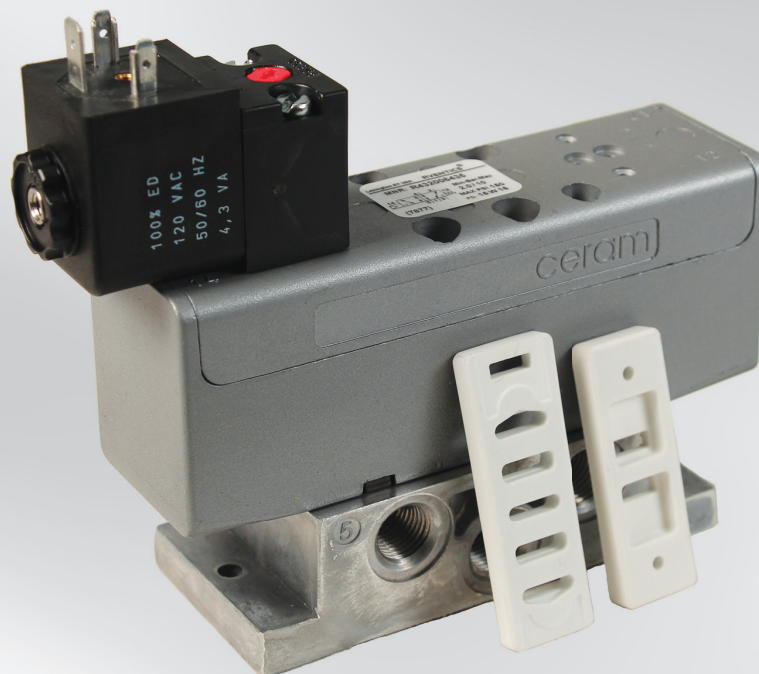


# CERAM™ ISO 5599/1 VALVES

## PNEUMATIC DIRECTIONAL CONTROL

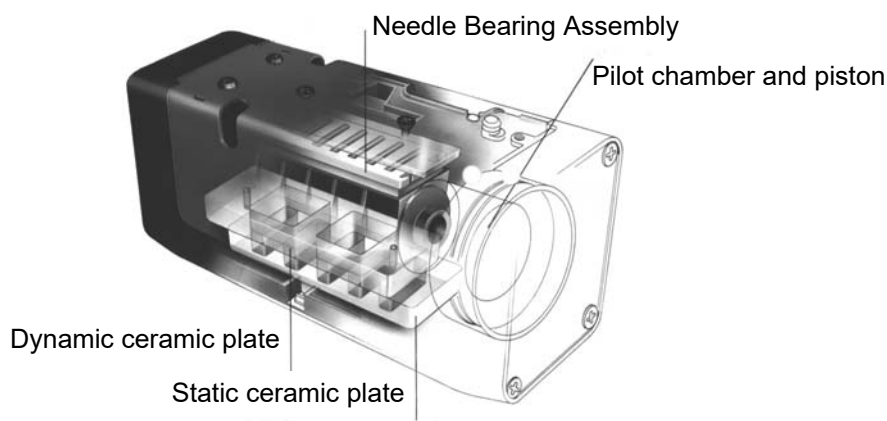
Pneumatics  
It's that easy



**Ceram™ Valves, ISO 5599-1 Sizes 1-4**

## Index

| <b>TABLE OF CONTENTS</b>  | <b>PAGE</b> |
|---|-------------|
| Specifications and features .....                                       | 5-6         |
| Model number identification .....                                       | 7           |
| Single solenoid, metal spring return .....                              | 8           |
| Single solenoid, air spring return .....                                | 9           |
| Double solenoid, 5/2 .....  | 10          |
| Single air pilot, metal and air spring return .....                     | 11          |
| Double air pilot, 5/2 .....   | 12          |
| Double solenoid, 5/3, closed center .....                               | 13          |
| Double solenoid, 5/3, exhaust open center .....                         | 14          |
| Double air pilot, 5/3, closed center and exhaust open center .....      | 15          |
| cURus approved operators .....  | 16          |
| Externally piloted valves without coil .....                            | 16          |
| CSA approved operator: 3 or 5 pin connections .....                     | 17          |
| 4 pin M12 connections .....   | 18          |
| CSA appr. operator, single 4/5 pin conn. for dbl. solenoid valves ..... | 19          |
| Explosion proof and intrinsically safe solenoid valves .....            | 20          |
| Repair kits and parts .....   | 21          |
| Subbase and manifolds, Size 1 .....                                     | 22          |
| Manifold accessories, Size 1 .....                                      | 23-24       |
| Subbase and manifolds, Size 2 .....                                     | 25          |
| Manifold accessories, Size 2 .....                                      | 26-27       |
| Subbase and manifolds, Size 3 .....                                     | 28          |
| Manifold accessories, Size 3 .....                                      | 29          |
| Subbase and manifolds, Size 4 .....                                     | 30-31       |
| Subbase and manifold accessories, Size 4 .....                          | 31          |
| Air pilot valve manifolds, Size 1-3 .....                               | 32-34       |
| Pressure gauges for sandwich regulators .....                           | 35          |
| Internal to external pilot field conversion, Sizes 1 and 2 .....        | 36          |
| Internal to external pilot field conversion, Sizes 3 and 4 .....        | 37          |
| Piping procedures .....   | 38          |



## Ceram™ Valves, ISO 5599-1 Sizes 1-4

### Specifications and features

**Specified by industries that demand tough valves due to their harsh operating environment. Ceram™ valves are very prevalent in industries where ordinary valves just don't last. Industries such as: tire plants, foundries, paper mills, steel plants, concrete batch plants, sawmills, plywood and board plants, automotive assembly, glass manufacturers, rubber and plastics, sheet metal fabrication, etc.**

#### Eliminate downtime—they don't stick

Normal air valves can stick or jam and cause start-up problems because of their inability to handle accumulations of dirt, dust, oil or water in air lines. Not with the Ceram valve. There's no gap between the plates for dirt and oil to accumulate. The plates are finished so precise that they act like sliding magnets or jo blocks. Solenoid operators of the same voltage on standard valves are interchangeable between all sizes, reducing spare parts inventory and downtime.

#### They work great in normal applications too

Just because they are so popular in harsh environments, don't think they won't work great in a more normal application.

#### Ceram valves save air and money

The tight shut-off with Ceram valves eliminates costly loss of air that is common in other designs. Compressed air that you pay for.

#### Overcomes design limitations of other valves

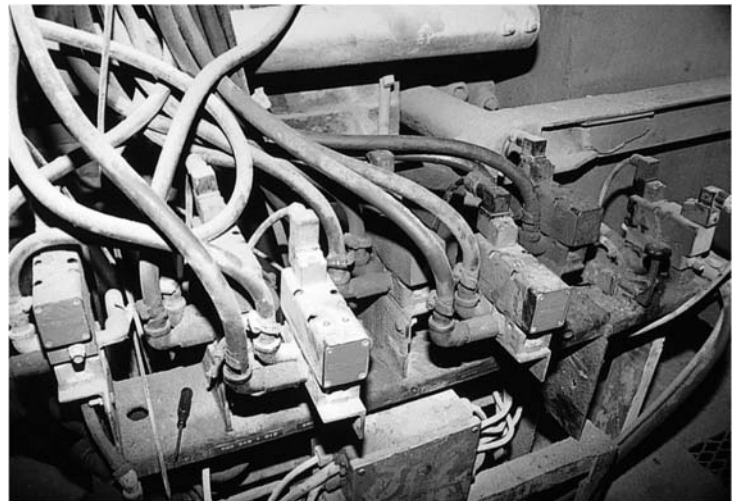
Lapped spool valves normally have a small gap between spool and sleeve that is prone to oil and dirt accumulation, resulting in sticking and the waste of air. Packed spool valves using elastomer seals are subject to deterioration and excessive wear when contamination and/or incompatible lubricants are present.

#### Extended life

Years of proven field service verifies an anticipated life of 150 million cycles even under adverse conditions.

#### World Standard ISO mounting

ISO 5599/1 mounting dimensions mean that wherever you send it, it's interchangeable with other ISO valves. Four basic valve sizes - ISO 1 through 4 with subbases or manifolds with NPT or ISO G (BSPP) ports.



Concrete batching plant application. Ceram valves withstand harsh conditions and dirty air without "sticking".

### Valve Sizes/Specifications

| Valve Size | Ports<br>NPT, ISO G(BSPP) | C <sub>v</sub> | S.C.F.M.* |
|------------|---------------------------|----------------|-----------|
| Size 1     | 1/4", 3/8"                | 1.1            | 40 SCFM   |
| Size 2     | 3/8", 1/2"                | 2.4            | 86 SCFM   |
| Size 3     | 1/2", 3/4"                | 4.3            | 155 SCFM  |
| Size 4     | 3/4", 1"                  | 7.5            | 269 SCFM  |

\*Flow measured with 87 psi (6 bar) supply pressure and 14.5 psi (1 bar) pressure drop across the valve.

## Ceram<sup>™</sup> Valves, ISO 5599-1 Sizes 1-4

Specifications and features

### Summary of Specifications For Ceram Valves

#### TECHNICAL DATA:

**Port Sizes:** 1/4" - 3/8" ISO Size 1, 3/8" - 1/2" ISO Size 2

1/2" - 3/4" ISO Size 3, 3/4" - 1" ISO Size 4

**Working Pressure:** 0 to 150 PSI (0 to 10.3 bar)

(Intrinsically Safe versions: Maximum internal pilot valve pressure is 115 PSI or 7.9 bar)

Vacuum applications: to 24" Hg

**Pilot Pressure: SIZES 1 & 2**

29 PSI (2.0 bar) minimum, all 2 position valves

44 PSI (3.0 bar) minimum, all 3 position valves

150 PSI (10.3 bar) maximum

(Intrinsically Safe versions: Maximum external pilot pressure is 115 PSI or 7.9 bar)

**SIZES 3 & 4**

36 PSI (2.5 bar) minimum, all 2 position valve

44 PSI (3.0 bar) minimum, all 3 position valve

150 PSI (10.3 bar) maximum

(Intrinsically Safe versions: Maximum external pilot pressure is 115 PSI or 7.9 bar)

#### Flow:

| Valve Size     | 1    | 2    | 3    | 4    |
|----------------|------|------|------|------|
| C <sub>v</sub> | 1.1  | 2.4  | 4.3  | 7.5  |
| NI/min         | 1100 | 2400 | 4300 | 7500 |

#### Temperature Range:

Solenoid Valves: +5°F to +150°F (-15°C to 66°C)

(-10°F or -23°C operation possible with low temperature solenoid operators. Available for 2-position double solenoid and air Spring return valves.)

Air Pilot Valves: -10°F to +175°F (-23°C to 79°C)

**Media:** Air, either Lubricated or Non-lubricated

**Service Life:** over 150 million Cycles with or without Line Lubrication

**Material:** Body - Die Cast Anodized Aluminum (Sizes 2 - 4)

Die Cast Zinc (Size 1)

Valve Elements - Ceramic Slide Plates (Al<sub>2</sub>O<sub>3</sub>)

#### Combination Manual Override:

Explosion-proof models: Non-locking only

Other models: Locking & Non-Locking sizes 1 - 4 (3 and 4: Oct. '92 & later)

Non-Locking sizes 3 & 4 (Prior to Oct. '92)



ISO I pictured

### ELECTRICAL DATA:

| ISO Valve Size                                | Standard Voltages<br>(All coils are rated for continuous duty)                          | Power Consumption |         |
|---|---|-------------------|---------|
|   |   | Inrush            | Holding |
| 1 and 2<br>(3 and 4<br>Oct. '92<br>and later) | 24 VAC - 50/60 Hz<br>110 VAC - 50 Hz/120 VAC - 60 Hz<br>220 VAC - 50 Hz/240 VAC - 60 Hz | 6.4 VA            | 3.7 VA  |
|   | 12, 24 VDC  | 2.7 W             |         |
| 3 and 4<br>(Prior to Oct. '92)                | 120, 240 VAC (50/60 Hz)   | 15.6 VA           | 9.4 VA  |
|   | 12, 24 VDC  | 6.1 W             |         |

Voltage Tolerance: +/- 10% (Except for Explosion proof and Intrinsically safe solenoids.)

All standard valves are rated for NEMA 4.

#### SOLENOID CONNECTORS AND SUBBASES:

Plug-in solenoid connectors conform to DIN standard #43650 and must be ordered separately. **Order one connector per solenoid.**

Connector options Include strain relief and one-half inch (1/2") conduit.

