2-Way Normally Closed:  
20CCxx  
Port Identification:  
2-In/1-Out



# Valve Reference A2



2-Way Normally Open:  
20CFxx  
Port Identification:  
2-In/3-Out



## 2-Way Miniature Direct Acting Materials of Construction\*\*

| Product* | Wattage  | Type | Port Size | Body  | Sleeve Tube | Sleeve Stop | Sleeve Flange | "Plunger Blank" | Plunger Spring | Shading Ring | Max. Ambient Temp. |
|----------|----------|------|-----------|-------|-------------|-------------|---------------|-----------------|----------------|--------------|--------------------|
| 20CC02   | 8.5 (AC) | 2WNC | 1/8       | 303SS | 304SS       | 430FR       | 430FR         | 430FR           | 18-8SS         | Copper       | 135°F              |
| 20CC02   | 8 (DC)   | 2WNC | 1/8       | 303SS | 304SS       | 430FR       | 430FR         | 430FR           | 18-8SS         | Copper       | 125°F              |
| 20CF02   | 10 (AC)  | 2WNC | 1/8       | 303SS | 304SS       | 430FR       | 430FR         | 430FR           | 18-8SS         | Copper       | 135°F              |
| 20CF02   | 8 (DC)   | 2WNC | 1/8       | 303SS | 304SS       | 430FR       | 430FR         | 430FR           | 18-8SS         | Copper       | 125°F              |

\* Shows the first 6 digits of the pressure vessel part number.

\*\* Maximum ambient temperature shown is the rating when valve is operating at the maximum fluid temperature as shown in the product sections for each of the valves in this catalog.

Check out the 2-Way and 3-Way Manifold Mounted Miniature Cartridge valves in the Specialty Section of this catalog.



### Product Features:

- Space saving approach
- Less manifold machining means lower overall manifold cost
- No manifold orifices to machine or press in
- Cartridge valves are 100% tested
- Easy to assemble & disassemble with a 5/32" hex wrench. (Torque = 25-35 in-lbs).
- No loose parts: sleeve, plunger, spring and orifice are pressed together as one unit
- Available with all coils and enclosures shown on Chart 9 in Coil Section of this catalog.

# 2-way

Direct Acting Valves  
1/8" - 3/4" NPT



2-Way

## General Description:

2-way Direct Acting valves are used in a wide variety of applications that require zero pressure differential and medium to high pressures and flow. These valves are available in a variety of elastomers as well as, brass and stainless construction.

### Installation

Valves can be mounted in any position. The preferred orientation is with the coil vertical and upright.

### Standard Materials of Construction

Please refer to page A24

### Compatible Fluids

Lubricated Air, Inert Gases, Water and Light Oil (300 SSU). Additional fluids compatible with alternate materials of construction (consult factory).

Use of non-lubricated gaseous media can affect valve life.

## Electrical Characteristics:

### Standard Voltages:

AC -24/60

120/60-110/50

240/60-220/50

DC -12, 24 & 120

For other Voltages - consult factory



### Coil Classification:

Class F standard

Class H available

### Agency Approvals:

Standard valves with NEMA 4X or explosion proof solenoid enclosures are UL Listed and CSA Certified. For additional details, consult factory.

### Maximum Ambient Temperature

150°F

Please refer to page A24 for details.

## Applications:

- Instrumentation equipment
- Analyzers and diagnostic equipment
- Medical and dental equipment
- Portable welding equipment
- Spraying equipment
- Lubrication equipment
- Beverage dispensing & vending machines
- Oil burners
- Humidification and misting equipment
- Mobile fuel shut off
- Textile and dry cleaning equipment
- Air horns
- Pneumatic fan clutch
- Irrigation equipment

## 2-Way Direct Acting - Normally Closed- Brass

| Port Size<br>NPT                   | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal  | Pressure Vessel Number | Reference |       |
|------------------------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|-------|------------------------|-----------|-------|
|                                    |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |       |                        | Coil      | Valve |
| <b>AC TECHNICAL SPECIFICATIONS</b> |                     |                   |  |                |       |           |      |                        |       |                        |           |       |
| 1/8                                | 1/16                | 0.11              | 0  | 1000           | 1000  | 1000      | 10   | 165                    | PCTFE | 7121KBN1GF00           | 7         | A13   |
| 1/8                                | 1/8                 | 0.31              | 0  | 365            | 365   | 365       | 10   | 165                    | PCTFE | 7121KBN1NF00           | 7         | A13   |
| 1/4                                | 3/64                | 0.06              | 0  | 750            | 750   | 500       | 6    | 180                    | NBR   | 04F20C1103AAF          | 1         | A3    |
| 1/4                                | 1/16                | 0.11              | 0  | 1000           | 1000  | 1000      | 10   | 165                    | PCTFE | 7121KBN2GF00           | 7         | A13   |
| 1/4                                | 3/32                | 0.17              | 0  | 360            | 340   | 160       | 6    | 180                    | NBR   | 04F20C1106AAF          | 1         | A3    |
| 1/4                                | 1/8                 | 0.31              | 0  | 365            | 365   | 365       | 10   | 165                    | PCTFE | 7121KBN2NF00           | 7         | A13   |
| 1/4                                | 1/8                 | 0.31              | 0  | 145            | 145   | 145       | 10   | 185                    | FKM   | 7121KBN2NV00           | 7         | A13   |
| 1/4                                | 1/8                 | 0.35              | 0  | 300            | 300   | 200       | 11   | 180                    | NBR   | 04F20C1108ACF          | 4         | A16   |
| 1/4                                | 1/8                 | 0.35              | 0  | 140            | 165   | 90        | 6    | 180                    | NBR   | 04F20C1108AAF          | 1         | A3    |
| 1/4                                | 5/32                | 0.50              | 0  | 180            | 200   | 145       | 11   | 180                    | NBR   | 04F20C2110ACF          | 4         | A4    |
| 1/4                                | 5/32                | 0.52              | 0  | 120            | 120   | 120       | 10   | 185                    | FKM   | 7121KBN2QV00           | 7         | A13   |
| 1/4                                | 7/32                | 0.72              | 0  | 100            | 100   | 100       | 16   | 180                    | NBR   | 04F20C2114BDF          | 5         | A4    |
| 1/4                                | 13/64               | 0.76              | 0  | 80             | 80    | 80        | 10   | 185                    | FKM   | 7121KBN2SV00           | 7         | A13   |
| 1/4                                | 9/32                | 0.88              | 0  | 90             | 100   | 90        | 16   | 200                    | NBR   | 04F20C2118BDF          | 5         | A4    |
| 3/8                                | 5/32                | 0.52              | 0  | 150            | 150   | 145       | 11   | 180                    | NBR   | 06F20C2110ACF          | 4         | A7    |
| 3/8                                | 7/32                | 0.72              | 0  | 100            | 100   | 100       | 16   | 200                    | NBR   | 06F20C2114BDF          | 5         | A7    |
| 3/8                                | 1/4                 | 0.83              | 0  | 55             | 55    | 55        | 10   | 185                    | FKM   | 7121KBN3UV00           | 7         | A13   |
| 3/8                                | 9/32                | 0.85              | 0  | 90             | 80    | 80        | 16   | 200                    | NBR   | 06F20C2118BDF          | 5         | A7    |
| 3/8                                | 5/16                | 1.10              | 0  | 20             | 20    | -         | 11   | 180                    | NBR   | 06F20C2120ACF          | 4         | A7    |
| 3/8                                | 5/16                | 1.10              | 0  | 15             | 12    | -         | 6    | 180                    | NBR   | 06F20C2120AAF          | 1         | A8    |
| 1/2                                | 7/16                | 2.50              | 0  | 35             | 35    | 35        | 22   | 185                    | FKM   | 7121KBN44V00           | 8         | A14   |
| 1/2                                | 7/16                | 2.50              | 0  | 17.5           | 17.5  | 17.5      | 10   | 185                    | FKM   | 7121KBN44V00           | 7         | A14   |
| 1/2                                | 7/16                | 2.80              | 0  | 15             | 15    | -         | 16   | 200                    | NBR   | 08F20C2128ADF          | 5         | A9    |
| 3/4                                | 3/4                 | 5.00              | 0  | 4              | 4     | -         | 16   | 200                    | NBR   | 12F20C2148ADF          | 5         | A9    |



**2-Way Direct Acting - Normally Closed- Brass (Continued)**

| Port Size<br>NPT                   | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure<br>Differential (MOPD) PSI |                      |       |              | Watt | Max. Media<br>Temp.<br>°F | Seal  | Pressure<br>Vessel Number | Reference |       |
|------------------------------------|---------------------|-------------------|---|----------------------|-------|--------------|------|---------------------------|-------|---------------------------|-----------|-------|
|                                    |                     |                   | Min.  | Air,<br>Inert<br>Gas | Water | Light<br>Oil |      |                           |       |                           | Coil      | Valve |
| <b>DC TECHNICAL SPECIFICATIONS</b> |                     |                   |   |                      |       |              |      |                           |       |                           |           |       |
| 1/8                                | 1/16                | 0.11              | 0   | 700                  | 700   | 700          | 22   | 165                       | PCTFE | 7121KBN1GF00              | 8         | A13   |
| 1/8                                | 1/16                | 0.11              | 0   | 435                  | 435   | 435          | 10   | 165                       | PCTFE | 7121KBN1GF00              | 7         | A13   |
| 1/8                                | 1/8                 | 0.31              | 0   | 205                  | 205   | 205          | 22   | 165                       | PCTFE | 7121KBN1NF00              | 8         | A13   |
| 1/8                                | 1/8                 | 0.31              | 0   | 125                  | 125   | 125          | 10   | 165                       | PCTFE | 7121KBN1NF00              | 7         | A13   |
| 1/4                                | 3/64                | 0.06              | 0   | 500                  | 500   | 500          | 9.5  | 120                       | NBR   | 04F20C1103A1F             | 3         | A3    |
| 1/4                                | 1/16                | 0.11              | 0   | 700                  | 700   | 700          | 22   | 165                       | PCTFE | 7121KBN2GF00              | 8         | A13   |
| 1/4                                | 1/16                | 0.11              | 0   | 435                  | 435   | 435          | 10   | 165                       | PCTFE | 7121KBN2GF00              | 7         | A13   |
| 1/4                                | 3/32                | 0.17              | 0   | 150                  | 125   | 125          | 9.5  | 120                       | NBR   | 04F20C1106A1F             | 3         | A3    |
| 1/4                                | 1/8                 | 0.31              | 0   | 205                  | 205   | 205          | 22   | 165                       | PCTFE | 7121KBN2NF00              | 8         | A13   |
| 1/4                                | 1/8                 | 0.31              | 0   | 125                  | 125   | 125          | 10   | 185                       | FKM   | 7121KBN2NV00              | 7         | A13   |
| 1/4                                | 1/8                 | 0.31              | 0   | 125                  | 125   | 125          | 22   | 185                       | FKM   | 7121KBN2NV00              | 8         | A13   |
| 1/4                                | 1/8                 | 0.31              | 0   | 125                  | 125   | 125          | 10   | 165                       | PCTFE | 7121KBN2NF00              | 7         | A13   |
| 1/4                                | 1/8                 | 0.35              | 0   | 75                   | 70    | 70           | 11.5 | 150                       | NBR   | 04F20C1108A3F             | 6         | A16   |
| 1/4                                | 1/8                 | 0.35              | 0   | 65                   | 60    | 60           | 9.5  | 120                       | NBR   | 04F20C1108A1F             | 3         | A3    |
| 1/4                                | 5/32                | 0.52              | 0   | 75                   | 75    | 75           | 22   | 185                       | FKM   | 7121KBN2QV00              | 8         | A13   |
| 1/4                                | 5/32                | 0.52              | 0   | 60                   | 60    | 60           | 10   | 185                       | FKM   | 7121KBN2QV00              | 7         | A13   |
| 1/4                                | 13/64               | 0.76              | 0   | 40                   | 40    | 40           | 22   | 185                       | FKM   | 7121KBN2SV00              | 8         | A13   |
| 1/4                                | 13/64               | 0.76              | 0   | 30                   | 30    | 30           | 10   | 185                       | FKM   | 7121KBN2SV00              | 7         | A13   |

**2-Way Direct Acting - Normally Closed- Brass (Continued)**

| Port Size<br>NPT                   | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure<br>Differential (MOPD) PSI |                      |       |              | Watt | Max. Media<br>Temp.<br>°F | Seal | Pressure<br>Vessel Number | Reference |       |
|------------------------------------|---------------------|-------------------|---|----------------------|-------|--------------|------|---------------------------|------|---------------------------|-----------|-------|
|                                    |                     |                   | Min.  | Air,<br>Inert<br>Gas | Water | Light<br>Oil |      |                           |      |                           | Coil      | Valve |
| <b>DC TECHNICAL SPECIFICATIONS</b> |                     |                   |   |                      |       |              |      |                           |      |                           |           |       |
| 3/8                                | 7/32                | 0.72              | 0   | 25                   | 25    | 25           | 11.5 | 150                       | NBR  | 06F20C2114A3F             | 6         | A7    |
| 3/8                                | 1/4                 | 0.83              | 0   | 20                   | 20    | 20           | 10   | 185                       | FKM  | 7121KBN3UV00              | 7         | A13   |
| 3/8                                | 1/4                 | 0.83              | 0   | 20                   | 20    | 20           | 22   | 185                       | FKM  | 7121KBN3UV00              | 8         | A13   |
| 3/8                                | 9/32                | 0.85              | 0   | 14                   | 14    | 14           | 9.5  | 150                       | NBR  | 06F20C2118A1F             | 3         | A8    |
| 3/8                                | 5/16                | 1.10              | 0   | 9                    | 9     | -            | 11.5 | 150                       | NBR  | 06F20C2120A3F             | 6         | A7    |
| 3/8                                | 5/16                | 1.10              | 0   | 3                    | 3     | -            | 9.5  | 120                       | NBR  | 06F20C2120A1F             | 3         | A8    |
| 1/2                                | 7/16                | 2.50              | 0   | 5                    | 5     | 5            | 10   | 185                       | FKM  | 7121KBN44V00              | 7         | A14   |
| 1/2                                | 7/16                | 2.50              | 0   | 10                   | 10    | 10           | 22   | 185                       | FKM  | 7121KBN44V00              | 8         | A14   |
| 1/2                                | 7/16                | 2.80              | 0   | 3                    | 3     | -            | 11.5 | 180                       | NBR  | 08F20C2128A3F             | 6         | A9    |

**2-Way Direct Acting - Normally Closed- Stainless Steel**

| Port Size<br>NPT                   | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure<br>Differential (MOPD) PSI |                      |       |              | Watt | Max. Media<br>Temp.<br>°F | Seal  | Pressure<br>Vessel Number | Reference |       |
|------------------------------------|---------------------|-------------------|---|----------------------|-------|--------------|------|---------------------------|-------|---------------------------|-----------|-------|
|                                    |                     |                   | Min.  | Air,<br>Inert<br>Gas | Water | Light<br>Oil |      |                           |       |                           | Coil      | Valve |
| <b>AC TECHNICAL SPECIFICATIONS</b> |                     |                   |   |                      |       |              |      |                           |       |                           |           |       |
| 1/8                                | 3/64                | 0.06              | 0   | 1000                 | 1000  | 1000         | 10   | 165                       | PCTFE | 71215SN1EF00              | 7         | A10   |
| 1/8                                | 3/64                | 0.06              | 0   | 450                  | 450   | 450          | 10   | 185                       | NBR   | 71215SN1EN00              | 7         | A10   |
| 1/8                                | 1/16                | 0.10              | 0   | 700                  | 700   | 700          | 10   | 165                       | PCTFE | 71215SN1GF00              | 7         | A10   |
| 1/8                                | 1/16                | 0.10              | 0   | 350                  | 350   | 350          | 10   | 185                       | NBR   | 71215SN1GN00              | 7         | A10   |
| 1/8                                | 3/32                | 0.18              | 0   | 650                  | 650   | 650          | 22   | 165                       | PCTFE | 71215SN1KF00              | 8         | A10   |
| 1/8                                | 3/32                | 0.18              | 0   | 260                  | 260   | 260          | 10   | 165                       | PCTFE | 71215SN1KF00              | 7         | A10   |
| 1/8                                | 3/32                | 0.18              | 0   | 275                  | 275   | 275          | 10   | 185                       | NBR   | 71215SN1KN00              | 7         | A10   |
| 1/8                                | 1/8                 | 0.28              | 0   | 520                  | 520   | 520          | 22   | 165                       | PCTFE | 71215SN1MF00              | 8         | A10   |
| 1/8                                | 1/8                 | 0.28              | 0   | 200                  | 200   | 200          | 10   | 185                       | NBR   | 71215SN1MN00              | 7         | A10   |
| 1/8                                | 1/8                 | 0.28              | 0   | 200                  | 200   | 200          | 10   | 165                       | PCTFE | 71215SN1MF00              | 7         | A10   |
| 1/8                                | 5/32                | 0.40              | 0   | 150                  | 150   | 150          | 22   | 185                       | NBR   | 71215SN1QN00              | 8         | A10   |
| 1/8                                | 5/32                | 0.40              | 0   | 110                  | 110   | 110          | 10   | 185                       | NBR   | 71215SN1QN00              | 7         | A10   |
| 1/8                                | 3/16                | 0.50              | 0   | 90                   | 90    | 90           | 22   | 185                       | NBR   | 71215SN1SN00              | 8         | A10   |
| 1/8                                | 3/16                | 0.50              | 0   | 80                   | 80    | 80           | 10   | 185                       | NBR   | 71215SN1SN00              | 7         | A10   |
| 1/8                                | 1/4                 | 0.75              | 0   | 70                   | 70    | 70           | 22   | 185                       | NBR   | 71215SN1VN00              | 8         | A10   |
| 1/8                                | 1/4                 | 0.75              | 0   | 40                   | 40    | 40           | 10   | 185                       | NBR   | 71215SN1VN00              | 7         | A10   |

## 2-Way Direct Acting - Normally Closed- Stainless Steel (Continued)

| Port Size<br>NPT                   | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal  | Pressure Vessel Number | Reference |       |
|------------------------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|-------|------------------------|-----------|-------|
|                                    |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |       |                        | Coil      | Valve |
| <b>AC TECHNICAL SPECIFICATIONS</b> |                     |                   |  |                |       |           |      |                        |       |                        |           |       |
| 1/4                                | 3/64                | 0.06              | 0  | 1000           | 1000  | 1000      | 10   | 165                    | PCTFE | 71215SN2EF00           | 7         | A10   |
| 1/4                                | 3/64                | 0.06              | 0  | 450            | 450   | 450       | 10   | 185                    | NBR   | 71215SN2EN00           | 7         | A10   |
| 1/4                                | 1/16                | 0.10              | 0  | 700            | 700   | 700       | 10   | 165                    | PCTFE | 71215SN2GF00           | 7         | A10   |
| 1/4                                | 1/16                | 0.10              | 0  | 350            | 350   | 350       | 10   | 185                    | NBR   | 71215SN2GN00           | 7         | A10   |
| 1/4                                | 3/32                | 0.18              | 0  | 650            | 650   | 650       | 22   | 165                    | PCTFE | 71215SN2KF00           | 8         | A10   |
| 1/4                                | 3/32                | 0.18              | 0  | 275            | 275   | 275       | 10   | 185                    | NBR   | 71215SN2KN00           | 7         | A10   |
| 1/4                                | 3/32                | 0.18              | 0  | 260            | 260   | 260       | 10   | 165                    | PCTFE | 71215SN2KF00           | 7         | A10   |
| 1/4                                | 1/8                 | 0.28              | 0  | 520            | 520   | 520       | 22   | 165                    | PCTFE | 71215SN2MF00           | 8         | A10   |
| 1/4                                | 1/8                 | 0.28              | 0  | 200            | 200   | 200       | 10   | 165                    | PCTFE | 71215SN2MF00           | 7         | A10   |
| 1/4                                | 1/8                 | 0.28              | 0  | 200            | 200   | 200       | 22   | 185                    | NBR   | 71215SN2MN00           | 8         | A10   |
| 1/4                                | 5/32                | 0.40              | 0  | 150            | 150   | 150       | 22   | 185                    | NBR   | 71215SN2QN00           | 8         | A10   |
| 1/4                                | 5/32                | 0.40              | 0  | 110            | 110   | 110       | 10   | 185                    | NBR   | 71215SN2QN00           | 7         | A10   |
| 1/4                                | 3/16                | 0.50              | 0  | 90             | 90    | 90        | 22   | 185                    | NBR   | 71215SN2SN00           | 8         | A10   |
| 1/4                                | 3/16                | 0.50              | 0  | 80             | 80    | 80        | 10   | 185                    | NBR   | 71215SN2SN00           | 7         | A10   |
| 1/4                                | 1/4                 | 0.75              | 0  | 70             | 70    | 70        | 22   | 185                    | NBR   | 71215SN2VN00           | 8         | A10   |
| 1/4                                | 1/4                 | 0.75              | 0  | 40             | 40    | 40        | 10   | 185                    | NBR   | 71215SN2VN00           | 7         | A10   |
| 1/4                                | 5/16                | 1.10              | 0  | 55             | 55    | 55        | 22   | 185                    | NBR   | 71215SN21N00           | 8         | A20   |
| 1/4                                | 5/16                | 1.10              | 0  | 20             | 20    | 20        | 10   | 185                    | NBR   | 71215SN21N00           | 7         | A20   |
| <hr/>                              |                     |                   |  |                |       |           |      |                        |       |                        |           |       |
| 3/8                                | 3/8                 | 2.00              | 0  | 25             | 25    | 25        | 22   | 185                    | NBR   | 71215SN33N00           | 8         | A15   |
| 3/8                                | 3/8                 | 2.00              | 0  | 6              | 6     | 6         | 10   | 185                    | NBR   | 71215SN33N00           | 7         | A15   |
| 3/8                                | 3/8                 | 2.00              | 5  | 11             | 11    | 11        | 10   | 185                    | NBR   | 71215SN33NHP**         | 7         | A15   |

\*\* 71215SN33NHP: 5-11 PSI is the operating range for bubble tight sealing. Valves may leak slightly if pressure differential falls below 5 PSI.

**2-Way Direct Acting - Normally Closed- Stainless Steel (Continued)**

| Port Size<br>NPT                   | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal  | Pressure Vessel Number | Reference |       |
|------------------------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|-------|------------------------|-----------|-------|
|                                    |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |       |                        | Coil      | Valve |
| <b>DC TECHNICAL SPECIFICATIONS</b> |                     |                   |  |                |       |           |      |                        |       |                        |           |       |
| 1/8                                | 3/64                | 0.06              | 0  | 1000           | 1000  | 1000      | 22   | 165                    | PCTFE | 71215SN1EF00           | 8         | A10   |
| 1/8                                | 3/64                | 0.06              | 0  | 520            | 520   | 520       | 10   | 165                    | PCTFE | 71215SN1EF00           | 7         | A10   |
| 1/8                                | 3/64                | 0.06              | 0  | 450            | 450   | 450       | 10   | 185                    | NBR   | 71215SN1EN00           | 7         | A10   |
| 1/8                                | 1/16                | 0.10              | 0  | 700            | 700   | 700       | 22   | 165                    | PCTFE | 71215SN1GF00           | 8         | A10   |
| 1/8                                | 1/16                | 0.10              | 0  | 350            | 350   | 350       | 10   | 185                    | NBR   | 71215SN1GN00           | 7         | A10   |
| 1/8                                | 1/16                | 0.10              | 0  | 350            | 350   | 350       | 10   | 165                    | PCTFE | 71215SN1GF00           | 7         | A10   |
| 1/8                                | 3/32                | 0.18              | 0  | 300            | 300   | 300       | 22   | 165                    | PCTFE | 71215SN1KF00           | 8         | A10   |
| 1/8                                | 3/32                | 0.18              | 0  | 275            | 275   | 275       | 10   | 185                    | NBR   | 71215SN1KN00           | 7         | A10   |
| 1/8                                | 3/32                | 0.18              | 0  | 130            | 130   | 130       | 10   | 165                    | PCTFE | 71215SN1KF00           | 7         | A10   |
| 1/8                                | 1/8                 | 0.28              | 0  | 200            | 200   | 200       | 22   | 185                    | NBR   | 71215SN1MN00           | 8         | A10   |
| 1/8                                | 1/8                 | 0.28              | 0  | 200            | 200   | 200       | 22   | 165                    | PCTFE | 71215SN1MF00           | 8         | A10   |
| 1/8                                | 1/8                 | 0.28              | 0  | 150            | 150   | 150       | 10   | 185                    | NBR   | 71215SN1MN00           | 7         | A10   |
| 1/8                                | 1/8                 | 0.28              | 0  | 100            | 100   | 100       | 10   | 165                    | PCTFE | 71215SN1MF00           | 7         | A10   |
| 1/8                                | 5/32                | 0.40              | 0  | 130            | 130   | 130       | 22   | 185                    | NBR   | 71215SN1QN00           | 8         | A10   |
| 1/8                                | 5/32                | 0.40              | 0  | 60             | 60    | 60        | 10   | 185                    | NBR   | 71215SN1QN00           | 7         | A10   |
| 1/8                                | 3/16                | 0.50              | 0  | 70             | 70    | 70        | 22   | 185                    | NBR   | 71215SN1SN00           | 8         | A10   |
| 1/8                                | 3/16                | 0.50              | 0  | 25             | 25    | 25        | 10   | 185                    | NBR   | 71215SN1SN00           | 7         | A10   |
| 1/8                                | 1/4                 | 0.75              | 0  | 30             | 30    | 30        | 22   | 185                    | NBR   | 71215SN1VN00           | 8         | A10   |
| 1/8                                | 1/4                 | 0.75              | 0  | 10             | 10    | 10        | 10   | 185                    | NBR   | 71215SN1VN00           | 7         | A10   |
|                                    |                     |                   |  |                |       |           |      |                        |       |                        |           |       |
| 1/4                                | 3/64                | 0.06              | 0  | 1000           | 1000  | 1000      | 22   | 165                    | PCTFE | 71215SN2EF00           | 8         | A10   |
| 1/4                                | 3/64                | 0.06              | 0  | 520            | 520   | 520       | 10   | 165                    | PCTFE | 71215SN2EF00           | 7         | A10   |
| 1/4                                | 3/64                | 0.06              | 0  | 450            | 450   | 450       | 10   | 185                    | NBR   | 71215SN2EN00           | 7         | A10   |
| 1/4                                | 1/16                | 0.10              | 0  | 700            | 700   | 700       | 22   | 165                    | PCTFE | 71215SN2GF00           | 8         | A10   |
| 1/4                                | 1/16                | 0.10              | 0  | 350            | 350   | 350       | 10   | 165                    | PCTFE | 71215SN2GF00           | 7         | A10   |
| 1/4                                | 1/16                | 0.10              | 0  | 350            | 350   | 350       | 10   | 185                    | NBR   | 71215SN2GN00           | 7         | A10   |
| 1/4                                | 3/32                | 0.18              | 0  | 300            | 300   | 300       | 22   | 165                    | PCTFE | 71215SN2KF00           | 8         | A10   |
| 1/4                                | 3/32                | 0.18              | 0  | 275            | 275   | 275       | 10   | 185                    | NBR   | 71215SN2KN00           | 7         | A10   |
| 1/4                                | 3/32                | 0.18              | 0  | 130            | 130   | 130       | 10   | 165                    | PCTFE | 71215SN2KF00           | 7         | A10   |
| 1/4                                | 1/8                 | 0.28              | 0  | 200            | 200   | 200       | 22   | 165                    | PCTFE | 71215SN2MF00           | 8         | A10   |
| 1/4                                | 1/8                 | 0.28              | 0  | 200            | 200   | 200       | 22   | 185                    | NBR   | 71215SN2MN00           | 8         | A10   |
| 1/4                                | 1/8                 | 0.28              | 0  | 150            | 150   | 150       | 10   | 185                    | NBR   | 71215SN2MN00           | 7         | A10   |
| 1/4                                | 1/8                 | 0.28              | 0  | 100            | 100   | 100       | 10   | 165                    | PCTFE | 71215SN2MF00           | 7         | A10   |
| 1/4                                | 5/32                | 0.40              | 0  | 60             | 60    | 60        | 10   | 185                    | NBR   | 71215SN2QN00           | 7         | A10   |

**2-Way Direct Acting - Normally Closed- Stainless Steel (Continued)**

| Port Size<br>NPT                   | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal | Pressure Vessel Number | Reference |       |
|------------------------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|------|------------------------|-----------|-------|
|                                    |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |      |                        | Coil      | Valve |
| <b>DC TECHNICAL SPECIFICATIONS</b> |                     |                   |  |                |       |           |      |                        |      |                        |           |       |
| 1/4                                | 5/32                | 0.40              | 0  | 130            | 130   | 130       | 22   | 185                    | NBR  | 71215SN2QN00           | 8         | A10   |
| 1/4                                | 3/16                | 0.50              | 0  | 70             | 70    | 70        | 22   | 185                    | NBR  | 71215SN2SN00           | 8         | A10   |
| 1/4                                | 3/16                | 0.50              | 0  | 25             | 25    | 25        | 10   | 185                    | NBR  | 71215SN2SN00           | 7         | A10   |
| 1/4                                | 1/4                 | 0.75              | 0  | 30             | 30    | 30        | 22   | 185                    | NBR  | 71215SN2VN00           | 8         | A10   |
| 1/4                                | 1/4                 | 0.75              | 0  | 10             | 10    | 10        | 10   | 185                    | NBR  | 71215SN2VN00           | 7         | A10   |
| 1/4                                | 5/16                | 1.10              | 0  | 10             | 10    | 10        | 22   | 185                    | NBR  | 71215SN21N00           | 8         | A20   |
| 1/4                                | 5/16                | 1.10              | 0  | 3              | 3     | 3         | 10   | 185                    | NBR  | 71215SN21N00           | 7         | A20   |
| 3/8                                | 3/8                 | 2.00              | 0  | 5              | 5     | 5         | 22   | 185                    | NBR  | 71215SN33N00           | 8         | A15   |

## 2-Way Direct Acting - Normally Open- Brass

| Port Size<br>NPT                   | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal  | Pressure Vessel Number | Reference |       |
|------------------------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|-------|------------------------|-----------|-------|
|                                    |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |       |                        | Coil      | Valve |
| <b>AC TECHNICAL SPECIFICATIONS</b> |                     |                   |  |                |       |           |      |                        |       |                        |           |       |
| 1/8                                | 1/16                | 0.11              | 0  | 435            | 435   | 435       | 10   | 165                    | PCTFE | 7122KBN1GF00           | 7         | A13   |
| 1/8                                | 3/32                | 0.15              | 0  | 275            | 200   | 150       | 6    | 180                    | NBR   | 02F2001106AAF          | 1         | A17   |
| 1/8                                | 3/32                | 0.21              | 0  | 175            | 175   | 175       | 10   | 165                    | PCTFE | 7122KBN1LF00           | 7         | A13   |
| 1/8                                | 1/8                 | 0.21              | 0  | 125            | 100   | 85        | 6    | 180                    | NBR   | 02F2001108AAF          | 1         | A17   |
| 1/4                                | 3/64                | 0.06              | 0  | 750            | 700   | 700       | 11   | 180                    | NBR   | 04F2001103ACF          | 4         | A5    |
| 1/4                                | 1/16                | 0.11              | 0  | 435            | 435   | 435       | 10   | 165                    | PCTFE | 7122KBN2GF00           | 7         | A13   |
| 1/4                                | 3/32                | 0.17              | 0  | 300            | 250   | 230       | 11   | 180                    | NBR   | 04F2001106ACF          | 4         | A5    |
| 1/4                                | 3/32                | 0.21              | 0  | 175            | 175   | 175       | 10   | 165                    | PCTFE | 7122KBN2LF00           | 7         | A13   |
| 1/4                                | 1/8                 | 0.35              | 0  | 130            | 110   | 100       | 11   | 180                    | NBR   | 04F2001108ACF          | 4         | A5    |
| 1/4                                | 5/32                | 0.49              | 0  | 85             | 75    | 60        | 11   | 180                    | NBR   | 04F2002110ACF          | 4         | A6    |
| 1/4                                | 9/32                | 0.96              | 0  | 30             | 25    | 20        | 11   | 180                    | NBR   | 04F2002118ACF          | 4         | A6    |
| 1/2                                | 7/16                | 2.20              | 0  | 15             | 15    | -         | 16   | 200                    | NBR   | 08F2002128ADF          | 5         | A18   |
| 3/4                                | 3/4                 | 5.50              | 0  | 2              | 2     | -         | 11   | 180                    | NBR   | 12F2002148ACF          | 4         | A18   |
| <b>DC TECHNICAL SPECIFICATIONS</b> |                     |                   |  |                |       |           |      |                        |       |                        |           |       |
| 1/8                                | 1/16                | 0.09              | 0  | 400            | 250   | 150       | 9.5  | 120                    | NBR   | 02F2001104A1F          | 3         | A17   |
| 1/8                                | 1/16                | 0.11              | 0  | 435            | 435   | 435       | 10   | 165                    | PCTFE | 7122KBN1GF00           | 7         | A13   |
| 1/8                                | 3/32                | 0.15              | 0  | 190            | 110   | 110       | 9.5  | 120                    | NBR   | 02F2001106A1F          | 3         | A17   |
| 1/8                                | 3/32                | 0.21              | 0  | 175            | 175   | 175       | 10   | 165                    | PCTFE | 7122KBN1LF00           | 7         | A13   |
| 1/8                                | 1/8                 | 0.21              | 0  | 80             | 60    | 50        | 9.5  | 120                    | NBR   | 02F2001108A1F          | 3         | A17   |
| 1/4                                | 3/64                | 0.06              | 0  | 500            | 500   | 500       | 11.5 | 140                    | NBR   | 04F2001103A3F          | 6         | A5    |
| 1/4                                | 1/16                | 0.11              | 0  | 435            | 435   | 435       | 10   | 165                    | PCTFE | 7122KBN2GF00           | 7         | A13   |
| 1/4                                | 3/32                | 0.17              | 0  | 200            | 150   | 125       | 11.5 | 150                    | NBR   | 04F2001106A3F          | 6         | A5    |
| 1/4                                | 3/32                | 0.21              | 0  | 175            | 175   | 175       | 10   | 165                    | PCTFE | 7122KBN2LF00           | 7         | A13   |
| 1/4                                | 1/8                 | 0.35              | 0  | 80             | 60    | 60        | 11.5 | 150                    | NBR   | 04F2001108A3F          | 6         | A5    |
| 1/4                                | 5/32                | 0.49              | 0  | 45             | 30    | 30        | 11.5 | 150                    | NBR   | 04F2002110A3F          | 6         | A6    |
| 1/4                                | 9/32                | 0.96              | 0  | 15             | 15    | 15        | 11.5 | 150                    | NBR   | 04F2002118A3F          | 6         | A6    |

**2-Way Direct Acting - Normally Open- Stainless Steel**

| Port Size<br>NPT | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal | Pressure Vessel Number | Reference |       |
|------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|------|------------------------|-----------|-------|
|                  |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |      |                        | Coil      | Valve |

**AC TECHNICAL SPECIFICATIONS**

|     |      |      |   |     |     |     |    |     |       |              |   |     |
|-----|------|------|---|-----|-----|-----|----|-----|-------|--------------|---|-----|
| 1/8 | 3/64 | 0.05 | 0 | 750 | 750 | 750 | 10 | 165 | PCTFE | 71225SN1EF00 | 7 | A12 |
| 1/8 | 3/64 | 0.05 | 0 | 400 | 400 | 400 | 10 | 185 | NBR   | 71295SN1ENJ1 | 7 | A11 |
| 1/8 | 1/16 | 0.11 | 0 | 400 | 400 | 400 | 10 | 165 | PCTFE | 71225SN1GF00 | 7 | A12 |
| 1/8 | 1/16 | 0.11 | 0 | 325 | 325 | 325 | 10 | 185 | NBR   | 71295SN1GNJ1 | 7 | A11 |
| 1/8 | 3/32 | 0.15 | 0 | 250 | 250 | 250 | 10 | 185 | NBR   | 71295SN1KNJ1 | 7 | A11 |
| 1/8 | 3/32 | 0.15 | 0 | 170 | 170 | 170 | 10 | 165 | PCTFE | 71225SN1KF00 | 7 | A12 |
| 1/4 | 3/64 | 0.05 | 0 | 750 | 750 | 750 | 10 | 165 | PCTFE | 71225SN2EF00 | 7 | A12 |
| 1/4 | 3/64 | 0.05 | 0 | 400 | 400 | 400 | 10 | 185 | NBR   | 71295SN2ENJ1 | 7 | A11 |
| 1/4 | 1/16 | 0.11 | 0 | 400 | 400 | 400 | 10 | 165 | PCTFE | 71225SN2GF00 | 7 | A12 |
| 1/4 | 1/16 | 0.11 | 0 | 325 | 325 | 325 | 10 | 185 | NBR   | 71295SN2GNJ1 | 7 | A11 |
| 1/4 | 3/32 | 0.15 | 0 | 250 | 250 | 250 | 10 | 185 | NBR   | 71295SN2KNJ1 | 7 | A11 |
| 1/4 | 3/32 | 0.15 | 0 | 170 | 170 | 170 | 10 | 165 | PCTFE | 71225SN2KF00 | 7 | A12 |