Both are available in Lighted and non-lighted versions. 1/2" conduit connector also available in metallic version; see page main solenoid connectors page. Subbases, manifold and accessories are ordered separately.

### FEATURES

- Ceramic plates guaranteed for life of valve
- Sliding ceramic plates form seal
- Operates with or without line lubrication
- Interchangeable with other ISO valves
- Expected service life exceeds 150 million cycles
- NEMA 4 Standard
- Sub-bases and manifolds available 1/4" thru 1" NPT ISO G1/8 to G1 piping
- Wide range of accessories, including sandwich speed controls and regulators
- Explosion-proof and intrinsically safe solenoids available.
- Brad Harrison<sup>®</sup> Connector Solenoids
- cURus (Dual CSA / UL Recognized) solenoids

# Ceram™ Valves, ISO 5599-1 Sizes 1-4

## Model code identification

# Model Code Identification

**GX - 0X 00 X X -** **OPERATORS**  
**"14" END** **"12" END**

| G                           | X      | 0 | X (SIZE) | 00                                 | X (DESCRIPTION)                                   | X (Solenoid Arrangement) |
|-----------------------------|--------|---|----------|------------------------------------|---|--------------------------|
| 4-Way, 5-Ported CERAM Valve | S or T | 0 | 1 ISO 1  | 3rd and 4th digits are always zero | 1 3 Position Valves, Exhaust Open Ctr. Ext. Pilot | 0 None                   |
|                             |        | 0 | 2 ISO 2  |                                    | 2 3 Position Valves, Closed Ctr. Ext. Pilot       | 1 Single Solenoid        |
|                             | S      | 0 | 3 ISO 3  |                                    | 3 3 Position Valves, Exhaust Open Ctr. Int. Pilot | 2 Double Solenoid        |
|                             |        | 0 | 4 ISO 4  |                                    | 4 3 Position Valves, Closed Ctr. Internal Pilot   |                          |
|                             |        |   |          |                                    | 5 2 Position Valves, Ext. Pilot                   |                          |
|                             |        |   |          |                                    | 6 2 Position Valves, Int. Pilot                   |                          |

## VALVE OPERATORS

|  |  |
|--|--|
| 02 • 2 or 3 Position ANSI 4 pin MicroConnection 24 VDC                 | 33 Air Pilot—2 Position Valves                                       |
| 03 • 2 or 3 Position ANSI 3 pin MiniConnection 120 VAC 50/60 Hz        | 35 Air Pilot with Centering Springs—3 Position Valves                |
| 05 • 2 or 3 Position ANSI 5 pin MiniConnection 120 VAC 50/60           | 36 2 Position 12 VDC   |
| 06 • 2 or 3 Position ANSI 3 pin MiniConnection 24 VDC                  | 38 3 Position with Centering Springs 12 VDC                          |
| 07 • 2 or 3 Position ANSI 5 pin Mini.Dbl.Sol/Sgl.Conn.120 VAC 50/60 Hz | 39 2 Position 24 VDC   |
| 08 • 2 or 3 Position ANSI 5 pin Mini.Dbl.Sol/Sgl.Conn.24 VDC           | 40 † Metal Spring Return   |
| 09 • 2 or 3 Position ANSI 4 pin Micro.Dbl.Sol/Sgl.Conn.24 VDC          | 41 3 Position with Centering Springs 24 VDC                          |
| 10 • 2 or 3 Position ANSI 5 pin MiniConnection 24 VDC                  | 43 Explosion Proof 2 Position 120 VAC 50/60 Hz                       |
| 11 2 Position Low Temp Operator 120 VAC 50/60 Hz                       | 46 Explosion Proof 2 Position 24 VDC                                 |
| 13 2 Position Low Temp Operator 24 VDC                                 | 49 Explosion Proof 2 Position 240 VAC 50/60 Hz                       |
| 14 2 Position 240 VAC 50/60 Hz Low Temp                                | 51 † Air Spring Return   |
| 15 2 or 3 Position 12 VAC 50/60 Hz                                     | 53 Explosion Proof 3 Pos. w/ Centering Springs 120 VAC 50/60 Hz      |
| 16 2 or 3 Position 480 VAC 50/60 Hz or 253 VDC                         | 56 Explosion Proof 3 Pos. w/ Centering Springs 24 VDC                |
| 17 2 or 3 Position 36 VDC  | 57 2 or 3 Position cURus 120 VAC 50/60 Hz (dual UR/CSA)              |
| 18 2 or 3 Position 76 VDC  | 58 2 or 3 Position cURus 24 VDC (dual UR/CSA)                        |
| 19 2 or 3 Position 125 VDC   | 59 Explosion Proof 3 Pos. w/ Centering Springs 240 VAC 50/60 Hz      |
| 20 2 or 3 Position 24 VDC 2.1 W (For Contact Bridge)                   | 61 2 Position 24 VAC 50/60 Hz  |
| 24 2 Position 120 VAC 50/60 Hz   | 62 3 Position with Centering Springs 24 VAC 50/60 Hz                 |
| 26 3 Position with Centering Springs 120 VAC 50/60 Hz                  | 90 2 or 3 Position Factory Mutual Approved Intrinsically Safe 24 VDC |
| 27 2 Position 240 VAC 50/60 Hz   |  |
| 29 3 Position with Centering Springs 240 VAC 50/60 Hz                  |  |

• ANSI Connection universally known as Brad Harrison®.

† Used on "12" end only.

NOTE: The previous version of the GS series was the GA series. The GS valves are direct functional/dimensional replacements for the previous GA series. Size 1 valves are now GT series, and are direct functional/dimensional replacements. Also, there are various special CERAM valves which have old part numbers that begin with "P" (such as P-069431-00001). Effective April 2008, part numbers begin with "R" and are 10 digits. For online part number crossover: [www.aventics.com/us/downloads](http://www.aventics.com/us/downloads)

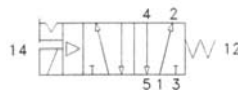
## Ceram™ Valves, ISO 5599-1 Sizes 1-4

Single solenoid, metal spring return

### 5 Port / 2 Position

### Single Solenoid, Metal Spring Return Subbase Mounted (ISO Standard 5599/1)

Combination Manual Override: Locking & Non-Locking  
Sizes 1-4

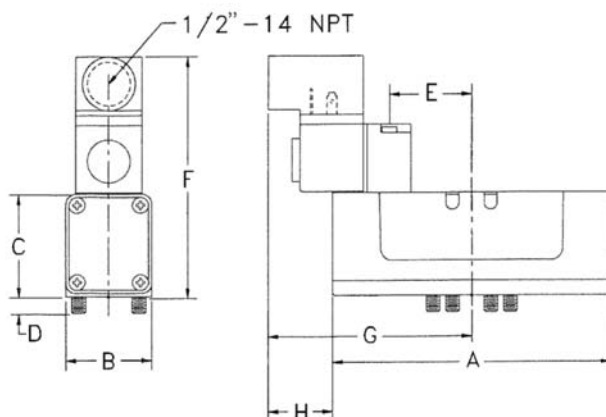


Choose valve first, solenoid connector next (see Solenoid Connectors page), then matching subbase or manifold components.

| ISO Size | Voltage             | Valve Part Number* | Valve Model Number | Flow Cv (NI/min) | Valve Weight lbs. (kg) | Single Subbase (Side Ported) | Port Size          | Subbase Weight lbs. (kg) |
|----------|---------------------|--------------------|--------------------|------------------|------------------------|------------------------------|--------------------|--------------------------|
| 1        | 110V-50Hz/120V-60Hz | R432006435         | GT-010061-02440    | 1.1 (1100)       | 2.15 (0.98)            | R432031844<br>R432036353     | 1/4"-18<br>3/8"-18 | 0.76 (0.34)              |
|          | 220V-50Hz/240V-60Hz | R432006437         | GT-010061-02740    |                  |                        |                              |                    |                          |
|          | 12 VDC              | R432006439         | GT-010061-03640    |                  |                        |                              |                    |                          |
|          | 24 VDC              | R432006441         | GT-010061-03940    |                  |                        |                              |                    |                          |
|          | 24 VAC              | R432006448         | GT-010061-06140    |                  |                        |                              |                    |                          |
|          | without coil        | R432002477         | GT-010061-00040    |                  |                        |                              |                    |                          |
| 2        | 110V-50Hz/120V-60Hz | R432006124         | GS-020061-02440    | 2.4 (2400)       | 3.70 (1.68)            | R432031845<br>R432036356     | 3/8"-18<br>1/2"-14 | 1.25 (0.57)              |
|          | 220V-50Hz/240V-60Hz | R432006126         | GS-020061-02740    |                  |                        |                              |                    |                          |
|          | 12 VDC              | R432006128         | GS-020061-03640    |                  |                        |                              |                    |                          |
|          | 24 VDC              | R432006130         | GS-020061-03940    |                  |                        |                              |                    |                          |
|          | 24 VAC              | R432006136         | GS-020061-06140    |                  |                        |                              |                    |                          |
|          | without coil        | R432002447         | GS-020061-00040    |                  |                        |                              |                    |                          |
| 3        | 110V-50Hz/120V-60Hz | R432006238         | GS-030061-02440    | 4.3 (4300)       | 4.18 (1.90)            | R432015308<br>R432015309     | 1/2"-14<br>3/4"-14 | 1.85 (0.84)              |
|          | 220V-50Hz/240V-60Hz | R432006240         | GS-030061-02740    |                  |                        |                              |                    |                          |
|          | 12 VDC              | R432006242         | GS-030061-03640    |                  |                        |                              |                    |                          |
|          | 24 VDC              | R432006243         | GS-030061-03940    |                  |                        |                              |                    |                          |
|          | 24 VAC              | R432030344         | GS-030061-06140    |                  |                        |                              |                    |                          |
|          | without coil        | R432002457         | GS-030061-00040    |                  |                        |                              |                    |                          |
| 4        | 110V-50Hz/120V-60Hz | R432006321         | GS-040061-02440    | 7.5 (7500)       | 4.61 (2.09)            | R432031847                   | 1"- 11-1/2         | 2.75 (1.25)              |
|          | 220V-50Hz/240V-60Hz | R432006323         | GS-040061-02740    |                  |                        |                              |                    |                          |
|          | 12 VDC              | R432006325         | GS-040061-03640    |                  |                        |                              |                    |                          |
|          | 24 VDC              | R432006326         | GS-040061-03940    |                  |                        |                              |                    |                          |
|          | 24 VAC              | R432030177         | GS-040061-06140    |                  |                        |                              |                    |                          |
|          | without coil        | R432002467         | GS-040061-00040    |                  |                        |                              |                    |                          |

Note: All valves listed above come from the factory internally piloted. To order an externally piloted valve, change the 7th character in the model number (not counting dashes), from 6 to 5. For example, model GT-010061-02440 would become GT-010051-02440. For externally piloted valves less coil, see page 16.

\*Consult factory for voltages not listed.