**DC TECHNICAL SPECIFICATIONS**

|     |      |      |   |     |     |     |    |     |       |              |   |     |
|-----|------|------|---|-----|-----|-----|----|-----|-------|--------------|---|-----|
| 1/8 | 3/64 | 0.05 | 0 | 750 | 750 | 750 | 10 | 165 | PCTFE | 71225SN1EF00 | 7 | A12 |
| 1/8 | 3/64 | 0.05 | 0 | 400 | 400 | 400 | 10 | 185 | NBR   | 71295SN1ENJ1 | 7 | A11 |
| 1/8 | 1/16 | 0.11 | 0 | 400 | 400 | 400 | 10 | 165 | PCTFE | 71225SN1GF00 | 7 | A12 |
| 1/8 | 1/16 | 0.11 | 0 | 325 | 325 | 325 | 10 | 185 | NBR   | 71295SN1GNJ1 | 7 | A11 |
| 1/8 | 3/32 | 0.15 | 0 | 250 | 250 | 250 | 10 | 185 | NBR   | 71295SN1KNJ1 | 7 | A11 |
| 1/8 | 3/32 | 0.15 | 0 | 170 | 170 | 170 | 10 | 165 | PCTFE | 71225SN1KF00 | 7 | A12 |
| 1/4 | 3/64 | 0.05 | 0 | 750 | 750 | 750 | 10 | 165 | PCTFE | 71225SN2EF00 | 7 | A12 |
| 1/4 | 3/64 | 0.05 | 0 | 400 | 400 | 400 | 10 | 185 | NBR   | 71295SN2ENJ1 | 7 | A11 |
| 1/4 | 1/16 | 0.11 | 0 | 400 | 400 | 400 | 10 | 165 | PCTFE | 71225SN2GF00 | 7 | A12 |
| 1/4 | 1/16 | 0.11 | 0 | 325 | 325 | 325 | 10 | 185 | NBR   | 71295SN2GNJ1 | 7 | A11 |
| 1/4 | 3/32 | 0.15 | 0 | 250 | 250 | 250 | 10 | 185 | NBR   | 71295SN2KNJ1 | 7 | A11 |
| 1/4 | 3/32 | 0.15 | 0 | 170 | 170 | 170 | 10 | 165 | PCTFE | 71225SN2KF00 | 7 | A12 |

**2-Way Direct Acting - Bi-Directional\* - Stainless Steel**

| Port Size<br>NPT | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal | Pressure Vessel Number | Reference |       |
|------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|------|------------------------|-----------|-------|
|                  |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |      |                        | Coil      | Valve |

**AC TECHNICAL SPECIFICATIONS**

|     |      |      |   |     |     |     |    |     |     |              |   |     |
|-----|------|------|---|-----|-----|-----|----|-----|-----|--------------|---|-----|
| 1/4 | 1/32 | 0.02 | 0 | 400 | 400 | 400 | 10 | 185 | NBR | 71235SN2AN00 | 7 | A19 |
| 1/4 | 3/64 | 0.06 | 0 | 180 | 180 | 180 | 10 | 185 | NBR | 71235SN2EN00 | 7 | A19 |
| 1/4 | 1/16 | 0.10 | 0 | 110 | 110 | 110 | 10 | 185 | NBR | 71235SN2GN00 | 7 | A19 |
| 1/4 | 3/32 | 0.17 | 0 | 70  | 70  | 70  | 10 | 185 | NBR | 71235SN2KN00 | 7 | A19 |
| 1/4 | 1/8  | 0.28 | 0 | 45  | 45  | 45  | 10 | 185 | NBR | 71235SN2MN00 | 7 | A19 |

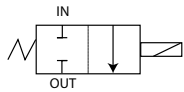
**DC TECHNICAL SPECIFICATIONS**

|     |      |      |   |     |     |     |    |     |     |              |   |     |
|-----|------|------|---|-----|-----|-----|----|-----|-----|--------------|---|-----|
| 1/4 | 1/32 | 0.02 | 0 | 400 | 400 | 400 | 10 | 185 | NBR | 71235SN2AN00 | 7 | A19 |
| 1/4 | 3/64 | 0.06 | 0 | 180 | 180 | 180 | 10 | 185 | NBR | 71235SN2EN00 | 7 | A19 |
| 1/4 | 1/16 | 0.10 | 0 | 110 | 110 | 110 | 10 | 185 | NBR | 71235SN2GN00 | 7 | A19 |
| 1/4 | 3/32 | 0.17 | 0 | 70  | 70  | 70  | 10 | 185 | NBR | 71235SN2KN00 | 7 | A19 |
| 1/4 | 1/8  | 0.28 | 0 | 45  | 45  | 45  | 10 | 185 | NBR | 71235SN2MN00 | 7 | A19 |

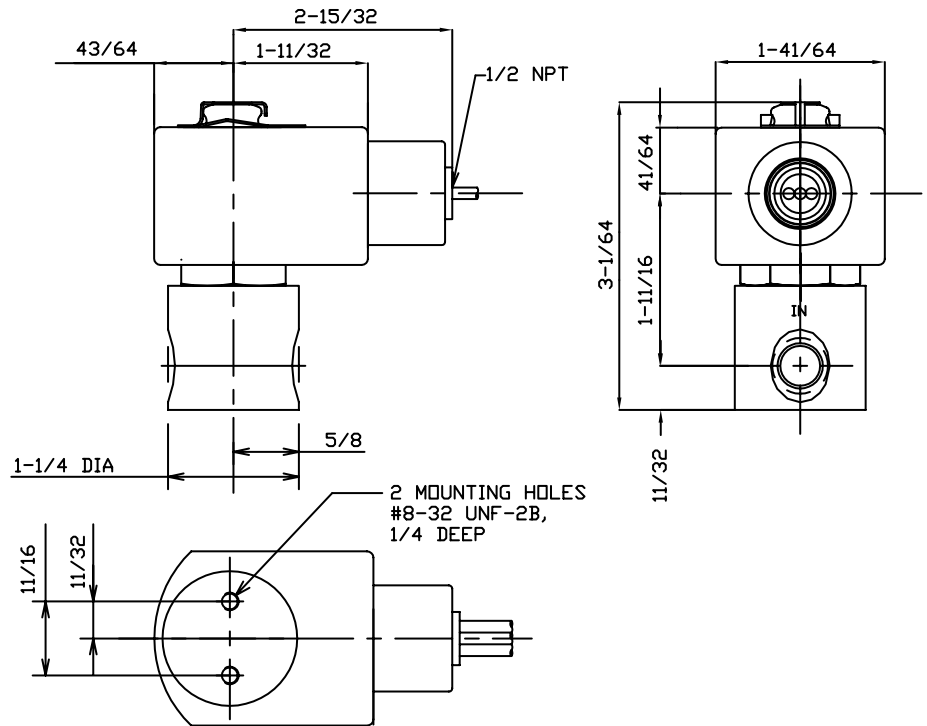
\*Pressure can be applied to either inlet or outlet.



## Valve Reference A3

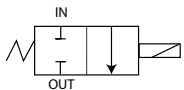


2-Way Normally Closed:  
Port Identification:  
In-In/Out-Out

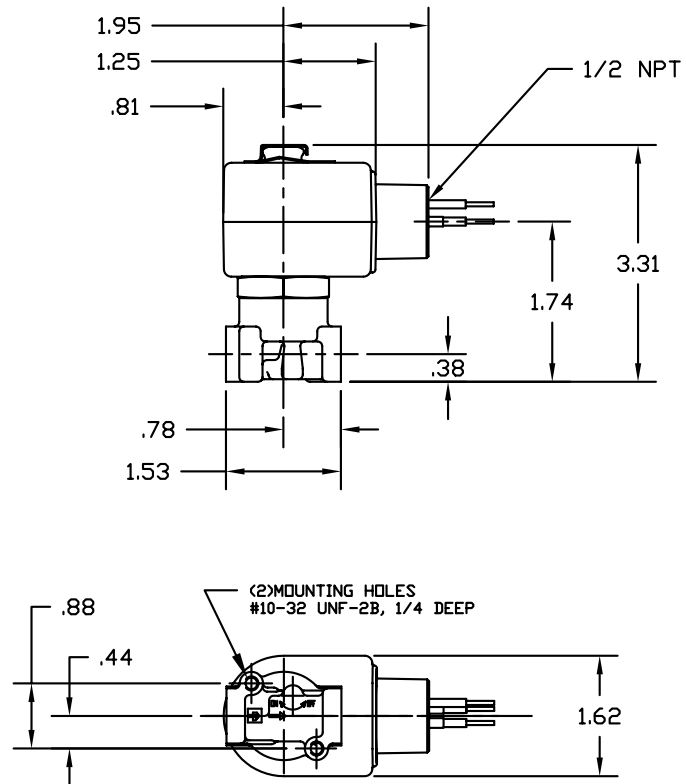


2-Way

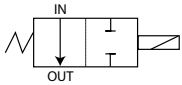
## Valve Reference A4



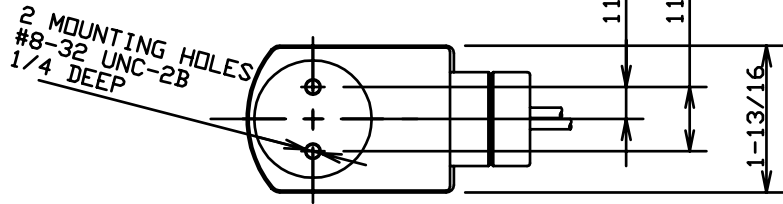
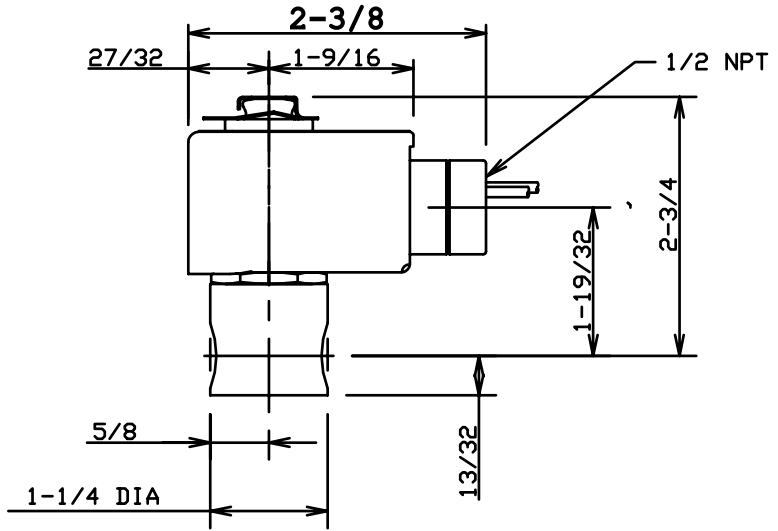
2-Way Normally Closed:  
Port Identification:  
In-In/Out-Out



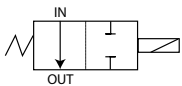
## Valve Reference A5



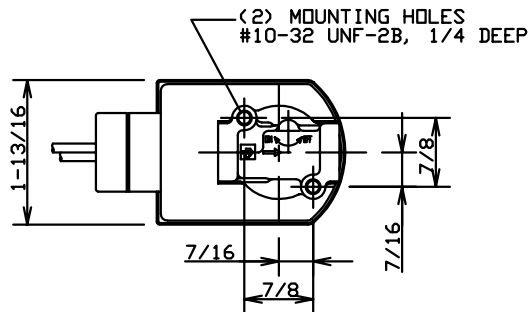
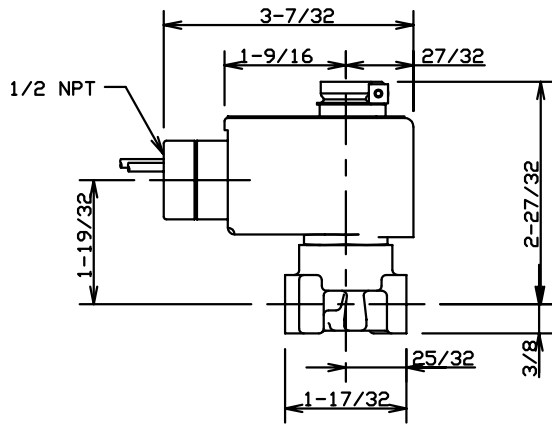
2-Way Normally Open  
 Port Identification:  
 In-In/Out-Out



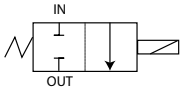
## Valve Reference A6



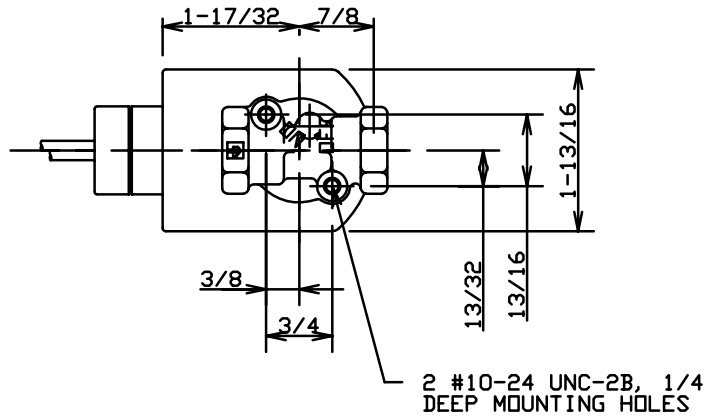
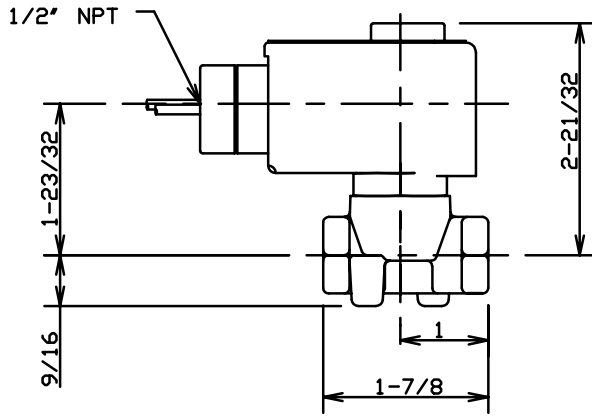
2-Way Normally Open  
 Port Identification:  
 In-In/Out-Out



## Valve Reference A7

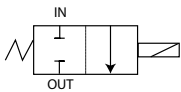


2-Way Normally Closed  
Port Identification:  
In-In/Out-Out

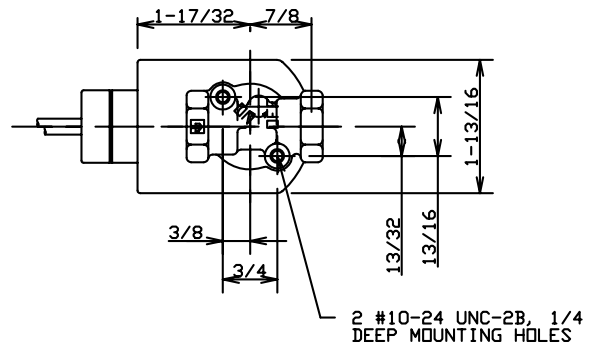
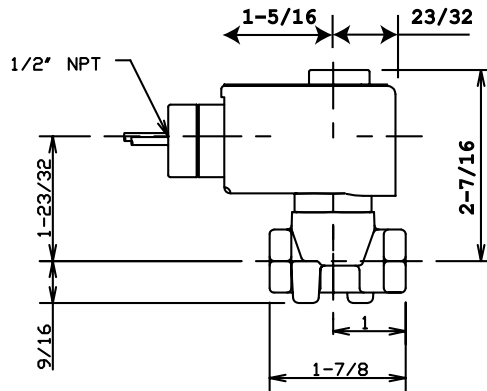


2-Way

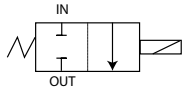
## Valve Reference A8



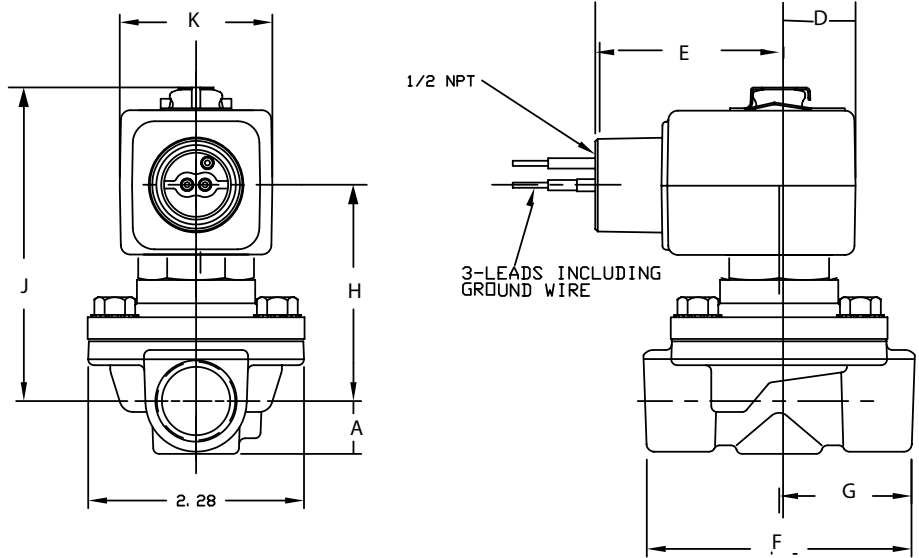
2-Way Normally Closed  
Port Identification:  
In-In/Out-Out



# Valve Reference A9

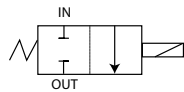


2-Way Normally Closed  
 Port Identification:  
 In-In/Out-Out

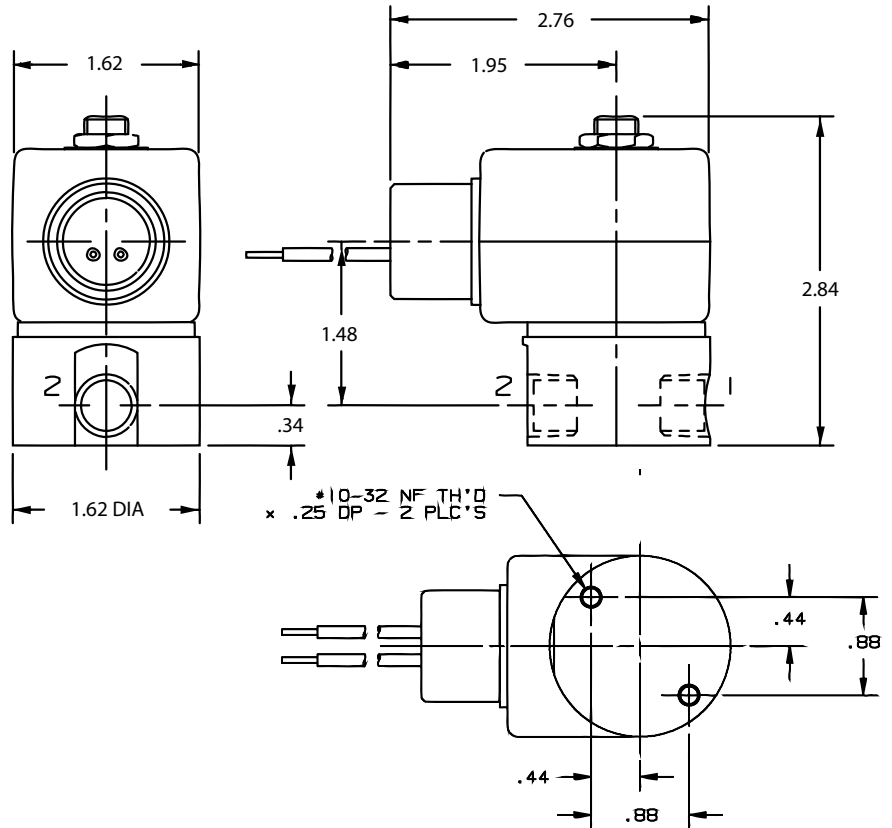


| Part Number                    | Dimensions |       |           |           |         |         |         |         |
|--------------------------------|------------|-------|-----------|-----------|---------|---------|---------|---------|
|                                | A          | D     | E         | F         | G       | H       | J       | K       |
| 08F20C2128AAF                  | 9/16       | 23/32 | 1 - 25/32 | 2 - 13/16 | 1-13/32 | 1-15/16 | 2-25/32 | 1-9/16  |
| 08F20C2128ADF<br>08F20C2128A3F | 9/16       | 7/8   | 1 - 15/16 | 2 - 13/16 | 1-13/32 | 2-1/4   | 3-9/32  | 1-13/16 |
| 12F20C2148ADF                  | 11/16      | 7/8   | 1 - 15/16 | 2 - 29/32 | 1-15/32 | 2-11/32 | 3-3/8   | 1-13/16 |

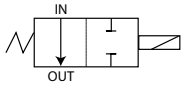
# Valve Reference A10



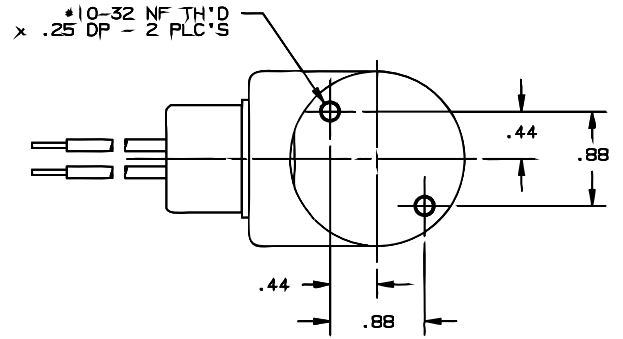
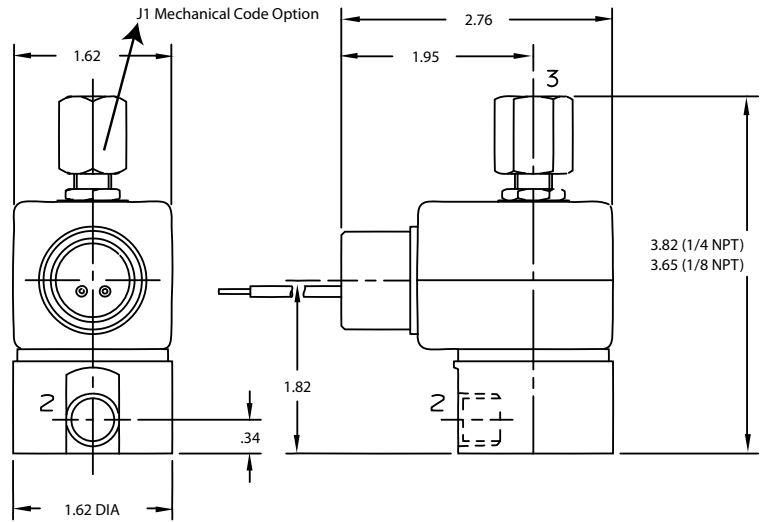
2-Way Normally Closed  
 Port Identification:  
 2-IN / 1-OUT



# Valve Reference A11

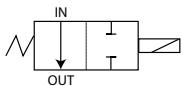


2-Way Normally Open  
 Port Identification:  
 2-IN / 3-OUT

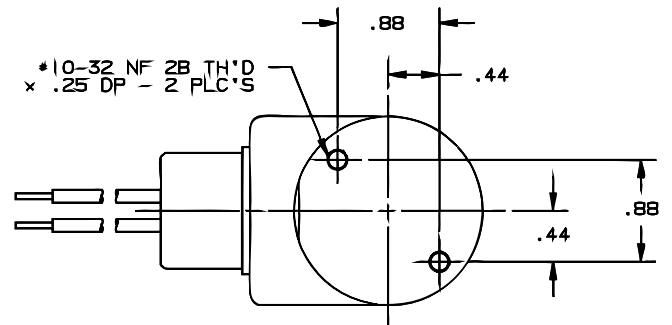
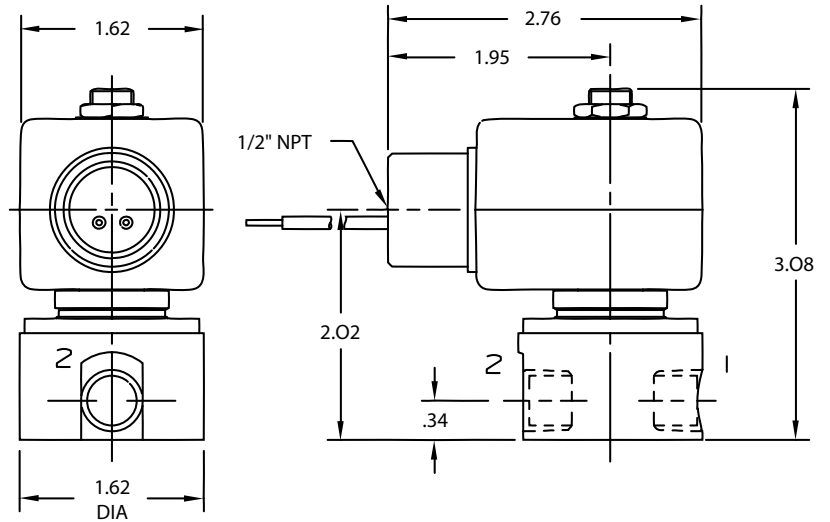


2-Way

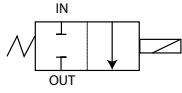
# Valve Reference A12



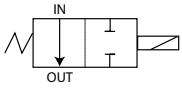
2-Way Normally Open  
 Port Identification:  
 1-OUT / 2-IN



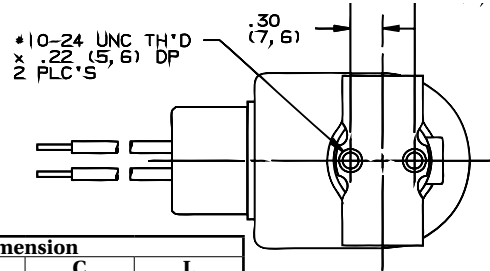
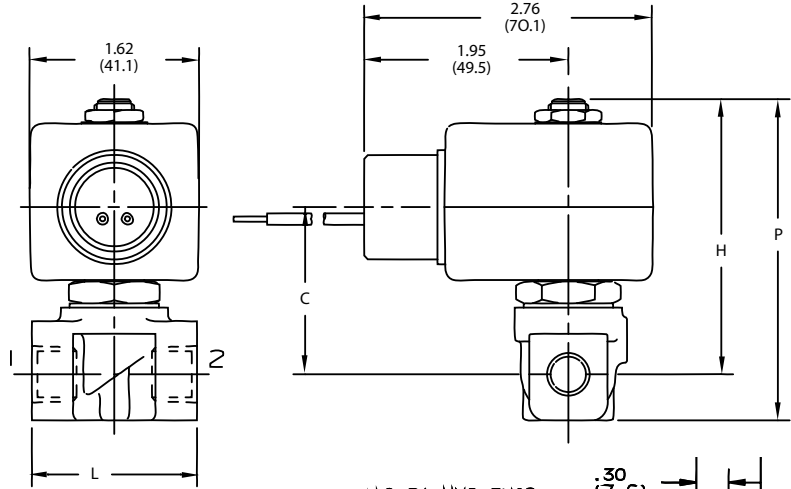
## Valve Reference A13



2-Way Normally Closed  
7121KBN  
Port Identification:  
1-IN / 2-OUT

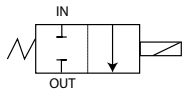


2-Way Normally Open  
7122KBN  
Port Identification:  
1-IN / 2-OUT

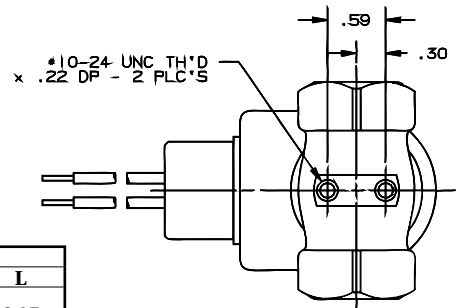
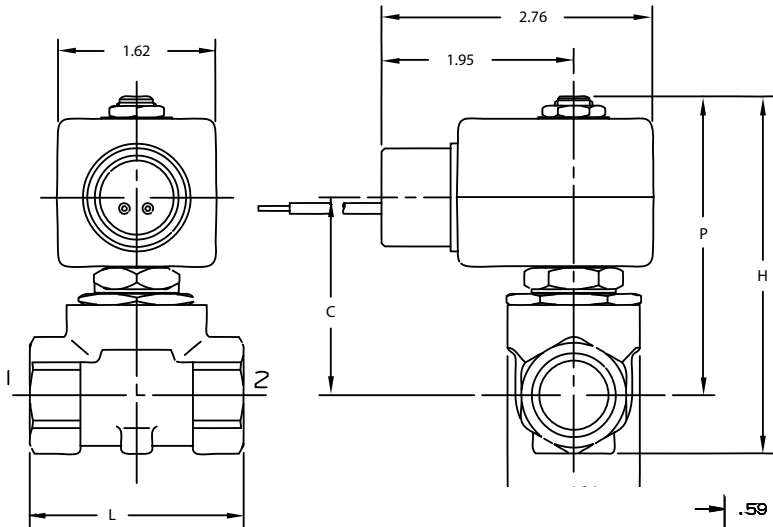


| Part Number  | Dimension |      |      |      |
|--------------|-----------|------|------|------|
|              | H         | P    | C    | L    |
| 7121KBN1XXXX |           |      |      |      |
| 7121KBN2XXXX | 2.63      | 3.07 | 1.61 | 1.57 |
| 7122KBN1XXXX |           |      |      |      |
| 7122KBN2XXXX |           |      |      |      |
| 7121KBN3XXXX | 2.57      | 3.08 | 1.55 | 1.97 |

## Valve Reference A14

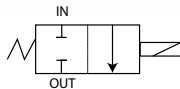


2-Way Normally Closed  
Port Identification:  
Flow arrow on body  
indicates flow direction.  
Ports are not marked.

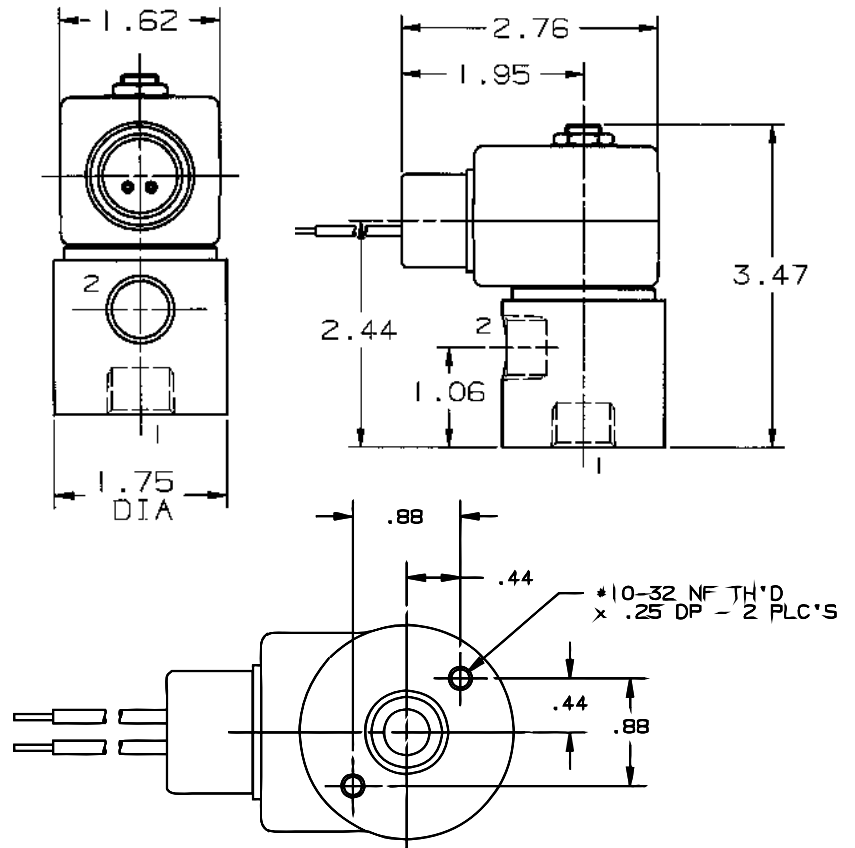


| Part Number  | Dimension |      |      |      |
|--------------|-----------|------|------|------|
|              | H         | P    | C    | L    |
| 7121KBN44V00 | 3.56      | 2.97 | 1.96 | 2.17 |

## Valve Reference A15

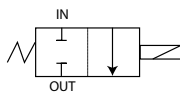


2-Way Normally Closed  
 Port Identification:  
 2-IN / 1-OUT

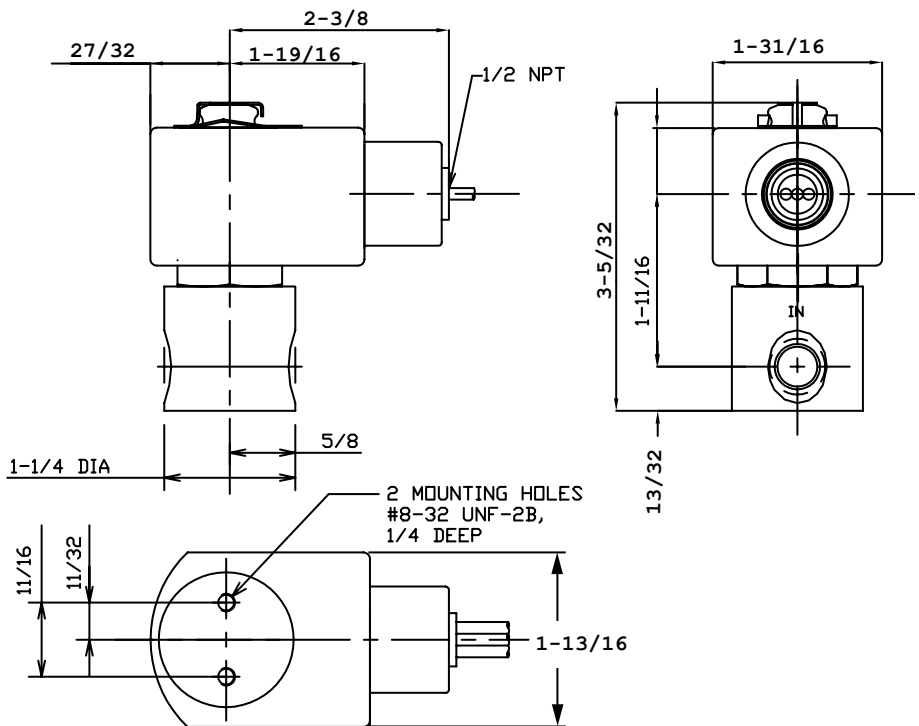


2-Way

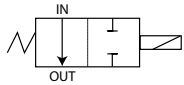
## Valve Reference A16



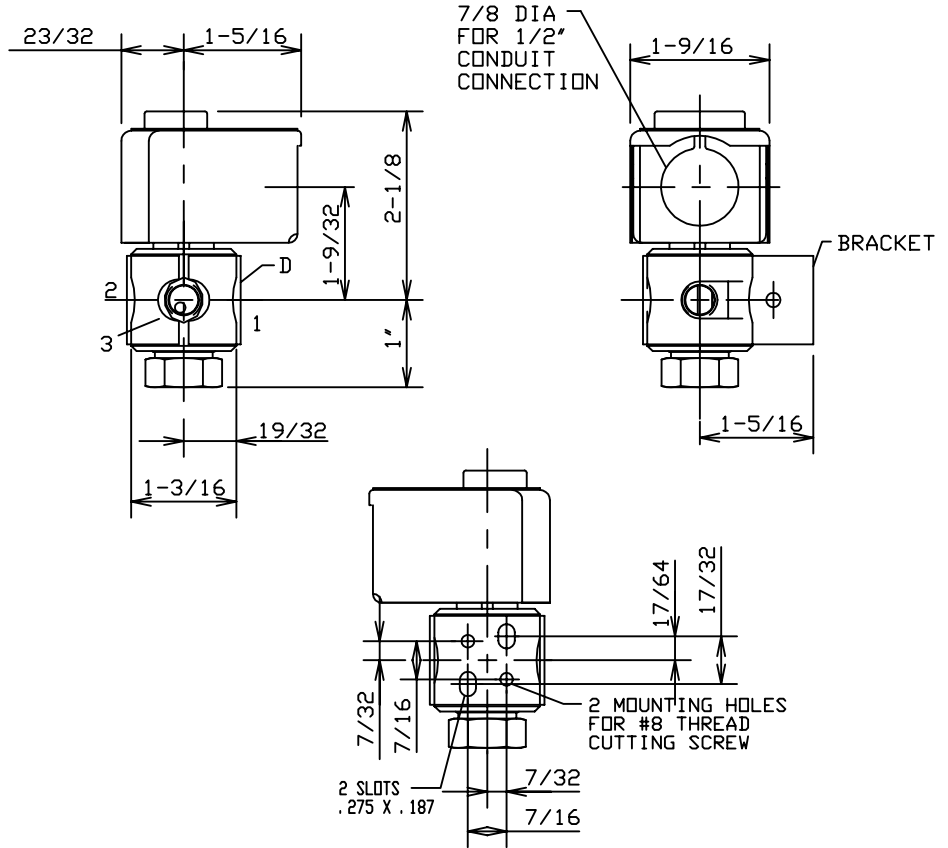
2-Way Normally Closed  
 Port Identification:  
 IN-IN / OUT-OUT



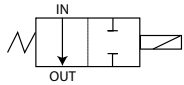
### Valve Reference A17



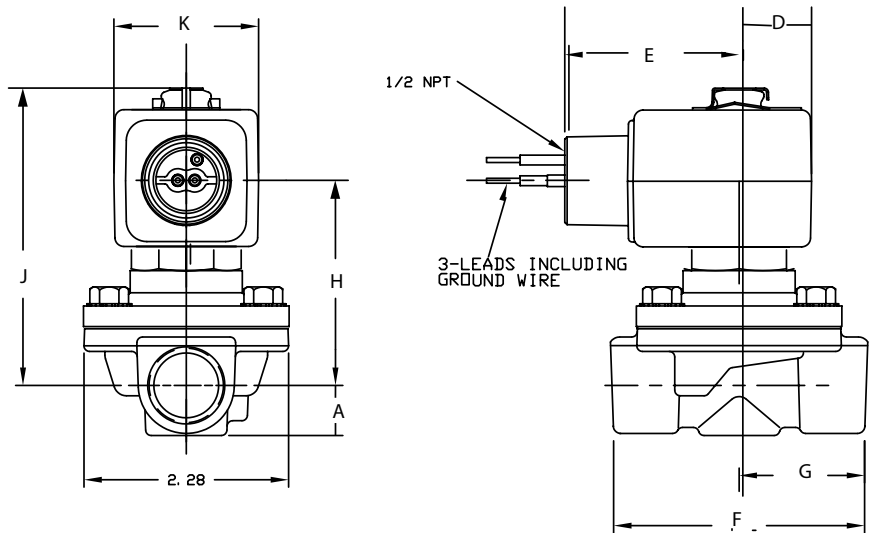
2-Way Normally Open  
Port Identification:  
IN-IN/OUT-OUT



### Valve Reference A18



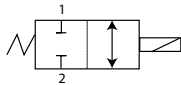
2-Way Normally Open  
Port Identification:  
IN-IN/OUT-OUT



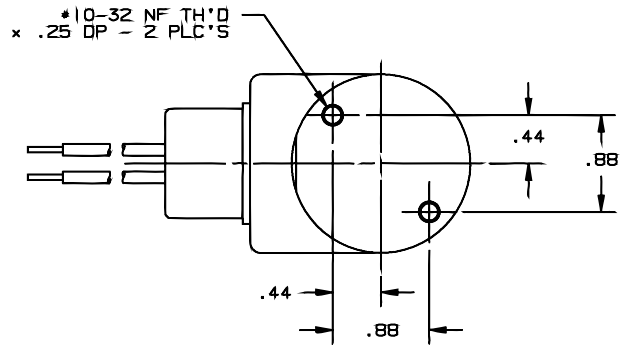
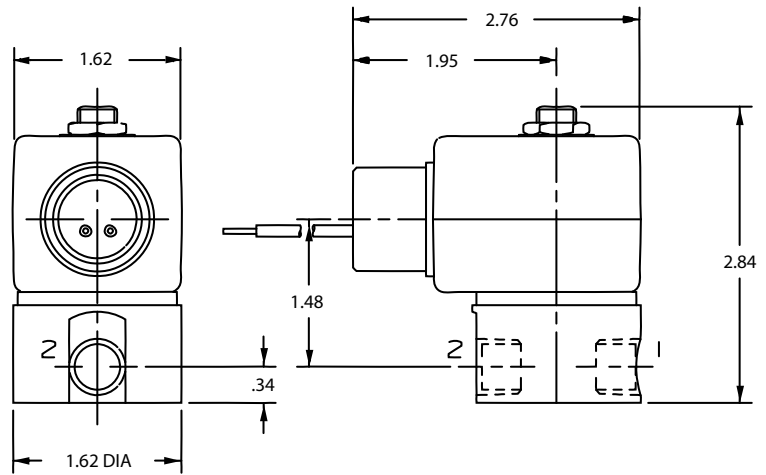
| Dimensions |     |           |           |           |          |          |           |
|------------|-----|-----------|-----------|-----------|----------|----------|-----------|
| A          | D   | E         | F         | G         | H        | J        | K         |
| 9/16       | 7/8 | 1 - 15/16 | 2 - 13/16 | 1 - 13/32 | 2 - 1/8  | 3 - 9/32 | 1 - 13/16 |
| 11/16      | 7/8 | 1 - 15/16 | 2 - 29/32 | 1 - 15/32 | 2 - 7/32 | 3 - 3/8  | 1 - 13/16 |



## Valve Reference A19

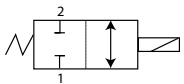


2-Way Bi-Directional  
Port Identification:  
Pressure can be applied  
to either port.