### Dimensions

Note: solenoid connector shown for reference only.

| Size | A    |       | B    |      | C    |      | D   |      |
|------|------|-------|------|------|------|------|-----|------|
|      | IN   | mm    | IN   | mm   | IN   | mm   | IN  | mm   |
| 1    | 5.12 | 130.0 | 1.57 | 40.0 | 1.89 | 48.0 | .31 | 8.0  |
| 2    | 5.82 | 147.8 | 2.03 | 51.6 | 2.30 | 58.4 | .39 | 10.0 |
| 3    | 7.54 | 191.5 | 2.71 | 68.9 | 2.59 | 65.8 | .41 | 10.4 |
| 4    | 8.62 | 218.9 | 3.09 | 78.5 | 2.89 | 73.4 | .41 | 10.4 |

| Size | E    |      | F    |       | G    |       | H    |      |
|------|------|------|------|-------|------|-------|------|------|
|      | IN   | mm   | IN   | mm    | IN   | mm    | IN   | mm   |
| 1    | 1.52 | 38.5 | 4.53 | 115.1 | 3.48 | 88.5  | 1.20 | 30.5 |
| 2    | 1.57 | 40.0 | 4.90 | 124.5 | 3.54 | 90.0  | .92  | 23.4 |
| 3    | 1.62 | 41.3 | 5.23 | 132.8 | 4.18 | 106.2 | 1.05 | 26.7 |
| 4    | 1.62 | 41.3 | 5.32 | 135.1 | 6.65 | 169.0 | .68  | 17.3 |

## Ceram™ Valves, ISO 5599-1 Sizes 1-4

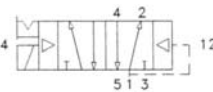
Single solenoid, air spring return

### 5 Port / 2 Position

### Single Solenoid, Air Spring Return

### Subbase Mounted (ISO Standard 5599/1)

Combination Manual Override: Locking & Non-Locking  
Sizes 1-4

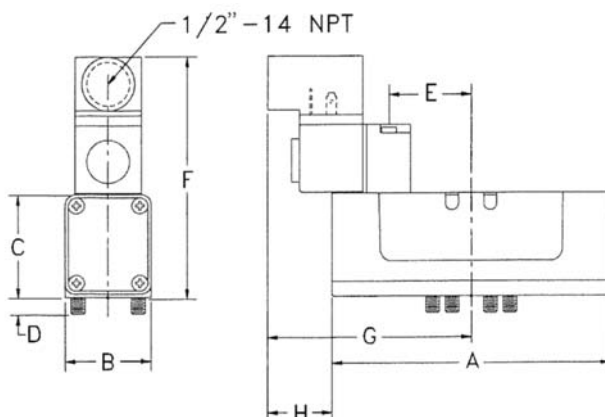


Choose valve first, solenoid connector next (see Solenoid Connectors page), then matching subbase or manifold components.

| ISO Size | Voltage             | Valve Part Number* | Valve Model Number | Flow Cv (NI/min) | Valve Weight lbs. (kg) | Single Subbase (Side Ported) | Port Size          | Subbase Weight lbs. (kg) |
|----------|---------------------|--------------------|--------------------|------------------|------------------------|------------------------------|--------------------|--------------------------|
| 1        | 110V-50Hz/120V-60Hz | R432006436         | GT-010061-02451    | 1.1 (1100)       | 2.15 (0.98)            | R432031844<br>R432036353     | 1/4"-18<br>3/8"-18 | 0.76 (0.34)              |
|          | 220V-50Hz/240V-60Hz | R432006438         | GT-010061-02751    |                  |                        |                              |                    |                          |
|          | 12 VDC              | R432006440         | GT-010061-03651    |                  |                        |                              |                    |                          |
|          | 24 VDC              | R432006442         | GT-010061-03951    |                  |                        |                              |                    |                          |
|          | 24 VAC              | R432006449         | GT-010061-06151    |                  |                        |                              |                    |                          |
|          | without coil        | R432002478         | GT-010061-00051    |                  |                        |                              |                    |                          |
| 2        | 110V-50Hz/120V-60Hz | R432006125         | GS-020061-02451    | 2.4 (2400)       | 3.70 (1.68)            | R432031845<br>R432036356     | 3/8"-18<br>1/2"-14 | 1.25 (0.57)              |
|          | 220V-50Hz/240V-60Hz | R432006127         | GS-020061-02751    |                  |                        |                              |                    |                          |
|          | 12 VDC              | R432006129         | GS-020061-03651    |                  |                        |                              |                    |                          |
|          | 24 VDC              | R432006131         | GS-020061-03951    |                  |                        |                              |                    |                          |
|          | 24 VAC              | R432006137         | GS-020061-06151    |                  |                        |                              |                    |                          |
|          | without coil        | R432002448         | GS-020061-00051    |                  |                        |                              |                    |                          |
| 3        | 110V-50Hz/120V-60Hz | R432006239         | GS-030061-02451    | 4.3 (4300)       | 4.18 (1.90)            | R432015308<br>R432015309     | 1/2"-14<br>3/4"-14 | 1.85 (0.84)              |
|          | 220V-50Hz/240V-60Hz | R432006241         | GS-030061-02751    |                  |                        |                              |                    |                          |
|          | 12 VDC              | R432030345         | GS-030061-03651    |                  |                        |                              |                    |                          |
|          | 24 VDC              | R432006244         | GS-030061-03951    |                  |                        |                              |                    |                          |
|          | 24 VAC              | R432030343         | GS-030061-06151    |                  |                        |                              |                    |                          |
|          | without coil        | R432002458         | GS-030061-00051    |                  |                        |                              |                    |                          |
| 4        | 110V-50Hz/120V-60Hz | R432006322         | GS-040061-02451    | 7.5 (7500)       | 4.61 (2.09)            | R432031847                   | 1"- 11-1/2         | 2.75 (1.25)              |
|          | 220V-50Hz/240V-60Hz | R432006324         | GS-040061-02751    |                  |                        |                              |                    |                          |
|          | 12 VDC              | R432030378         | GS-040061-03651    |                  |                        |                              |                    |                          |
|          | 24 VDC              | R432006327         | GS-040061-03951    |                  |                        |                              |                    |                          |
|          | 24 VAC              | R432030352         | GS-040061-06151    |                  |                        |                              |                    |                          |
|          | without coil        | R432002468         | GS-040061-00051    |                  |                        |                              |                    |                          |

Note: All valves listed above come from the factory internally piloted. To order an externally piloted valve, change the 7th character in the model number (not counting dashes), from 6 to 5. For example, model GT-010061-02451 would become GT-010051-02451. For externally piloted valves less coil, see page 16.

\*Consult factory for voltages not listed.



### Dimensions

Note: solenoid connector shown for reference only.

| Size | A    |       | B    |      | C    |      | D   |      |
|------|------|-------|------|------|------|------|-----|------|
|      | IN   | mm    | IN   | mm   | IN   | mm   | IN  | mm   |
| 1    | 5.12 | 130.0 | 1.57 | 40.0 | 1.89 | 48.0 | .31 | 8.0  |
| 2    | 5.82 | 147.8 | 2.03 | 51.6 | 2.30 | 58.4 | .39 | 10.0 |
| 3    | 7.54 | 191.5 | 2.71 | 68.9 | 2.59 | 65.8 | .41 | 10.4 |
| 4    | 8.62 | 218.9 | 3.09 | 78.5 | 2.89 | 73.4 | .41 | 10.4 |

| Size | E    |      | F    |       | G    |       | H    |      |
|------|------|------|------|-------|------|-------|------|------|
|      | IN   | mm   | IN   | mm    | IN   | mm    | IN   | mm   |
| 1    | 1.52 | 38.5 | 4.53 | 115.1 | 3.48 | 88.5  | 1.20 | 30.5 |
| 2    | 1.57 | 40.0 | 4.90 | 124.5 | 3.54 | 90.0  | .92  | 23.4 |
| 3    | 1.62 | 41.3 | 5.23 | 132.8 | 4.18 | 106.2 | 1.05 | 26.7 |
| 4    | 1.62 | 41.3 | 5.32 | 135.1 | 6.65 | 169.0 | .68  | 17.3 |

## Ceram™ Valves, ISO 5599-1 Sizes 1-4

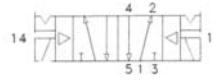
### Double solenoid, 5/2

### 5 Port / 2 Position

### Double Solenoid

### Subbase Mounted (ISO Standard 5599/1)

Combination Manual Override: Locking & Non-Locking  
Sizes 1-4



Choose valve first, solenoid connector next (see Solenoid Connectors page), then matching subbase or manifold components.

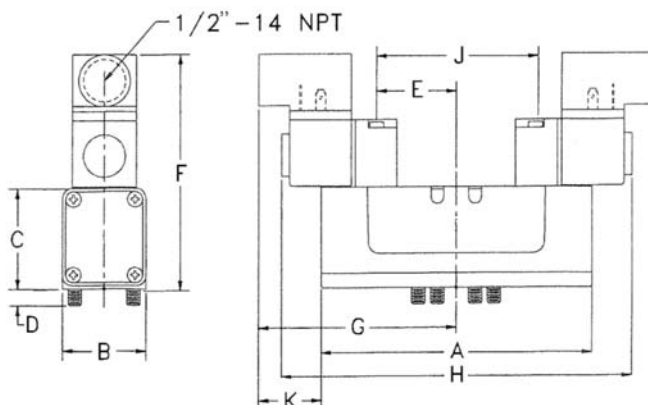
| ISO Size | Voltage             | Valve Part Number* | Valve Model Number | Flow Cv (NI/min) | Valve Weight lbs. (kg) | Single Subbase (Side Ported) | Port Size          | Subbase Weight lbs. (kg) |
|----------|---------------------|--------------------|--------------------|------------------|------------------------|------------------------------|--------------------|--------------------------|
| 1        | 110V-50Hz/120V-60Hz | R432006471         | GT-010062-02424    | 1.1 (1100)       | 3.21 (1.46)            | R432031844<br>R432036353     | 1/4"-18<br>3/8"-18 | 0.76 (0.34)              |
|          | 220V-50Hz/240V-60Hz | R432006472         | GT-010062-02727    |                  |                        |                              |                    |                          |
|          | 12 VDC              | R432006473         | GT-010062-03636    |                  |                        |                              |                    |                          |
|          | 24 VDC              | R432006474         | GT-010062-03939    |                  |                        |                              |                    |                          |
|          | 24 VAC              | R432006478         | GT-010062-06161    |                  |                        |                              |                    |                          |
|          | without coil        | R432002479         | GT-010062-00000    |                  |                        |                              |                    |                          |
| 2        | 110V-50Hz/120V-60Hz | R432006156         | GS-020062-02424    | 2.4 (2400)       | 4.75 (2.15)            | R432031845<br>R432036356     | 3/8"-18<br>1/2"-14 | 1.25 (0.57)              |
|          | 220V-50Hz/240V-60Hz | R432006157         | GS-020062-02727    |                  |                        |                              |                    |                          |
|          | 12 VDC              | R432030350         | GS-020062-03636    |                  |                        |                              |                    |                          |
|          | 24 VDC              | R432006158         | GS-020062-03939    |                  |                        |                              |                    |                          |
|          | 24 VAC              | R432006162         | GS-020062-06161    |                  |                        |                              |                    |                          |
|          | without coil        | R432002449         | GS-020062-00000    |                  |                        |                              |                    |                          |
| 3        | 110V-50Hz/120V-60Hz | R432006265         | GS-030062-02424    | 4.3 (4300)       | 4.99 (2.26)            | R432015308<br>R432015309     | 1/2"-14<br>3/4"-14 | 1.85 (0.84)              |
|          | 220V-50Hz/240V-60Hz | R432006266         | GS-030062-02727    |                  |                        |                              |                    |                          |
|          | 12 VDC              | R432030342         | GS-030062-03636    |                  |                        |                              |                    |                          |
|          | 24 VDC              | R432006267         | GS-030062-03939    |                  |                        |                              |                    |                          |
|          | 24 VAC              | R432030341         | GS-030062-06161    |                  |                        |                              |                    |                          |
|          | without coil        | R432002459         | GS-030062-00000    |                  |                        |                              |                    |                          |
| 4        | 110V-50Hz/120V-60Hz | R432006339         | GS-040062-02424    | 7.5 (7500)       | 5.42 (2.46)            | R432031847                   | 1"- 11-1/2         | 2.75 (1.25)              |
|          | 220V-50Hz/240V-60Hz | R432006340         | GS-040062-02727    |                  |                        |                              |                    |                          |
|          | 12 VDC              | R432030353         | GS-040062-03636    |                  |                        |                              |                    |                          |
|          | 24 VDC              | R432006341         | GS-040062-03939    |                  |                        |                              |                    |                          |
|          | 24 VAC              | R432030178         | GS-040062-06161    |                  |                        |                              |                    |                          |
|          | without coil        | R432002469         | GS-040062-00000    |                  |                        |                              |                    |                          |

Note: All valves listed above come from the factory internally piloted. To order an externally piloted valve, change the 7th character in the model number (not counting dashes), from 6 to 5. For example, model GT-010062-02424 would become GT-010052-02424. For externally piloted valves less coils, see page 16.

\*Consult factory for voltages not listed.

## Dimensions

Note: solenoid connector shown for reference only.



| Size | A    |       | B    |      | C    |      | D   |      | E    |      |
|------|------|-------|------|------|------|------|-----|------|------|------|
|      | IN   | mm    | IN   | mm   | IN   | mm   | IN  | mm   | IN   | mm   |
| 1    | 5.12 | 130.0 | 1.57 | 40.0 | 1.89 | 48.0 | .31 | 8.0  | 1.52 | 38.5 |
| 2    | 5.82 | 147.8 | 2.03 | 51.6 | 2.30 | 58.4 | .39 | 10.0 | 1.57 | 40.0 |
| 3    | 7.54 | 191.5 | 2.71 | 68.9 | 2.59 | 65.8 | .41 | 10.4 | 1.62 | 41.3 |
| 4    | 8.62 | 218.9 | 3.09 | 78.5 | 2.89 | 73.4 | .41 | 10.4 | 1.62 | 41.3 |

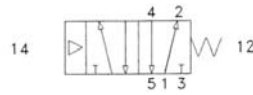
| Size | F    |       | G    |       | H     |       | J    |      | K    |      |
|------|------|-------|------|-------|-------|-------|------|------|------|------|
|      | IN   | mm    | IN   | mm    | IN    | mm    | IN   | mm   | IN   | mm   |
| 1    | 4.53 | 115.1 | 3.48 | 88.5  | 6.97  | 177.0 | 3.03 | 77.0 | 1.20 | 30.5 |
| 2    | 4.90 | 124.5 | 3.54 | 90.0  | 7.09  | 180.0 | 3.15 | 80.0 | .92  | 23.4 |
| 3    | 5.23 | 132.8 | 4.18 | 106.2 | 8.36  | 212.3 | 3.25 | 82.6 | 1.05 | 26.7 |
| 4    | 5.32 | 135.1 | 6.65 | 169.0 | 13.31 | 338.1 | 3.25 | 82.6 | .68  | 17.3 |



## Ceram™ Valves, ISO 5599-1 Sizes 1-4

Single air pilot, metal and air spring return

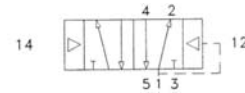
### 5 Port / 2 Position Single Air Pilot/Metal Spring Return & Single Air Pilot/Air Spring Return (ISO Standard 5599/1)



Choose valve first, then matching subbase or manifold components.

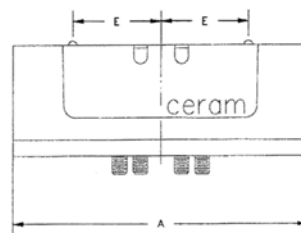
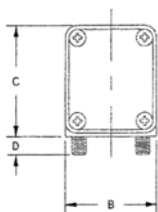
#### Single Air Pilot/Metal Spring Return

| ISO Size | Valve Part Number | Valve Model Number | Flow Cv (NI/min) | Valve Weight lbs. (kg) | Single Subbase (Side Ported) | Port Size          | Subbase Weight lbs. (kg) |
|----------|-------------------|--------------------|------------------|------------------------|------------------------------|--------------------|--------------------------|
| 1        | R432006393        | GT-010050-03340    | 1.1 (1100)       | 1.22 (0.55)            | R432031844<br>R432036353     | 1/4"-18<br>3/8"-18 | 0.76 (0.34)              |
| 2        | R432006085        | GS-020050-03340    | 2.4 (2400)       | 2.77 (1.26)            | R432031845<br>R432036356     | 3/8"-18<br>1/2"-14 | 1.25 (0.57)              |
| 3        | R432006204        | GS-030050-03340    | 4.3 (4300)       | 3.37 (1.53)            | R432015308<br>R432015309     | 1/2"-14<br>3/4"-14 | 1.85 (0.84)              |
| 4        | R432006297        | GS-040050-03340    | 7.5 (7500)       | 3.80 (1.72)            | R432031847                   | 1"- 11-1/2         | 2.75 (1.25)              |



#### Single Air Pilot/Air Spring Return

| ISO Size | Valve Part Number | Valve Model Number | Flow Cv (NI/min) | Valve Weight lbs. (kg) | Single Subbase (Side Ported) | Port Size          | Subbase Weight lbs. (kg) |
|----------|-------------------|--------------------|------------------|------------------------|------------------------------|--------------------|--------------------------|
| 1        | R432006394        | GT-010050-03351    | 1.1 (1100)       | 1.22 (0.55)            | R432031844<br>R432036353     | 1/4"-18<br>3/8"-18 | 0.76 (0.34)              |
| 2        | R432006086        | GS-020050-03351    | 2.4 (2400)       | 2.77 (1.26)            | R432031845<br>R432036356     | 3/8"-18<br>1/2"-14 | 1.25 (0.57)              |
| 3        | R432006205        | GS-030050-03351    | 4.3 (4300)       | 3.37 (1.53)            | R432015308<br>R432015309     | 1/2"-14<br>3/4"-14 | 1.85 (0.84)              |
| 4        | R432006298        | GS-040050-03351    | 7.5 (7500)       | 3.80 (1.72)            | R432031847                   | 1"- 11-1/2         | 2.75 (1.25)              |



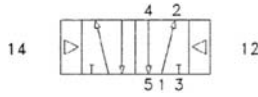
#### Dimensions

| Size | A    |       | B    |      | C    |      | D   |      | E    |      |
|------|------|-------|------|------|------|------|-----|------|------|------|
|      | IN   | mm    | IN   | mm   | IN   | mm   | IN  | mm   | IN   | mm   |
| 1    | 5.12 | 130.0 | 1.57 | 40.0 | 1.89 | 48.0 | .31 | 8.0  | 1.52 | 38.5 |
| 2    | 5.82 | 147.8 | 2.03 | 51.6 | 2.30 | 58.4 | .39 | 10.0 | 1.57 | 40.0 |
| 3    | 7.54 | 191.5 | 2.71 | 68.9 | 2.59 | 65.8 | .41 | 10.4 | 1.62 | 41.3 |
| 4    | 8.62 | 218.9 | 3.09 | 78.5 | 2.89 | 73.4 | .41 | 10.4 | 1.62 | 41.3 |

## Ceram<sup>™</sup> Valves, ISO 5599-1 Sizes 1-4

Double air pilot, 5/2

### 5 Port / 2 Position Double Air Pilot/ Subbase Mounted (ISO Standard 5599/1)

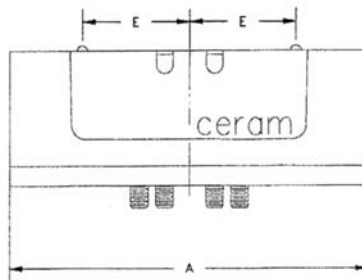
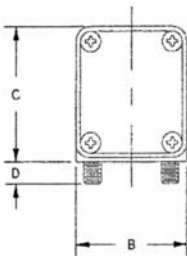


Choose valve first, then matching subbase or manifold components.

| ISO Size | Valve Part Number | Valve Model Number | Flow Cv (NI/min) | Valve Weight lbs. (kg) | Single Subbase (Side Ported) | Port Size          | Subbase Weight lbs. (kg) |
|----------|-------------------|--------------------|------------------|------------------------|------------------------------|--------------------|--------------------------|
| 1        | R432006392        | GT-010050-03333    | 1.1 (1100)       | 1.22 (0.55)            | R432031844<br>R432036353     | 1/4"-18<br>3/8"-18 | 0.76 (0.34)              |
| 2        | R432006084        | GS-020050-03333    | 2.4 (2400)       | 2.77 (1.26)            | R432031845<br>R432036356     | 3/8"-18<br>1/2"-14 | 1.25 (0.57)              |
| 3        | R432006203        | GS-030050-03333    | 4.3 (4300)       | 3.37 (1.53)            | R432015308<br>R432015309     | 1/2"-14<br>3/4"-14 | 1.85 (0.84)              |
| 4        | R432006296        | GS-040050-03333    | 7.5 (7500)       | 3.80 (1.72)            | R432031847                   | 1"- 11-1/2         | 2.75 (1.25)              |

### Dimensions

| Size | A    |       | B    |      | C    |      | D   |      | E    |      |
|------|------|-------|------|------|------|------|-----|------|------|------|
|      | IN   | mm    | IN   | mm   | IN   | mm   | IN  | mm   | IN   | mm   |
| 1    | 5.12 | 130.0 | 1.57 | 40.0 | 1.89 | 48.0 | .31 | 8.0  | 1.52 | 38.5 |
| 2    | 5.82 | 147.8 | 2.03 | 51.6 | 2.30 | 58.4 | .39 | 10.0 | 1.57 | 40.0 |
| 3    | 7.54 | 191.5 | 2.71 | 68.9 | 2.59 | 65.8 | .41 | 10.4 | 1.62 | 41.3 |
| 4    | 8.62 | 218.9 | 3.09 | 78.5 | 2.89 | 73.4 | .41 | 10.4 | 1.62 | 41.3 |



## Ceram™ Valves, ISO 5599-1 Sizes 1-4

Double solenoid, 5/3, closed center

### 5 Port / 3 Position - Closed Center

#### Double Solenoid

#### Subbase Mounted (ISO Standard 5599/1)

Combination Manual Override: Locking & Non-Locking  
Sizes 1-4



Choose valve first, solenoid connector next (see Solenoid Connectors page), then matching subbase or manifold components.

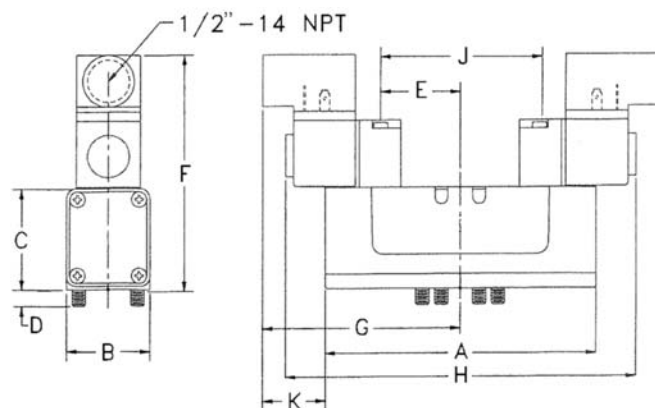
| ISO Size | Voltage             | Valve Part Number* | Valve Model Number | Flow Cv (NI/min) | Valve Weight lbs. (kg) | Single Subbase (Side Ported) | Port Size          | Subbase Weight lbs. (kg) |
|----------|---------------------|--------------------|--------------------|------------------|------------------------|------------------------------|--------------------|--------------------------|
| 1        | 110V-50Hz/120V-60Hz | R432006382         | GT-010042-02626    | 1.1 (1100)       | 3.21 (1.46)            | R432031844<br>R432036353     | 1/4"-18<br>3/8"-18 | 0.76 (0.34)              |
|          | 220V-50Hz/240V-60Hz | R432006383         | GT-010042-02929    |                  |                        |                              |                    |                          |
|          | 12 VDC              | R432006384         | GT-010042-03838    |                  |                        |                              |                    |                          |
|          | 24 VDC              | R432006385         | GT-010042-04141    |                  |                        |                              |                    |                          |
|          | 24 VAC              | R432006388         | GT-010042-06262    |                  |                        |                              |                    |                          |
|          | without coil        | R432002473         | GT-010042-00000    |                  |                        |                              |                    |                          |
| 2        | 110V-50Hz/120V-60Hz | R432006076         | GS-020042-02626    | 2.4 (2400)       | 4.75 (2.15)            | R432031845<br>R432036356     | 3/8"-18<br>1/2"-14 | 1.25 (0.57)              |
|          | 220V-50Hz/240V-60Hz | R432006077         | GS-020042-02929    |                  |                        |                              |                    |                          |
|          | 12 VDC              | R432006078         | GS-020042-03838    |                  |                        |                              |                    |                          |
|          | 24 VDC              | R432006079         | GS-020042-04141    |                  |                        |                              |                    |                          |
|          | 24 VAC              | R432006082         | GS-020042-06262    |                  |                        |                              |                    |                          |
|          | without coil        | R432002443         | GS-020042-00000    |                  |                        |                              |                    |                          |
| 3        | 110V-50Hz/120V-60Hz | R432006196         | GS-030042-02626    | 4.3 (4300)       | 4.99 (2.26)            | R432015308<br>R432015309     | 1/2"-14<br>3/4"-14 | 1.85 (0.84)              |
|          | 220V-50Hz/240V-60Hz | R432006197         | GS-030042-02929    |                  |                        |                              |                    |                          |
|          | 12 VDC              | R432006198         | GS-030042-03838    |                  |                        |                              |                    |                          |
|          | 24 VDC              | R432006199         | GS-030042-04141    |                  |                        |                              |                    |                          |
|          | 24 VAC              | R432030346         | GS-030042-06262    |                  |                        |                              |                    |                          |
|          | without coil        | R432002453         | GS-030042-00000    |                  |                        |                              |                    |                          |
| 4        | 110V-50Hz/120V-60Hz | R432006290         | GS-040042-02626    | 7.5 (7500)       | 5.42 (2.46)            | R432031847                   | 1"- 11-1/2         | 2.75 (1.25)              |
|          | 220V-50Hz/240V-60Hz | R432006291         | GS-040042-02929    |                  |                        |                              |                    |                          |
|          | 12 VDC              | R432006292         | GS-040042-03838    |                  |                        |                              |                    |                          |
|          | 24 VDC              | R432006293         | GS-040042-04141    |                  |                        |                              |                    |                          |
|          | 24 VAC              | R432030338         | GS-040042-06262    |                  |                        |                              |                    |                          |
|          | without coil        | R432002463         | GS-040042-00000    |                  |                        |                              |                    |                          |

Note: All valves listed above come from the factory internally piloted. To order an externally piloted valve, change the 7th character in the model number (not counting dashes), from 4 to 2. For example, model GT-010042-02626 would become GT-010022-02626. For externally piloted valves less coils, see page 16.