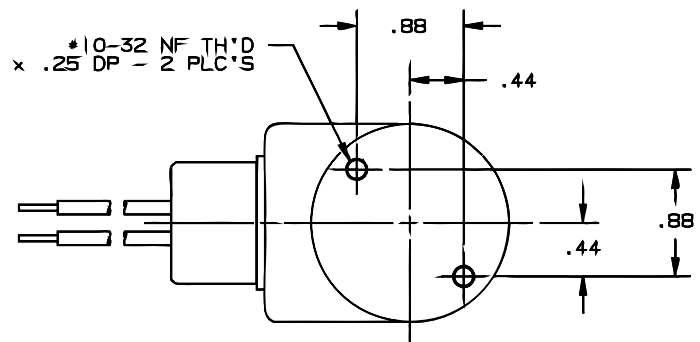
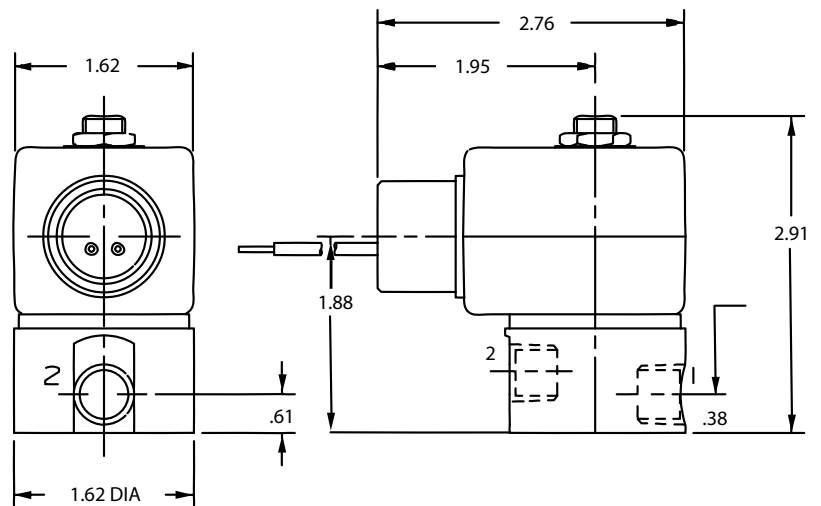


2-Way

## Valve Reference A20



2-Way Normally Closed  
Port Identification:  
2 IN/1 OUT



**2-Way Direct Acting Materials of Construction\*\***

| Product* | Wattage        | Type | Port Size | Body  | Sleeve Tube | Sleeve Stop | Sleeve Flange | "Plunger Blank" | Plunger Spring | Shading Ring | Max. Ambient Temp. |
|----------|----------------|------|-----------|-------|-------------|-------------|---------------|-----------------|----------------|--------------|--------------------|
| 02F2001  | 6              | 2WNO | 1/8       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 17-7PH         | Copper       | 130°F              |
| 02F2001  | 9.5, 10        | 2WNO | 1/8       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 17-7PH         | Copper       | 77°F               |
| 04F20C1  | 6, 11          | 2WNC | 1/4       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 17-7PH         | Copper       | 130°F              |
| 04F20C1  | 9.5, 10, 16    | 2WNC | 1/4       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 17-7PH         | Copper       | 77°F               |
| 04F20C2  | 6, 11          | 2WNC | 1/4       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 17-7PH         | Copper       | 130°F              |
| 04F20C2  | 9.5, 10, 16    | 2WNC | 1/4       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 17-7PH         | Copper       | 77°F               |
| 04F2001  | 6, 11          | 2WNO | 1/4       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 17-7PH         | Copper       | 130°F              |
| 04F2001  | 9.5, 10, 16    | 2WNO | 1/4       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 17-7PH         | Copper       | 77°F               |
| 04F2002  | 6, 11          | 2WNC | 1/4       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 17-7PH         | Copper       | 130°F              |
| 04F2002  | 9.5, 10, 16    | 2WNC | 1/4       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 17-7PH         | Copper       | 77°F               |
| 06F20C2  | 6, 11          | 2WNC | 3/8       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 17-7PH         | Copper       | 130°F              |
| 06F20C2  | 9.5, 10, 16    | 2WNC | 3/8       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 17-7PH         | Copper       | 77°F               |
| 08F20C2  | 6, 11          | 2WNC | 1/2       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 17-7PH         | Copper       | 130°F              |
| 08F20C2  | 9.5, 10, 16    | 2WNC | 1/2       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 17-7PH         | Copper       | 77°F               |
| 08F2002  | 6, 11          | 2WNO | 1/2       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 17-7PH         | Copper       | 130°F              |
| 08F2002  | 9.5, 10, 16    | 2WNO | 1/2       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 17-7PH         | Copper       | 77°F               |
| 12F20C2  | 6, 11          | 2WNC | 3/4       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 17-7PH         | Copper       | 130°F              |
| 12F20C2  | 9.5, 10, 16    | 2WNC | 3/4       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 17-7PH         | Copper       | 77°F               |
| 12F2002  | 6, 11          | 2WNO | 3/4       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 17-7PH         | Copper       | 130°F              |
| 12F2002  | 3, 9.5, 10, 16 | 2WNO | 3/4       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 17-7PH         | Copper       | 77°F               |

\* Shows the first 7 digits of pressure vessel part number.

\*\*Maximum ambient temperature shown is the rating when valve is operating at the maximum fluid temperature as shown in the product sections for each of the valves in this catalog



**2-Way Direct Acting Materials of Construction (Continued)\*\***

| Product* | Wattage | Type | Port Size | Body  | Sleeve Tube | Sleeve Stop | Sleeve Flange | "Plunger Blank" | Plunger Spring | Shading Ring | Max. Ambient Temp. |
|----------|---------|------|-----------|-------|-------------|-------------|---------------|-----------------|----------------|--------------|--------------------|
| 71215SN  | 10      | 2WNC | 1/8 - 3/8 | 430F  | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 150°F              |
| 71215SN  | 22      | 2WNC | 1/8 - 3/8 | 430F  | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 77°F               |
| 71216SN  | 10      | 2WNC | 1/8 - 1/4 | 430F  | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 150°F              |
| 71216SN  | 22      | 2WNC | 1/8 - 1/4 | 430F  | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 77°F               |
| 7121KBN  | 10      | 2WNC | 1/8 - 3/8 | Brass | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 150°F              |
| 7121KBN  | 22      | 2WNC | 1/8 - 3/8 | Brass | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 77°F               |
| 71225SN  | 10      | 2WNO | 1/8 - 1/4 | 430F  | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 150°F              |
| 71225SN  | 22      | 2WNO | 1/8 - 1/4 | 430F  | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 77°F               |
| 7122KBN  | 10      | 2WNO | 1/8 - 1/4 | Brass | 304SS       | 430FR       | 430F          | 430FR/4106      | 301SS          | Copper       | 150°F              |
| 7122KBN  | 22      | 2WNO | 1/8 - 1/4 | Brass | 304SS       | 430FR       | 430F          | 430FR/4106      | 301SS          | Copper       | 77°F               |
| 71235SN  | 10      | 2WDP | 1/4       | 430F  | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 150°F              |
| 71235SN  | 22      | 2WDP | 1/4       | 430F  | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 77°F               |
| 71295SN  | 10      | 2WNO | 1/8 - 1/4 | 430F  | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 150°F              |
| 71295SN  | 22      | 2WNO | 1/8 - 1/4 | 430F  | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 77°F               |

\* Shows the first 7 digits of pressure vessel part number.

\*\* Maximum ambient temperature shown is the rating when valve is operating at the maximum fluid temperature as shown in the product sections for each of the valves in this catalog.



# 2-Way

Direct Lift, Pilot & Remote Operated Valves  
1/4"–2" NPT



2-Way

## General Description:

2-Way Direct Lift, Pilot & Remote Operated valves are designed for higher flow and medium to high pressure applications. Pilot operated valves require the minimum pressure differential specified for proper valve operation.

### Installation

Valves should be mounted with solenoid coil vertical and upright.

### Standard Materials of Construction

Please refer to page A55

### Compatible Fluids

Lubricated Air, Inert Gases, Water and Light Oil (300 SSU). Additional fluids compatible with alternate materials of construction (consult factory).

Use of non-lubricated gaseous media can affect valve life.

## Electrical Characteristics:

### Standard Voltages:

AC –24/60

120/60–110/50

240/60–220/50

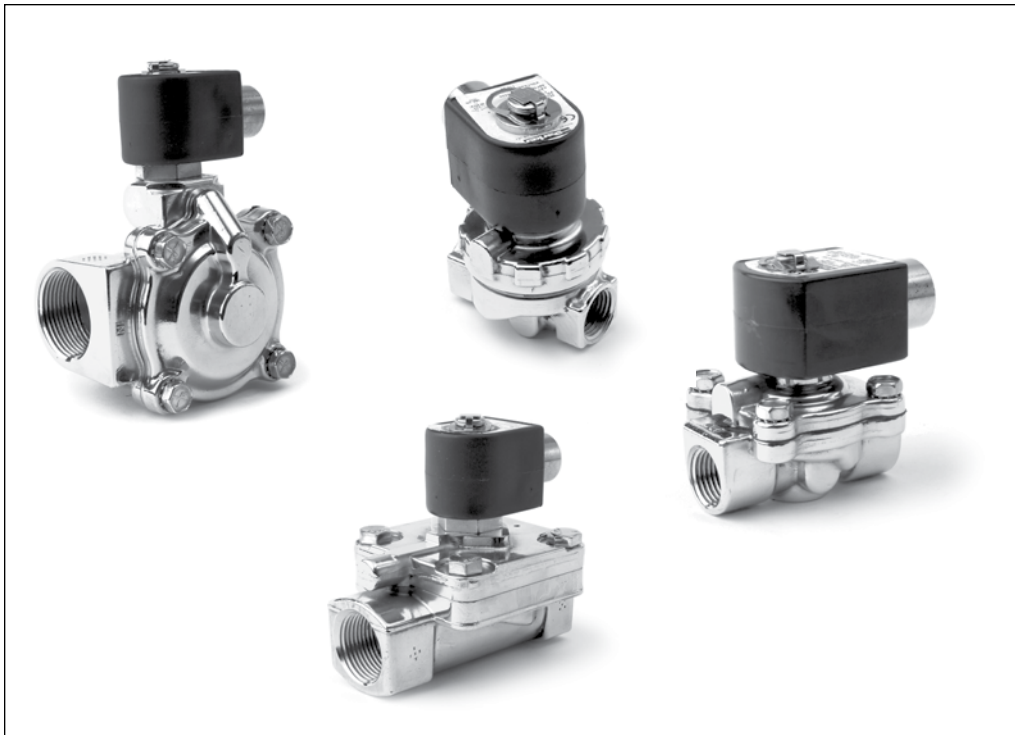
DC –12, 24 & 120

For other voltages – consult factory

### Coil Classification:

Class F standard

Class H available



### Agency Approvals:

Standard valves with NEMA 4X or explosion proof solenoid enclosures are UL Listed and CSA Certified. For additional details, consult factory.

### Maximum Ambient Temperature

150°F

Please refer to page A55 for details.

## Applications:

- Irrigation systems
- Fire suppression equipment
- Molding equipment
- Cooling of machine tools
- Sterilizers
- Car wash
- Water treatment and purification
- Air compressors and dryers
- Floor cleaning equipment
- Hospital equipment
- Automated systems
- Food processing

## 2-Way Internal Pilot Operated - Normally Closed - Brass

| Port Size<br>NPT                   | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal | Pressure Vessel Number | Reference |       |
|------------------------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|------|------------------------|-----------|-------|
|                                    |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |      |                        | Coil      | Valve |
| <b>AC TECHNICAL SPECIFICATIONS</b> |                     |                   |  |                |       |           |      |                        |      |                        |           |       |
| 1/4                                | 1/4                 | 0.76              | 5  | 300            | 300   | 300       | 10   | 185                    | NBR  | 73212BN2MN00           | 7         | A35   |
| 1/4                                | 11/32               | 1.20              | 5  | 300            | 300   | 300       | 6    | 180                    | NBR  | 04F25C2122CAF          | 1         | A54   |
| 1/4                                | 7/16                | 2.00              | 3  | 150            | 150   | 150       | 10   | 185                    | NBR  | 7321KBN2RN00           | 7         | A46   |
| 3/8                                | 11/32               | 1.20              | 5  | 300            | 300   | 300       | 6    | 180                    | NBR  | 06F25C2122CAF          | 1         | A54   |
| 3/8                                | 1/2                 | 2.40              | 5  | 300            | 300   | 300       | 10   | 185                    | NBR  | 73212BN3SN00           | 7         | A32   |
| 3/8                                | 7/16                | 2.50              | 3  | 150            | 150   | 150       | 10   | 185                    | NBR  | 7321KBN3SN00           | 7         | A46   |
| 3/8                                | 5/8                 | 3.00              | 5  | 300            | 300   | 300       | 16   | 175                    | NBR  | 06F22C2140ADF          | 5         | A22   |
| 3/8                                | 1/2                 | 3.00              | 1  | 300            | 235   | 235       | 11   | 180                    | NBR  | 06F25C2132ACF          | 4         | A21   |
| 3/8                                | 5/8                 | 3.00              | 5  | 200            | 135   | 135       | 6    | 180                    | NBR  | 06F22C2140AAF          | 1         | A23   |
| 3/8                                | 5/8                 | 3.00              | 5  | 150            | 150   | 150       | 10   | 185                    | NBR  | 73218BN3TN00           | 7         | A43   |
| 3/8                                | 5/8                 | 3.00              | 0  | 150            | 150   | 150       | 11   | 180                    | NBR  | 06F23C2140ACF*         | 4         | A22   |
| 3/8                                | 5/8                 | 3.00              | 0  | 100            | 100   | 100       | 10   | 185                    | NBR  | 72218BN3TN00*          | 7         | A36   |
| 3/8                                | 19/32               | 4.40              | 0  | 230            | 230   | 230       | 10   | 185                    | NBR  | 7221GBN3VN00*          | 7         | A47   |
| 1/2                                | 7/16                | 2.50              | 3  | 150            | 150   | 150       | 10   | 185                    | NBR  | 7321KBN4SN00           | 7         | A46   |
| 1/2                                | 1/2                 | 2.80              | 5  | 300            | 300   | 300       | 10   | 185                    | NBR  | 73212BN4TN00           | 7         | A32   |
| 1/2                                | 1/2                 | 3.60              | 1  | 300            | 235   | 235       | 11   | 180                    | NBR  | 08F25C2132ACF          | 4         | A21   |
| 1/2                                | 5/8                 | 4.00              | 5  | 300            | 300   | 300       | 16   | 175                    | NBR  | 08F22C2140ADF          | 5         | A22   |
| 1/2                                | 5/8                 | 4.00              | 5  | 250            | 220   | 220       | 11   | 180                    | NBR  | 08F22C2140ACF          | 4         | A22   |
| 1/2                                | 5/8                 | 4.00              | 5  | 200            | 135   | 135       | 6    | 180                    | NBR  | 08F22C2140AAF          | 1         | A23   |
| 1/2                                | 5/8                 | 4.00              | 5  | 150            | 150   | 150       | 10   | 185                    | NBR  | 73218BN4UN00           | 7         | A43   |
| 1/2                                | 5/8                 | 4.00              | 0  | 150            | 150   | 150       | 11   | 180                    | NBR  | 08F23C2140ACF*         | 4         | A22   |
| 1/2                                | 5/8                 | 4.00              | 0  | 100            | 100   | 100       | 10   | 185                    | NBR  | 72218BN4UN00*          | 7         | A36   |
| 1/2                                | 19/32               | 4.40              | 0  | 230            | 230   | 230       | 10   | 185                    | NBR  | 7221GBN4VN00*          | 7         | A47   |
| 3/4                                | 3/4                 | 5.00              | 5  | 150            | 150   | 150       | 10   | 185                    | NBR  | 73218BN5VN00           | 7         | A43   |
| 3/4                                | 3/4                 | 5.00              | 0  | 150            | 150   | 150       | 11   | 180                    | NBR  | 12F23C2148ACF*         | 4         | A25   |
| 3/4                                | 3/4                 | 5.00              | 5  | 125            | 125   | 125       | 6    | 180                    | NBR  | 12F22C2148AAF          | 1         | A24   |
| 3/4                                | 3/4                 | 5.00              | 0  | 100            | 100   | 100       | 10   | 185                    | NBR  | 72218BN5VN00*          | 7         | A36   |
| 3/4                                | 19/32               | 5.50              | 0  | 230            | 230   | 230       | 10   | 185                    | NBR  | 7221GBN51N00*          | 7         | A47   |
| 3/4                                | 3/4                 | 6.50              | 5  | 250            | 150   | 250       | 6    | 180                    | NBR  | 12F24C2148AAF          | 1         | A27   |
| 3/4                                | 3/4                 | 7.30              | 5  | 300            | 300   | 300       | 10   | 185                    | NBR  | 73212BN52N00           | 7         | A33   |
| 3/4                                | 3/4                 | 7.40              | 1  | 300            | 235   | 235       | 11   | 180                    | NBR  | 12F25C2148ACF          | 4         | A28   |
| 3/4                                | 25/32               | 9.60              | 5  | 230            | 230   | 230       | 10   | 185                    | NBR  | 7321GBN53N00           | 7         | A48   |

\*Direct Lift Valves (0 minimum pressure differential) will open at zero differential pressure, however, full flow through the valve will be achieved at approximately 5 psi differential.

## 2-Way Internal Pilot Operated - Normally Closed - Brass (Continued)

| Port Size<br>NPT                   | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal | Pressure Vessel Number | Reference |       |
|------------------------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|------|------------------------|-----------|-------|
|                                    |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |      |                        | Coil      | Valve |
| <b>AC TECHNICAL SPECIFICATIONS</b> |                     |                   |  |                |       |           |      |                        |      |                        |           |       |
| 1                                  | 19/32               | 5.50              | 0  | 230            | 230   | 230       | 10   | 185                    | NBR  | 7221GBN61N00*          | 7         | A47   |
| 1                                  | 1                   | 11.0              | 5  | 300            | 300   | 300       | 10   | 185                    | NBR  | 73212BN63N00           | 7         | A33   |
| 1                                  | 1                   | 11.7              | 0  | 230            | 230   | 230       | 10   | 185                    | NBR  | 7221GBN64N00*          | 7         | A47   |
| 1                                  | 1                   | 12.2              | 1  | 300            | 300   | -         | 11   | 180                    | NBR  | 16F25C2164ACF          | 4         | A30   |
| 1                                  | 1                   | 12.5              | 5  | 230            | 230   | 230       | 10   | 185                    | NBR  | 7321GBN64N00           | 7         | A48   |
| 1                                  | 1                   | 13.0              | 5  | 150            | 150   | 100       | 6    | 180                    | NBR  | 16F24C2164AAF          | 1         | A29   |
| 1                                  | 1 1/16              | 13.5              | 5  | 125            | 125   | 125       | 10   | 185                    | NBR  | 73218BN64N00           | 7         | A44   |
| 1 1/4                              | 1 1/8               | 15.0              | 5  | 150            | 150   | 100       | 6    | 180                    | NBR  | 20F24C2172AAF          | 1         | A29   |
| 1 1/4                              | 1 1/8               | 15.0              | 5  | 125            | 125   | 125       | 10   | 185                    | NBR  | 73218BN75N00           | 7         | A44   |
| 1 1/4                              | 1 1/8               | 19.3              | 5  | 230            | 230   | 230       | 10   | 185                    | NBR  | 7321GBN76N00           | 7         | A48   |
| 1 1/4                              | 1 9/16              | 29.0              | 5  | 230            | 230   | 230       | 10   | 185                    | NBR  | 7321GBN88N00           | 7         | A48   |
| 1 1/2                              | 1 1/4               | 22.5              | 5  | 150            | 150   | 100       | 6    | 180                    | NBR  | 24F24C2180AAF          | 1         | A31   |
| 1 1/2                              | 1 1/4               | 22.5              | 5  | 125            | 125   | 125       | 10   | 185                    | NBR  | 73218BN87N00           | 7         | A42   |
| 2                                  | 1 9/16              | 38.6              | 5  | 230            | 230   | 230       | 10   | 185                    | NBR  | 7321GBN99N00           | 7         | A48   |

\*Direct Lift Valves (0 minimum pressure differential) will open at zero differential pressure, however, full flow through the valve will be achieved at approximately 5 psi differential.

## 2-Way Internal Pilot Operated - Normally Closed - Brass (Continued)

| Port Size<br>NPT                   | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal | Pressure Vessel Number | Reference |       |
|------------------------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|------|------------------------|-----------|-------|
|                                    |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |      |                        | Coil      | Valve |
| <b>DC TECHNICAL SPECIFICATIONS</b> |                     |                   |  |                |       |           |      |                        |      |                        |           |       |
| 1/4                                | 1/4                 | 0.76              | 5  | 300            | 300   | 300       | 10   | 185                    | NBR  | 73212BN2MN00           | 7         | A35   |
| 1/4                                | 11/32               | 1.20              | 5  | 275            | 275   | 275       | 11.5 | 150                    | NBR  | 04F25C2122C3F          | 6         | A54   |
| 1/4                                | 7/16                | 2.00              | 3  | 150            | 150   | 150       | 22   | 185                    | NBR  | 7321KBN2RN00           | 8         | A46   |
| 1/4                                | 7/16                | 2.00              | 3  | 60             | 60    | 60        | 10   | 185                    | NBR  | 7321KBN2RN00           | 7         | A46   |
| 3/8                                | 11/32               | 1.20              | 5  | 275            | 275   | 275       | 11.5 | 150                    | NBR  | 06F25C2122C3F          | 6         | A54   |
| 3/8                                | 1/2                 | 2.40              | 5  | 300            | 300   | 300       | 10   | 185                    | NBR  | 73212BN3SN00           | 7         | A32   |
| 3/8                                | 7/16                | 2.50              | 3  | 150            | 150   | 150       | 22   | 185                    | NBR  | 7321KBN3SN00           | 8         | A46   |
| 3/8                                | 7/16                | 2.50              | 3  | 60             | 60    | 60        | 10   | 185                    | NBR  | 7321KBN3SN00           | 7         | A46   |
| 3/8                                | 5/8                 | 3.00              | 5  | 150            | 150   | 150       | 10   | 185                    | NBR  | 73218BN3TN00           | 7         | A43   |
| 3/8                                | 1/2                 | 3.00              | 1  | 130            | 130   | 130       | 11.5 | 150                    | NBR  | 06F25C2132A3F          | 6         | A21   |
| 3/8                                | 5/8                 | 3.00              | 5  | 125            | 100   | 100       | 11.5 | 150                    | NBR  | 06F22C2140A3F          | 6         | A22   |
| 3/8                                | 5/8                 | 3.00              | 0  | 40             | 40    | 40        | 22   | 185                    | NBR  | 72218BN3TN00*          | 8         | A36   |
| 3/8                                | 5/8                 | 3.00              | 0  | 40             | 40    | -         | 11.5 | 150                    | NBR  | 06F23C2140A3F*         | 6         | A22   |
| 3/8                                | 19/32               | 4.40              | 0  | 100            | 100   | 100       | 22   | 185                    | NBR  | 7221GBN3VN00*          | 8         | A47   |
| 1/2                                | 7/16                | 2.50              | 3  | 150            | 150   | 150       | 22   | 185                    | NBR  | 7321KBN4SN00           | 8         | A46   |
| 1/2                                | 7/16                | 2.50              | 3  | 60             | 60    | 60        | 10   | 185                    | NBR  | 7321KBN4SN00           | 7         | A46   |
| 1/2                                | 1/2                 | 2.80              | 5  | 300            | 300   | 300       | 10   | 185                    | NBR  | 73212BN4TN00           | 7         | A32   |
| 1/2                                | 1/2                 | 3.60              | 1  | 130            | 130   | 130       | 11.5 | 150                    | NBR  | 08F25C2132A3F          | 6         | A21   |
| 1/2                                | 5/8                 | 4.00              | 5  | 150            | 150   | 150       | 10   | 185                    | NBR  | 73218BN4UN00           | 7         | A43   |
| 1/2                                | 5/8                 | 4.00              | 5  | 125            | 100   | 100       | 11.5 | 150                    | NBR  | 08F22C2140A3F          | 6         | A22   |
| 1/2                                | 5/8                 | 4.00              | 0  | 40             | 40    | 40        | 22   | 185                    | NBR  | 72218BN4UN00*          | 8         | A36   |
| 1/2                                | 5/8                 | 4.00              | 0  | 40             | 40    | -         | 11.5 | 150                    | NBR  | 08F23C2140A3F*         | 6         | A22   |
| 1/2                                | 19/32               | 4.40              | 0  | 100            | 100   | 100       | 22   | 185                    | NBR  | 7221GBN4VN00*          | 8         | A47   |
| 3/4                                | 3/4                 | 5.00              | 5  | 150            | 150   | 150       | 10   | 185                    | NBR  | 73218BN5VN00           | 7         | A43   |
| 3/4                                | 3/4                 | 5.00              | 5  | 100            | 90    | 75        | 11.5 | 180                    | NBR  | 12F22C2148A3F          | 6         | A25   |
| 3/4                                | 3/4                 | 5.00              | 0  | 40             | 40    | 40        | 22   | 185                    | NBR  | 72218BN5VN00*          | 8         | A36   |
| 3/4                                | 3/4                 | 5.00              | 0  | 40             | 40    | -         | 11.5 | 150                    | NBR  | 12F23C2148A3F*         | 6         | A25   |
| 3/4                                | 19/32               | 5.50              | 0  | 100            | 100   | 100       | 22   | 185                    | NBR  | 7221GBN51N00*          | 8         | A47   |
| 3/4                                | 3/4                 | 6.50              | 5  | 125            | 125   | 125       | 11.5 | 150                    | NBR  | 12F24C2148A3F          | 6         | A26   |
| 3/4                                | 3/4                 | 7.30              | 5  | 300            | 300   | 300       | 10   | 185                    | NBR  | 73212BN52N00           | 7         | A33   |
| 3/4                                | 25/32               | 9.60              | 5  | 230            | 230   | 230       | 10   | 185                    | NBR  | 7321GBN53N00           | 7         | A48   |

\*Direct Lift Valves (0 minimum pressure differential) will open at zero differential pressure, however, full flow through the valve will be achieved at approximately 5 psi differential.



## 2-Way Internal Pilot Operated - Normally Closed - Brass (Continued)

| Port Size<br>NPT                   | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal | Pressure Vessel Number | Reference |       |
|------------------------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|------|------------------------|-----------|-------|
|                                    |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |      |                        | Coil      | Valve |
| <b>DC TECHNICAL SPECIFICATIONS</b> |                     |                   |  |                |       |           |      |                        |      |                        |           |       |
| 1                                  | 19/32               | 5.50              | 0  | 100            | 100   | 100       | 22   | 185                    | NBR  | 7221GBN61N00*          | 8         | A47   |
| 1                                  | 1                   | 11.0              | 5  | 300            | 300   | 300       | 10   | 185                    | NBR  | 73212BN63N00           | 7         | A33   |
| 1                                  | 1                   | 11.7              | 0  | 85             | 85    | 85        | 22   | 185                    | NBR  | 7221GBN64N00*          | 8         | A47   |
| 1                                  | 1                   | 12.2              | 1  | 275            | 275   | 275       | 11.5 | 180                    | NBR  | 16F25C2164A3F          | 6         | A30   |
| 1                                  | 1                   | 12.5              | 5  | 230            | 230   | 230       | 10   | 185                    | NBR  | 7321GBN64N00           | 7         | A48   |
| 1                                  | 1                   | 13.0              | 5  | 125            | 125   | 125       | 11.5 | 150                    | NBR  | 16F24C2164A3F          | 6         | A29   |
| 1                                  | 1 1/16              | 13.5              | 5  | 125            | 125   | 125       | 10   | 185                    | NBR  | 73218BN64N00           | 7         | A44   |
| 1 1/4                              | 1 1/8               | 19.3              | 5  | 230            | 230   | 230       | 10   | 185                    | NBR  | 7321GBN76N00           | 7         | A48   |
| 1 1/4                              | 1 1/8               | 15.0              | 5  | 125            | 125   | 125       | 11.5 | 150                    | NBR  | 20F24C2172A3F          | 6         | A29   |
| 1 1/4                              | 1 1/8               | 15.0              | 5  | 125            | 125   | 125       | 10   | 185                    | NBR  | 73218BN75N00           | 7         | A44   |
| 1 1/2                              | 1 1/4               | 22.5              | 5  | 125            | 125   | 125       | 11.5 | 150                    | NBR  | 24F24C2180A3F          | 6         | A31   |
| 1 1/2                              | 1 1/4               | 22.5              | 5  | 125            | 125   | 125       | 10   | 185                    | NBR  | 73218BN87N00           | 7         | A42   |
| 1 1/2                              | 1 9/16              | 29.0              | 5  | 230            | 230   | 230       | 22   | 185                    | NBR  | 7321GBN88N00           | 8         | A48   |
| 1 1/2                              | 1 9/16              | 29.0              | 5  | 200            | 200   | 200       | 10   | 185                    | NBR  | 7321GBN88N00           | 7         | A48   |
| 2                                  | 1 9/16              | 38.6              | 5  | 230            | 230   | 230       | 22   | 185                    | NBR  | 7321GBN99N00           | 8         | A48   |
| 2                                  | 1 9/16              | 38.6              | 5  | 200            | 200   | 200       | 10   | 185                    | NBR  | 7321GBN99N00           | 7         | A48   |

\*Direct Lift Valves (0 minimum pressure differential) will open at zero differential pressure, however, full flow through the valve will be achieved at approximately 5 psi differential.

**2-Way Internal Pilot Operated - Normally Closed - Stainless Steel**

| Port Size<br>NPT | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal | Pressure Vessel Number | Reference |       |
|------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|------|------------------------|-----------|-------|
|                  |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |      |                        | Coil      | Valve |

**AC TECHNICAL SPECIFICATIONS**

|       |       |       |   |     |     |     |    |     |     |                |   |     |
|-------|-------|-------|---|-----|-----|-----|----|-----|-----|----------------|---|-----|
| 1/4   | 1/4   | 0.76  | 5 | 300 | 300 | 300 | 10 | 185 | NBR | 73212SN2MN00   | 7 | A38 |
| 3/8   | 5/8   | 3.00  | 5 | 300 | 300 | 300 | 16 | 175 | NBR | 06F22C6140ADF  | 5 | A22 |
| 3/8   | 5/8   | 3.00  | 0 | 150 | 150 | 150 | 11 | 180 | NBR | 06F23C6140ACF* | 4 | A22 |
| 3/8   | 5/8   | 3.00  | 0 | 100 | 100 | 100 | 10 | 185 | FKM | 72218RN3TV00*  | 7 | A36 |
| 1/2   | 1/2   | 4.00  | 5 | 300 | 300 | 300 | 16 | 175 | NBR | 08F22C6140ADF  | 5 | A22 |
| 1/2   | 1/2   | 4.00  | 0 | 150 | 150 | 150 | 11 | 180 | NBR | 08F23C6140ACF* | 4 | A22 |
| 1/2   | 5/8   | 4.00  | 0 | 100 | 100 | 100 | 10 | 185 | FKM | 72218RN4UV00*  | 7 | A36 |
| 3/4   | 3/4   | 5.00  | 5 | 300 | 300 | 300 | 16 | 175 | NBR | 12F22C6148ADF  | 5 | A25 |
| 3/4   | 3/4   | 5.00  | 0 | 150 | 150 | 150 | 11 | 180 | NBR | 12F23C6148ACF* | 4 | A25 |
| 3/4   | 3/4   | 5.00  | 0 | 100 | 100 | 100 | 10 | 185 | FKM | 72218RN5VV00*  | 7 | A36 |
| 1     | 1     | 13.00 | 5 | 150 | 150 | 100 | 6  | 180 | NBR | 16F24C6164AAF  | 1 | A29 |
| 1 1/2 | 1 1/4 | 22.50 | 5 | 150 | 150 | 100 | 6  | 180 | NBR | 24F24C6180AAF  | 1 | A31 |

**DC TECHNICAL SPECIFICATIONS**

|       |       |       |   |     |     |     |      |     |     |                |   |     |
|-------|-------|-------|---|-----|-----|-----|------|-----|-----|----------------|---|-----|
| 1/4   | 1/4   | 0.76  | 5 | 300 | 300 | 300 | 10   | 185 | NBR | 73212SN2MN00   | 7 | A38 |
| 3/8   | 5/8   | 3.00  | 5 | 125 | 100 | 100 | 11.5 | 150 | NBR | 06F22C6140A3F  | 6 | A22 |
| 3/8   | 5/8   | 3.00  | 0 | 40  | 40  | 40  | 22   | 185 | FKM | 72218RN3TV00*  | 8 | A36 |
| 3/8   | 5/8   | 3.00  | 0 | 40  | 40  | -   | 11.5 | 150 | NBR | 06F23C6140A3F* | 6 | A22 |
| 1/2   | 1/2   | 4.00  | 5 | 125 | 100 | 100 | 11.5 | 150 | NBR | 08F22C6140A3F  | 6 | A22 |
| 1/2   | 5/8   | 4.00  | 0 | 40  | 40  | 40  | 22   | 185 | FKM | 72218RN4UV00*  | 8 | A36 |
| 1/2   | 1/2   | 4.00  | 0 | 40  | 40  | -   | 11.5 | 150 | NBR | 08F23C6140A3F* | 6 | A22 |
| 3/4   | 3/4   | 5.00  | 5 | 100 | 90  | 75  | 11.5 | 150 | NBR | 12F22C6148A3F  | 6 | A25 |
| 3/4   | 3/4   | 5.00  | 0 | 40  | 40  | 40  | 22   | 185 | FKM | 72218RN5VV00*  | 8 | A36 |
| 3/4   | 3/4   | 5.00  | 0 | 40  | 40  | -   | 11.5 | 150 | NBR | 12F23C6148A3F* | 6 | A25 |
| 1     | 1     | 13.00 | 5 | 125 | 125 | 125 | 11.5 | 150 | NBR | 16F24C6164A3F  | 6 | A29 |
| 1 1/2 | 1 1/4 | 22.50 | 5 | 125 | 125 | 125 | 11.5 | 150 | NBR | 24F24C6180A3F  | 6 | A31 |

\*Direct Lift Valves (0 minimum pressure differential) will open at zero differential pressure, however, full flow through the valve will be achieved at approximately 5 psi differential.