\*Consult factory for voltages not listed.

## Dimensions

Note: solenoid connector shown for reference only.



| Size | A    |       | B    |      | C    |      | D   |      | E    |      |
|------|------|-------|------|------|------|------|-----|------|------|------|
|      | IN   | mm    | IN   | mm   | IN   | mm   | IN  | mm   | IN   | mm   |
| 1    | 5.12 | 130.0 | 1.57 | 40.0 | 1.89 | 48.0 | .31 | 8.0  | 1.52 | 38.5 |
| 2    | 5.82 | 147.8 | 2.03 | 51.6 | 2.30 | 58.4 | .39 | 10.0 | 1.57 | 40.0 |
| 3    | 7.54 | 191.5 | 2.71 | 68.9 | 2.59 | 65.8 | .41 | 10.4 | 1.62 | 41.3 |
| 4    | 8.62 | 218.9 | 3.09 | 78.5 | 2.89 | 73.4 | .41 | 10.4 | 1.62 | 41.3 |

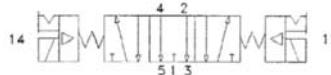
| Size | F    |       | G    |       | H     |       | J    |      | K    |      |
|------|------|-------|------|-------|-------|-------|------|------|------|------|
|      | IN   | mm    | IN   | mm    | IN    | mm    | IN   | mm   | IN   | mm   |
| 1    | 4.53 | 115.1 | 3.48 | 88.5  | 6.97  | 177.0 | 3.03 | 77.0 | 1.20 | 30.5 |
| 2    | 4.90 | 124.5 | 3.54 | 90.0  | 7.09  | 180.0 | 3.15 | 80.0 | .92  | 23.4 |
| 3    | 5.23 | 132.8 | 4.18 | 106.2 | 8.36  | 212.3 | 3.25 | 82.6 | 1.05 | 26.7 |
| 4    | 5.32 | 135.1 | 6.65 | 169.0 | 13.31 | 338.1 | 3.25 | 82.6 | .68  | 17.3 |

## Ceram™ Valves, ISO 5599-1 Sizes 1-4

Double solenoid, 5/3, exhaust open center

### 5 Port / 3 Position - Exhaust Open Center Double Solenoid Subbase Mounted (ISO Standard 5599/1)

Combination Manual Override: Locking & Non-Locking  
Sizes 1-4



Choose valve first, solenoid connector next (see Solenoid Connectors page), then matching subbase or manifold components.

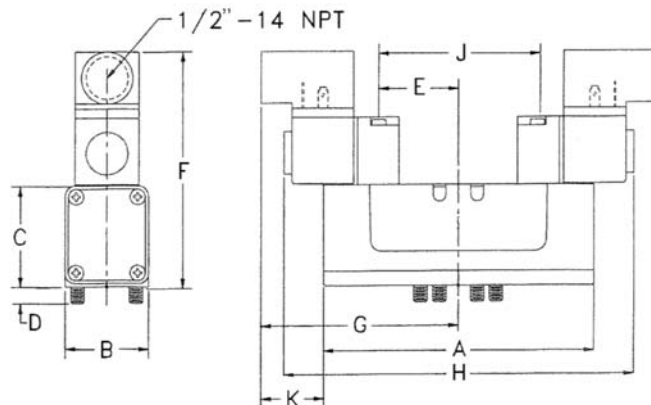
| ISO Size | Voltage             | Valve Part Number* | Valve Model Number | Flow Cv (NI/min) | Valve Weight lbs. (kg) | Single Subbase (Side Ported) | Port Size          | Subbase Weight lbs. (kg) |
|----------|---------------------|--------------------|--------------------|------------------|------------------------|------------------------------|--------------------|--------------------------|
| 1        | 110V-50Hz/120V-60Hz | R432006365         | GT-010032-02626    | 1.1 (1100)       | 3.21 (1.46)            | R432031844<br>R432036353     | 1/4"-18<br>3/8"-18 | 0.76 (0.34)              |
|          | 220V-50Hz/240V-60Hz | R432006366         | GT-010032-02929    |                  |                        |                              |                    |                          |
|          | 12 VDC              | R432006367         | GT-010032-03838    |                  |                        |                              |                    |                          |
|          | 24 VDC              | R432006368         | GT-010032-04141    |                  |                        |                              |                    |                          |
|          | 24 VAC              | R432006371         | GT-010032-06262    |                  |                        |                              |                    |                          |
|          | without coil        | R432002472         | GT-010032-00000    |                  |                        |                              |                    |                          |
| 2        | 110V-50Hz/120V-60Hz | R432006058         | GS-020032-02626    | 2.4 (2400)       | 4.75 (2.15)            | R432031845<br>R432036356     | 3/8"-18<br>1/2"-14 | 1.25 (0.57)              |
|          | 220V-50Hz/240V-60Hz | R432006059         | GS-020032-02929    |                  |                        |                              |                    |                          |
|          | 12 VDC              | R432030023         | GS-020032-03838    |                  |                        |                              |                    |                          |
|          | 24 VDC              | R432006060         | GS-020032-04141    |                  |                        |                              |                    |                          |
|          | 24 VAC              | R432006063         | GS-020032-06262    |                  |                        |                              |                    |                          |
|          | without coil        | R432002442         | GS-020032-00000    |                  |                        |                              |                    |                          |
| 3        | 110V-50Hz/120V-60Hz | R432006184         | GS-030032-02626    | 4.3 (4300)       | 4.99 (2.26)            | R432015308<br>R432015309     | 1/2"-14<br>3/4"-14 | 1.85 (0.84)              |
|          | 220V-50Hz/240V-60Hz | R432006185         | GS-030032-02929    |                  |                        |                              |                    |                          |
|          | 12 VDC              | R432006186         | GS-030032-03838    |                  |                        |                              |                    |                          |
|          | 24 VDC              | R432006187         | GS-030032-04141    |                  |                        |                              |                    |                          |
|          | 24 VAC              | R432030359         | GS-030032-06262    |                  |                        |                              |                    |                          |
|          | without coil        | R432002452         | GS-030032-00000    |                  |                        |                              |                    |                          |
| 4        | 110V-50Hz/120V-60Hz | R432006283         | GS-040032-02626    | 7.5 (7500)       | 5.42 (2.46)            | R432031847                   | 1"- 11-1/2"        | 2.75 (1.25)              |
|          | 220V-50Hz/240V-60Hz | R432030340         | GS-040032-02929    |                  |                        |                              |                    |                          |
|          | 12 VDC              | R432029042         | GS-040032-03838    |                  |                        |                              |                    |                          |
|          | 24 VDC              | R432006284         | GS-040032-04141    |                  |                        |                              |                    |                          |
|          | 24 VAC              | R432030339         | GS-040032-06262    |                  |                        |                              |                    |                          |
|          | without coil        | R432002462         | GS-040032-00000    |                  |                        |                              |                    |                          |

Note: All valves listed above come from the factory internally piloted. To order an externally piloted valve, change the 7th character in the model number (not counting dashes), from 3 to 1. For example, model GT-010032-02626 would become GT-010012-02626. For externally piloted valves less coils, see page 16.

\*Consult factory for voltages not listed.

## Dimensions

Note: solenoid connector shown for reference only.



| Size | A    |       | B    |      | C    |      | D   |      | E    |      |
|------|------|-------|------|------|------|------|-----|------|------|------|
|      | IN   | mm    | IN   | mm   | IN   | mm   | IN  | mm   | IN   | mm   |
| 1    | 5.12 | 130.0 | 1.57 | 40.0 | 1.89 | 48.0 | .31 | 8.0  | 1.52 | 38.5 |
| 2    | 5.82 | 147.8 | 2.03 | 51.6 | 2.30 | 58.4 | .39 | 10.0 | 1.57 | 40.0 |
| 3    | 7.54 | 191.5 | 2.71 | 68.9 | 2.59 | 65.8 | .41 | 10.4 | 1.62 | 41.3 |
| 4    | 8.62 | 218.9 | 3.09 | 78.5 | 2.89 | 73.4 | .41 | 10.4 | 1.62 | 41.3 |

| Size | F    |       | G    |       | H     |       | J    |      | K    |      |
|------|------|-------|------|-------|-------|-------|------|------|------|------|
|      | IN   | mm    | IN   | mm    | IN    | mm    | IN   | mm   | IN   | mm   |
| 1    | 4.53 | 115.1 | 3.48 | 88.5  | 6.97  | 177.0 | 3.03 | 77.0 | 1.20 | 30.5 |
| 2    | 4.90 | 124.5 | 3.54 | 90.0  | 7.09  | 180.0 | 3.15 | 80.0 | .92  | 23.4 |
| 3    | 5.23 | 132.8 | 4.18 | 106.2 | 8.36  | 212.3 | 3.25 | 82.6 | 1.05 | 26.7 |
| 4    | 5.32 | 135.1 | 6.65 | 169.0 | 13.31 | 338.1 | 3.25 | 82.6 | .68  | 17.3 |

## Ceram™ Valves, ISO 5599-1 Sizes 1-4

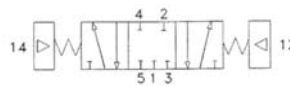
Double air pilot , 5/3, closed center and exhaust open center

### 5 Port / 3 Position

#### Double Air Pilot - Closed Center

#### Double Air Pilot - Exhaust Open Center

#### Subbase Mounted (ISO Standard 5599/1)



Choose valve first, then matching subbase or manifold components.

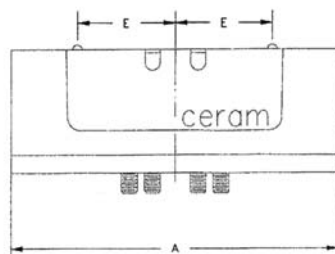
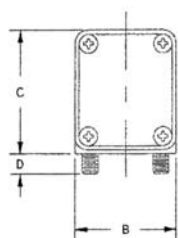
### Double Air Pilot - Closed Center

| ISO Size | Valve Part Number | Valve Model Number | Flow Cv (NI/min) | Valve Weight lbs. (kg) | Single Subbase (Side Ported) | Port Size          | Subbase Weight lbs. (kg) |
|----------|-------------------|--------------------|------------------|------------------------|------------------------------|--------------------|--------------------------|
| 1        | R432006352        | GT-010020-03535    | 1.1 (1100)       | 1.22 (0.55)            | R432031844<br>R432036353     | 1/4"-18<br>3/8"-18 | 0.76 (0.34)              |
| 2        | R432006047        | GS-020020-03535    | 2.4 (2400)       | 2.77 (1.26)            | R432031845<br>R432036356     | 3/8"-18<br>1/2"-14 | 1.25 (0.57)              |
| 3        | R432006173        | GS-030020-03535    | 4.3 (4300)       | 3.37 (1.53)            | R432015308<br>R432015309     | 1/2"-14<br>3/4"-14 | 1.85 (0.84)              |
| 4        | R432006276        | GS-040020-03535    | 7.5 (7500)       | 3.80 (1.72)            | R432031847                   | 1"- 11-1/2         | 2.75 (1.25)              |



### Double Air Pilot - Exhaust Open Center

| ISO Size | Valve Part Number | Valve Model Number | Flow Cv (NI/min) | Valve Weight lbs. (kg) | Single Subbase (Side Ported) | Port Size          | Subbase Weight lbs. (kg) |
|----------|-------------------|--------------------|------------------|------------------------|------------------------------|--------------------|--------------------------|
| 1        | R432006345        | GT-010010-03535    | 1.1 (1100)       | 1.22 (0.55)            | R432031844<br>R432036353     | 1/4"-18<br>3/8"-18 | 0.76 (0.34)              |
| 2        | R432006040        | GS-020010-03535    | 2.4 (2400)       | 2.77 (1.26)            | R432031845<br>R432036356     | 3/8"-18<br>1/2"-14 | 1.25 (0.57)              |
| 3        | R432006167        | GS-030010-03535    | 4.3 (4300)       | 3.37 (1.53)            | R432015308<br>R432015309     | 1/2"-14<br>3/4"-14 | 1.85 (0.84)              |
| 4        | R432006272        | GS-040010-03535    | 7.5 (7500)       | 3.80 (1.72)            | R432031847                   | 1"- 11-1/2         | 2.75 (1.25)              |



### Dimensions

| Size | A    |       | B    |      | C    |      | D   |      | E    |      |
|------|------|-------|------|------|------|------|-----|------|------|------|
|      | IN   | mm    | IN   | mm   | IN   | mm   | IN  | mm   | IN   | mm   |
| 1    | 5.12 | 130.0 | 1.57 | 40.0 | 1.89 | 48.0 | .31 | 8.0  | 1.52 | 38.5 |
| 2    | 5.82 | 147.8 | 2.03 | 51.6 | 2.30 | 58.4 | .39 | 10.0 | 1.57 | 40.0 |
| 3    | 7.54 | 191.5 | 2.71 | 68.9 | 2.59 | 65.8 | .41 | 10.4 | 1.62 | 41.3 |
| 4    | 8.62 | 218.9 | 3.09 | 78.5 | 2.89 | 73.4 | .41 | 10.4 | 1.62 | 41.3 |

## Ceram™ Valves, ISO 5599-1 Sizes 1-4

cURus approved operators/Externally piloted valves less coil

### Solenoid Operated Valves with cURus Operators (dual UL Recognized / CSA Approved)



**Available in 120VAC (suffix code 57 for 2 or 3 position valves) or 24VDC (suffix code 58 for 2 or 3-position valves).**

#### Ordering example:

Model code GT-010061-02440 is the model code for a standard valve with 120VAC operator. To get the model code for the same valve with a U.L. approved 120VAC operator, substitute 57 for the 24.

Reference Model Code Identification page for complete listing.

Valve is not supplied with DIN solenoid connector, must order separately, see Solenoid Connectors page.

For online model code to part number crossover:  
[www.aventics.com/us/downloads](http://www.aventics.com/us/downloads)

NOTE: Dimensions are identical to standard solenoid valve.

### Externally Piloted Ceram Valve - without Coils

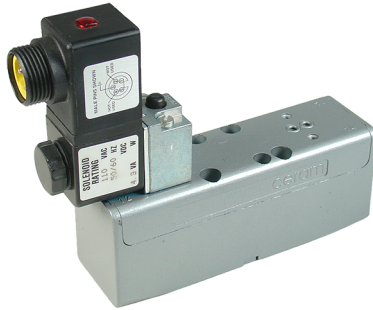


| Part Number | Description                                  |
|-------------|--|
| R432002470  | SIZE 1 EP OC DS LESS COILS (GT-010012-00000) |
| R432002471  | SIZE 1 EP CC DS LESS COILS (GT-010022-00000) |
| R432002474  | SIZE 1 EP SS LESS COIL (GT-010051-00040)     |
| R432002475  | SIZE 1 EP SS LESS COIL (GT-010051-00051)     |
| R432002476  | SIZE 1 EP DS LESS COILS (GT-010052-00000)    |
| R432002440  | SIZE 2 EP OC DS LESS COILS (GS-020012-00000) |
| R432002441  | SIZE 2 EP CC DS LESS COILS (GS-020022-00000) |
| R432002444  | SIZE 2 EP SS LESS COIL (GS-020051-00040)     |
| R432002445  | SIZE 2 EP SS LESS COIL (GS-020051-00051)     |
| R432002446  | SIZE 2 EP DS LESS COILS (GS-020052-00000)    |
| R432002450  | SIZE 3 EP OC DS LESS COILS (GS-030012-00000) |
| R432002451  | SIZE 3 EP CC DS LESS COILS (GS-030022-00000) |
| R432002454  | SIZE 3 EP SS LESS COIL (GS-030051-00040)     |
| R432002455  | SIZE 3 EP SS LESS COIL (GS-030051-00051)     |
| R432002456  | SIZE 3 EP DS LESS COILS (GS-030052-00000)    |
| R432002460  | SIZE 4 EP OC DS LESS COILS (GS-040012-00000) |
| R432002461  | SIZE 4 EP CC DS LESS COILS (GS-040022-00000) |
| R432002464  | SIZE 4 EP SS LESS COIL (GS-040051-00040)     |
| R432002465  | SIZE 4 EP SS LESS COIL (GS-040051-00051)     |
| R432002466  | SIZE 4 EP DS LESS COILS (GS-040052-00000)    |

## Ceram™ Valves, ISO 5599-1 Sizes 1-4

CSA approved 3- and 5-pin connections

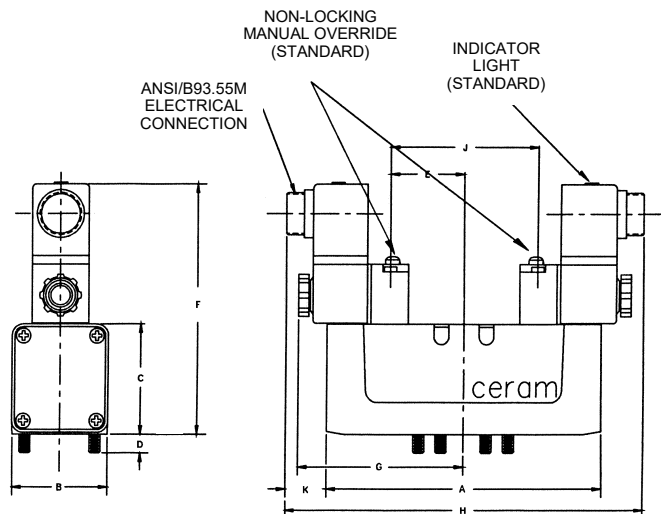
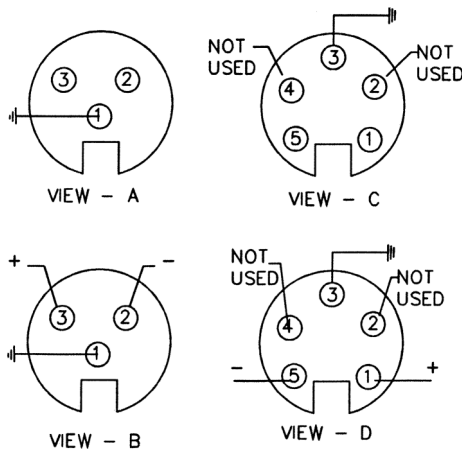
### Solenoid Operated Valves Meeting ANSI B93.55 Electrical Connections (Brad Harrison® style): CSA approved 3- and 5-pin Mini Electrical Hook-up and Ordering Information\*



#### Ordering example:

To order a 120VAC single solenoid/metal spring return valve with ANSI B93.55 pin connection:  
Substitute 03 for the 24 in the model code (GT-010061-02440 would become GT-010061-00340). Reference Model Code Identification page for complete listing.

For online model code to part number crossover:  
[www.aventics.com/us/downloads](http://www.aventics.com/us/downloads)



#### Dimensions

\*\*Operator does not overhang body assembly.

#### 2 or 3 position valves\*

| VOLTAGE          | CONNECTOR INSERT | PART NUMBER SUFFIX |
|------------------|------------------|--------------------|
| 120 VAC 50/60 Hz | VIEW A           | 03                 |
| 24 VDC           | VIEW B           | 06                 |
| 120 VAC 50/60 Hz | VIEW C           | 05                 |
| 24 VDC           | VIEW D           | 10                 |

\*Electrical connector/cable must be ordered separately from the valve. One connector/cable assembly is required for each solenoid. See Solenoid Connectors page for selection.

| Size | A    |       | B    |      | C    |      | D   |      | E    |      |
|------|------|-------|------|------|------|------|-----|------|------|------|
|      | IN   | mm    | IN   | mm   | IN   | mm   | IN  | mm   | IN   | mm   |
| 1    | 5.12 | 130.0 | 1.57 | 40.0 | 1.89 | 48.0 | .31 | 8.0  | 1.52 | 38.5 |
| 2    | 5.82 | 147.8 | 2.03 | 51.6 | 2.30 | 58.4 | .39 | 10.0 | 1.57 | 40.0 |
| 3    | 7.54 | 191.5 | 2.71 | 68.9 | 2.59 | 65.8 | .41 | 10.4 | 1.62 | 41.3 |
| 4    | 8.62 | 218.9 | 3.09 | 78.5 | 2.89 | 73.4 | .41 | 10.4 | 1.62 | 41.3 |

| Size | F    |       | G    |       | H     |       | J    |      | K    |      |
|------|------|-------|------|-------|-------|-------|------|------|------|------|
|      | IN   | mm    | IN   | mm    | IN    | mm    | IN   | mm   | IN   | mm   |
| 1    | 4.53 | 115.1 | 3.48 | 88.5  | 6.97  | 177.0 | 3.03 | 77.0 | 1.20 | 30.5 |
| 2    | 4.90 | 124.5 | 3.54 | 90.0  | 7.09  | 180.0 | 3.15 | 80.0 | .92  | 23.4 |
| 3    | 5.23 | 132.8 | 4.18 | 106.2 | 8.36  | 212.3 | 3.25 | 82.6 | 1.05 | 26.7 |
| 4    | 5.32 | 135.1 | 6.65 | 169.0 | 13.31 | 338.1 | 3.25 | 82.6 | .68  | 17.3 |

## Ceram™ Valves, ISO 5599-1 Sizes 1-4

4 pin M12 connections, 24 VDC

### Solenoid Operated Valves with 4 pin M12 Electrical Connections for 24 VDC

#### Electrical Hook-up and Ordering Information\*



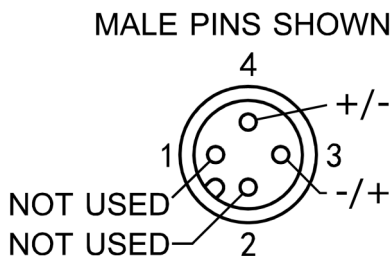
#### Ordering example:

To order a 24 VDC single solenoid/metal spring return valve with 4 pin M12 connection:  
Substitute 02 for the 24 in the model code (GT-010061-02440 would become GT-010061-00240).  
Reference Model Code Identification page for complete listing.

For online model code to part number crossover:  
[www.aventics.com/us/downloads](http://www.aventics.com/us/downloads)

| VOLTAGE | CONNECTOR | PART NUMBER |
|---------|-----------|-------------|
|         | INSERT    | SUFFIX      |
| 24 VDC  | (above)   | 02          |

| Description                          | NEW Part No. | NEW Model Code  |
|--------------------------------------|--------------|-----------------|
| CERAM SZ1 IP OC DS 24VDC 4-PIN MICRO | R432038372   | GT-010032-00202 |
| CERAM SZ1 EP SS 24VDC 4-PIN MICRO    | R432038373   | GT-010051-00240 |
| CERAM SZ1 IP SS 24VDC 4-PIN MICRO    | R432038374   | GT-010061-00240 |
| CERAM SZ1 IP DS 24VDC 4-PIN MICRO    | R432038376   | GT-010062-00202 |
| CERAM SZ2 EP SS 24VDC 4-PIN MICRO    | R432038365   | GS-020051-00240 |
| CERAM SZ2 IP SS 24VDC 4-PIN MICRO    | R432038366   | GS-020061-00240 |
| CERAM SZ2 IP DS 24VDC 4-PIN MICRO    | R432038367   | GS-020062-00202 |
| CERAM SZ3 EP SS 24VDC 4-PIN MICRO    | R432038368   | GS-030051-00240 |
| CERAM SZ3 IP SS 24VDC 4-PIN MICRO    | R432038369   | GS-030061-00240 |
| CERAM SZ3 IP DS 24VDC-4 PIN          | R432038370   | GS-030062-00202 |
| CERAM SZ4 IP SS 24VDC 4-PIN MICRO    | R432038371   | GS-040061-00240 |
| COIL 4 PIN M12 24VDC                 | R432038356   |                 |
| SOLENOID OPERATOR 4 PIN 24VDC        | R432038357   |                 |



| PIN | Obsolete CSA Approved 4-pin M12 micro connector ... operator model code "04" | NEW 4-pin M12 micro connector ... operator model code "02" (NO certification/approval) |
|-----|--|--|
| 1   | +  | not used   |
| 2   | not used   | not used   |
| 3   | -  | + / -  |
| 4   | not used   | - / +  |



## Ceram™ Valves, ISO 5599-1 Sizes 1-4

CSA approved operator, single 4 or 5 pin connection

For double solenoid valves

### Solenoid Operated Valves with CSA Approved Operator Meeting ANSI B93.55 Electrical Connections (Brad Harrison® style)