## 2-Way Internal Pilot Operated - Normally Open - Brass

| Port Size<br>NPT                   | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal | Pressure Vessel Number | Reference |       |
|------------------------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|------|------------------------|-----------|-------|
|                                    |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |      |                        | Coil      | Valve |
| <b>AC TECHNICAL SPECIFICATIONS</b> |                     |                   |  |                |       |           |      |                        |      |                        |           |       |
| 1/4                                | 1/4                 | 0.76              | 5  | 200            | 200   | 200       | 10   | 185                    | NBR  | 73222BN2MN00           | 7         | A35   |
| 1/4                                | 11/32               | 1.20              | 5  | 300            | 300   | 300       | 11   | 180                    | NBR  | 04F25O2122CCF          | 4         | A54   |
| 3/8                                | 1/2                 | 2.40              | 5  | 200            | 200   | 200       | 10   | 185                    | NBR  | 73222BN3SN00           | 7         | A49   |
| 3/8                                | 1/2                 | 3.00              | 1  | 200            | 175   | 175       | 11   | 180                    | NBR  | 06F25O2132ACF          | 4         | A21   |
| 3/8                                | 5/8                 | 3.00              | 0  | 150            | 150   | 150       | 11   | 150                    | NBR  | 06F23O2140ACF*         | 4         | A51   |
| 3/8                                | 5/8                 | 3.00              | 5  | 150            | 150   | 150       | 10   | 185                    | NBR  | 73228BN3TN00           | 7         | A40   |
| 3/8                                | 5/8                 | 3.00              | 0  | 125            | 125   | 125       | 22   | 185                    | FKM  | 72228BN3TV00*          | 8         | A37   |
| 1/2                                | 1/2                 | 2.80              | 5  | 200            | 200   | 200       | 10   | 185                    | NBR  | 73222BN4TN00           | 7         | A49   |
| 1/2                                | 1/2                 | 3.60              | 1  | 200            | 175   | 175       | 11   | 180                    | NBR  | 08F25O2132ACF          | 4         | A21   |
| 1/2                                | 5/8                 | 4.00              | 5  | 150            | 150   | 150       | 10   | 185                    | NBR  | 73228BN4UN00           | 7         | A40   |
| 1/2                                | 5/8                 | 4.00              | 0  | 150            | 150   | 150       | 11   | 150                    | NBR  | 08F23O2140ACF*         | 4         | A51   |
| 1/2                                | 1/2                 | 4.00              | 0  | 125            | 125   | 125       | 22   | 185                    | FKM  | 72228BN4UV00*          | 8         | A37   |
| 3/4                                | 3/4                 | 5.00              | 5  | 150            | 150   | 150       | 10   | 185                    | NBR  | 73228BN5VN00           | 7         | A40   |
| 3/4                                | 3/4                 | 5.00              | 0  | 125            | 125   | 125       | 22   | 185                    | FKM  | 72228BN5VV00*          | 8         | A37   |
| 3/4                                | 3/4                 | 5.50              | 0  | 150            | 150   | 150       | 11   | 180                    | NBR  | 12F23O2148ACF*         | 4         | A52   |
| 3/4                                | 3/4                 | 6.50              | 5  | 250            | 200   | 200       | 11   | 180                    | NBR  | 12F24O2148ACF          | 4         | A26   |
| 3/4                                | 3/4                 | 7.30              | 5  | 200            | 200   | 200       | 10   | 185                    | NBR  | 73222BN52N00           | 7         | A50   |
| 3/4                                | 3/4                 | 7.40              | 1  | 275            | 275   | 275       | 11   | 180                    | NBR  | 12F25O2148ACF          | 4         | A28   |
| 3/4                                | 25/32               | 9.60              | 5  | 230            | 230   | 230       | 10   | 185                    | NBR  | 7322GBN53N00           | 7         | A48   |
| 1                                  | 1                   | 11.00             | 5  | 200            | 200   | 200       | 10   | 185                    | NBR  | 73222BN63N00           | 7         | A50   |
| 1                                  | 1                   | 12.20             | 1  | 300            | 250   | 230       | 11   | 180                    | NBR  | 16F25O2164ACF          | 4         | A30   |
| 1                                  | 1                   | 12.50             | 5  | 230            | 230   | 230       | 10   | 185                    | NBR  | 7322GBN64N00           | 7         | A48   |
| 1                                  | 1                   | 13.00             | 5  | 125            | 125   | 125       | 11   | 180                    | NBR  | 16F24O2164ACF          | 4         | A29   |
| 1                                  | 1 1/16              | 13.50             | 5  | 125            | 125   | 125       | 10   | 185                    | NBR  | 73228BN64N00           | 7         | A41   |
| 1 1/4                              | 1 1/8               | 15.00             | 5  | 125            | 125   | 125       | 11   | 180                    | NBR  | 20F24O2172ACF          | 4         | A29   |
| 1 1/4                              | 1 1/8               | 15.00             | 5  | 125            | 125   | 125       | 10   | 185                    | NBR  | 73228BN75N00           | 7         | A41   |
| 1 1/4                              | 1 1/8               | 19.30             | 5  | 230            | 230   | 230       | 10   | 185                    | NBR  | 7322GBN76N00           | 7         | A48   |
| 1 1/2                              | 1.25                | 22.50             | 5  | 125            | 125   | 125       | 11   | 180                    | NBR  | 24F24O2180ACF          | 4         | A31   |
| 1 1/2                              | 1.25                | 22.50             | 5  | 125            | 125   | 125       | 10   | 185                    | NBR  | 73228BN87N00           | 7         | A42   |
| 1 1/2                              | 1 9/16              | 29.00             | 5  | 170            | 170   | 170       | 10   | 185                    | NBR  | 7322GBN88N00           | 7         | A48   |
| 2                                  | 1 9/16              | 38.60             | 5  | 170            | 170   | 170       | 10   | 185                    | NBR  | 7322GBN99N00           | 7         | A48   |

\*See note on A32.

## 2-Way Internal Pilot Operated - Normally Open - Brass (Continued)

| Port Size<br>NPT                   | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal | Pressure Vessel Number | Reference |       |
|------------------------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|------|------------------------|-----------|-------|
|                                    |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |      |                        | Coil      | Valve |
| <b>DC TECHNICAL SPECIFICATIONS</b> |                     |                   |  |                |       |           |      |                        |      |                        |           |       |
| 1/4                                | 1/4                 | 0.76              | 5  | 200            | 200   | 200       | 10   | 185                    | NBR  | 73222BN2MN00           | 7         | A35   |
| 1/4                                | 11/32               | 1.20              | 5  | 160            | 160   | 160       | 11.5 | 150                    | NBR  | 04F25O2122C3F          | 6         | A54   |
| 3/8                                | 1/2                 | 2.40              | 5  | 200            | 200   | 200       | 10   | 185                    | NBR  | 73222BN3SN00           | 7         | A49   |
| 3/8                                | 5/8                 | 3.00              | 5  | 150            | 150   | 150       | 10   | 185                    | NBR  | 73228BN3TN00           | 7         | A40   |
| 3/8                                | 5/8                 | 3.00              | 0  | 125            | 125   | 80        | 11.5 | 150                    | NBR  | 06F23O2140A3F*         | 6         | A51   |
| 3/8                                | 5/8                 | 3.00              | 0  | 125            | 125   | 125       | 22   | 185                    | FKM  | 72228BN3TV00*          | 8         | A37   |
| 1/2                                | 1/2                 | 2.80              | 5  | 200            | 200   | 200       | 10   | 185                    | NBR  | 73222BN4TN00           | 7         | A49   |
| 1/2                                | 5/8                 | 4.00              | 5  | 150            | 150   | 150       | 10   | 185                    | NBR  | 73228BN4UN00           | 7         | A40   |
| 1/2                                | 1/2                 | 4.00              | 0  | 125            | 125   | 125       | 22   | 185                    | FKM  | 72228BN4UV00*          | 8         | A37   |
| 1/2                                | 5/8                 | 4.00              | 0  | 125            | 125   | 80        | 11.5 | 150                    | NBR  | 08F23O2140A3F*         | 6         | A51   |
| 1/2                                | 1/2                 | 12.70             | 5  | 200            | 175   | 175       | 11.5 | 180                    | NBR  | 08F25O2132C3F          | 6         | A21   |
| 3/4                                | 3/4                 | 5.00              | 5  | 150            | 150   | 150       | 10   | 185                    | NBR  | 73228BN5VN00           | 7         | A40   |
| 3/4                                | 3/4                 | 5.00              | 0  | 125            | 125   | 125       | 22   | 185                    | FKM  | 72228BN5VV00*          | 8         | A37   |
| 3/4                                | 3/4                 | 5.50              | 0  | 125            | 125   | 80        | 11.5 | 150                    | NBR  | 12F23O2148A3F*         | 6         | A52   |
| 3/4                                | 3/4                 | 7.30              | 5  | 200            | 200   | 200       | 10   | 185                    | NBR  | 73222BN52N00           | 7         | A50   |
| 3/4                                | 25/32               | 9.60              | 5  | 230            | 230   | 230       | 10   | 185                    | NBR  | 7322GBN53N00           | 7         | A48   |
| 1                                  | 1                   | 11.00             | 5  | 200            | 200   | 200       | 10   | 185                    | NBR  | 73222BN63N00           | 7         | A50   |
| 1                                  | 1                   | 12.50             | 5  | 230            | 230   | 230       | 10   | 185                    | NBR  | 7322GBN64N00           | 7         | A48   |
| 1                                  | 1                   | 13.00             | 5  | 125            | 125   | 125       | 11.5 | 180                    | NBR  | 16F24O2164A3F          | 6         | A29   |
| 1                                  | 1 1/16              | 13.50             | 5  | 125            | 125   | 125       | 10   | 185                    | NBR  | 73228BN64N00           | 7         | A41   |
| 1 1/4                              | 1 1/8               | 15.00             | 5  | 125            | 125   | 125       | 10   | 185                    | NBR  | 73228BN75N00           | 7         | A41   |
| 1 1/4                              | 1 1/8               | 19.30             | 5  | 230            | 230   | 230       | 10   | 185                    | NBR  | 7322GBN76N00           | 7         | A48   |
| 1 1/2                              | 1 1/4               | 22.50             | 5  | 125            | 125   | 125       | 11.5 | 180                    | NBR  | 24F24O2180A3F          | 6         | A31   |
| 1 1/2                              | 1 1/4               | 22.50             | 5  | 125            | 125   | 125       | 10   | 185                    | NBR  | 73228BN87N00           | 7         | A42   |
| 1 1/2                              | 1 9/16              | 29.00             | 5  | 170            | 170   | 170       | 10   | 185                    | NBR  | 7322GBN88N00           | 7         | A48   |
| 2                                  | 1 9/16              | 38.60             | 5  | 170            | 170   | 170       | 10   | 185                    | NBR  | 7322GBN99N00           | 7         | A48   |

\*Direct Lift Valves (0 minimum pressure differential) will open at zero differential pressure, however, full flow through the valve will be achieved at approximately 5 psi differential.

**2-Way Internal Pilot Operated - Normally Open - Stainless Steel**

| Port Size<br>NPT                   | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal | Pressure Vessel Number | Reference |       |
|------------------------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|------|------------------------|-----------|-------|
|                                    |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |      |                        | Coil      | Valve |
| <b>AC TECHNICAL SPECIFICATIONS</b> |                     |                   |  |                |       |           |      |                        |      |                        |           |       |
| 1/4                                | 1/4                 | 0.76              | 5  | 200            | 200   | 200       | 10   | 185                    | NBR  | 73222SN2MN00           | 7         | A39   |
| 3/8                                | 5/8                 | 3.00              | 0  | 150            | 150   | 150       | 11   | 175                    | NBR  | 06F23O6140ACF*         | 4         | A51   |
| 3/8                                | 5/8                 | 3.00              | 0  | 125            | 125   | 125       | 22   | 185                    | FKM  | 72228RN3TV00*          | 8         | A37   |
| 1/2                                | 1/2                 | 4.00              | 0  | 150            | 150   | 150       | 11   | 175                    | NBR  | 08F23O6140ACF*         | 4         | A51   |
| 1/2                                | 1/2                 | 4.00              | 0  | 125            | 125   | 125       | 22   | 185                    | FKM  | 72228RN4UV00*          | 8         | A37   |
| 3/4                                | 3/4                 | 5.00              | 0  | 150            | 150   | 150       | 11   | 175                    | NBR  | 12F23O6148ACF*         | 4         | A52   |
| 3/4                                | 3/4                 | 5.00              | 0  | 125            | 125   | 125       | 22   | 185                    | FKM  | 72228RN5VV00*          | 8         | A37   |
| 1                                  | 1                   | 13.00             | 5  | 125            | 125   | 125       | 11   | 180                    | NBR  | 16F24O6164ACF          | 4         | A29   |
| 1 1/2                              | 1 1/4               | 22.50             | 5  | 125            | 125   | 125       | 11   | 180                    | NBR  | 24F24O6180ACF          |           | A31   |
| <b>DC TECHNICAL SPECIFICATIONS</b> |                     |                   |  |                |       |           |      |                        |      |                        |           |       |
| 1/4                                | 1/4                 | 0.76              | 5  | 200            | 200   | 200       | 10   | 185                    | NBR  | 73222SN2MN00           | 7         | A39   |
| 3/8                                | 5/8                 | 3.00              | 0  | 125            | 125   | 125       | 22   | 185                    | FKM  | 72228RN3TV00*          | 8         | A37   |
| 3/8                                | 5/8                 | 3.00              | 0  | 125            | 125   | 80        | 11.5 | 150                    | NBR  | 06F23O6140A3F*         | 6         | A51   |
| 1/2                                | 1/2                 | 4.00              | 0  | 125            | 125   | 125       | 22   | 185                    | FKM  | 72228RN4UV00*          | 8         | A37   |
| 1/2                                | 1/2                 | 4.00              | 0  | 125            | 125   | 80        | 11.5 | 150                    | NBR  | 08F23O6140A3F*         | 6         | A51   |
| 3/4                                | 3/4                 | 5.00              | 0  | 125            | 125   | 125       | 22   | 185                    | FKM  | 72228RN5VV00*          | 8         | A37   |
| 3/4                                | 3/4                 | 5.00              | 0  | 125            | 125   | 80        | 11.5 | 150                    | NBR  | 12F23O6148A3F*         | 6         | A52   |
| 1                                  | 1                   | 13.00             | 5  | 125            | 125   | 125       | 11.5 | 150                    | NBR  | 16F24O6164A3F          | 6         | A29   |
| 1 1/2                              | 1 1/4               | 22.50             | 5  | 125            | 125   | 125       | 11.5 | 150                    | NBR  | 24F24O6180A3F          | 6         | A31   |

**\*Direct Lift Valves (0 minimum pressure differential) will open at zero differential pressure, however, full flow through the valve will be achieved at approximately 5 psi differential.**

**2-Way External Pilot Operated\* - Universal - Brass**

| Port Size<br>NPT | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal | Pressure Vessel Number | Reference |       |
|------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|------|------------------------|-----------|-------|
|                  |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |      |                        | Coil      | Valve |

**AC TECHNICAL SPECIFICATIONS**

|     |     |       |   |     |     |     |    |     |     |              |   |     |
|-----|-----|-------|---|-----|-----|-----|----|-----|-----|--------------|---|-----|
| 3/8 | 1/2 | 2.40  | 0 | 150 | 150 | 150 | 10 | 185 | NBR | 74232BN3SNJ1 | 7 | A45 |
| 1/2 | 1/2 | 2.80  | 0 | 150 | 150 | 150 | 10 | 185 | NBR | 74232BN4TNJ1 | 7 | A45 |
| 3/4 | 3/4 | 7.30  | 0 | 150 | 150 | 150 | 10 | 185 | NBR | 74232BN52NJ1 | 7 | A34 |
| 1   | 1   | 11.00 | 0 | 150 | 150 | 150 | 10 | 185 | NBR | 74232BN63NJ1 | 7 | A34 |

**DC TECHNICAL SPECIFICATIONS**

|     |     |       |   |     |     |     |    |     |     |              |   |     |
|-----|-----|-------|---|-----|-----|-----|----|-----|-----|--------------|---|-----|
| 3/8 | 1/2 | 2.40  | 0 | 150 | 150 | 150 | 10 | 185 | NBR | 74232BN3SNJ1 | 7 | A45 |
| 1/2 | 1/2 | 2.80  | 0 | 150 | 150 | 150 | 10 | 185 | NBR | 74232BN4TNJ1 | 7 | A45 |
| 3/4 | 3/4 | 7.30  | 0 | 150 | 150 | 150 | 10 | 185 | NBR | 74232BN52NJ1 | 7 | A34 |
| 1   | 1   | 11.00 | 0 | 150 | 150 | 150 | 10 | 185 | NBR | 74232BN63NJ1 | 7 | A34 |

\*External pilot pressure valves require a minimum external pilot pressure equal to the main line pressure plus 10 psi. Maximum external pilot pressure is 145 psi for vacuum applications and 160 psi for pressure applications. (Pressure ratings may be reduced, however. Consult factory for details.)

**2-Way Remote Pressure Operated Valves - Universal - Brass, NBR Seals**

| Port Size<br>NPT | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal | Pressure Vessel Number | Reference |       |
|------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|------|------------------------|-----------|-------|
|                  |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |      |                        | Coil      | Valve |
| 3/8              | 1/2                 | 2.4               | 0  | 190            | 190   | 190       | --   | 185                    |      | 75232BN3SN00           | -         | A55   |
| 1/2              | 1/2                 | 2.8               | 0  | 190            | 190   | 190       | --   | 185                    |      | 75232BN4TN00           | -         | A55   |
| 3/4              | 3/4                 | 7.3               | 0  | 190            | 190   | 190       | --   | 185                    |      | 75232BN52N00           | -         | A55   |

**2-Way Remote Operated Valve Port Connections**

| Valve Type      | Main Line Supply | Remote Control Valve Hookup |             |                                  | 3-Way Pilot Valve Hookup           |                    |  |
|-----------------|------------------|-----------------------------|-------------|----------------------------------|------------------------------------|--------------------|--|
|                 |                  | IN Port                     | OUT Port    | Pilot Inlet Port<br>1/8" NPT     | Normally Closed Port               | Normally Open Port | Common Port  |
| Normally Open   | 0-190 PSIG       | IN                          | OUT         | Common Port of 3-Way Pilot Valve | Main Line Pressure<br>+10 PSI Min. | Pilot Exhaust      | Pilot IN Port<br>(1/8" NPT)<br>of Remote Control Valve |
| Normally Open   | Vacuum           | Non-Vacuum Pump             | Vacuum Pump |                                  | Main Line Pressure<br>+10 PSI Min. | Vacuum             |  |
| Normally Closed | 0-190 PSIG       | IN                          | OUT         |                                  |                                    |                    |  |
| Normally Closed | Vacuum           | Non-Vacuum Pump             | Vacuum Pump |                                  |                                    |                    |  |

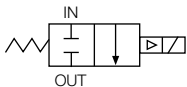
\* To assure long, trouble free life, the Pilot IN to main pressure differential should not exceed 200 PSIG.

**NOTE:** This valve is its normal state, without piloting, is normally open.

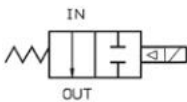
**NOTE:** These valves do not have an electrical operator, therefore, No enclosure and/or coil selection is required.



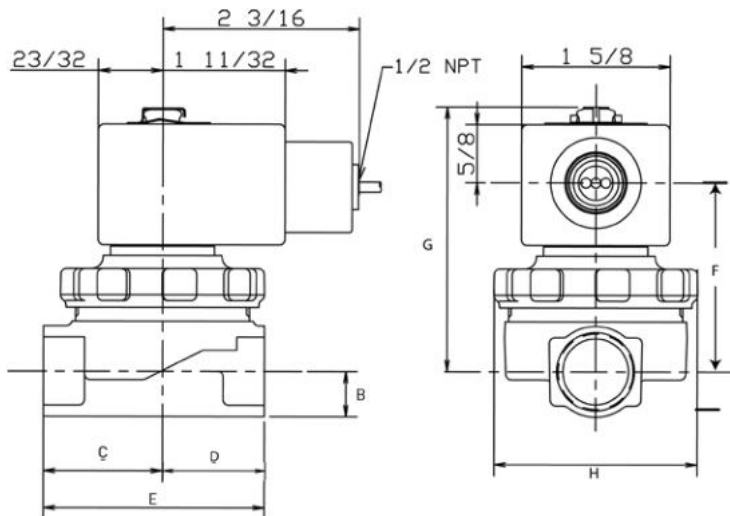
## Valve Reference A21



2-Way Normally Closed  
06F25C, 08F25C

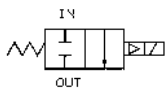


2-Way Normally Open  
06F250, 08F250  
Port Identification:  
In-In/Out-Out

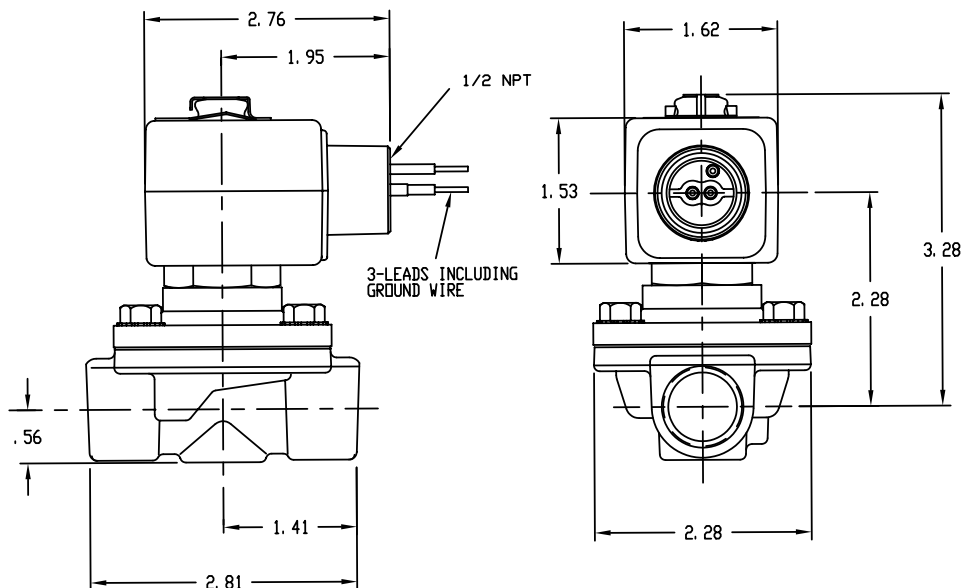


| Valve  | Dimensions |        |       |        |        |         |       |
|--|------------|--------|-------|--------|--------|---------|-------|
|  | B          | C      | D     | E      | F      | G       | H     |
| 06F25C2132ACF<br>08F25C2132ACF<br>06F25C2132A3F<br>08F25C2132A3F | 1/2        | 1 5/16 | 1 1/8 | 2 7/16 | 2 5/16 | 2 29/32 | 2 1/4 |
| 06F25O2132ACF<br>08F25O2132ACF<br>08F25O2132A3F                  | 1/2        | 1 5/16 | 1 1/8 | 2 7/16 | 2 7/32 | 2 29/32 | 2 1/4 |

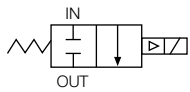
## Valve Reference A22



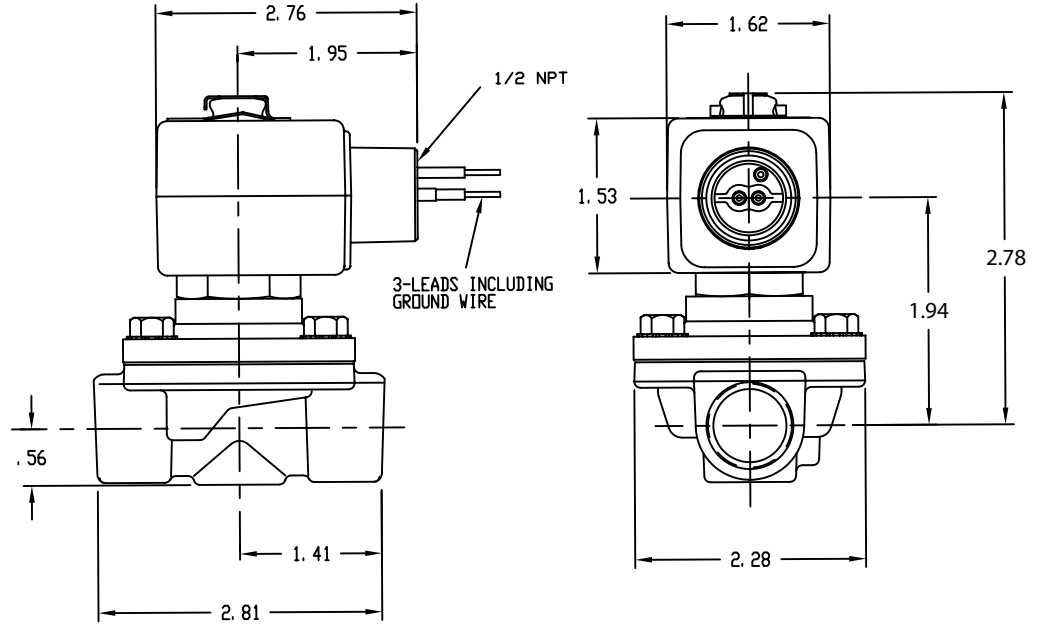
2-Way Normally Closed  
Port Identification:  
In-In/Out-Out



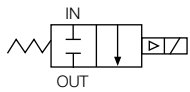
## Valve Reference A23



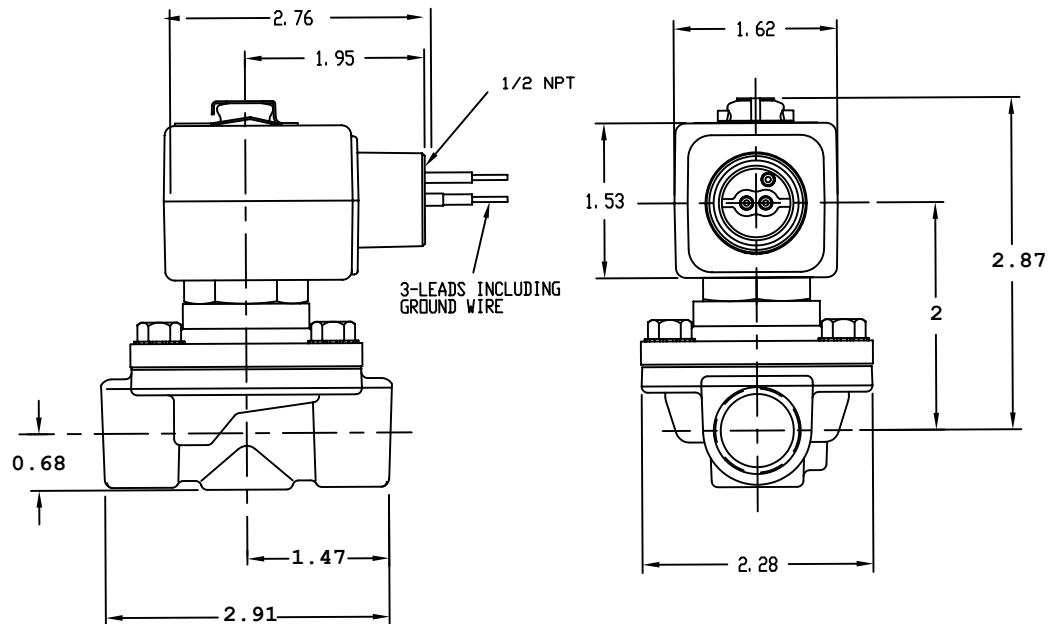
2-Way Normally Closed  
Port Identification:  
In-In/Out-Out



## Valve Reference A24

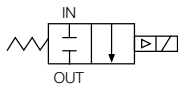


2-Way Normally Closed  
Port Identification:  
In-In/Out-Out

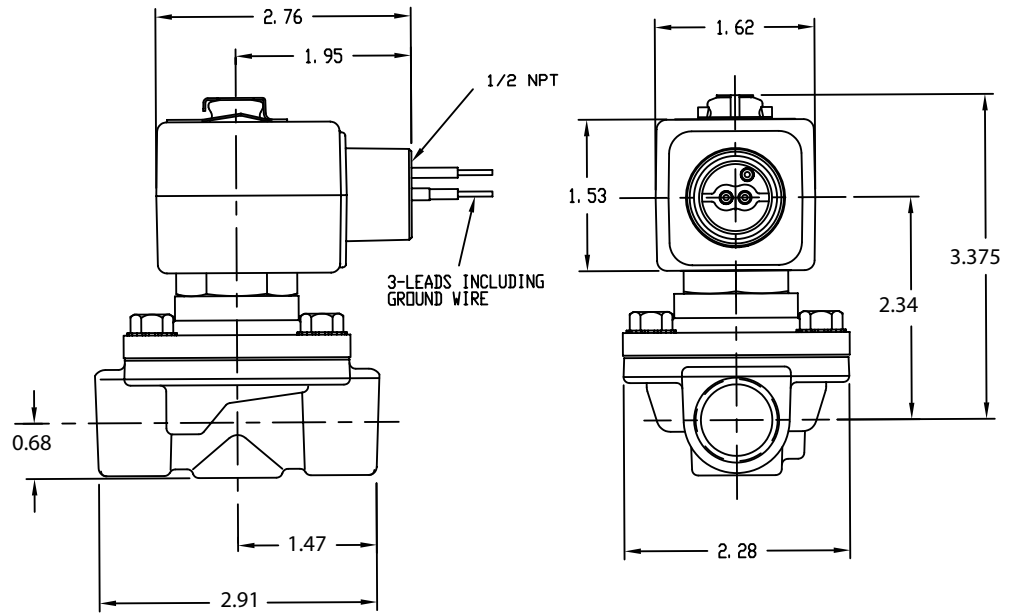




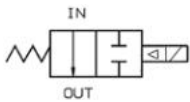
# Valve Reference A25



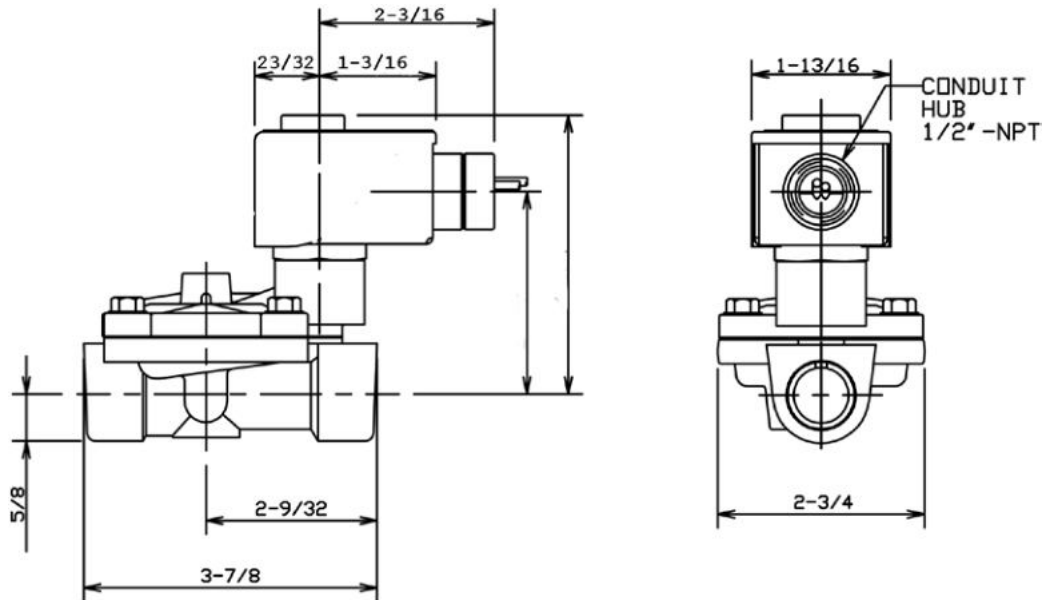
2-Way Normally Closed  
Port Identification:  
In-In/Out-Out



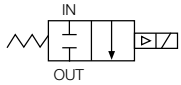
# Valve Reference A26



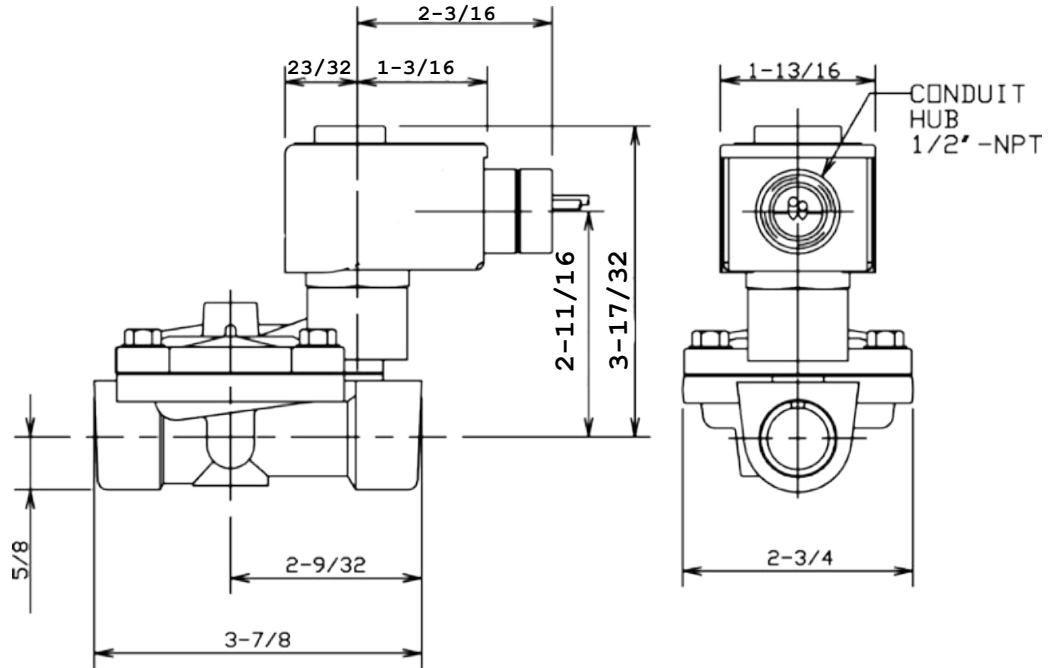
2-Way Normally Open  
Port Identification:  
In-In/Out-Out



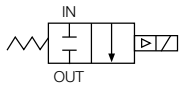
## Valve Reference A27



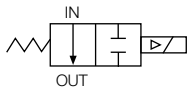
2-Way Normally Closed:  
Port Identification:  
In-In/Out-Out



## Valve Reference A28

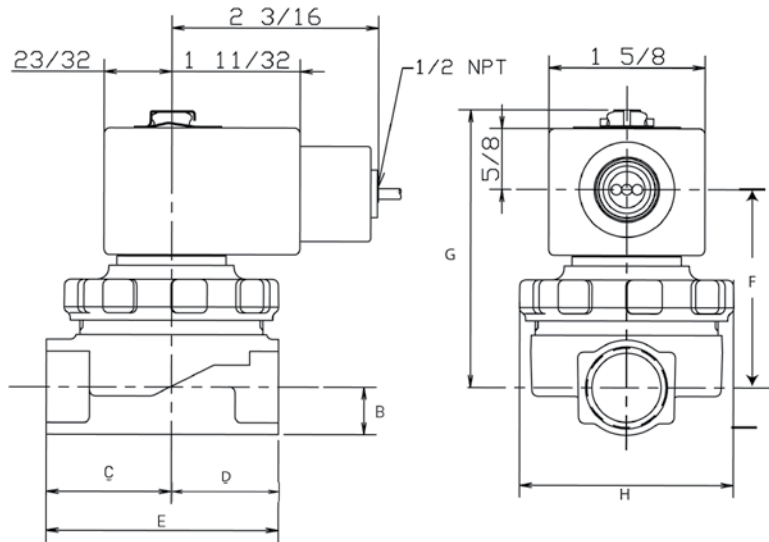


2-Way Normally Closed:  
12F25Cxx



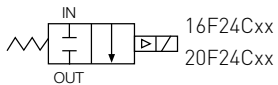
2-Way Normally Open:  
12F250xx

Port Identification:  
In-In/Out-Out

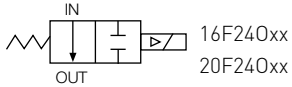


| Valve         | Dimensions |       |       |       |         |         |         |
|---------------|------------|-------|-------|-------|---------|---------|---------|
|               | B          | C     | D     | E     | F       | G       | H       |
| 12F25C2148ACF | 5/8        | 1 5/8 | 1 1/2 | 3 1/8 | 2 11/32 | 3 15/32 | 3 1/2   |
| 12F25O2148ACF | 5/8        | 1 5/8 | 1 1/2 | 3 1/8 | 2 1/4   | 3 15/32 | 2 29/32 |

# Valve Reference A29

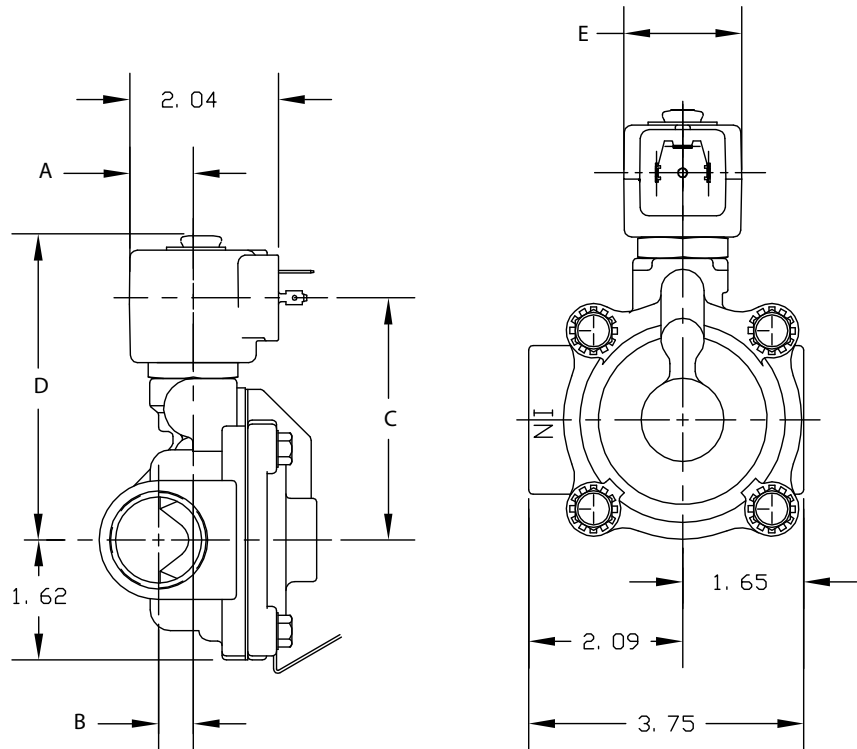


2-Way normally closed:



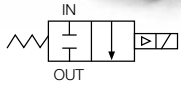
2-Way normally open:

Port Identification:  
In-In/Out-Out

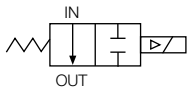


| Valve  | Dimensions |       |        |         |         |
|--|------------|-------|--------|---------|---------|
|  | A          | B     | C      | D       | E       |
| 16F24C2164AAF<br>16F24C6164AAF                                   | 23/32      | 15/32 | 3 1/8  | 3 31/32 | 1 9/16  |
| 16F24C2164A3F<br>16F24C6164A3F                                   | 7/8        | 15/32 | 3 9/32 | 4 3/16  | 1 13/16 |
| 20F24C2172AAF<br>20F24C2172A3F                                   | 23/32      | 17/32 | 3 1/8  | 3 31/32 | 1 9/16  |
| 16F24O2164ACF<br>16F24O2164A3F<br>16F24O6164ACF<br>16F24O6164A3F | 23/32      | 15/32 | 4 5/32 | 4 3/16  | 1 13/16 |
| 20F24O2172ACF<br>20F24O2172A3F                                   | 7/8        | 17/32 | 4 3/8  | 4 13/16 | 1 13/16 |

# Valve Reference A30

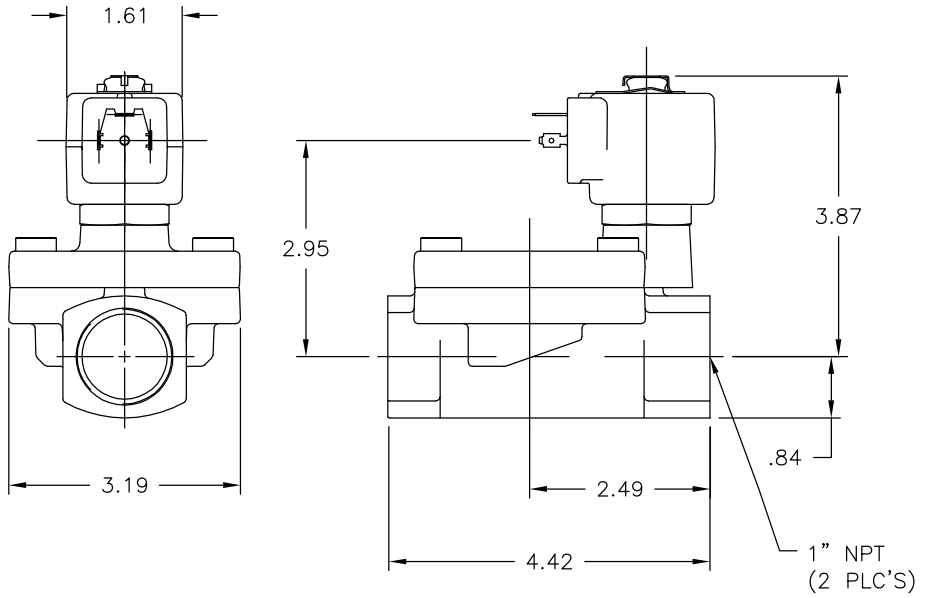


2-Way Normally Closed:  
16F25Cxx

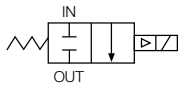


2-Way Normally Open:  
16F25Oxx

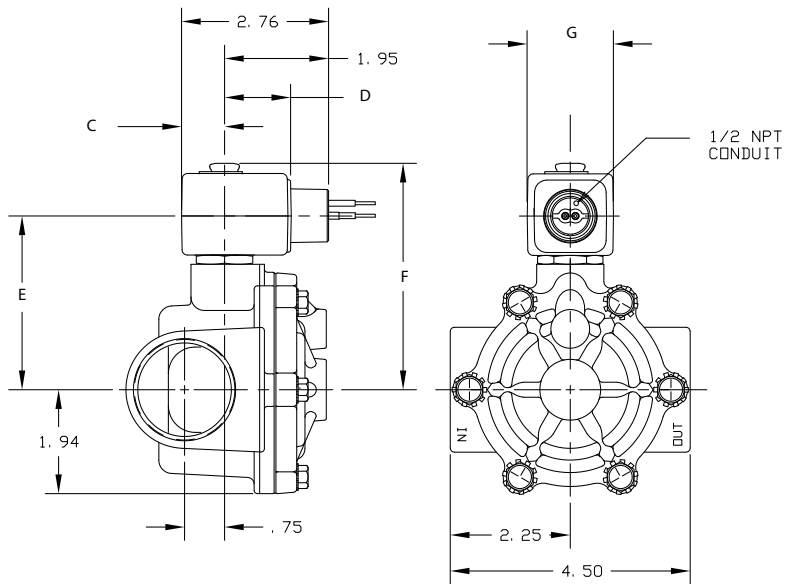
Port identification:  
In-In/Out-Out



# Valve Reference A31

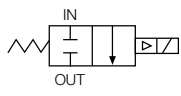


2-Way Normally Closed  
Port identification:  
In-In/Out-Out

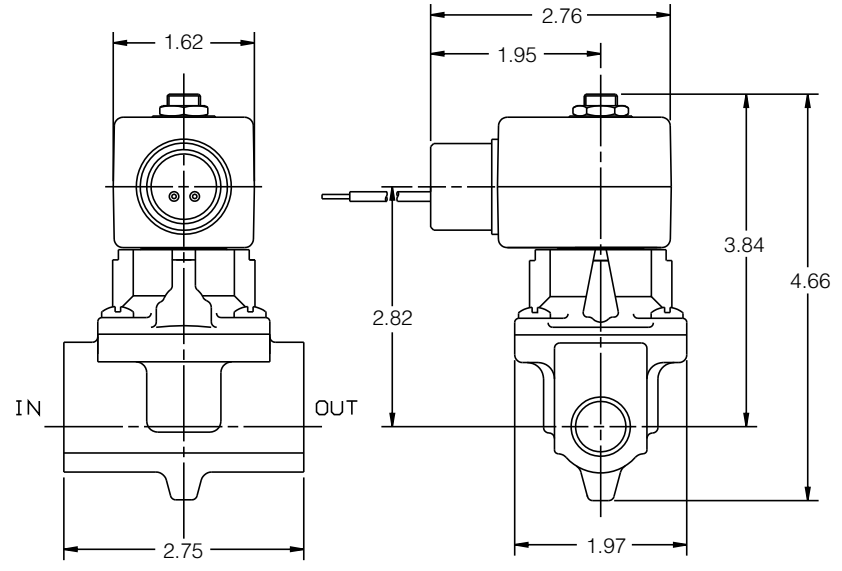


| Part Number                                     | Dimension |         |         |        |         |
|---|-----------|---------|---------|--------|---------|
|   | C         | D       | E       | F      | G       |
| 24F24C2180AAF<br>24F24C180AAF                   | 23/32     | 1 5/16  | 3 5/16  | 4 5/32 | 1 9/16  |
| 24F24C2180A3F                                   | 7/8       | 1 17/32 | 3 17/32 | 4 3/8  | 1 13/16 |
| 24F2402180ACF<br>24F2402180A3F<br>24F2406180ACF | 7/8       | 1 17/32 | 3 3/8   | 4 3/8  | 1 13/16 |

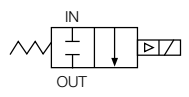
# Valve Reference A32



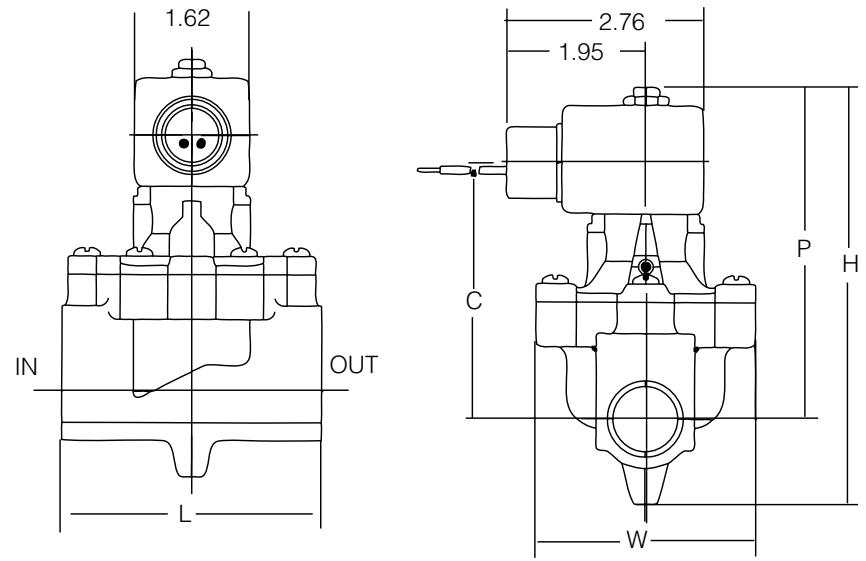
2-Way Normally Closed  
 Port Identification:  
 IN-IN/OUT-OUT



# Valve Reference A33



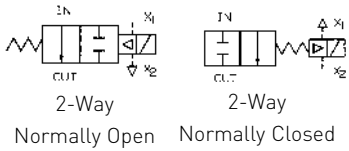
2-Way Normally Closed  
 Port identification:  
 In-In/Out-Out  
 73212BN52  
 P-IN/A-OUT  
 73212BN63



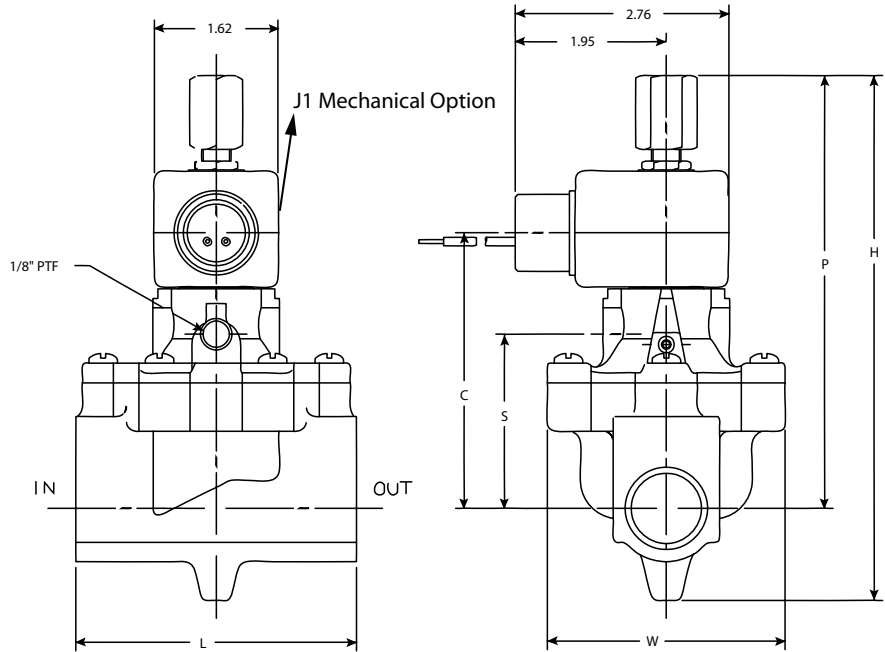
| Part Number  | Dimension |      |      |      |      | Port Identification |     |
|--------------|-----------|------|------|------|------|---------------------|-----|
|              | H         | P    | C    | L    | W    | IN                  | OUT |
| 73212BN52NOO | 5.81      | 4.62 | 3.59 | 3.62 | 3.09 | IN                  | OUT |
| 73212BN63NOO | 6.22      | 4.89 | 3.87 | 4.31 | 3.45 | P                   | A   |



## Valve Reference A34

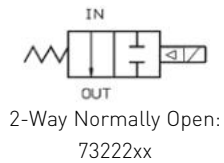
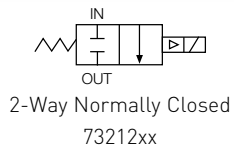


2-Way Universal  
Valve may be Normally Closed or Normally Open, depending on piping of external pilot.

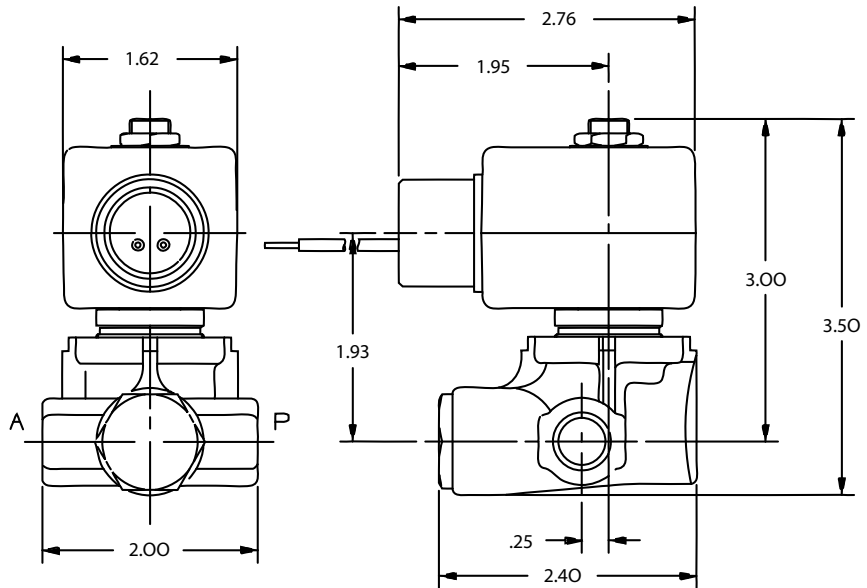


| Part Number  | Dimension |      |      |      |      |      | Port Identification |     |
|--------------|-----------|------|------|------|------|------|---------------------|-----|
|              | H         | P    | C    | L    | W    | S    | IN                  | OUT |
| 74232BN52NJ1 | 6.78      | 5.59 | 3.59 | 3.62 | 3.09 | 2.28 | IN                  | OUT |
| 74232BN63NJ1 | 7.19      | 5.86 | 3.87 | 4.31 | 3.45 | 2.56 | P                   | A   |

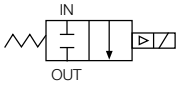
## Valve Reference A35



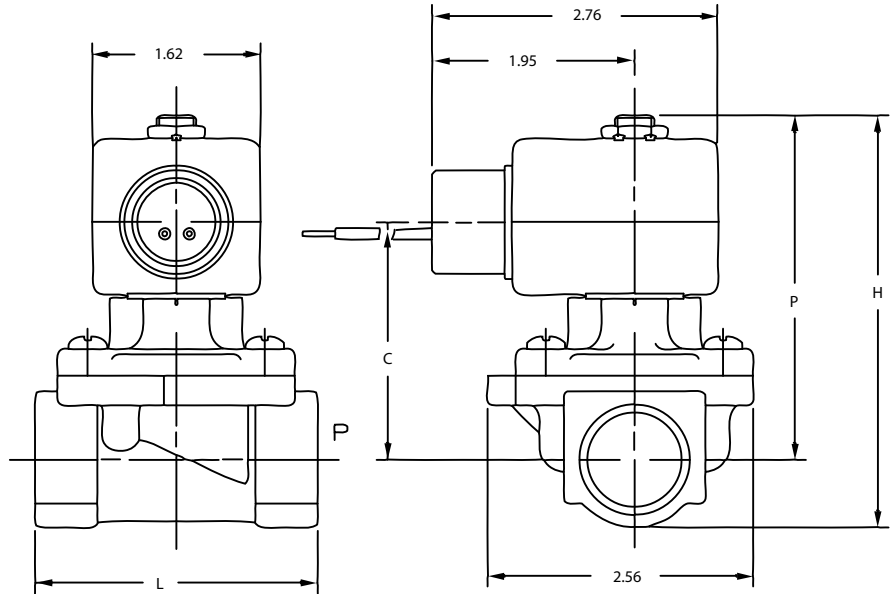
Port Identification:  
IN-IN/--OUT



## Valve Reference A36

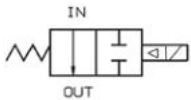


2-Way Normally Closed  
 Port Identification:  
 P-IN/--OUT

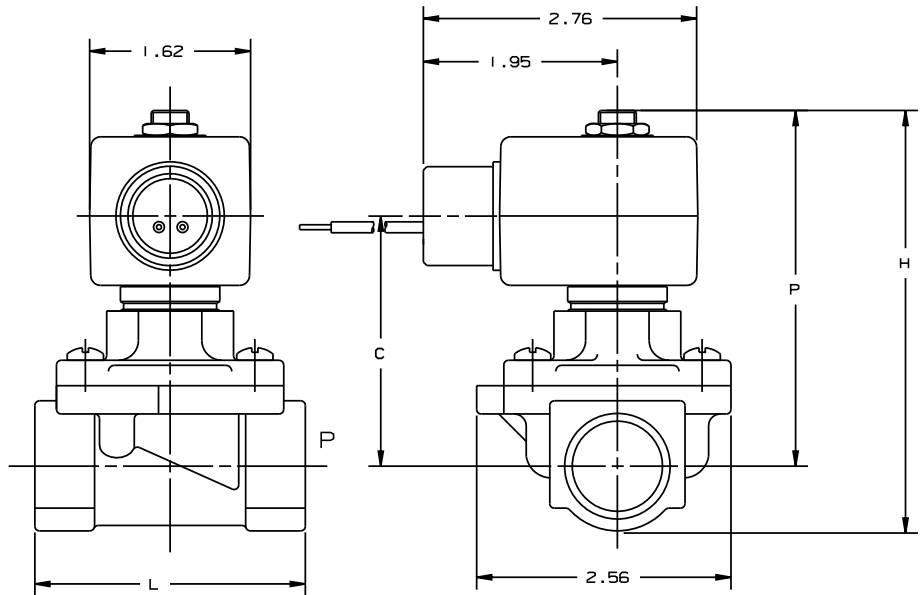


| Valve  | Dimensions |      |      |      |
|--|------------|------|------|------|
|  | H          | P    | C    | L    |
| 72218BN3TXXX<br>72218BN4UXXX                                 | 3.78       | 3.23 | 2.21 | 2.64 |
| 72218RN3TXXX<br>72218RN4UXXX<br>72218BN5VXXX<br>72218RN5VXXX | 3.99       | 3.33 | 2.31 | 2.71 |

## Valve Reference A37

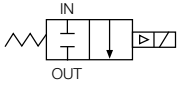


2-Way Normally Open  
 Port Identification:  
 P-IN/--OUT

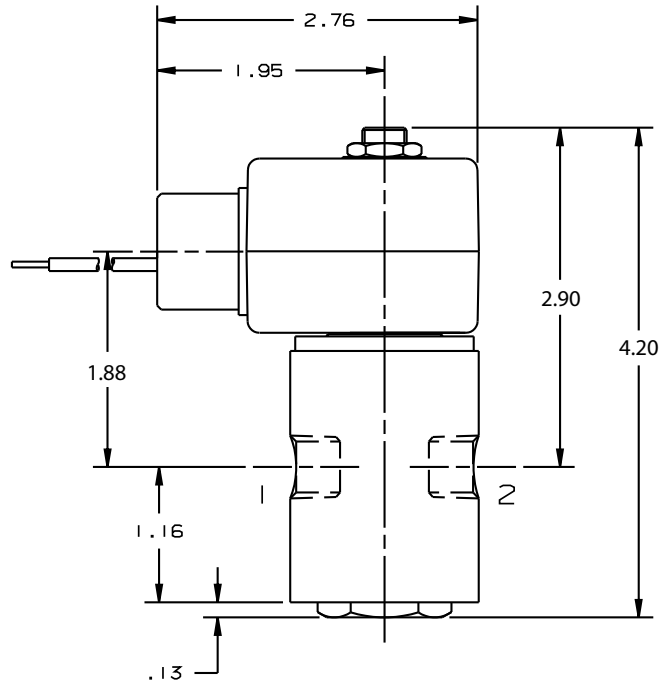
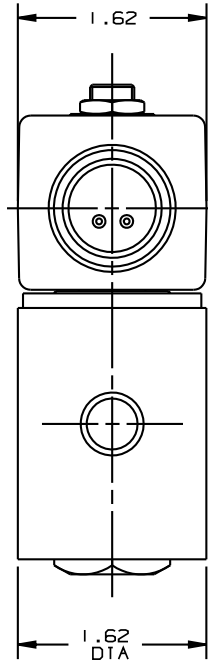


| Valve  | Dimensions |      |      |      |
|--|------------|------|------|------|
|  | H          | P    | C    | L    |
| 72228BN3TXXX<br>72228BN4UXXX<br>72228RN3TXXX<br>72228RN4UXXX | 4.04       | 3.49 | 2.43 | 2.64 |
| 72228BN5VXXX<br>72228RN5VXXX                                 | 4.24       | 3.58 | 2.52 | 2.72 |

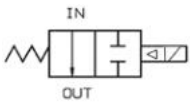
### Valve Reference A38



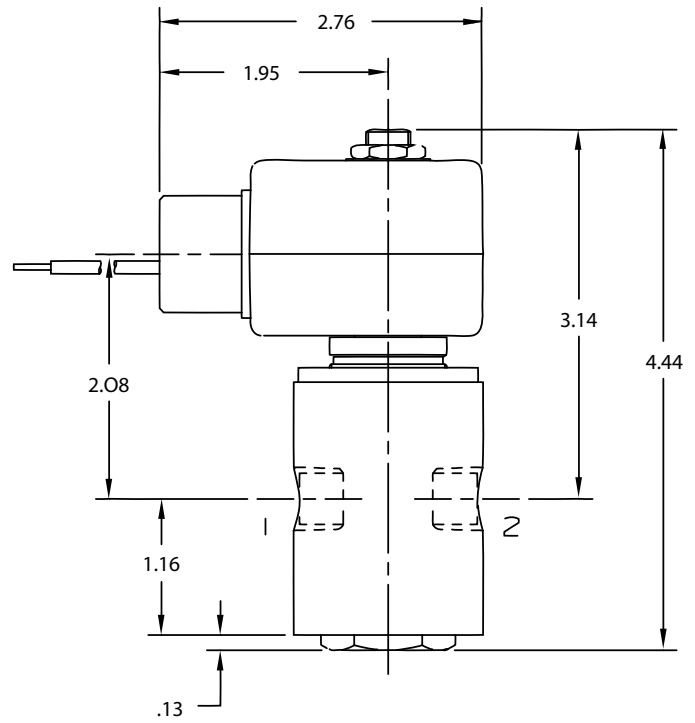
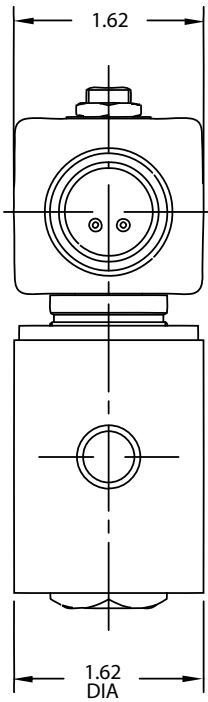
2-Way Normally Closed  
 Port Identification:  
 2-IN/1-OUT



### Valve Reference A39

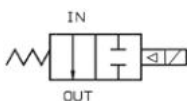


2-Way Normally Open  
 Port Identification:  
 2-IN/1-OUT

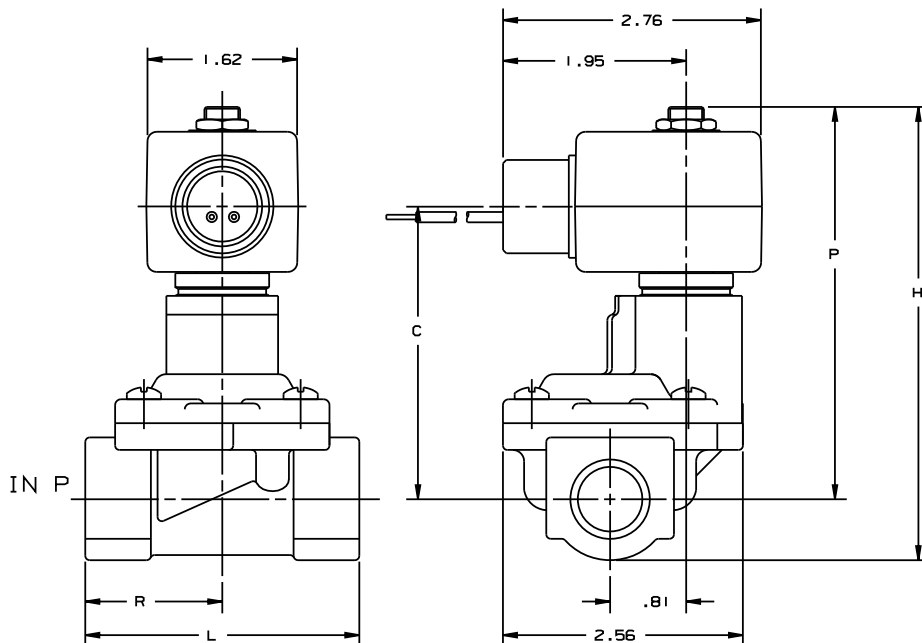




## Valve Reference A40



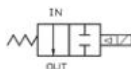
2-Way Normally Open  
Port Identification:  
P-IN/--OUT



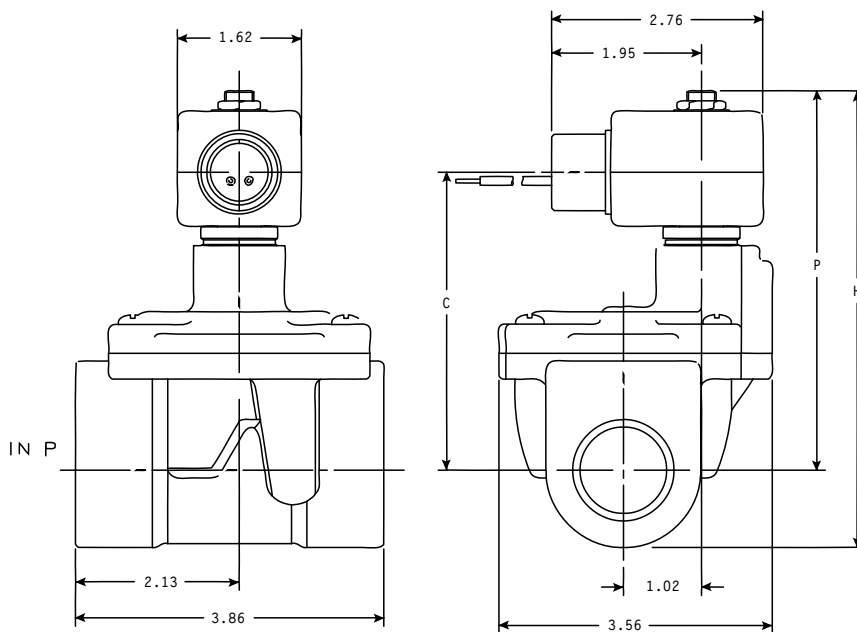
| Valve                        | Dimensions |      |      |      |      |
|------------------------------|------------|------|------|------|------|
|                              | H          | P    | C    | L    | R    |
| 73228BN3TN00<br>73228BN4UN00 | 4.62       | 4.07 | 3.01 | 2.64 | 1.39 |
| 73228BN5VN00                 | 4.83       | 4.17 | 3.11 | 2.72 | 1.43 |

2-Way

## Valve Reference A41

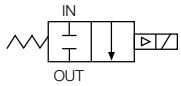


2-Way Normally Open  
Port Identification:  
P-IN/--OUT

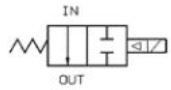


| Valve                        | Dimensions |      |      |
|------------------------------|------------|------|------|
|                              | H          | P    | C    |
| 73228BN64N00<br>73228BN64V00 | 5.69       | 4.83 | 3.77 |
| 73228BN75N00<br>73228BN75V00 | 5.97       | 4.97 | 3.91 |

## Valve Reference A42

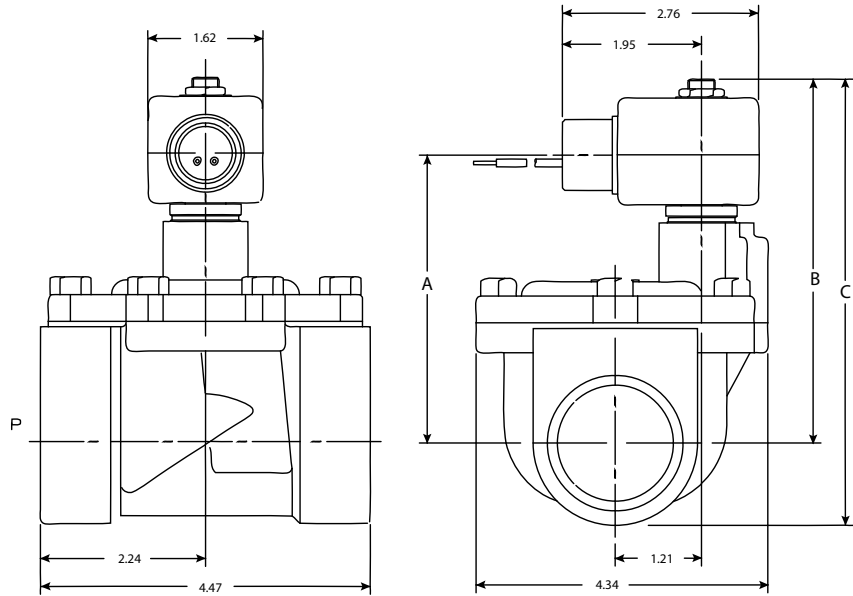


2-Way Normally Closed  
73218xx



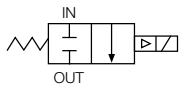
2-Way Normally Open  
73228xx

Port Identification:  
In-In/--Out



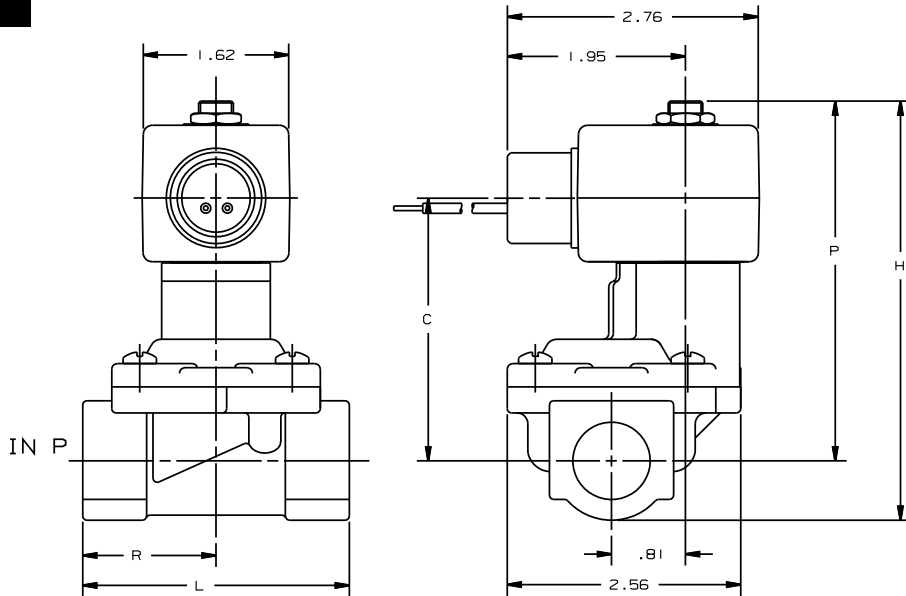
| Valve    | Dimensions |      |      |
|----------|------------|------|------|
|          | A          | B    | C    |
| 73218xxx | 3.87       | 4.89 | 6.05 |
| 73228xxx | 4.07       | 5.13 | 6.28 |

## Valve Reference A43



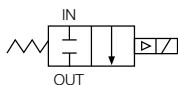
2-Way Normally Closed  
73218xx

Port Identification:  
P-IN/--OUT

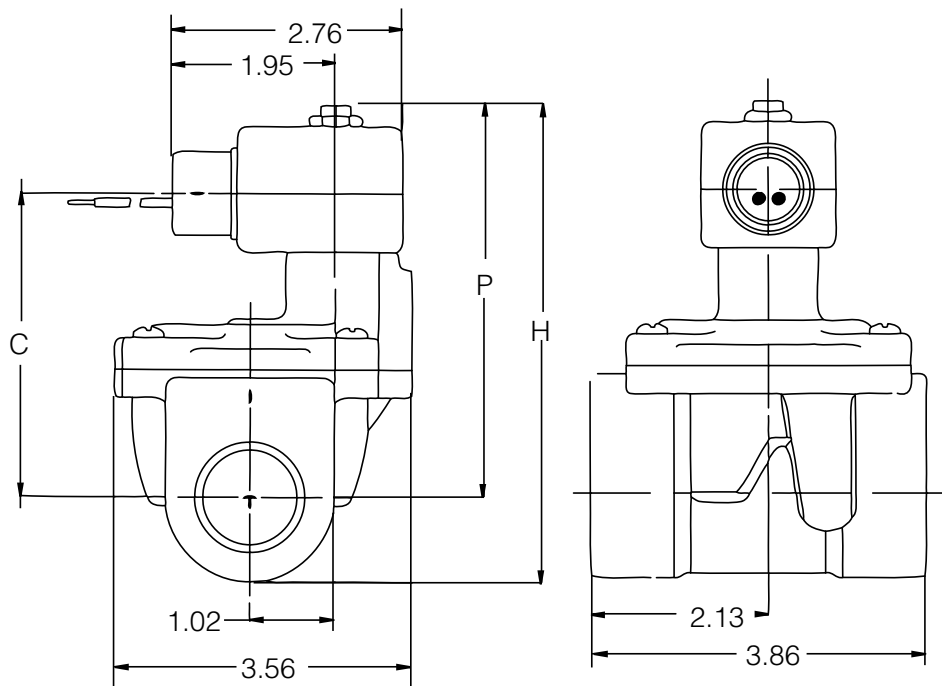


| Valve                        | Dimensions |      |      |      |      |
|------------------------------|------------|------|------|------|------|
|                              | H          | P    | C    | L    | R    |
| 73218BN3TXXX<br>73218BN4UXXX | 4.38       | 3.84 | 2.81 | 2.64 | 1.39 |
| 73218BN5VXXX                 | 4.59       | 3.94 | 2.91 | 2.72 | 1.43 |

## Valve Reference A44



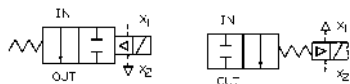
2-Way Normally Closed  
Port Identification:  
P-IN/--OUT



| Valve        | Dimensions |      |      |
|--------------|------------|------|------|
|              | H          | P    | C    |
| 73218BN64XXX | 5.45       | 4.59 | 3.57 |
| 73218BN75XXX | 5.74       | 4.73 | 3.71 |

"X" denotes multiple digit combinations for brevity

## Valve Reference A45



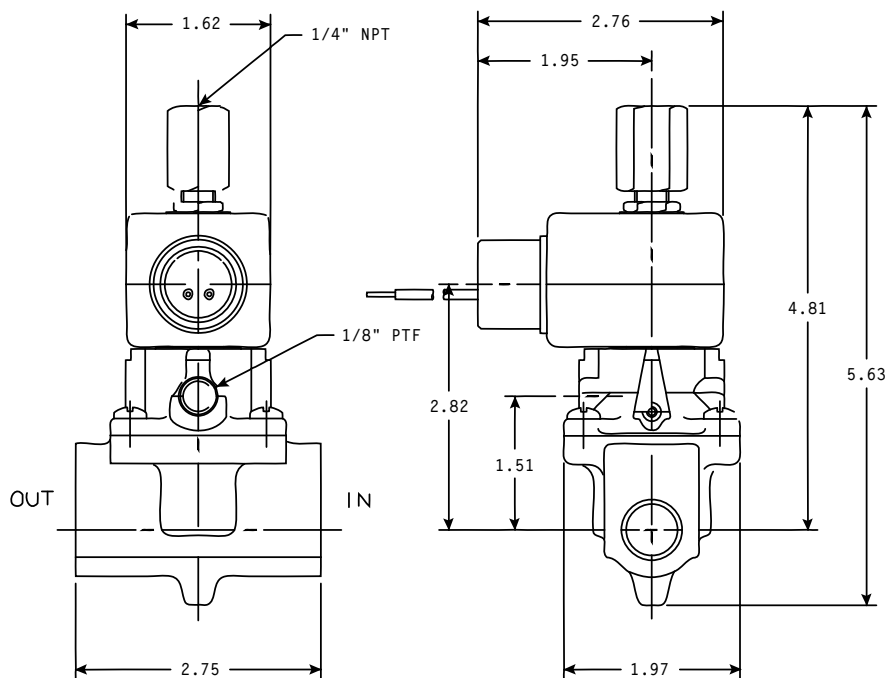
2-Way Normally Open    2-Way Normally Closed

2-Way Universal

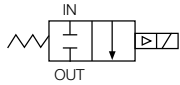
Valve may be normally closed or normally open, depending on piping of external pilot.