#### Single 4 or 5 Pin Connection for Double Solenoid Valves, 2 or 3 Position



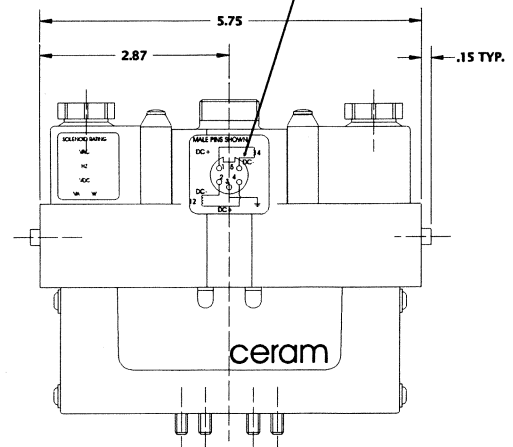
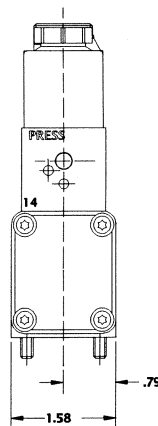
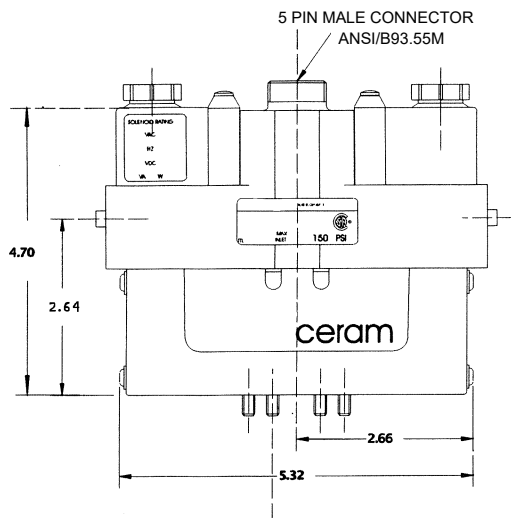
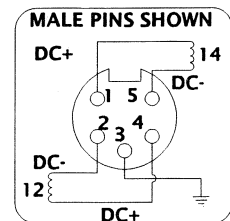
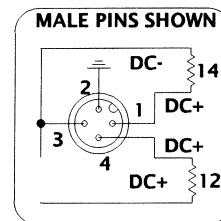
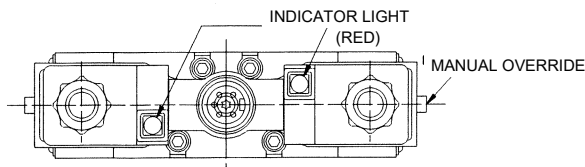
*\*120VAC (Model code 07) version is temporarily unavailable. Contact AVENTICS Customer Service for alternatives.*

#### Ordering example:

To order a 120VAC double solenoid, 2 position size 1 valve with single ANSI B93.55 5-pin connection:  
Substitute 07 for the 24 in the model code (GT-010061-02424 would become GT-010061-00707). Reference Model Code Identification page for complete listing.

**For online model code to part number crossover:**  
[www.aventics.com/us/downloads](http://www.aventics.com/us/downloads)

| Voltage           | Model Code Suffix | Number of Pins |
|-------------------|-------------------|----------------|
| 120 VAC 50/60 Hz* | 07*               | 5 (mini)       |
| 24 VDC            | 08                | 5 (mini)       |
| 24 VDC            | 09                | 4 (micro)      |



Dimensions shown above are for Size 1 valve; for other sizes, **add** dimensions below to Size 1 valve body dimensions above. Electrical portion of valve does not change, regardless of valve size.  
**Dimension Adders (inches)**

| Size | Height | Width | Length |
|------|--------|-------|--------|
| 2    | 0.41   | 0.45  | 0.50   |
| 3    | 0.70   | 1.13  | 2.22   |
| 4    | 1.00   | 1.51  | 3.30   |

## Ceram<sup>™</sup> Valves, ISO 5599-1 Sizes 1-4

Explosion proof and intrinsically safe solenoid valves

### Explosion Proof Solenoid Valves for Hazardous Locations

NEMA 7C & 7D & U.L.

Class I-Groups C & D-Explosion Proof

NEMA 8C & 8D & U.L.

Class I-Groups C & D-Explosion Proof

NEMA 9E, 9F & 9G & U.L.

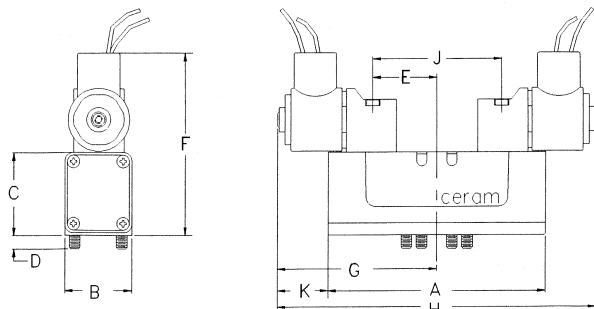
Class II-Groups E, F, G-Explosion Proof

Explosion Proof valves do not require solenoid connectors, as they come standard with 1/2" conduit housing and 18 inch wire leads.



Reference Model Code Identification page for model code information.

For online model code to part number crossover:  
[www.aventics.com/us/ceram](http://www.aventics.com/us/ceram)



### Dimensions

\*\*Operator does not overhang body assembly.

| Size | A    |       | B    |      | C    |      | D   |      | E    |      |
|------|------|-------|------|------|------|------|-----|------|------|------|
|      | IN   | mm    | IN   | mm   | IN   | mm   | IN  | mm   | IN   | mm   |
| 1    | 5.12 | 130.0 | 1.57 | 40.0 | 1.89 | 48.0 | .31 | 8.0  | 1.52 | 38.5 |
| 2    | 5.82 | 147.8 | 2.03 | 51.6 | 2.30 | 58.4 | .39 | 10.0 | 1.57 | 40.0 |
| 3    | 7.54 | 191.5 | 2.71 | 68.9 | 2.59 | 65.8 | .41 | 10.4 | 1.62 | 41.3 |
| 4    | 8.62 | 218.9 | 3.09 | 78.5 | 2.89 | 73.4 | .41 | 10.4 | 1.62 | 41.3 |

| Size | F    |       | G    |       | H    |       | J    |      | K    |      |
|------|------|-------|------|-------|------|-------|------|------|------|------|
|      | IN   | mm    | IN   | mm    | IN   | mm    | IN   | mm   | IN   | mm   |
| 1    | 4.17 | 105.9 | 3.75 | 95.3  | 7.50 | 190.5 | 3.03 | 77.0 | 1.19 | 30.2 |
| 2    | 4.58 | 116.3 | 3.80 | 96.5  | 7.61 | 193.3 | 3.15 | 80.0 | .90  | 22.9 |
| 3    | 4.87 | 123.7 | 3.86 | 98.0  | 7.71 | 195.8 | 3.25 | 82.6 | .09  | 2.29 |
| 4    | 5.71 | 145.0 | 4.31 | 109.5 | **   | **    | 3.25 | 82.6 | **   | **   |

### Intrinsically Safe Solenoid Valves for Hazardous Locations (CSA approved)

Classes I, II and III, DIV I

Groups A, B, C, D, E, F and G

For use in low voltage (24VDC) Intrinsically Safe applications.  
NO OTHER VOLTAGE IS APPROVED.



Comes standard with non-lighted DIN solenoid connector.

### Must be connected to an FM approved Zener Diode Barrier.\*

For dimensions, reference standard solenoid models.

**Maximum internally piloted valve pressure is 115 psi.**

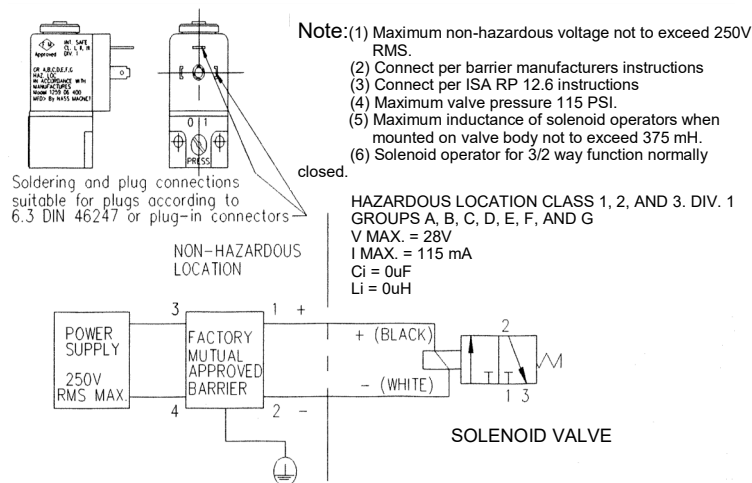
**Pressures to 150 psi can be used when external pilot is utilized and pilot pressure is limited to 115 psi.**

\*FM Approved Barrier Manufacturer

Stahl Incorporated—Woburn, MA

Request AVENTICS Application Memo Issue#35 and ADV-300.ISSV for Intrinsically Safe Valve information and Stahl Barrier part numbers.

### Installation Information:



### Ordering example:

Model GT-010061-03940 = standard valve, same valve with intrinsically safe operator would be GT-010061-09040.

Reference Model Code Identification page for complete listing.

For online model code to part number crossover:  
[www.aventics.com/us/downloads](http://www.aventics.com/us/downloads)

## Ceram™ Valves, ISO 5599-1 Sizes 1-4

### Repair kits and parts

#### Rubber Seal Kits

| Size    | Description                | Part No.   | Old Part No.     |
|---------|----------------------------|------------|------------------|
| Size 1  | Seal Kit, GT Series 2 Pos. | R432009099 | P - 029294-00000 |
| Size 1  | Seal Kit, GT Series 3 Pos. | R432009100 | P - 029295-00000 |
| *Size 2 | Seal Kit, GS Series        | R432008631 | P - 026486-00002 |
| *Size 3 | Seal Kit, GA/GS Series     | R432015773 | P - 069691-00001 |
| *Size 4 | Seal Kit, GA/GS Series     | R432015774 | P - 069692-00001 |

\* Includes all user serviceable rubber parts normally required.

#### Recommended Valve Mounting Bolt Torque Values

| Size  | Max. ft.-lbs. |
|-------|---------------|
| 1     | 4             |
| 2     | 6             |
| 3 & 4 | 7             |

**ATTENTION: DO NOT** remove the static base. Special fixtures are required to reinstall plates to factory specifications. Roller bearings and ceramic plate stack are calibrated to obtain proper mechanical pre-loading. Therefore, field disassembly is not recommended for the plate/bearing assembly. The ceramic slide plates do not require maintenance under normal operating conditions and should not be removed from the valve - consult factory if plate maintenance is required. There are no seals for the static base/ceramic plate assembly contained in repair kits.

#### Gasket between valve and subbase

| Size   | Part Number |
|--------|-------------|
| Size 1 | R432006602  |
| Size 2 | R432008765  |
| Size 3 | R432013791  |
| Size 4 | R432037891  |

#### Solenoid Kits & Coils - Sizes 1- 4 (Oct. 1992 & later for Sizes 3 & 4)

##### Solenoid Kits\*

| Description    | Part Number | Old Part No.     |
|----------------|-------------|------------------|
| 120VAC 50/60Hz | R432015466  | P - 068899-00000 |
| 240VAC 50/60Hz | R432015467  | P - 068899-00001 |
| 12 VDC         | R432015468  | P - 068899-00003 |
| 24 VDC         | R432015469  | P - 068899-00004 |
| 24VAC 50/60Hz  | R432015470  | P - 068899-00005 |

\* Includes coil and solenoid operator, but not connector.  
Note: for a "closed" knurled nut for a coil (no exposed pilot exhaust port), order part number R434004156.