Port identification:

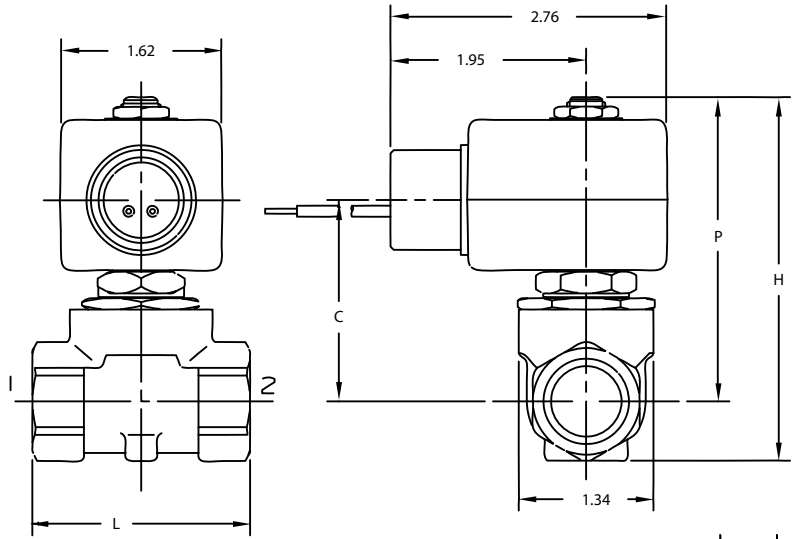
In-In/Out-Out



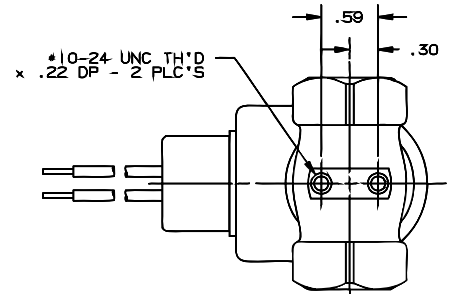
## Valve Reference A46



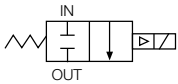
2-Way Normally Closed  
 Port Identification:  
 Flow arrow on body  
 indicates flow direction.  
 Ports are not marked.



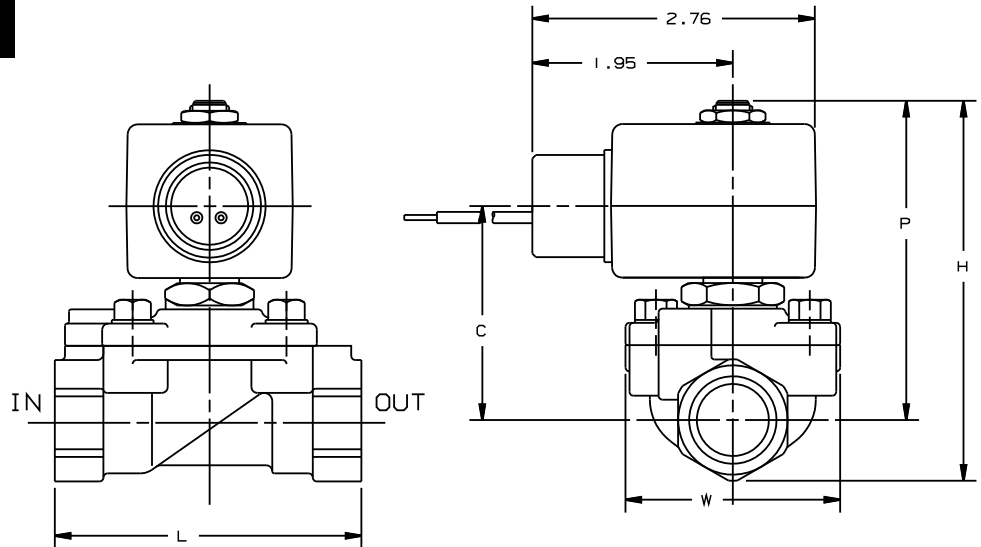
| Valve        | Dimensions |      |      |      |
|--------------|------------|------|------|------|
|              | H          | P    | C    | L    |
| 7321KBN2RXXX | 3.56       | 2.97 | 1.96 | 1.97 |
| 7321KBN3SXXX | 3.56       | 2.97 | 1.96 | 1.97 |
| 7321KBN4SXXX | 3.56       | 2.97 | 1.96 | 2.17 |



## Valve Reference A47

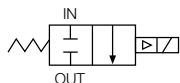


2-Way Normally Closed  
 Port Identification:  
 Flow arrow on body  
 indicates flow direction.  
 Ports are not marked.

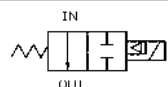


| Valve        | Dimensions |      |      |      |      |
|--------------|------------|------|------|------|------|
|              | H          | P    | C    | L    | W    |
| 7221GBN3VXXX | 3.66       | 3.07 | 2.06 | 2.95 | 2.09 |
| 7221GBN4VXXX | 3.66       | 3.07 | 2.06 | 2.95 | 2.09 |
| 7221GBN51XXX | 3.75       | 3.07 | 2.06 | 3.15 | 2.09 |
| 7221GBN61XXX | 4.03       | 3.15 | 2.12 | 3.35 | 2.09 |
| 7221GBN64XXX | 4.25       | 3.35 | 2.34 | 3.94 | 2.75 |

## Valve Reference A48

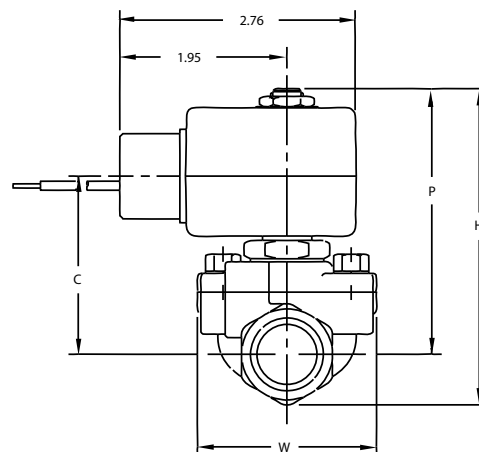
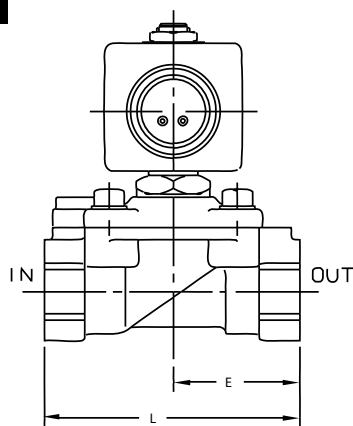


2-Way Normally Closed  
7321GBNxx



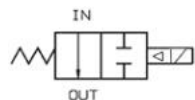
2-Way Normally Open  
7322GBNxx

Port Identification:  
Flow arrow on body indicates flow direction. Ports are not marked.

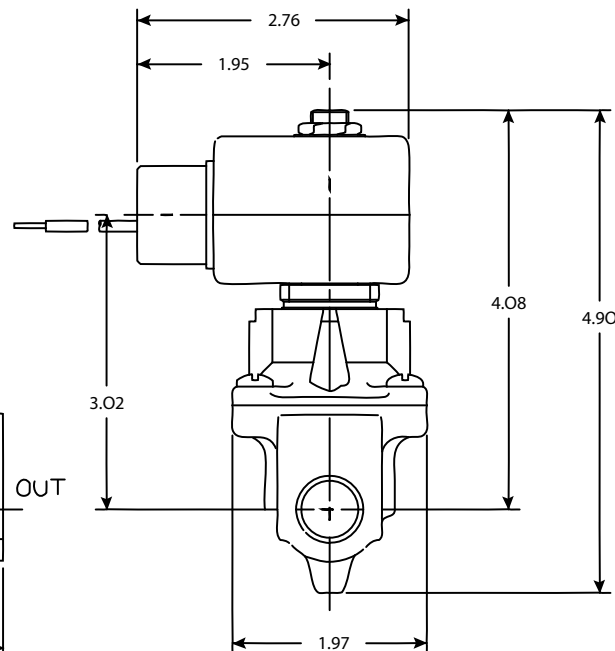
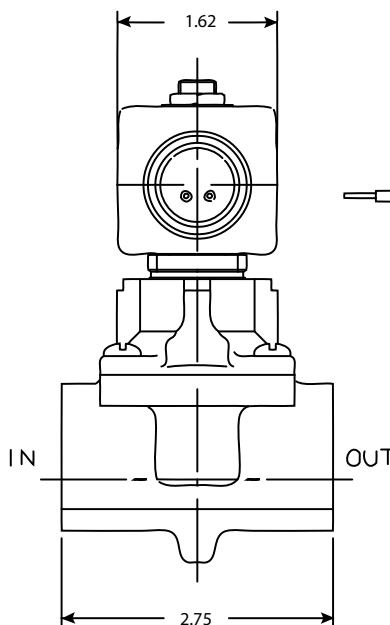


| Valve  | Dimensions |      |      |      |      |      |
|--|------------|------|------|------|------|------|
|  | H          | P    | C    | L    | E    | W    |
| 7321GBN53XXX<br>7322GBN53XXX<br>7321GBN64XXX<br>7322GBN64XXX | 4.75       | 3.86 | 2.84 | 3.94 | 1.97 | 2.75 |
| 7321GBN76XXX<br>7322GBN76XXX                                 | 5.41       | 4.11 | 3.09 | 4.33 | 2.17 | 2.75 |
| 7321GBN88XXX<br>7322GBN88XXX                                 | 5.66       | 4.37 | 3.35 | 5.51 | 2.95 | 3.90 |
| 7321GBN99XXX<br>7322GBN99XXX                                 | 6.25       | 4.60 | 3.58 | 5.91 | 3.15 | 3.90 |

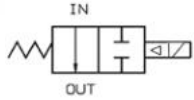
## Valve Reference A49



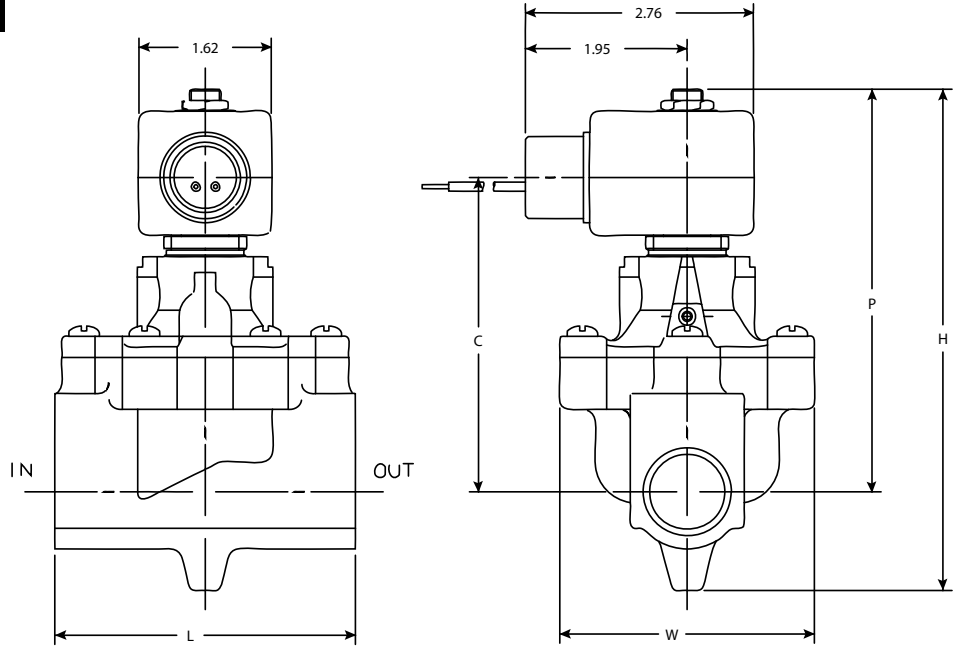
2-Way Normally Open  
Port Identification:  
IN-IN/ OUT-OUT



## Valve Reference A50

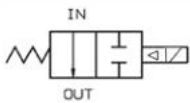


2-Way Normally Open  
 Port Identification:  
 IN-IN/ OUT-OUT  
 (7322BN52xx)  
 P-IN/A-OUT  
 (7322BN63xx)

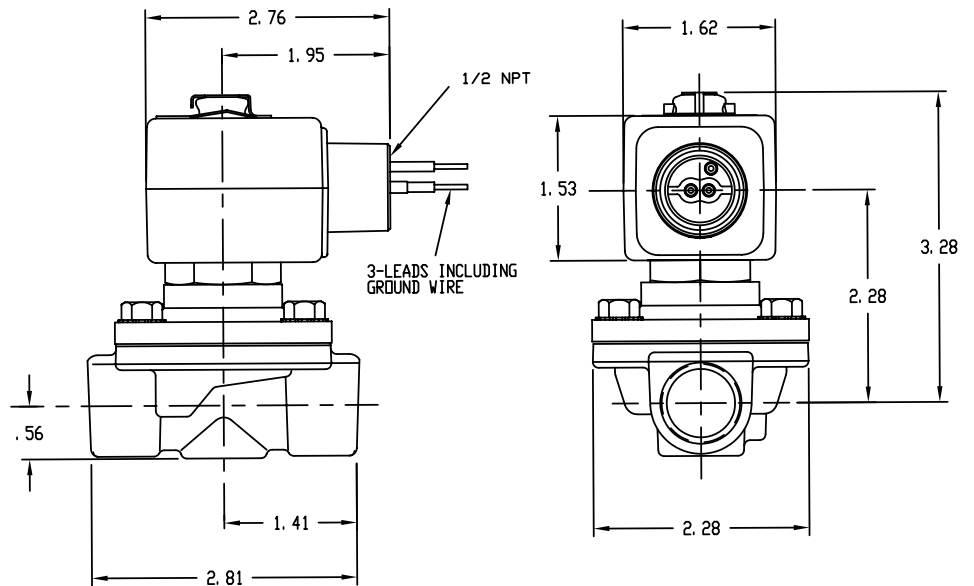


| Valve        | Dimensions |      |      |      |      |
|--------------|------------|------|------|------|------|
|              | H          | P    | C    | L    | W    |
| 73222BN52N00 | 6.04       | 4.85 | 3.79 | 3.62 | 3.09 |
| 73222BN63N00 | 6.46       | 5.13 | 4.07 | 4.31 | 3.45 |

## Valve Reference A51

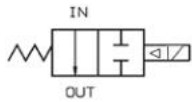


2-Way Normally Open  
 Port Identification:  
 IN-IN/ OUT-OUT

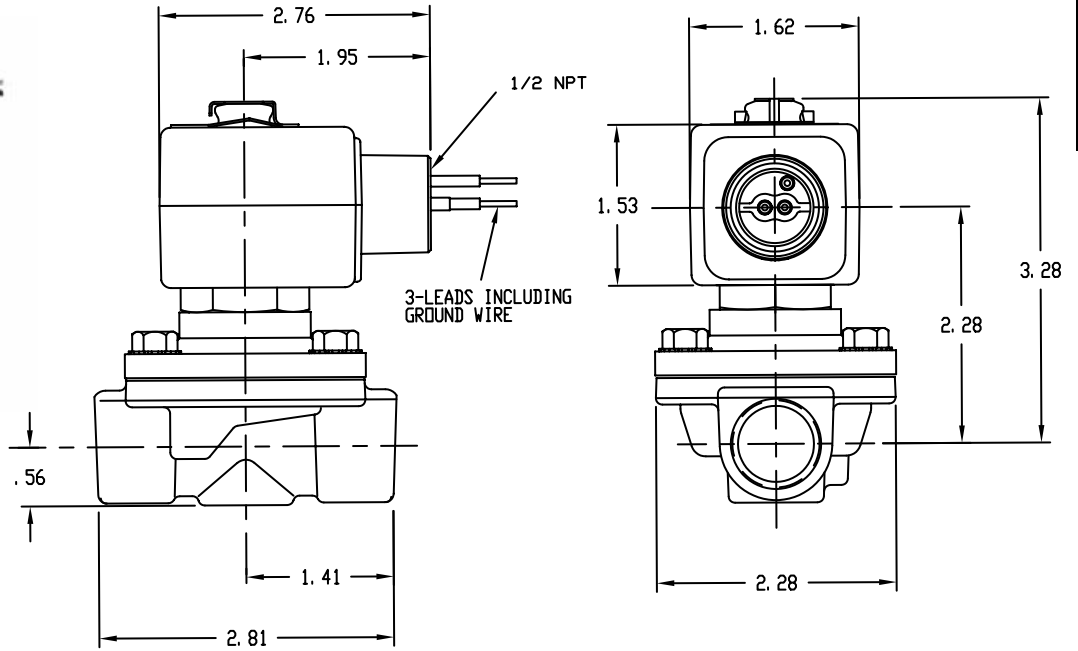


Explosion-proof watertight shown in outline

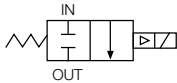
## Valve Reference A52



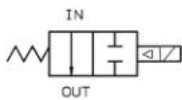
2-Way Normally Open  
Port Identification:  
IN-IN/ OUT-OUT



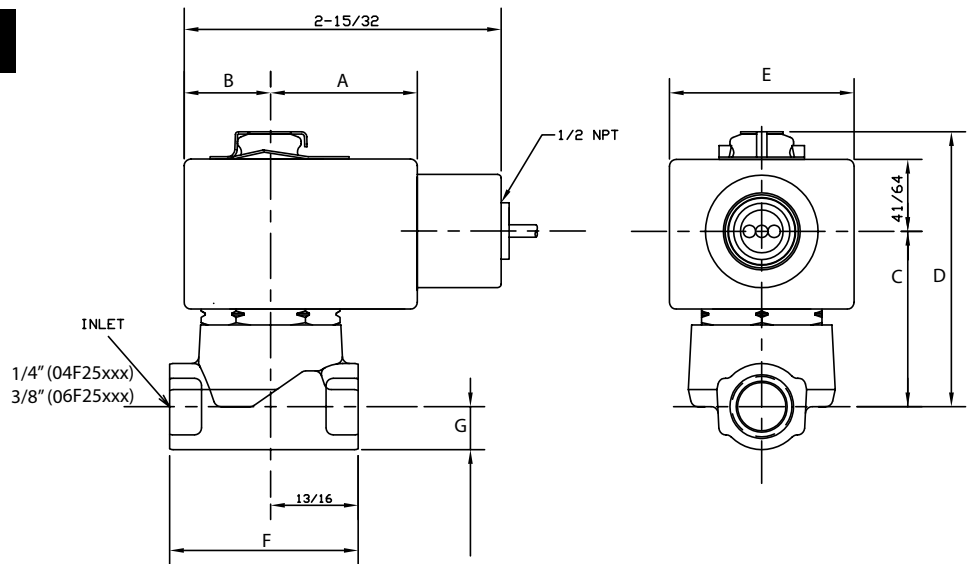
## Valve Reference A54



2-Way Normally Closed  
04F25C2xx/06F25C2xx  
Port Identification:  
IN-IN/ OUT-OUT



2-Way Normally Open  
04F25O2xx/06F25O2xx  
Port Identification:  
IN-IN/ OUT-OUT

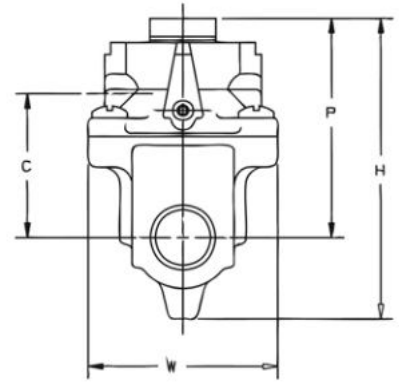
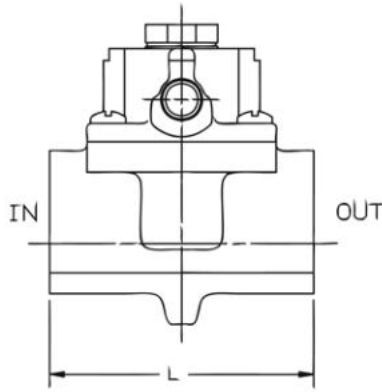


| Valve         | Dimensions |       |         |         |         |       |      |
|---------------|------------|-------|---------|---------|---------|-------|------|
|               | A          | B     | C       | D       | E       | F     | G    |
| 04F25C2122CAF | 1 5/16     | 23/32 | 1 9/16  | 2 7/16  | 1 9/16  | 1 3/4 | 3/8  |
| 06F25C2122CAF | 1 5/16     | 23/32 | 1 5/8   | 2 1/2   | 1 9/16  | 1 3/4 | 7/16 |
| 04F25O2122CCF | 1 17/32    | 7/8   | 1 25/32 | 2 7/8   | 1 13/16 | 1 3/4 | 3/8  |
| 04F25O2122C3F | 1 17/32    | 7/8   | 1 15/16 | 2 7/8   | 1 13/16 | 1 3/4 | 3/8  |
| 06F25C2122C3F | 1 17/32    | 7/8   | 2       | 2 15/16 | 1 13/16 | 1 3/4 | 7/16 |

## Valve Reference A55



2-Way Normally Open  
Remote Pilot  
Port Identification:  
3/8, 1/2, 3/4  
IN-IN/ OUT-OUT  
Port Identification - 1"  
P - IN/A - OUT



| Valve        | Dimensions |      |      |      |      | Port Identification |     |
|--------------|------------|------|------|------|------|---------------------|-----|
|              | H          | P    | C    | L    | W    | IN                  | OUT |
| 75232BN3SN00 | 3.17       | 2.35 | 1.51 | 2.75 | 1.97 | IN                  | OUT |
| 75232BN4TN00 | 3.17       | 2.35 | 1.51 | 2.75 | 1.97 | IN                  | OUT |
| 75232BN52N00 | 4.31       | 3.12 | 2.28 | 4.62 | 3.09 | IN                  | OUT |

- Valve can be normally closed or normally open depending on piping of external pilot.
- Pilot port is marked "C."



**2-Way Pilot Operated Materials of Construction\*\***

| Product* | Wattage  | Type | Port Size | Body  | Sleeve Tube | Sleeve Stop | Sleeve Flange | "Plunger Blank" | Plunger Spring | Shading Ring | Max. Ambient Temp. |
|----------|----------|------|-----------|-------|-------------|-------------|---------------|-----------------|----------------|--------------|--------------------|
| 04F25C2  | 6        | 2WNC | 1/4       | Brass | 305SS       | 430FR       | Brass         | 430FR           | 302SS          | Copper       | 130°F              |
| 04F25C2  | 11.5     | 2WNC | 1/4       | Brass | 305SS       | 430FR       | Brass         | 430FR           | 302SS          | Copper       | 77°F               |
| 04F25O2  | 11       | 2WNO | 1/4       | Brass | 305SS       | 430FR       | 416/430FR     | 430FR           | 302SS          | Copper       | 130°F              |
| 04F25O2  | 11.5     | 2WNO | 1/4       | Brass | 305SS       | 430FR       | 416/430FR     | 430FR           | 302SS          | Copper       | 77°F               |
| 06F22C2  | 6        | 2WNC | 3/8       | Brass | 305SS       | 430FR       | Brass         | 430FR           | 302SS          | Copper       | 77°F               |
| 06F22C2  | 11.5, 16 | 2WNC | 3/8       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 130°F              |
| 06F22C6  | 6        | 2WNC | 3/8       | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 77°F               |
| 06F22C6  | 11.5, 16 | 2WNC | 3/8       | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 130°F              |
| 06F23C2  | 11       | 2WNC | 3/8       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 130°F              |
| 06F23C2  | 11.5     | 2WNC | 3/8       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 77°F               |
| 06F23C6  | 11       | 2WNC | 3/8       | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 130°F              |
| 06F23C6  | 11.5     | 2WNC | 3/8       | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 77°F               |
| 06F23O2  | 11       | 2WNO | 3/8       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 130°F              |
| 06F23O2  | 11.5     | 2WNO | 3/8       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 77°F               |
| 06F23O6  | 11       | 2WNO | 3/8       | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 130°F              |
| 06F23O6  | 11.5     | 2WNO | 3/8       | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 77°F               |
| 06F25C2  | 6,11     | 2WNC | 3/8       | Brass | 305SS       | 430FR       | Brass         | 430FR           | 302SS          | Copper       | 130°F              |
| 06F25C2  | 11.5     | 2WNC | 3/8       | Brass | 305SS       | 430FR       | Brass         | 430FR           | 302SS          | Copper       | 77°F               |
| 06F25O2  | 11       | 2WNO | 3/8       | Brass | 305SS       | 430FR       | 416/430FR     | 430FR           | 302SS          | Copper       | 130°F              |
| 06FH5C2  | 11       | 2WNC | 3/8       | Brass | 305SS       | 430FR       | Brass         | 430FR           | 302SS          | Copper       | 130°F              |
| 08F22C2  | 6        | 2WNC | 1/2       | Brass | 305SS       | 430FR       | Brass         | 430FR           | 302SS          | Copper       | 130°F              |
| 08F22C2  | 11       | 2WNC | 1/2       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 130°F              |
| 08F22C2  | 11.5, 16 | 2WNC | 1/2       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 77°F               |
| 08F22C6  | 11.5, 16 | 2WNC | 1/2       | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 77°F               |

\* Shows the first 7 digits of the pressure vessel part number.

\*\* Maximum ambient temperature shown is the rating when valve is operating at the maximum fluid temperature as shown in the product sections for each of the valves in this catalog.

**2-Way Pilot Operated Materials of Construction (Continued)\*\***

| Product* | Wattage  | Type | Port Size | Body  | Sleeve Tube | Sleeve Stop | Sleeve Flange | "Plunger Blank" | Plunger Spring | Shading Ring | Max. Ambient Temp. |
|----------|----------|------|-----------|-------|-------------|-------------|---------------|-----------------|----------------|--------------|--------------------|
| 08F23C2  | 11       | 2WNC | 1/2       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 130°F              |
| 08F23C2  | 11.5     | 2WNC | 1/2       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 77°F               |
| 08F23C6  | 11       | 2WNC | 1/2       | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 130°F              |
| 08F23C6  | 11.5     | 2WNC | 1/2       | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 77°F               |
| 08F23O2  | 11       | 2WNO | 1/2       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 130°F              |
| 08F23O2  | 11.5     | 2WNO | 1/2       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 77°F               |
| 08F23O6  | 11       | 2WNO | 1/2       | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 130°F              |
| 08F23O6  | 11.5     | 2WNO | 1/2       | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 77°F               |
| 08F25C2  | 11       | 2WNC | 1/2       | Brass | 305SS       | 430FR       | Brass         | 430FR           | 302SS          | Copper       | 130°F              |
| 08F25C2  | 11.5     | 2WNC | 1/2       | Brass | 305SS       | 430FR       | Brass         | 430FR           | 302SS          | Copper       | 77°F               |
| 08F25O2  | 11       | 2WNO | 1/2       | Brass | 305SS       | 430FR       | Brass         | 430FR           | 302SS          | Copper       | 130°F              |
| 08F25O2  | 11.5     | 2WNO | 1/2       | Brass | 305SS       | 430FR       | Brass         | 430FR           | 302SS          | Copper       | 77°F               |
| 08FH5C2  | 11       | 2WNC | 1/2       | Brass | 305SS       | 430FR       | Brass         | 430FR           | 302SS          | Copper       | 130°F              |
| 12F22C2  | 6        | 2WNC | 3/4       | Brass | 305SS       | 430FR       | Brass         | 430FR           | 302SS          | Copper       | 130°F              |
| 12F22C2  | 11.5     | 2WNC | 1/2       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 77°F               |
| 12F22C6  | 11.5, 16 | 2WNC | 3/4       | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 77°F               |
| 12F23C2  | 11       | 2WNC | 3/4       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 130°F              |
| 12F23C2  | 11.5     | 2WNC | 3/4       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 77°F               |
| 12F23C6  | 11       | 2WNC | 3/4       | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 130°F              |
| 12F23C6  | 11.5     | 2WNC | 3/4       | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 77°F               |
| 12F23O2  | 11       | 2WNO | 3/4       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 130°F              |

\* Shows the first 7 digits of the pressure vessel part number.

\*\* Maximum ambient temperature shown is the rating when valve is operating at the maximum fluid temperature as shown in the product sections for each of the valves in this catalog.

**2-Way Pilot Operated Materials of Construction (Continued)\*\***

| Product* | Wattage | Type | Port Size | Body  | Sleeve Tube | Sleeve Stop | Sleeve Flange | "Plunger Blank" | Plunger Spring | Shading Ring | Max. Ambient Temp. |
|----------|---------|------|-----------|-------|-------------|-------------|---------------|-----------------|----------------|--------------|--------------------|
| 12F23O2  | 11.5    | 2WNO | 3/4       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 77°F               |
| 12F23O6  | 11      | 2WNO | 3/4       | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 130°F              |
| 12F23O6  | 11.5    | 2WNO | 3/4       | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 77°F               |
| 12F24C2  | 6       | 2WNC | 3/4       | Brass | 305SS       | 430FR       | Brass         | 430FR           | 302SS          | Copper       | 130°F              |
| 12F24C2  | 11.5    | 2WNC | 1/2       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 77°F               |
| 12F24O2  | 11      | 2WNO | 3/4       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 130°F              |
| 12F25C2  | 11      | 2WNC | 3/4       | Brass | 305SS       | 430FR       | Brass         | 430FR           | 302SS          | Copper       | 130°F              |
| 12F25O2  | 11      | 2WNO | 3/4       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 130°F              |
| 12FH5C2  | 11      | 2WNC | 3/4       | Brass | 305SS       | 430FR       | Brass         | 430FR           | 302SS          | Copper       | 130°F              |
| 16F24C2  | 6       | 2WNC | 3/4       | Brass | 305SS       | 430FR       | Brass         | 430FR           | 302SS          | Copper       | 130°F              |
| 16F24C2  | 11.5    | 2WNC | 1/2       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 77°F               |
| 16F24C6  | 6       | 2WNC | 3/4       | 316SS | 305SS       | 430FR       | 303           | 430FR           | 302SS          | Silver       | 130°F              |
| 16F24C6  | 11.5    | 2WNC | 1/2       | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 77°F               |
| 16F24O2  | 11.5    | 2WNO | 1         | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 77°F               |
| 16F24O2  | 11      | 2WNO | 1         | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 130°F              |
| 16F24O6  | 11.5    | 2WNO | 1         | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 77°F               |
| 16F24O6  | 11      | 2WNO | 1         | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 130°F              |
| 16F25C2  | 11.5    | 2WNC | 1         | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 77°F               |
| 16F25C2  | 11      | 2WNC | 1         | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 130°F              |
| 16F25O2  | 11      | 2WNO | 1         | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 130°F              |
| 16FH5C2  | 16      | 2WNC | 1         | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 77°F               |

\* Shows the first 7 digits of the pressure vessel part number.

\*\* Maximum ambient temperature shown is the rating when valve is operating at the maximum fluid temperature as shown in the product sections for each of the valves in this catalog.

**2-Way Pilot Operated Materials of Construction (Continued)\*\***

| Product* | Wattage | Type | Port Size | Body  | Sleeve Tube | Sleeve Stop | Sleeve Flange | "Plunger Blank" | Plunger Spring | Shading Ring | Max. Ambient Temp. |
|----------|---------|------|-----------|-------|-------------|-------------|---------------|-----------------|----------------|--------------|--------------------|
| 20F24C2  | 6       | 2WNC | 3/4       | Brass | 305SS       | 430FR       | Brass         | 430FR           | 302SS          | Copper       | 130°F              |
| 20F24C2  | 11.5    | 2WNC | 1/2       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 77°F               |
| 20F24O2  | 11      | 2WNO | 1¼        | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 130°F              |
| 24F24C2  | 6       | 2WNC | 3/4       | Brass | 305SS       | 430FR       | Brass         | 430FR           | 302SS          | Copper       | 130°F              |
| 24F24C2  | 11.5    | 2WNC | 1/2       | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 77°F               |
| 24F24C6  | 6       | 2WNC | 3/4       | 316SS | 305SS       | 430FR       | 303           | 430FR           | 302SS          | Silver       | 130°F              |
| 24F24C6  | 11.5    | 2WNC | 1/2       | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 77°F               |
| 24F24O2  | 11.5    | 2WNO | 1½        | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 77°F               |
| 24F24O2  | 11      | 2WNO | 1½        | Brass | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Copper       | 130°F              |
| 24F24O6  | 11.5    | 2WNO | 1½        | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 77°F               |
| 24F24O6  | 11      | 2WNO | 1½        | 316SS | 305SS       | 430FR       | 12L14 Plated  | 430FR           | 302SS          | Silver       | 130°F              |
| 72218BN  | 10      | 2WNC | 3/8 - 3/4 | Brass | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 150°F              |
| 72218BN  | 22      | 2WNC | 3/8 - 3/4 | Brass | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 77°F               |
| 72218RN  | 10      | 2WNC | 3/8 - 3/4 | 316SS | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 150°F              |
| 72218RN  | 22      | 2WNC | 3/8 - 3/4 | 316SS | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 77°F               |
| 7221GBN  | 10      | 2WNC | 3/8 - 1   | Brass | 304SS       | 430FR       | 430F          | 430FR/<br>4106  | 301SS          | Copper       | 150°F              |
| 7221GBN  | 22      | 2WNC | 3/8 - 1   | Brass | 304SS       | 430FR       | 430F          | 430FR/<br>4106  | 301SS          | Copper       | 77°F               |
| 72228BN  | 10      | 2WNO | 3/8 - 3/4 | Brass | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 150°F              |
| 72228BN  | 22      | 2WNO | 3/8 - 3/4 | Brass | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 77°F               |
| 72228RN  | 10      | 2WNO | 3/8 - 3/4 | 316SS | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 150°F              |
| 72228RN  | 22      | 2WNO | 3/8 - 3/4 | 316SS | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 77°F               |
| 73212BN  | 10      | 2WNC | 1/4 - 1   | Brass | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 150°F              |
| 73212BN  | 22      | 2WNC | 1/4 - 1   | Brass | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 77°F               |

\* Shows the first 7 digits of the pressure vessel part number.

\*\* Maximum ambient temperature shown is the rating when valve is operating at the maximum fluid temperature as shown in the product sections for each of the valves in this catalog.

**2-Way Pilot Operated Materials of Construction (Continued)\*\***

| Product* | Watt | Type | Port Size | Body  | Sleeve Tube | Sleeve Stop | Sleeve Flange | "Plunger Blank" | Plunger Spring | Shading Ring | Max. Ambient Temp. |
|----------|------|------|-----------|-------|-------------|-------------|---------------|-----------------|----------------|--------------|--------------------|
| 73212SN  | 10   | 2WNC | 1/4       | 430F  | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 150°F              |
| 73212SN  | 22   | 2WNC | 1/4       | 430F  | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 77°F               |
| 73218BN  | 10   | 2WNC | 3/8 - 1½  | Brass | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 150°F              |
| 73218BN  | 22   | 2WNC | 3/8 - 1½  | Brass | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 77°F               |
| 7321GBN  | 10   | 2WNC | 3/4 - 2   | Brass | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 150°F              |
| 7321GBN  | 22   | 2WNC | 3/4 - 2   | Brass | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 77°F               |
| 7321KBN  | 10   | 2WNC | 1/4 - 1/2 | Brass | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 150°F              |
| 7321KBN  | 22   | 2WNC | 1/4 - 1/2 | Brass | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 77°F               |
| 73222BN  | 10   | 2WNO | 1/4 - 1   | Brass | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 150°F              |
| 73222BN  | 22   | 2WNO | 1/4 - 1   | Brass | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 77°F               |
| 73222SN  | 10   | 2WNO | 1/4       | 430F  | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 150°F              |
| 73222SN  | 22   | 2WNO | 1/4       | 430F  | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 77°F               |
| 73228BN  | 10   | 2WNO | 3/8 - 1½  | Brass | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 150°F              |
| 73228BN  | 22   | 2WNO | 3/8 - 1½  | Brass | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 77°F               |
| 7322GBN  | 10   | 2WNO | 3/4 - 2   | Brass | 304SS       | 430FR       | 430F          | 430FR           | 301SS          | Copper       | 150°F              |
| 7322GBN  | 22   | 2WNO | 3/4 - 2   | Brass | 304SS       | 430FR       | 430F          | 430FR           | 301SS          | Copper       | 77°F               |
| 74232BN  | 10   | 2WDP | 3/8 - 1   | Brass | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 150°F              |
| 74232BN  | 22   | 2WDP | 3/8 - 1   | Brass | 304SS       | 430FR       | 430F          | 430FR           | 18-8SS         | Copper       | 77°F               |
| 75232*** | -    | UNIV | 3/8-2     | Brass | N/A         | N/A         | N/A           | N/A             | N/A            | N/A          | -                  |

\* Shows the first 7 digits of the pressure vessel part number.

\*\* Maximum ambient temperature shown is the rating when valve is operating at the maximum fluid temperature as shown in the product sections for each of the valves in this catalog.

\*\*\* Pilot Orifice is 303SS. These are remotely piloted valves. No coil required.



# 2-Way

Direct Acting & Pilot Operated  
High Pressure  
1/8" - 3/4" NPT



## General Description:

2-Way Direct Acting and Pilot Operated High Pressure valves are generally installed where high pressure and large flow requirements dictate the use of piston valves and/or valves with more robust seals such as PTFE and Ruby discs\*. Pilot Operated valves require the minimum pressure differential specified for proper valve operation.

### Installation

Pilot Operated Valves should be mounted with solenoid coils vertical and upright. Direct Acting valves can be mounted in any position. The preferred orientation is with the coil vertical and upright.

### Standard Materials of Construction

Please refer to page A73.

### Compatible Fluids

Lubricated Air, Inert Gases, Water, Light Oil (300 SSU) and other non-compressible media.

Use of non-lubricated gaseous media can affect valve life.

## Electrical Characteristics:

### Standard Voltages:

AC -24/60  
120/60-110/50  
240/60-220/50

DC -12, 24 & 120

For other voltages – consult factory



### Coil Classification:

Class F standard  
Class H available

### Agency Approvals:

Standard valves with NEMA 4X or explosion proof solenoid enclosures are UL Listed and CSA Certified. For additional details, consult factory.

**Maximum Ambient Temperature**  
150°F

Please refer to page A73 for details.

## Applications:

- Blow molding
- Compressors
- Car washing equipment
- Pumps

\*Table 1:

| Allowable Max. Seat Leakage Chart |                  |
|-----------------------------------|------------------|
| Valve                             | Leakage on gases |
| 06F28, 08F28, 12F28               | 472 cc/min       |
| 73216                             | 50 cc/min        |
| 7321H, 7322H                      | 25 cc/min        |

**2-Way Direct Acting - High Pressure - Normally Closed - Brass**

| Port Size<br>NPT | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal* | Pressure Vessel Number | Reference |       |
|------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|-------|------------------------|-----------|-------|
|                  |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |       |                        | Coil      | Valve |

**AC TECHNICAL SPECIFICATIONS**

|     |      |      |   |      |      |      |    |     |       |              |   |     |
|-----|------|------|---|------|------|------|----|-----|-------|--------------|---|-----|
| 1/8 | 1/16 | 0.11 | 0 | 1000 | 1000 | 1000 | 10 | 165 | PCTFE | 7121KBN1GF00 | 7 | A65 |
| 1/8 | 3/32 | 0.24 | 0 | 725  | 725  | 725  | 22 | 210 | RUBY  | 7121KBN1LR00 | 8 | A65 |
| 1/8 | 3/32 | 0.24 | 0 | 500  | 500  | 500  | 10 | 210 | RUBY  | 7121KBN1LR00 | 7 | A65 |
| 1/8 | 1/8  | 0.31 | 0 | 365  | 365  | 365  | 10 | 165 | PCTFE | 7121KBN1NF00 | 7 | A65 |
| 1/4 | 1/16 | 0.11 | 0 | 1450 | 1450 | 1450 | 22 | 210 | RUBY  | 7121KBN2GR00 | 8 | A65 |
| 1/4 | 1/16 | 0.11 | 0 | 1100 | 1100 | 1100 | 10 | 210 | RUBY  | 7121KBN2GR00 | 7 | A65 |
| 1/4 | 1/16 | 0.11 | 0 | 1000 | 1000 | 1000 | 10 | 165 | PCTFE | 7121KBN2GF00 | 7 | A65 |
| 1/4 | 5/64 | 0.17 | 0 | 1030 | 1030 | 1030 | 22 | 210 | RUBY  | 7121KBN2JR00 | 8 | A65 |
| 1/4 | 5/64 | 0.17 | 0 | 700  | 700  | 700  | 10 | 210 | RUBY  | 7121KBN2JR00 | 7 | A65 |
| 1/4 | 3/32 | 0.24 | 0 | 725  | 725  | 725  | 22 | 210 | RUBY  | 7121KBN2LR00 | 8 | A65 |
| 1/4 | 3/32 | 0.24 | 0 | 500  | 500  | 500  | 10 | 210 | RUBY  | 7121KBN2LR00 | 7 | A65 |
| 1/4 | 1/8  | 0.31 | 0 | 525  | 525  | 525  | 22 | 210 | RUBY  | 7121KBN2NR00 | 8 | A65 |
| 1/4 | 1/8  | 0.31 | 0 | 365  | 365  | 365  | 10 | 165 | PCTFE | 7121KBN2NF00 | 7 | A65 |
| 1/4 | 1/8  | 0.31 | 0 | 365  | 365  | 365  | 10 | 210 | RUBY  | 7121KBN2NR00 | 7 | A65 |

**DC TECHNICAL SPECIFICATIONS**

|     |      |      |   |     |     |     |    |     |       |              |   |     |
|-----|------|------|---|-----|-----|-----|----|-----|-------|--------------|---|-----|
| 1/8 | 1/16 | 0.11 | 0 | 700 | 700 | 700 | 22 | 165 | PCTFE | 7121KBN1GF00 | 8 | A65 |
| 1/8 | 1/16 | 0.11 | 0 | 435 | 435 | 435 | 10 | 165 | PCTFE | 7121KBN1GF00 | 7 | A65 |
| 1/8 | 3/32 | 0.24 | 0 | 320 | 320 | 320 | 22 | 210 | RUBY  | 7121KBN1LR00 | 8 | A65 |
| 1/8 | 3/32 | 0.24 | 0 | 175 | 175 | 175 | 10 | 210 | RUBY  | 7121KBN1LR00 | 7 | A65 |
| 1/8 | 1/8  | 0.31 | 0 | 205 | 205 | 205 | 22 | 165 | PCTFE | 7121KBN1NF00 | 8 | A65 |
| 1/8 | 1/8  | 0.31 | 0 | 125 | 125 | 125 | 10 | 165 | PCTFE | 7121KBN1NF00 | 7 | A65 |
| 1/4 | 1/16 | 0.11 | 0 | 800 | 800 | 800 | 22 | 210 | RUBY  | 7121KBN2GR00 | 8 | A65 |
| 1/4 | 1/16 | 0.11 | 0 | 700 | 700 | 700 | 22 | 165 | PCTFE | 7121KBN2GF00 | 8 | A65 |
| 1/4 | 1/16 | 0.11 | 0 | 435 | 435 | 435 | 10 | 210 | RUBY  | 7121KBN2GR00 | 7 | A65 |
| 1/4 | 1/16 | 0.11 | 0 | 435 | 435 | 435 | 10 | 165 | PCTFE | 7121KBN2GF00 | 7 | A65 |
| 1/4 | 5/64 | 0.17 | 0 | 460 | 460 | 460 | 22 | 210 | RUBY  | 7121KBN2JR00 | 8 | A65 |
| 1/4 | 5/64 | 0.17 | 0 | 260 | 260 | 260 | 10 | 210 | RUBY  | 7121KBN2JR00 | 7 | A65 |
| 1/4 | 3/32 | 0.24 | 0 | 320 | 320 | 320 | 22 | 210 | RUBY  | 7121KBN2LR00 | 8 | A65 |
| 1/4 | 3/32 | 0.24 | 0 | 175 | 175 | 175 | 10 | 210 | RUBY  | 7121KBN2LR00 | 7 | A65 |
| 1/4 | 1/8  | 0.31 | 0 | 220 | 220 | 220 | 22 | 210 | RUBY  | 7121KBN2NR00 | 8 | A65 |
| 1/4 | 1/8  | 0.31 | 0 | 205 | 205 | 205 | 22 | 165 | PCTFE | 7121KBN2NF00 | 8 | A65 |
| 1/4 | 1/8  | 0.31 | 0 | 125 | 125 | 125 | 10 | 210 | RUBY  | 7121KBN2NR00 | 7 | A65 |
| 1/4 | 1/8  | 0.31 | 0 | 125 | 125 | 125 | 10 | 165 | PCTFE | 7121KBN2NF00 | 7 | A65 |

\*RUBY Seals: Allowable Seat leakage is 90 cc/min on air and inert gas at rated pressure: 7121KBNxxRxx





**2-Way Direct Acting - High Pressure - Normally Closed - Stainless Steel**

| Port Size<br>NPT                   | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure<br>Differential (MOPD) PSI |                      |       |              | Watt | Max. Media<br>Temp.<br>°F | Seal* | Pressure<br>Vessel Number | Reference |       |
|------------------------------------|---------------------|-------------------|---|----------------------|-------|--------------|------|---------------------------|-------|---------------------------|-----------|-------|
|                                    |                     |                   | Min.  | Air,<br>Inert<br>Gas | Water | Light<br>Oil |      |                           |       |                           | Coil      | Valve |
| <b>AC TECHNICAL SPECIFICATIONS</b> |                     |                   |   |                      |       |              |      |                           |       |                           |           |       |
| 1/8                                | 1/32                | 0.021             | 0   | 3000                 | 3000  | 3000         | 10   | 185                       | NYLON | 71216SN1BL00              | 7         | A60   |
| 1/8                                | 3/64                | 0.037             | 0   | 1500                 | 1500  | 1500         | 10   | 185                       | RULON | 71216SN1FU00              | 7         | A60   |
| 1/8                                | 3/64                | 0.060             | 0   | 1000                 | 1000  | 1000         | 10   | 165                       | PCTFE | 71215SN1EF00              | 7         | A60   |
| 1/8                                | 1/16                | 0.070             | 0   | 1250                 | 1250  | 1250         | 10   | 185                       | NYLON | 71216SN1GL00              | 7         | A60   |
| 1/8                                | 1/16                | 0.100             | 0   | 700                  | 700   | 700          | 10   | 165                       | PCTFE | 71215SN1GF00              | 7         | A60   |
| 1/8                                | 5/64                | 0.090             | 0   | 500                  | 500   | 500          | 10   | 185                       | PTFE  | 71216SN1JT00              | 7         | A60   |
| 1/8                                | 3/32                | 0.180             | 0   | 650                  | 650   | 650          | 22   | 165                       | PCTFE | 71215SN1KF00              | 8         | A60   |
| 1/8                                | 3/32                | 0.180             | 0   | 260                  | 260   | 260          | 10   | 165                       | PCTFE | 71215SN1KF00              | 7         | A60   |
| 1/8                                | 1/8                 | 0.280             | 0   | 520                  | 520   | 520          | 22   | 165                       | PCTFE | 71215SN1MF00              | 8         | A60   |
| 1/8                                | 1/8                 | 0.280             | 0   | 200                  | 200   | 200          | 10   | 165                       | PCTFE | 71215SN1MF00              | 7         | A60   |

|     |      |       |   |      |      |      |    |     |       |              |   |     |
|-----|------|-------|---|------|------|------|----|-----|-------|--------------|---|-----|
| 1/4 | 1/32 | 0.021 | 0 | 3000 | 3000 | 3000 | 10 | 185 | NYLON | 71216SN2BL00 | 7 | A60 |
| 1/4 | 3/64 | 0.037 | 0 | 1500 | 1500 | 1500 | 10 | 185 | RULON | 71216SN2FU00 | 7 | A60 |
| 1/4 | 3/64 | 0.060 | 0 | 1000 | 1000 | 1000 | 10 | 165 | PCTFE | 71215SN2EF00 | 7 | A60 |
| 1/4 | 1/16 | 0.070 | 0 | 1250 | 1250 | 1250 | 10 | 185 | NYLON | 71216SN2GL00 | 7 | A60 |
| 1/4 | 5/64 | 0.090 | 0 | 500  | 500  | 500  | 10 | 185 | PTFE  | 71216SN2JT00 | 7 | A60 |
| 1/4 | 1/16 | 0.100 | 0 | 700  | 700  | 700  | 10 | 165 | PCTFE | 71215SN2GF00 | 7 | A60 |
| 1/4 | 3/32 | 0.180 | 0 | 650  | 650  | 650  | 22 | 165 | PCTFE | 71215SN2KF00 | 8 | A60 |
| 1/4 | 3/32 | 0.180 | 0 | 260  | 260  | 260  | 10 | 165 | PCTFE | 71215SN2KF00 | 7 | A60 |
| 1/4 | 1/8  | 0.280 | 0 | 520  | 520  | 520  | 22 | 165 | PCTFE | 71215SN2MF00 | 8 | A60 |
| 1/4 | 1/8  | 0.280 | 0 | 200  | 200  | 200  | 10 | 165 | PCTFE | 71215SN2MF00 | 7 | A60 |

**DC TECHNICAL SPECIFICATIONS**

|     |      |       |   |      |      |      |    |     |       |              |   |     |
|-----|------|-------|---|------|------|------|----|-----|-------|--------------|---|-----|
| 1/8 | 1/32 | 0.020 | 0 | 3000 | 3000 | 3000 | 22 | 185 | NYLON | 71216SN1BL00 | 8 | A60 |
| 1/8 | 1/32 | 0.020 | 0 | 2500 | 2500 | 2500 | 10 | 185 | NYLON | 71216SN1BL00 | 7 | A60 |
| 1/8 | 3/64 | 0.040 | 0 | 1000 | 1000 | 1000 | 10 | 185 | RULON | 71216SN1FU00 | 7 | A60 |
| 1/8 | 3/64 | 0.060 | 0 | 1000 | 1000 | 1000 | 22 | 165 | PCTFE | 71215SN1EF00 | 8 | A60 |
| 1/8 | 3/64 | 0.060 | 0 | 520  | 520  | 520  | 10 | 165 | PCTFE | 71215SN1EF00 | 7 | A60 |

\* NYLON Seals: Allowable Seat leakage is 50 cc/min on air and inert gas at rated pressure: 71216SNxxLxx

RULON Seals: Allowable Seat leakage is 20 cc/min on air and inert gas at rated pressure: 71216SNxxUxx

PTFE Seals: Allowable Seat leakage is 20 cc/min on air and inert gas at rated pressure: 71216SNxxTxx

**2-Way Direct Acting - High Pressure - Normally Closed - Stainless Steel (Continued)**

| Port Size<br>NPT                   | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal* | Pressure Vessel Number | Reference |       |
|------------------------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|-------|------------------------|-----------|-------|
|                                    |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |       |                        | Coil      | Valve |
| <b>DC TECHNICAL SPECIFICATIONS</b> |                     |                   |  |                |       |           |      |                        |       |                        |           |       |
| 1/8                                | 3/64                | 0.04              | 0  | 1500           | 1500  | 1500      | 22   | 185                    | RULON | 71216SN1FU00           | 8         | A60   |
| 1/8                                | 1/16                | 0.07              | 0  | 1000           | 1000  | 1000      | 22   | 185                    | NYLON | 71216SN1GL00           | 8         | A60   |
| 1/8                                | 1/16                | 0.07              | 0  | 500            | 500   | 500       | 10   | 185                    | NYLON | 71216SN1GL00           | 7         | A60   |
| 1/8                                | 5/64                | 0.09              | 0  | 400            | 400   | 400       | 22   | 185                    | PTFE  | 71216SN1JT00           | 8         | A60   |
| 1/8                                | 5/64                | 0.09              | 0  | 200            | 200   | 200       | 10   | 185                    | PTFE  | 71216SN1JT00           | 7         | A60   |
| 1/8                                | 1/16                | 0.10              | 0  | 700            | 700   | 700       | 22   | 165                    | PCTFE | 71215SN1GF00           | 8         | A60   |
| 1/8                                | 1/16                | 0.10              | 0  | 350            | 350   | 350       | 10   | 165                    | PCTFE | 71215SN1GF00           | 7         | A60   |
| 1/8                                | 3/32                | 0.18              | 0  | 300            | 300   | 300       | 22   | 165                    | PCTFE | 71215SN1KF00           | 8         | A60   |
| 1/8                                | 3/32                | 0.18              | 0  | 130            | 130   | 130       | 10   | 165                    | PCTFE | 71215SN1KF00           | 7         | A60   |
| 1/8                                | 1/8                 | 0.28              | 0  | 200            | 200   | 200       | 22   | 165                    | PCTFE | 71215SN1MF00           | 8         | A60   |
| 1/8                                | 1/8                 | 0.28              | 0  | 100            | 100   | 100       | 10   | 165                    | PCTFE | 71215SN1MF00           | 7         | A60   |
|                                    |                     |                   |  |                |       |           |      |                        |       |                        |           |       |
| 1/4                                | 1/32                | 0.02              | 0  | 3000           | 3000  | 3000      | 22   | 185                    | NYLON | 71216SN2BL00           | 8         | A60   |
| 1/4                                | 1/32                | 0.02              | 0  | 2500           | 2500  | 2500      | 10   | 185                    | NYLON | 71216SN2BL00           | 7         | A60   |
| 1/4                                | 3/64                | 0.06              | 0  | 1000           | 1000  | 1000      | 22   | 165                    | PCTFE | 71215SN2EF00           | 8         | A60   |
| 1/4                                | 3/64                | 0.06              | 0  | 520            | 520   | 520       | 10   | 165                    | PCTFE | 71215SN2EF00           | 7         | A60   |
| 1/4                                | 3/64                | 0.04              | 0  | 1500           | 1500  | 1500      | 22   | 185                    | RULON | 71216SN2FU00           | 8         | A60   |
| 1/4                                | 3/64                | 0.04              | 0  | 1000           | 1000  | 1000      | 10   | 185                    | RULON | 71216SN2FU00           | 7         | A60   |
| 1/4                                | 1/16                | 0.07              | 0  | 1000           | 1000  | 1000      | 22   | 185                    | NYLON | 71216SN2GL00           | 8         | A60   |
| 1/4                                | 1/16                | 0.07              | 0  | 500            | 500   | 500       | 10   | 185                    | NYLON | 71216SN2GL00           | 7         | A60   |
| 1/4                                | 5/64                | 0.09              | 0  | 400            | 400   | 400       | 22   | 185                    | PTFE  | 71216SN2JT00           | 8         | A60   |
| 1/4                                | 5/64                | 0.09              | 0  | 200            | 200   | 200       | 10   | 185                    | PTFE  | 71216SN2JT00           | 7         | A60   |
| 1/4                                | 1/16                | 0.10              | 0  | 700            | 700   | 700       | 22   | 165                    | PCTFE | 71215SN2GF00           | 8         | A60   |
| 1/4                                | 1/16                | 0.10              | 0  | 350            | 350   | 350       | 10   | 165                    | PCTFE | 71215SN2GF00           | 7         | A60   |
| 1/4                                | 3/32                | 0.18              | 0  | 300            | 300   | 300       | 22   | 165                    | PCTFE | 71215SN2KF00           | 8         | A60   |
| 1/4                                | 3/32                | 0.18              | 0  | 130            | 130   | 130       | 10   | 165                    | PCTFE | 71215SN2KF00           | 7         | A60   |
| 1/4                                | 1/8                 | 0.28              | 0  | 200            | 200   | 200       | 22   | 165                    | PCTFE | 71215SN2MF00           | 8         | A60   |
| 1/4                                | 1/8                 | 0.28              | 0  | 100            | 100   | 100       | 10   | 165                    | PCTFE | 71215SN2MF00           | 7         | A60   |

\* NYLON Seals: Allowable Seat leakage is 50 cc/min on air and inert gas at rated pressure: 71216SNxxLxx  
RULON Seals: Allowable Seat leakage is 20 cc/min on air and inert gas at rated pressure: 71216SNxxUxx  
PTFE Seals: Allowable Seat leakage is 20 cc/min on air and inert gas at rated pressure: 71216SNxxTxx

**2-Way Direct Acting - High Pressure - Normally Open - Brass**

| Port Size<br>NPT | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal | Pressure Vessel Number | Reference |       |
|------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|------|------------------------|-----------|-------|
|                  |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |      |                        | Coil      | Valve |

**AC TECHNICAL SPECIFICATIONS**

|     |      |      |   |     |     |     |    |     |       |              |   |     |
|-----|------|------|---|-----|-----|-----|----|-----|-------|--------------|---|-----|
| 1/8 | 1/16 | 0.11 | 0 | 435 | 435 | 435 | 10 | 165 | PCTFE | 7122KBN1GF00 | 7 | A65 |
| 1/8 | 3/32 | 0.21 | 0 | 175 | 175 | 175 | 10 | 165 | PCTFE | 7122KBN1LF00 | 7 | A65 |
| 1/4 | 1/16 | 0.11 | 0 | 435 | 435 | 435 | 10 | 165 | PCTFE | 7122KBN2GF00 | 7 | A65 |
| 1/4 | 3/32 | 0.21 | 0 | 175 | 175 | 175 | 10 | 165 | PCTFE | 7122KBN2LF00 | 7 | A65 |

**DC TECHNICAL SPECIFICATIONS**

|     |      |      |   |     |     |     |    |     |       |              |   |     |
|-----|------|------|---|-----|-----|-----|----|-----|-------|--------------|---|-----|
| 1/8 | 1/16 | 0.11 | 0 | 435 | 435 | 435 | 10 | 165 | PCTFE | 7122KBN1GF00 | 7 | A65 |
| 1/8 | 3/32 | 0.21 | 0 | 175 | 175 | 175 | 10 | 165 | PCTFE | 7122KBN1LF00 | 7 | A65 |
| 1/4 | 1/16 | 0.11 | 0 | 435 | 435 | 435 | 10 | 165 | PCTFE | 7122KBN2GF00 | 7 | A65 |
| 1/4 | 3/32 | 0.21 | 0 | 175 | 175 | 175 | 10 | 165 | PCTFE | 7122KBN2LF00 | 7 | A65 |

**2-Way Direct Acting - High Pressure - Normally Open - Stainless Steel**

| Port Size<br>NPT | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal | Pressure Vessel Number | Reference |       |
|------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|------|------------------------|-----------|-------|
|                  |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |      |                        | Coil      | Valve |

**AC TECHNICAL SPECIFICATIONS**

|     |      |      |   |     |     |     |    |     |       |              |   |     |
|-----|------|------|---|-----|-----|-----|----|-----|-------|--------------|---|-----|
| 1/8 | 3/64 | 0.05 | 0 | 750 | 750 | 750 | 10 | 165 | PCTFE | 71225SN1EF00 | 7 | A64 |
| 1/8 | 1/16 | 0.11 | 0 | 400 | 400 | 400 | 10 | 165 | PCTFE | 71225SN1GF00 | 7 | A64 |
| 1/8 | 3/32 | 0.15 | 0 | 170 | 170 | 170 | 10 | 165 | PCTFE | 71225SN1KF00 | 7 | A64 |
| 1/4 | 3/64 | 0.05 | 0 | 750 | 750 | 750 | 10 | 165 | PCTFE | 71225SN2EF00 | 7 | A64 |
| 1/4 | 1/16 | 0.11 | 0 | 400 | 400 | 400 | 10 | 165 | PCTFE | 71225SN2GF00 | 7 | A64 |
| 1/4 | 3/32 | 0.15 | 0 | 170 | 170 | 170 | 10 | 165 | PCTFE | 71225SN2KF00 | 7 | A64 |

**DC TECHNICAL SPECIFICATIONS**

|     |      |      |   |     |     |     |    |     |       |              |   |     |
|-----|------|------|---|-----|-----|-----|----|-----|-------|--------------|---|-----|
| 1/8 | 3/64 | 0.05 | 0 | 750 | 750 | 750 | 10 | 165 | PCTFE | 71225SN1EF00 | 7 | A64 |
| 1/8 | 1/16 | 0.11 | 0 | 400 | 400 | 400 | 10 | 165 | PCTFE | 71225SN1GF00 | 7 | A64 |
| 1/8 | 3/32 | 0.15 | 0 | 170 | 170 | 170 | 10 | 165 | PCTFE | 71225SN1KF00 | 7 | A64 |
| 1/4 | 3/64 | 0.05 | 0 | 750 | 750 | 750 | 10 | 165 | PCTFE | 71225SN2EF00 | 7 | A64 |
| 1/4 | 1/16 | 0.11 | 0 | 400 | 400 | 400 | 10 | 165 | PCTFE | 71225SN2GF00 | 7 | A64 |
| 1/4 | 3/32 | 0.15 | 0 | 170 | 170 | 170 | 10 | 165 | PCTFE | 71225SN2KF00 | 7 | A64 |

**2-Way Internal Pilot Operated - High Pressure - Normally Closed - Brass**

| Port Size<br>NPT | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure<br>Differential (MOPD) PSI |                      |       |              | Watt | Max.<br>Media<br>Temp.<br>°F | Seal* | Pressure<br>Vessel Number | Reference |       |
|------------------|---------------------|-------------------|---|----------------------|-------|--------------|------|------------------------------|-------|---------------------------|-----------|-------|
|                  |                     |                   | Min.  | Air,<br>Inert<br>Gas | Water | Light<br>Oil |      |                              |       |                           | Coil      | Valve |

**AC TECHNICAL SPECIFICATIONS**

|     |      |      |    |      |      |      |    |     |      |               |   |     |
|-----|------|------|----|------|------|------|----|-----|------|---------------|---|-----|
| 1/4 | 1/4  | 0.76 | 5  | 1500 | 1500 | 1500 | 10 | 210 | PTFE | 73216BN2MT00  | 7 | A61 |
| 1/4 | 5/16 | 1.50 | 15 | 1500 | 1500 | 1500 | 11 | 200 | DEL  | 04F28C1D20ACF | 4 | A56 |
| 1/4 | 5/16 | 2.50 | 5  | 600  | 600  | 600  | 10 | 185 | NBR  | 7321HBN2SN00  | 7 | A63 |
| 3/8 | 5/16 | 1.50 | 15 | 1500 | 1500 | 1500 | 11 | 200 | DEL  | 06F28C1D20ACF | 4 | A57 |
| 3/8 | 7/16 | 3.50 | 5  | 600  | 600  | 600  | 10 | 185 | NBR  | 7321HBN3TN00  | 7 | A63 |
| 1/2 | 3/8  | 3.20 | 25 | 1500 | 1500 | 1500 | 11 | 200 | DEL  | 08F28C1D24ACF | 4 | A58 |
| 1/2 | 9/16 | 4.10 | 5  | 600  | 600  | 600  | 10 | 185 | NBR  | 7321HBN4UN00  | 7 | A63 |
| 3/4 | 3/4  | 7.80 | 25 | 1000 | 1000 | 1000 | 11 | 200 | DEL  | 12F28C1D48BCF | 4 | A59 |

**DC TECHNICAL SPECIFICATIONS**

|     |      |      |    |      |      |      |      |     |      |               |   |     |
|-----|------|------|----|------|------|------|------|-----|------|---------------|---|-----|
| 1/4 | 5/16 | 2.50 | 5  | 600  | 600  | 600  | 22   | 185 | NBR  | 7321HBN2SN00  | 8 | A63 |
| 1/4 | 5/16 | 2.50 | 5  | 435  | 435  | 435  | 10   | 185 | NBR  | 7321HBN2SN00  | 7 | A63 |
| 1/4 | 1/4  | 0.76 | 5  | 1500 | 1500 | 1500 | 22   | 210 | PTFE | 73216BN2MT00  | 8 | A61 |
| 1/4 | 1/4  | 0.76 | 5  | 800  | 800  | 800  | 10   | 210 | PTFE | 73216BN2MT00  | 7 | A61 |
| 3/8 | 7/16 | 3.50 | 5  | 600  | 600  | 600  | 22   | 185 | NBR  | 7321HBN3TN00  | 8 | A63 |
| 3/8 | 7/16 | 3.50 | 5  | 435  | 435  | 435  | 10   | 185 | NBR  | 7321HBN3TN00  | 7 | A63 |
| 1/2 | 3/8  | 3.20 | 25 | 500  | 500  | 500  | 11.5 | 150 | DEL  | 08F28C1D24A3F | 6 | A58 |
| 1/2 | 9/16 | 4.10 | 5  | 600  | 600  | 600  | 22   | 185 | NBR  | 7321HBN4UN00  | 8 | A63 |
| 1/2 | 9/16 | 4.10 | 5  | 435  | 435  | 435  | 10   | 185 | NBR  | 7321HBN4UN00  | 7 | A63 |
| 3/4 | 3/4  | 7.80 | 25 | 450  | 450  | 450  | 11.5 | 150 | DEL  | 12F28C1D48A3F | 6 | A59 |

\* PTFE Seals: Allowable Seat leakage is 50 cc/min on air and inert gas at rated pressure: 73216BNxxTxx  
 DELRIN Seals: Allowable Seat leakage is 472 cc/min on air and inert gas at rated pressure: xxF28C1Dxxxx

**2-Way Internal Pilot Operated - High Pressure - Normally Closed - Stainless Steel**

| Port Size<br>NPT | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal* | Pressure Vessel Number | Reference |       |
|------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|-------|------------------------|-----------|-------|
|                  |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |       |                        | Coil      | Valve |
| 1/4              | 1/4                 | 0.76              | 5  | 1500           | 1500  | 1500      | 10   | 210                    | PTFE  | 73216SN2MT00           | 7         | A62   |

**AC TECHNICAL SPECIFICATIONS****DC TECHNICAL SPECIFICATIONS**

|     |     |      |   |      |      |      |    |     |      |              |   |     |
|-----|-----|------|---|------|------|------|----|-----|------|--------------|---|-----|
| 1/4 | 1/4 | 0.76 | 5 | 1500 | 1500 | 1500 | 22 | 210 | PTFE | 73216SN2MT00 | 8 | A62 |
| 1/4 | 1/4 | 0.76 | 5 | 800  | 800  | 800  | 10 | 210 | PTFE | 73216SN2MT00 | 7 | A62 |

\* PTFE Seals: Allowable Seat leakage is 50 cc/min on air and inert gas at rated pressure: 73216BNxxTxx  
 DELRIN Seals: Allowable Seat leakage is 472 cc/min on air and inert gas at rated pressure: xxF28C1Dxxxx

**2-Way Internal Pilot Operated - High Pressure - Normally Opened - Brass**

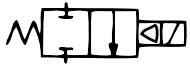
| Port Size<br>NPT | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |                |       |           | Watt | Max. Media Temp.<br>°F | Seal* | Pressure Vessel Number | Reference |       |
|------------------|---------------------|-------------------|--|----------------|-------|-----------|------|------------------------|-------|------------------------|-----------|-------|
|                  |                     |                   | Min.                                       | Air, Inert Gas | Water | Light Oil |      |                        |       |                        | Coil      | Valve |
| 1/4              | 5/16                | 2.50              | 5  | 600            | 600   | 600       | 10   | 185                    | FKM   | 7322HBN2SV00           | 7         | A63   |
| 3/8              | 7/16                | 3.50              | 5  | 600            | 600   | 600       | 10   | 185                    | NBR   | 7322HBN3TN00           | 7         | A63   |
| 1/2              | 3/8                 | 3.20              | 25   | 1000           | 1000  | 1000      | 11   | 200                    | DEL   | 08F28O1D24ACF          | 4         | A58   |
| 1/2              | 9/16                | 4.10              | 5  | 600            | 600   | 600       | 10   | 185                    | NBR   | 7322HBN4UN00           | 7         | A63   |
| 3/4              | 3/4                 | 7.80              | 25   | 500            | 500   | 500       | 11   | 200                    | DEL   | 12F28O1D48BCF          | 4         | A59   |

**AC TECHNICAL SPECIFICATIONS****DC TECHNICAL SPECIFICATIONS**

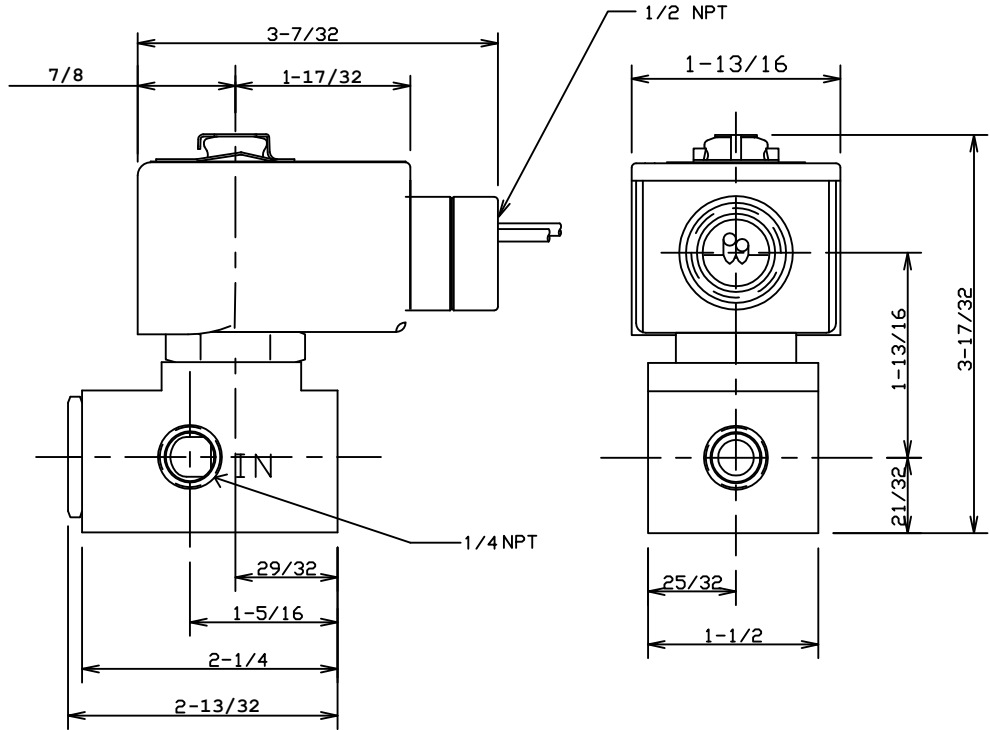
|     |      |      |   |     |     |     |    |     |     |              |   |     |
|-----|------|------|---|-----|-----|-----|----|-----|-----|--------------|---|-----|
| 1/4 | 5/16 | 2.50 | 5 | 600 | 600 | 600 | 10 | 185 | FKM | 7322HBN2SV00 | 7 | A63 |
| 3/8 | 7/16 | 3.50 | 5 | 600 | 600 | 600 | 10 | 185 | NBR | 7322HBN3TN00 | 7 | A63 |
| 1/2 | 9/16 | 4.10 | 5 | 600 | 600 | 600 | 10 | 185 | NBR | 7322HBN4UN00 | 7 | A63 |

\* PTFE Seals: Allowable Seat leakage is 50 cc/min on air and inert gas at rated pressure: 73216BNxxTxx  
 DELRIN Seals: Allowable Seat leakage is 472 cc/min on air and inert gas at rated pressure: xxF28O1Dxxxx

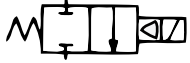
## Valve Reference A56



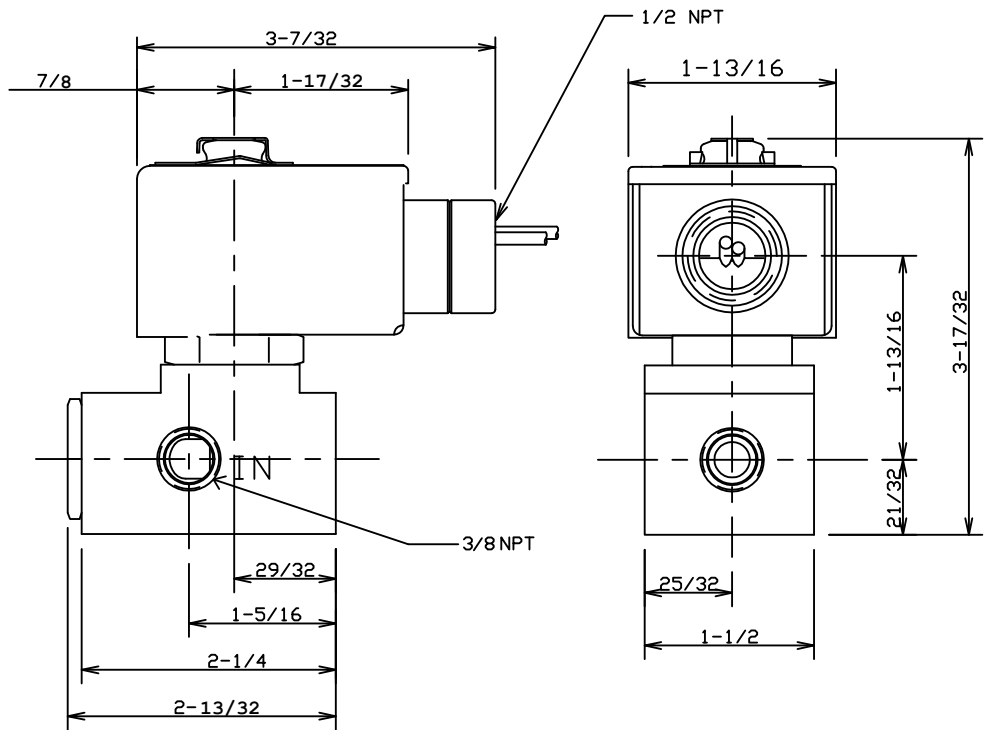
2-Way Normally Closed  
04F28Cxxx  
Port Identification:  
IN-IN/ OUT-OUT



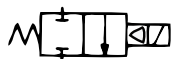
## Valve Reference A57



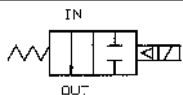
2-Way Normally Closed  
06F28Cxxx  
Port Identification:  
IN-IN/ OUT-OUT



## Valve Reference A58

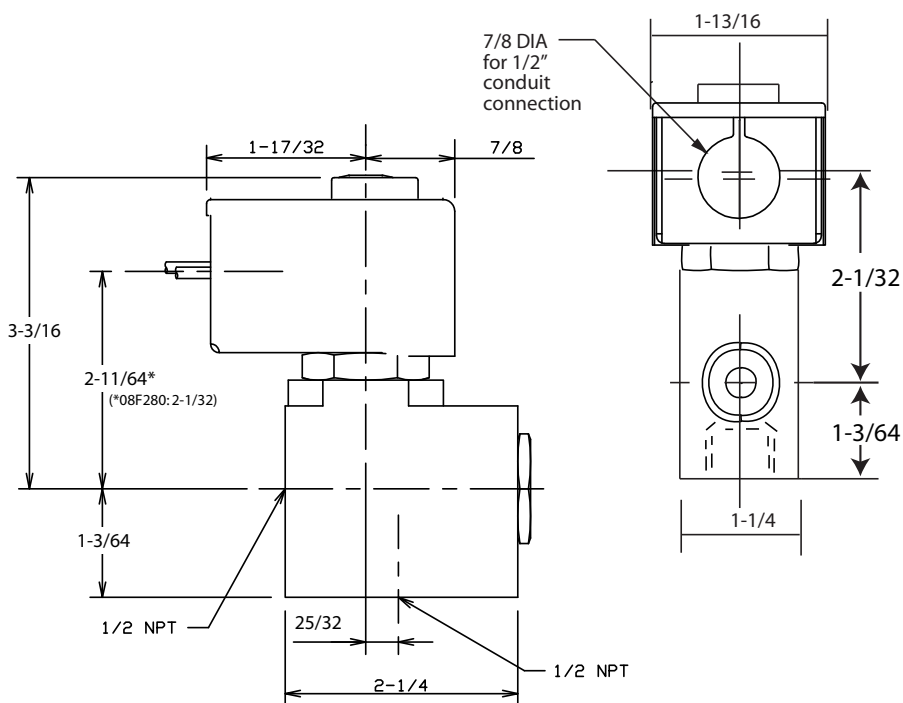


2-Way Normally Closed  
08F28Cxx



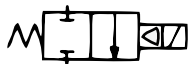
2-Way Normally Open  
08F280xx

Port Identification:  
IN-IN/ OUT-OUT

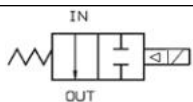


2-Way

## Valve Reference A59

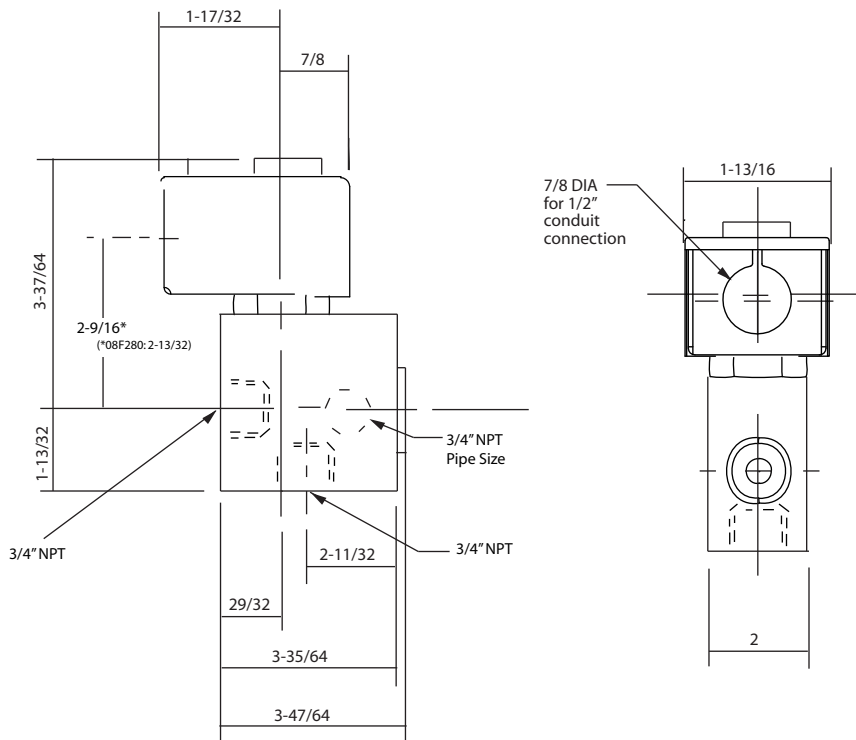


2-Way Normally Closed  
12F28Cxx



2-Way Normally Open  
12F280xx

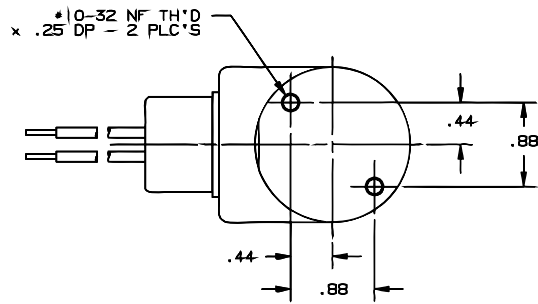
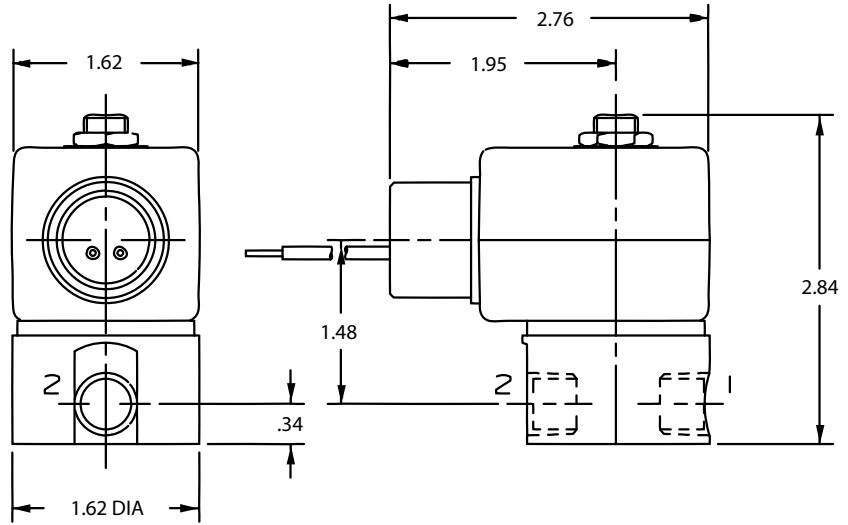
Port Identification:  
IN-IN/ OUT-OUT



## Valve Reference A60



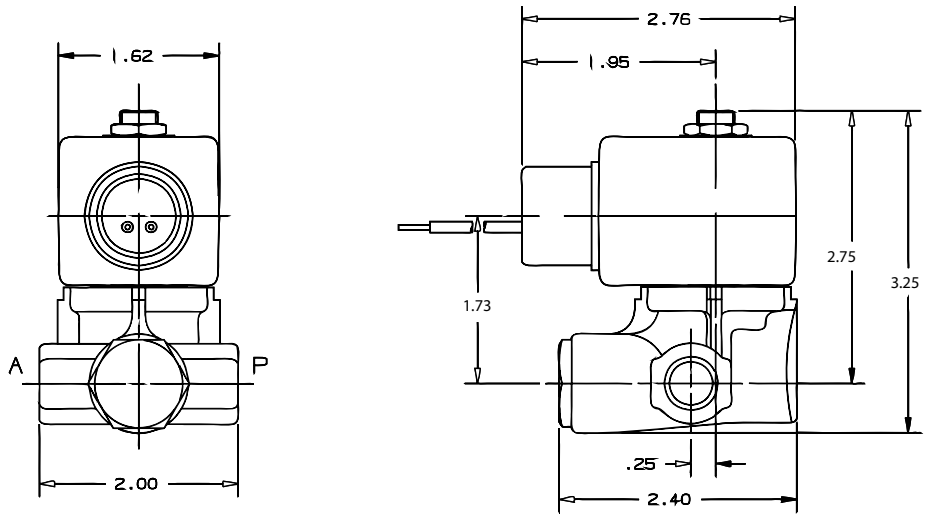
2-Way Normally Closed  
 Port Identification:  
 1-OUT/ 2-IN



## Valve Reference A61

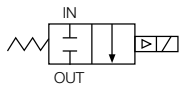


2-Way Normally Closed  
 Port Identification:  
 P-IN/ A-OUT

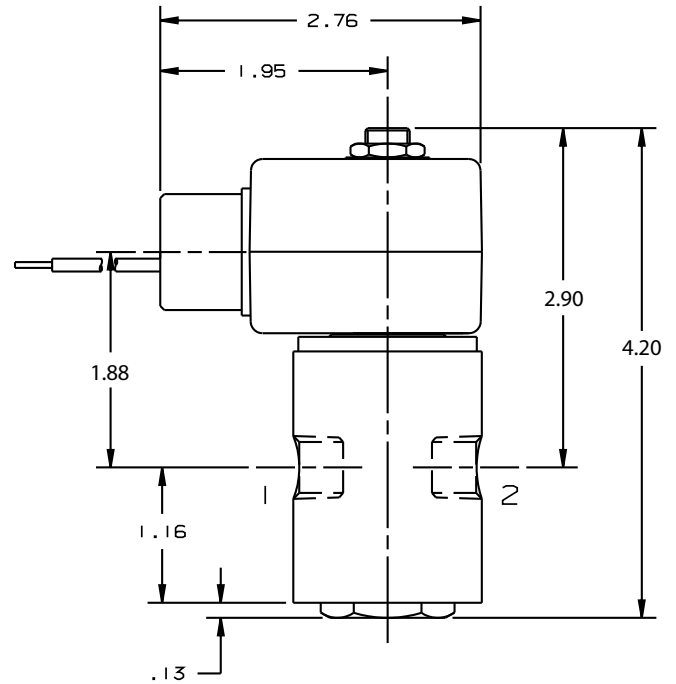
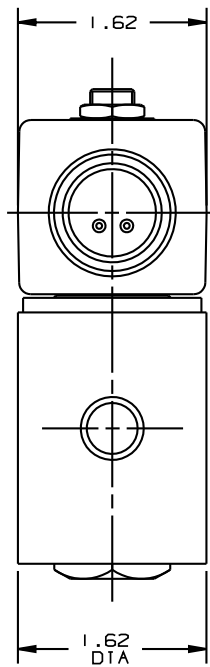




## Valve Reference A62

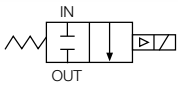


2-Way Normally Closed  
Port Identification:  
2-IN/ 1-OUT

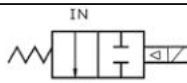


2-Way

## Valve Reference A63



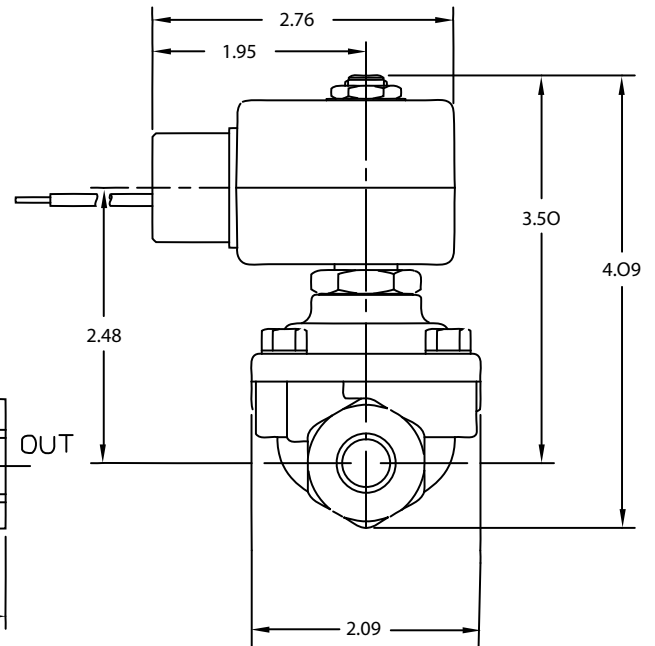
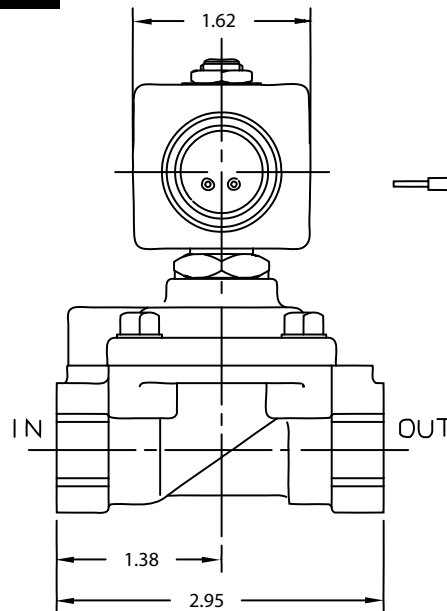
2-Way Normally Closed  
7321HBxx



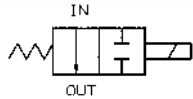
2-Way Normally Open  
7322HBxx

Port Identification:

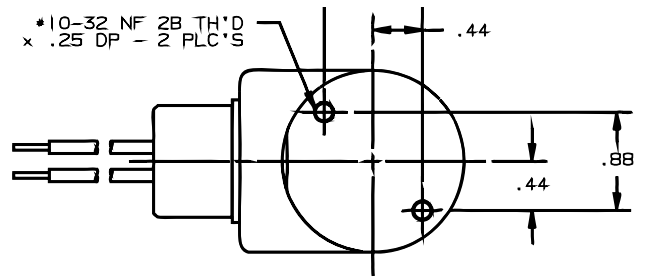
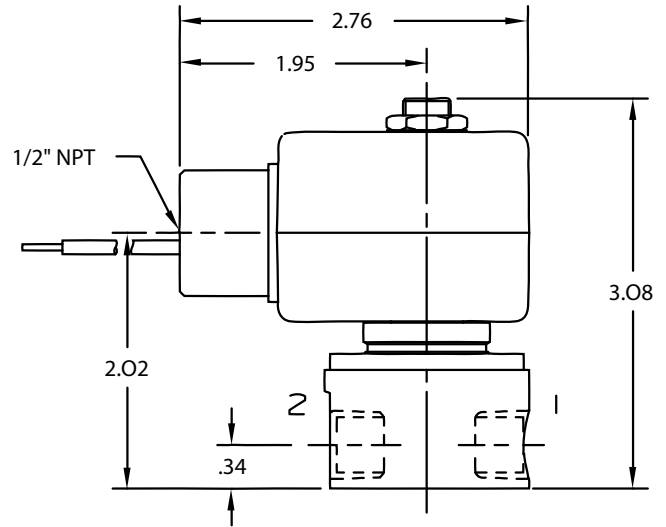
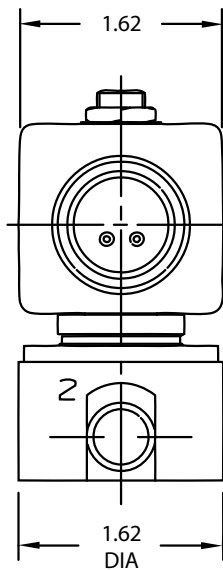
Flow arrow on body indicates flow direction. Ports are not marked.



### Valve Reference A64

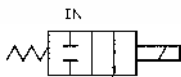


2-Way Normally Open  
Port Identification:  
2-IN/ 1-OUT

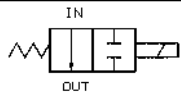


\*10-32 NF 2B TH'D  
x .25 DP - 2 PLC'S

### Valve Reference A65

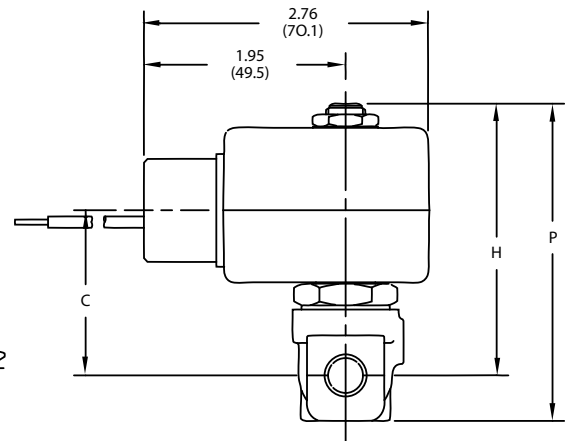
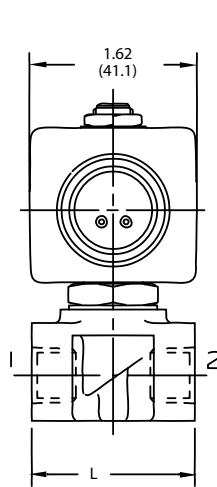


2-Way Normally Closed  
7121KBNxx

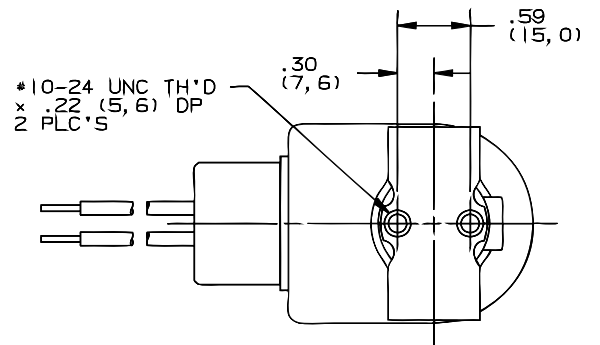


2-Way Normally Open  
7122KBNxx

Port Identification:  
1-IN/2-OUT



| Valve        | Dimensions |      |      |      |
|--------------|------------|------|------|------|
|              | H          | P    | C    | L    |
| 7121KBN1XXXX |            |      |      |      |
| 7121KBN2XXXX |            |      |      |      |
| 7122KBN1XXXX | 2.63       | 3.07 | 1.61 | 1.57 |
| 7122KBN2XXXX |            |      |      |      |
| 7121KBN3XXXX | 2.57       | 3.08 | 1.55 | 1.97 |



\*10-24 UNC TH'D  
x .22 (5, 6) DP  
2 PLC'S

**2-Way Direct Acting Materials of Construction\*\***

| Product* | Wattage | Type | Port Size | Body  | Sleeve Tube | Sleeve Stop    | Sleeve Flange   | "Plunger Blank" | Plunger Spring | Shading Ring | Max. Ambient Temp. |
|----------|---------|------|-----------|-------|-------------|----------------|-----------------|-----------------|----------------|--------------|--------------------|
| 71215SN  | 10      | 2WNC | 1/8 - 3/8 | 430F  | 304SS       | 430FR          | 430F            | 430FR           | 18-8SS         | Copper       | 150°F              |
| 71215SN  | 22      | 2WNC | 1/8 - 3/8 | 430F  | 304SS       | 430FR          | 430F            | 430FR           | 18-8SS         | Copper       | 77°F               |
| 71216SN  | 10      | 2WNC | 1/8 - 1/4 | 430F  | 304SS       | 430FR          | 430F            | 430FR           | 18-8SS         | Copper       | 150°F              |
| 71216SN  | 22      | 2WNC | 1/8 - 1/4 | 430F  | 304SS       | 430FR          | 430F            | 430FR           | 18-8SS         | Copper       | 77°F               |
| 7121KBN  | 10      | 2WNC | 1/8 - 3/8 | Brass | 304SS       | 430FR          | 430F            | 430FR           | 18-8SS         | Copper       | 150°F              |
| 7121KBN  | 22      | 2WNC | 1/8 - 3/8 | Brass | 304SS       | 430FR          | 430F            | 430FR           | 18-8SS         | Copper       | 77°F               |
| 71225SN  | 10      | 2WNO | 1/8 - 1/4 | 430F  | 304SS       | 430FR          | 430F            | 430FR           | 18-8SS         | Copper       | 150°F              |
| 71225SN  | 22      | 2WNO | 1/8 - 1/4 | 430F  | 304SS       | 430FR          | 430F            | 430FR           | 18-8SS         | Copper       | 77°F               |
| 7122KBN  | 10      | 2WNO | 1/8 - 1/4 | Brass | 304SS       | 430FR          | 430F            | 430FR           | 301SS          | Copper       | 150°F              |
| 7122KBN  | 22      | 2WNO | 1/8 - 1/4 | Brass | 304SS       | 430FR          | 430F            | 430FR           | 301SS          | Copper       | 77°F               |
| 73216BN  | 10      | 2WNC | 1/4       | Brass | 304SS       | 430FR          | 430F            | 430FR           | 18-8SS         | Copper       | 150°F              |
| 73216BN  | 22      | 2WNC | 1/4       | Brass | 304SS       | 430FR          | 430F            | 430FR           | 18-8SS         | Copper       | 77°F               |
| 73216SN  | 10      | 2WNC | 1/4       | 316SS | 304SS       | 430FR          | 430F            | 430FR           | 18-8SS         | Copper       | 150°F              |
| 73216SN  | 22      | 2WNC | 1/4       | 316SS | 304SS       | 430FR          | 430F            | 430FR           | 18-8SS         | Copper       | 77°F               |
| 7321HBN  | 10      | 2WNC | 1/4 - 1/2 | Brass | 304SS       | 430FR          | 430F            | 430FR           | 301SS          | Copper       | 150°F              |
| 7321HBN  | 22      | 2WNC | 1/4 - 1/2 | Brass | 304SS       | 430FR          | 430F            | 430FR           | 301SS          | Copper       | 77°F               |
| 7322HBN  | 10      | 2WNO | 1/4 - 1/2 | Brass | 304SS       | 430FR/<br>4106 | 430F/<br>4144   | 430FR           | 301SS          | Copper       | 150°F              |
| 7322HBN  | 22      | 2WNO | 1/4 - 1/2 | Brass | 304SS       | 430FR/<br>4106 | 430F/<br>4144   | 430FR           | 301SS          | Copper       | 77°F               |
| 04F28C1  | 11      | 2WNC | 1/4       | Brass | 305SS       | 430FR          | 12L14<br>Plated | 430FR           | 302SS          | Copper       | 130°F              |
| 06F28C1  | 11      | 2WNC | 3/8       | Brass | 305SS       | 430FR          | 12L14<br>Plated | 430FR           | 302SS          | Copper       | 130°F              |
| 08F28C1  | 11      | 2WNC | 1/2       | Brass | 305SS       | 430FR          | 12L14<br>Plated | 430FR           | 302SS          | Copper       | 130°F              |
| 08F28C1  | 11.5    | 2WNC | 1/2       | Brass | 305SS       | 430FR          | 12L14<br>Plated | 430FR           | 302SS          | Copper       | 77°F               |
| 08F28O1  | 11      | 2WNO | 1/2       | Brass | 305SS       | 430FR          | 12L14<br>Plated | 430FR           | 302SS          | Copper       | 130°F              |
| 12F28C1  | 11.5    | 2WNC | 3/4       | Brass | 305SS       | 430FR          | 12L14<br>Plated | 430FR           | 302SS          | Copper       | 77°F               |
| 12F28C1  | 11      | 2WNC | 3/4       | Brass | 305SS       | 430FR          | 12L14<br>Plated | 430FR           | 302SS          | Copper       | 130°F              |
| 12F28O1  | 11      | 2WNO | 3/4       | Brass | 305SS       | 430FR          | 12L14<br>Plated | 430FR           | 302SS          | Copper       | 130°F              |

\* Shows the first 7 digits of the pressure vessel part number.

\*\* Maximum ambient temperature shown is the rating when valve is operating at the maximum fluid temperature as shown in the product sections for each of the valves in this catalog.



# 2-Way

## Anti-Water Hammer & Slow Closing Valves 3/8" - 2" NPT



2-Way

### General Description:

2-way Anti-Water Hammer and Slow Closing valves are designed for liquid applications where the installation is susceptible to shock waves caused by the abrupt closing of the valves. Anti-water hammer valves have integral speed control so that the valve closes in a more controlled and slower manner, thus eliminating the shock to the system piping. Pilot operated valves require the minimum pressure differential specified for proper valve operation.

#### Installation

Valves should be mounted with solenoid coils vertical and upright.

#### Standard Materials of Construction

Please refer to page A80

#### Compatible Fluids

Water, hydraulic fluids and other non-compressible media.

### Electrical Characteristics:

#### Standard Voltages:

AC -24/60

120/60-110/50

240/60-220/50

DC -12, 24 & 120

For other voltages - consult factory



#### Coil Classification:

Class F standard

Class H available

#### Agency Approvals:

Standard valves with NEMA 4X or explosion proof solenoid enclosures are UL Listed and CSA Certified. For additional details, consult factory

#### Maximum Ambient Temperature

150°F

Please refer to page A80 for details.

### Applications:

- Used in applications on water or other non-compressible liquids where normal operation may cause a 'water hammer' effect which results in shockwaves to the system that can damage the piping or other components.

## 2-Way Pilot Operated - Anti-Water Hammer - Normally Closed - Brass

| Port Size<br>NPT                   | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |  | Watt | Max. Media Temp.<br>°F | Seal | Pressure Vessel Number** | Reference |       |
|------------------------------------|---------------------|-------------------|--|--|------|------------------------|------|--------------------------|-----------|-------|
|                                    |                     |                   | Min.                                       | Water and other non-compressible media |      |                        |      |                          | Coil      | Valve |
| <b>AC TECHNICAL SPECIFICATIONS</b> |                     |                   |  |  |      |                        |      |                          |           |       |
| 3/8                                | 7/16                | 2.5               | 3  | 150                                    | 10   | 185                    | NBR  | 7321KBN3SNW0             | 7         | A66   |
| 1/2                                | 7/16                | 2.5               | 3  | 150                                    | 10   | 185                    | NBR  | 7321KBN4SNW0             | 7         | A66   |
| 3/4                                | 19/32               | 5.5               | 0  | 230                                    | 10   | 185                    | NBR  | 7221GBN51NC0*            | 7         | A67   |
| 3/4                                | 25/32               | 9.6               | 5  | 230                                    | 10   | 185                    | NBR  | 7321GBN53NMC             | 7         | A68   |
| 1                                  | 1                   | 12.5              | 5  | 230                                    | 10   | 185                    | NBR  | 7321GBN64NMC             | 7         | A68   |
| 1                                  | 1                   | 11.7              | 0  | 230                                    | 10   | 185                    | NBR  | 7221GBN64NC0*            | 7         | A67   |
| 1 1/4                              | 1 1/8               | 19.3              | 5  | 230                                    | 10   | 185                    | NBR  | 7321GBN76NMC             | 7         | A68   |
| 1 1/2                              | 1 9/16              | 29.0              | 5  | 230                                    | 10   | 185                    | NBR  | 7321GBN88NMC             | 7         | A68   |
| 2                                  | 1 9/16              | 38.6              | 5  | 230                                    | 10   | 185                    | NBR  | 7321GBN99NMC             | 7         | A68   |
| <b>DC TECHNICAL SPECIFICATIONS</b> |                     |                   |  |  |      |                        |      |                          |           |       |
| 3/8                                | 7/16                | 2.5               | 3  | 150                                    | 22   | 185                    | NBR  | 7321KBN3SNW0             | 8         | A66   |
| 3/8                                | 7/16                | 2.5               | 3  | 60                                     | 10   | 185                    | NBR  | 7321KBN3SNW0             | 7         | A66   |
| 1/2                                | 7/16                | 2.5               | 3  | 150                                    | 22   | 185                    | NBR  | 7321KBN4SNW0             | 8         | A66   |
| 1/2                                | 7/16                | 2.5               | 3  | 60                                     | 10   | 185                    | NBR  | 7321KBN4SNW0             | 7         | A66   |
| 3/4                                | 3/4                 | 9.6               | 5  | 230                                    | 10   | 185                    | NBR  | 7321GBN53NMC             | 7         | A68   |
| 3/4                                | 19/32               | 5.5               | 0  | 100                                    | 22   | 185                    | NBR  | 7221GBN51NC0*            | 8         | A67   |
| 1                                  | 1                   | 12.5              | 5  | 230                                    | 10   | 185                    | NBR  | 7321GBN64NMC             | 7         | A68   |
| 1                                  | 1                   | 11.7              | 0  | 85                                     | 22   | 185                    | NBR  | 7221GBN64NC0*            | 8         | A67   |
| 1 1/4                              | 1 1/8               | 19.3              | 5  | 230                                    | 10   | 185                    | NBR  | 7321GBN76NMC             | 7         | A68   |
| 1 1/2                              | 1 9/16              | 29.0              | 5  | 230                                    | 22   | 185                    | NBR  | 7321GBN88NMC             | 8         | A68   |
| 1 1/2                              | 1 9/16              | 29.0              | 5  | 200                                    | 10   | 185                    | NBR  | 7321GBN88NMC             | 7         | A68   |
| 2                                  | 1 9/16              | 38.6              | 5  | 230                                    | 22   | 185                    | NBR  | 7321GBN99NMC             | 8         | A68   |
| 2                                  | 1 9/16              | 38.6              | 5  | 200                                    | 10   | 185                    | NBR  | 7321GBN99NMC             | 7         | A68   |

\* These are direct lift valves that will open at zero pressure differential, but not fully open until approximately 5 psi differential is achieved.

\*\* Mechanical Options indicated in pressure vessel catalog number (eleventh and twelfth digits) are as follows:  
C0=four-step adjustable closing, MC>manual override with four-step adjustable closing, W0=non-adjustable control



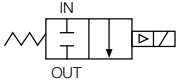
**2-Way Pilot Operated - Anti-Water Hammer - Normally Open - Brass**

| Port Size<br>NPT                   | Orifice Size<br>in. | Flow Factor<br>Cv | Operating Pressure Differential (MOPD) PSI |  | Watt | Max. Media Temp.<br>°F | Seal | Pressure Vessel Number** | Reference |       |
|------------------------------------|---------------------|-------------------|--|--|------|------------------------|------|--------------------------|-----------|-------|
|                                    |                     |                   | Min.                                       | Water and other non-compressible media |      |                        |      |                          | Coil      | Valve |
| <b>AC TECHNICAL SPECIFICATIONS</b> |                     |                   |  |  |      |                        |      |                          |           |       |
| 3/4                                | 25/32               | 9.6               | 5  | 230                                    | 10   | 185                    | NBR  | 7322GBN53NC0             | 7         | A68   |
| 1                                  | 1                   | 12.5              | 5  | 230                                    | 10   | 185                    | NBR  | 7322GBN64NC0             | 7         | A68   |
| 1 1/4                              | 1 1/8               | 19.3              | 5  | 230                                    | 10   | 185                    | NBR  | 7322GBN76NC0             | 7         | A68   |
| 1 1/2                              | 1 9/16              | 29.0              | 5  | 170                                    | 10   | 185                    | NBR  | 7322GBN88NC0             | 7         | A68   |
| 2                                  | 1 9/16              | 38.6              | 5  | 170                                    | 10   | 185                    | NBR  | 7322GBN99NC0             | 7         | A68   |
| <b>DC TECHNICAL SPECIFICATIONS</b> |                     |                   |  |  |      |                        |      |                          |           |       |
| 3/4                                | 25/32               | 9.6               | 5  | 230                                    | 10   | 185                    | NBR  | 7322GBN53NC0             | 7         | A68   |
| 1                                  | 1                   | 12.5              | 5  | 230                                    | 10   | 185                    | NBR  | 7322GBN64NC0             | 7         | A68   |
| 1 1/4                              | 1 1/8               | 19.3              | 5  | 230                                    | 10   | 185                    | NBR  | 7322GBN76NC0             | 7         | A68   |
| 1 1/2                              | 1 9/16              | 29.0              | 5  | 170                                    | 10   | 185                    | NBR  | 7322GBN88NC0             | 7         | A68   |
| 2                                  | 1 9/16              | 38.6              | 5  | 170                                    | 10   | 185                    | NBR  | 7322GBN99NC0             | 7         | A68   |

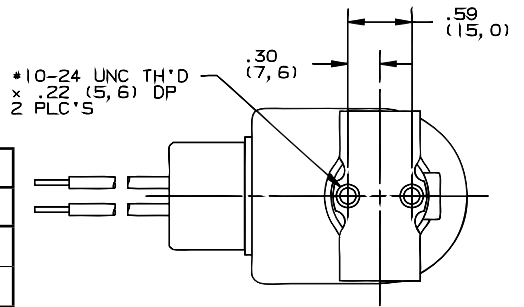
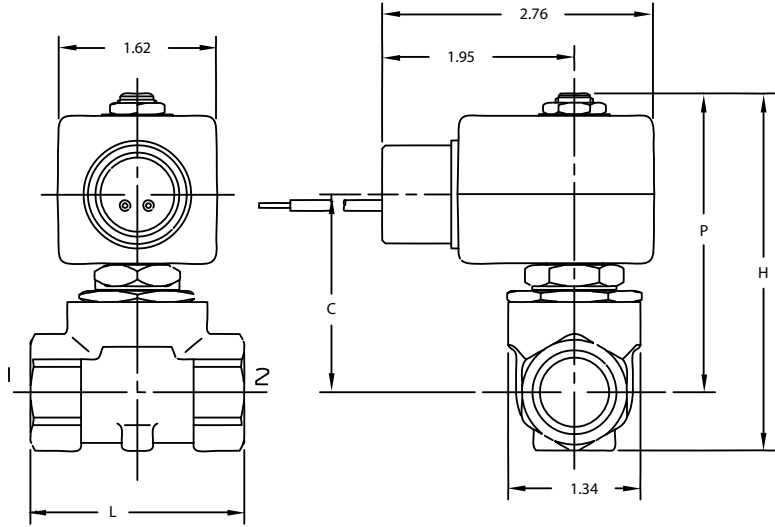
**\*\*Mechanical Options indicated in pressure vessel catalog number (eleventh and twelfth digits) are as follows: C0=four-step adjustable closing, MC>manual override with four-step adjustable closing, W0=non-adjustable control**

| Response Time |                              |                              |
|---------------|------------------------------|------------------------------|
| Valve Type    | Opening Time Range (Seconds) | Closing Time Range (Seconds) |
| 7221GBN51NC0  | 0.03                         | 0.2-1.7                      |
| 7221GBN64NC0  | 0.07-0.17                    | 0.5-4.0                      |
| 7321KBN3SNW0  | 0.015                        | 0.85                         |
| 7321KBN4SNW0  | 0.015                        | 0.85                         |
| 7321GBN53NMC  | 0.1 - 0.25                   | 0.6-4.5                      |
| 7321GBN64NMC  | 0.1 - 0.25                   | 0.6-4.5                      |
| 7321GBN76NMC  | 0.2 - 0.5                    | 0.8-5.8                      |
| 7321GBN88NMC  | 0.2 - 0.4                    | 1.5-9.0                      |
| 7321GBN99NMC  | 0.25 - 0.45                  | 1.5-9.5                      |
| 7322GBN53NC0  | 0.1 - 0.25                   | 0.6-4.5                      |
| 7322GBN64NC0  | 0.1 - 0.25                   | 0.6-4.5                      |
| 7322GBN76NC0  | 0.2 - 0.5                    | 0.8-5.8                      |
| 7322GBN88NC0  | 0.2 - 0.4                    | 1.5-9.0                      |
| 7322GBN99NC0  | 0.25 - 0.45                  | 1.5-9.5                      |

## Valve Reference A66

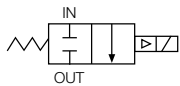


2-Way Normally Closed  
 Port Identification:  
 Flow arrow on body  
 indicates flow direction  
 ports are not marked

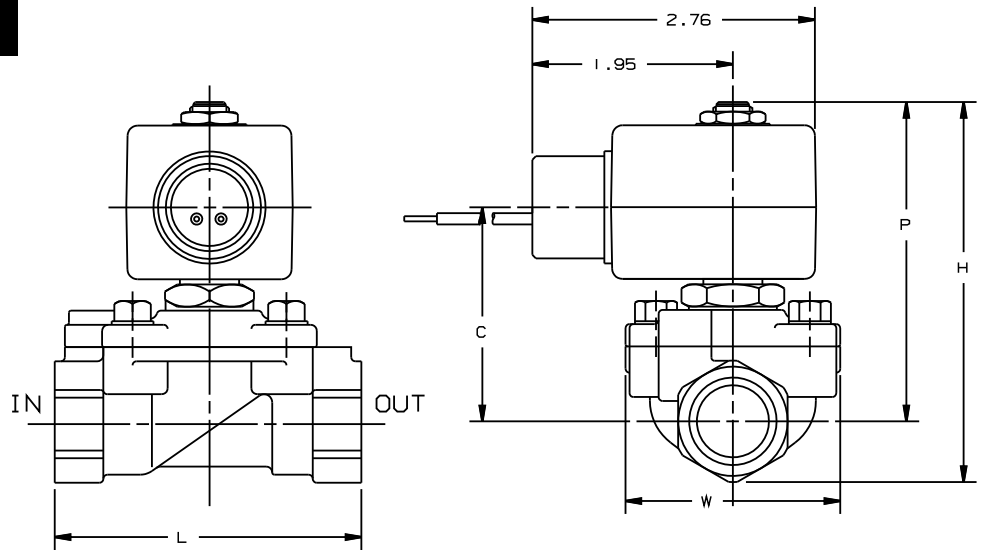


| Valve        | Dimensions |      |      |      |
|--------------|------------|------|------|------|
|              | H          | P    | C    | L    |
| 7321KBN3SNW0 | 3.56       | 2.97 | 1.96 | 2.17 |
| 7321KBN4SNW0 | 3.56       | 2.97 | 1.96 | 1.97 |

## Valve Reference A67



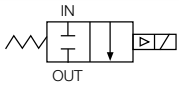
2-Way Normally Closed  
 Port Identification:  
 Flow arrow on body  
 indicates flow direction  
 ports are not marked



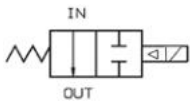
| Valve        | Dimensions |      |      |      |      |
|--------------|------------|------|------|------|------|
|              | H          | P    | C    | L    | W    |
| 7221GBN51XXX | 3.75       | 3.07 | 2.06 | 3.15 | 2.09 |
| 7221GBN64XXX | 4.25       | 3.35 | 2.34 | 3.94 | 2.75 |



# Valve Reference A68

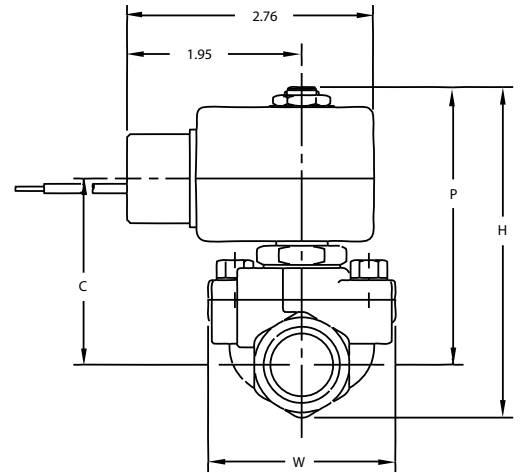
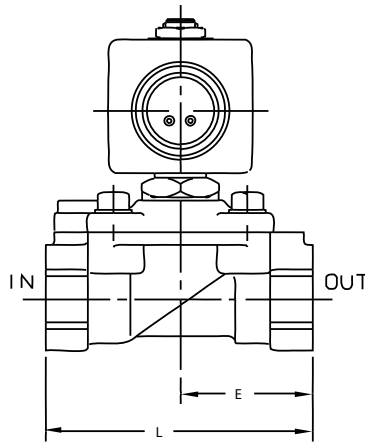


2-Way Normally Closed  
7321GBNxx



2-Way Normally Open  
7322GBNxx

Port Identification:  
Flow arrow on body indicates flow  
direction ports are not marked



2-Way

| Valve                        | Dimensions |      |      |      |      |      |
|------------------------------|------------|------|------|------|------|------|
|                              | H          | P    | C    | L    | E    | W    |
| 7321GBN53NMC<br>7322GBN53NCO | 4.75       | 3.86 | 2.84 | 3.94 | 1.97 | 2.75 |
| 7321GBN64NMC<br>7322GBN64NCO | 5.41       | 4.11 | 3.09 | 4.33 | 2.17 | 2.75 |
| 7321GBN88NMC<br>7322GBN88NCO | 5.66       | 4.37 | 3.35 | 5.51 | 2.95 | 3.90 |
| 7321GBN99NMC<br>7322GBN99NCO | 6.25       | 4.60 | 3.58 | 5.91 | 3.15 | 3.90 |