##### Operator Only

| Description      | Part Number | Old Part No.     |
|------------------|-------------|------------------|
| For all voltages | R432008909  | P - 028197-00000 |

##### Coil Only

| Description                | Part Number | Old Part No.     |
|----------------------------|-------------|------------------|
| 110VAC/50Hz or 120VAC/60Hz | R432011985  | P - 048835-00001 |
| 220VAC/50Hz or 240VAC/60Hz | R432011986  | P - 048835-00002 |
| 12 VDC                     | R432011988  | P - 048835-00004 |
| 24 VDC                     | R432011989  | P - 048835-00005 |
| 24VAC 50/60Hz              | R432011990  | P - 048835-00006 |

#### Miscellaneous Repair parts & Kits

##### Sizes 1 & 2

| Description   | Part Number | Old Part No.     |
|---|-------------|------------------|
| Size 1 & 2 Quick Release Valve Kit (inc. 2 QRV assemblies)                              | R432008632  | P - 026487-00001 |
| Size 1 & 2 Solenoid Plunger Kit (includes armature assembly)                            | R432015687  | P - 069541-00000 |
| Solenoid Nut Kit Size 1-4§  | R432008975  | P - 028462-00000 |
| Size 1 Return Spring  | R432008995  | P - 028645-00000 |
| Size 2 Return Spring  | R434000717  |                  |
| Size 1 Sol./Air Pit. Piston Kit (includes piston, sleeve, seals & grease)               | R432008560  | P - 026408-00000 |
| Size 2 Sol./Air Pit. Piston Kit (includes piston, sleeve, seals, grease)                | R432008561  | P - 026409-00000 |
| Size 1 Mounting Bolt/Body Screw Kit-GT  | R432002387  |                  |
| Size 1 Mounting Bolt/Body Screw Kit-GS  | R432008784  | P - 027276-00000 |
| Size 2 Mounting Bolt & Body Screw Kit   | R432008785  | P - 027277-00000 |
| Size 1 & 2 Seal 10-120 psi Adj. Knob Assy. Sandwich Reg. (fits R432... regulators only) | R432010973  | P - 031282-00000 |
| Size 1 & 2 Seal Rep. Kit for Sand. Reg. (fits all old style single & double)            | R432009198  | P - 029922-00000 |
| Size 1 & 2 Seal Rep. Kit for Sand. Reg. (fits all new style single & double)            | R432009199  | P - 029923-00000 |
| Size 1 Valve Gasket   | R432006602  |                  |
| Size 2 Valve Gasket   | R432008765  |                  |
| Size 1 Sandwich Regulator Gasket  | R432011773  |                  |
| Size 2 Sandwich Regulator Gasket  | R432011774  |                  |

##### Sizes 3 & 4

| Description  | Part Number | Old Part No.     |
|--|-------------|------------------|
| Size 3 & 4 Quick Release Vlv. Kit (QVR assemblies for any valve)               | R432008681  | P - 026684-00002 |
| Size 3 & 4 Sol. Plunger Kit (includes armature assembly)§                      | R432015687  | P - 069541-00000 |
| Size 3 Return Kit  | R432008887  | P - 028037-00000 |
| Size 4 Return Kit  | R432008888  | P - 028038-00000 |
| Size 3 Sol. Air Pilot Piston Kit. (inc. piston, seals, end cvr. gskt., grease) | R432008658  | P - 026635-00000 |
| Size 4 Sol. Air Pilot Piston Kit. (inc. piston, seals, end cvr. gskt., grease) | R432008889  | P - 028039-00000 |
| Size 3 Seal Rep. Kit for Sand. Reg. (fits all new style sgl. & dbl.)           | R432009205  | P - 029951-00000 |
| Size 3 Mntg. Bolt/Body Screw Kit   | R432008799  | P - 027412-00000 |
| Size 4 Mntg. Bolt/Body Screw Kit   | R432008800  | P - 027413-00000 |
| Size 3 Valve Gasket  | R432013791  |                  |
| Size 4 Valve Gasket  | R432037891  |                  |
| Size 3 Sandwich Regulator Gasket   | R432011775  |                  |

##### Explosion Proof Solenoid Kits & Coils Sizes 1 thru 4

|                                |            |                  |
|--------------------------------|------------|------------------|
| Solenoid Kit - 120 VAC 50/60Hz | R432008525 | P - 026293-00000 |
| Solenoid Kit - 240VAC 50/60Hz  | R432008527 | P - 026293-00002 |
| Solenoid Kit - 24 VDC          | R432008626 | P - 026293-00001 |
| Coil only - 120VAC 50/60Hz     | R432013760 | P - 067370-00000 |
| Coil only - 240VAC 50/60Hz     | R432013761 | P - 067371-00000 |
| Coil only - 24 VDC             | R432013763 | P - 067374-00000 |

## Ceram™ Valves, ISO 5599-1 Sizes 1-4

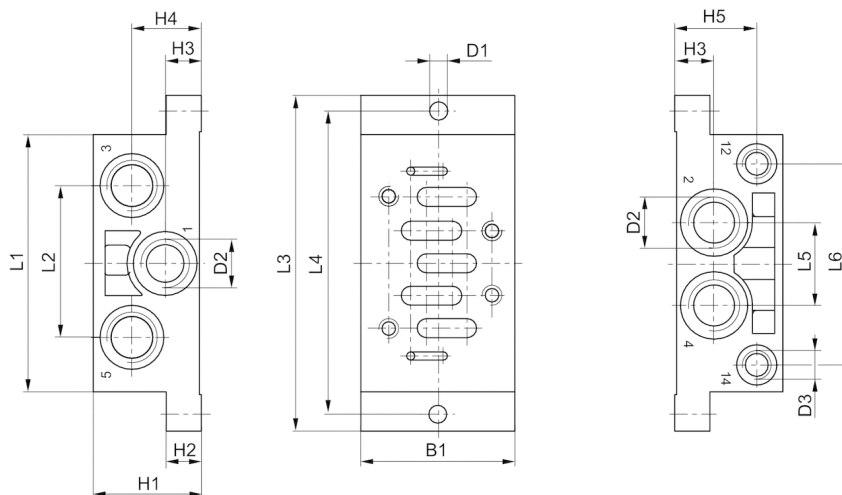
Subbases and manifolds, Size 1

### ISO SIZE 1 SUBBASES

**Single Subbase (side ported)**  
**1/4" or 3/8" NPT or G (BSPP) ports**

#### Silencers:

R432012060 Silencer, 1/4" NPT  
 R432012058 Silencer, 3/8" NPT  
 R412010245 Silencer, G 1/4  
 R412010246 Silencer, G 3/8



| Part No.   | B1 | H1   | H2 | H3   | H4   | H5   | D1  | D2 *)     | D3 *)     | L1 | L2 | L3  | L4 | L5   | L6   |
|------------|----|------|----|------|------|------|-----|-----------|-----------|----|----|-----|----|------|------|
| R432031844 | 48 | 32   | 10 | 11.5 | 21.5 | 23.5 | 5.5 | 1/4" NPTF | 1/8" NPTF | 84 | 43 | 110 | 98 | 24   | 58   |
| 1825503143 | 48 | 32   | 10 | 11.5 | 21.5 | 23.5 | 5.5 | G 1/4     | G 1/8     | 84 | 43 | 110 | 98 | 24   | 58   |
| R432036353 | 48 | 38.5 | 10 | 13.5 | 25   | 28.7 | 5.5 | 3/8" NPTF | 1/8" NPTF | 84 | 47 | 110 | 98 | 26.2 | 58.6 |
| R432036352 | 48 | 38.5 | 10 | 13.5 | 25   | 28.7 | 5.5 | G 3/8     | G 1/8     | 84 | 47 | 110 | 98 | 26.2 | 58.6 |

\* Ports. Note: all dimensions in mm.

### ISO SIZE 1 MANIFOLDS

**End and Bottom Ported Manifolds**  
**1/4" & 3/8" NPT or G (BSPP) delivery ports**

#### Manifold Station Segment Part No.\*

**R432037640** - 1/4" NPTF (side), 3/8" NPTF (bottom)

**R432037639** - 1/4 BSPP (side), 3/8 BSPP (bottom)

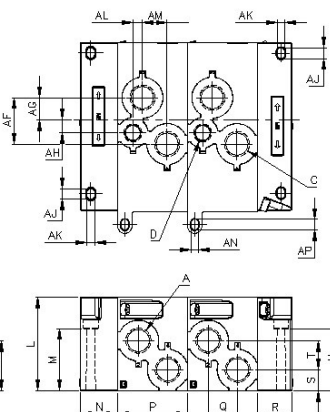
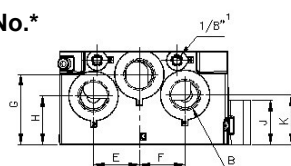
#### Left & Right End Plate Kit Part No.\*

**R432039422** - 3/8" NPTF

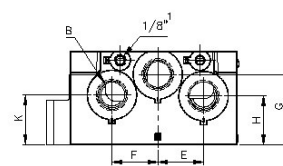
**R432041042** - 3/8 BSPP

#### Port Plug, 3/8" NPTF:

**Part No. R431009434**

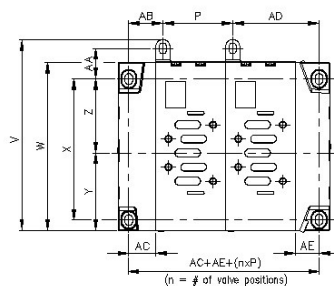


NOTE: Not intended for use with Air Pilot valves. For manifolds for Air Pilot Valves, see page 32.



#### Pressure Separation Disc Part No.\*\*

**R432038306**



\*Includes gaskets and all hardware

\*\* Includes 1 disc for multiple pressure zone

| Size | A <sup>1</sup> | B <sup>1</sup> | C <sup>1</sup> | D <sup>1</sup> | E    | F    | G    | H    | J    | K    | L    | M    | N    | P   | Q   | R    | S    | T    | U   |
|------|----------------|----------------|----------------|----------------|------|------|------|------|------|------|------|------|------|-----|-----|------|------|------|-----|
| 1    | 1/4            | 3/8            | 3/8            | none           | 23   | 18   | 15.5 | 30   | 20   | 37.5 | 60.6 | 10.5 | 25   | 45  | 18  | 25   | 13.3 | 14.7 | 15  |
| Size | V              | W              | X              | Y              | Z    | AA   | AB   | AC   | AD   | AE   | AF   | AG   | AH   | AJ  | AK  | AL   | AM   | AN   | AP  |
| 1    | 150.5          | 135            | 102.5          | 66             | 50.3 | 27.3 | 24   | 18.5 | 57.5 | 18   | 23.8 | 11.8 | none | 8.3 | 5.8 | none | 12   | 5.5  | 8.5 |

<sup>1</sup>Available IN G (BSPP) or NPTF threads  
 All dimensions in mm.

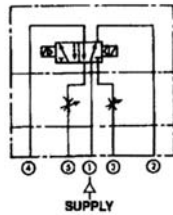
## Ceram™ Valves, ISO 5599-1 Sizes 1-4

### Manifold accessories, Size 1

### SIZE 1 ACCESSORIES

#### Sandwich Flow Controls (Meter Out Ports 5 & 3)

Our flow controls sandwich between the valve and subbase eliminating the need for addition piping and external controls for both working ports. Adjustment is with a knob on each side thread, along with our two stage needle design ensures excellent control. Kit includes flow control (1), gasket (1), and screws (4).



Part No. 0821201023

Dimensions

Height: .98" (25mm)

Maximum Overall Length:  
3.15" (80mm)



#### Dual Sandwich Regulator (Ports 2 & 4)

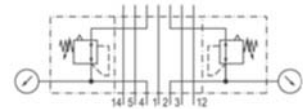
Both delivery port pressures are adjustable individually. Ideal for applications within a manifold where independent regulation of two supply pressures is required; no external pilot supply is required if minimum pilot pressure is available. Lip seal opens when downstream pressure is >30 psi than upstream pressure to allow reverse flow. With locking adjustment knobs at "Control 12" for port 2 and "Control 14" end for port 4. Kit includes regulator (1), gasket (1), screws (4) and gauges (2).

Part No. 0821302051 (10-120 psi)

Dimensions:

Height: 1.77" (45mm)

Max. Overall Length: 11.50" (292mm)



Optional design (w/o gauge):

(1/8" NPT gauge ports)

R432015497 (5-60 psi)

R432015498 (3-30 psi)



#### Single Sandwich Regulator

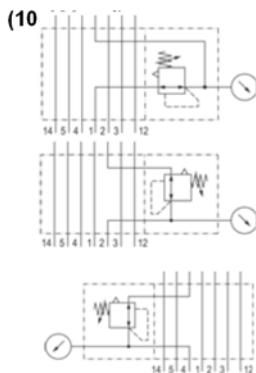
Ideal for applications within a manifold where a particular pressure is required for one or more valves. Our regulator controls inlet pressure through to each cylinder port or delivery port pressures independently. A relieving type, the knob will also lock into a given position. Kit includes regulator (1), gasket (1), screws (4) and gauge (1).

Port  
Regulation

1 0821302048

2 0821302054

4 0821302057



Dimensions:

Height: 1.77" (45mm)

Max. Overall Length: 7.80" (198mm)

Optional design (w/o gauge, 1/8" NPT gauge port):

R432009189 (Port 1, 5-60 psi)

R432009190 (Port 1, 3-30 psi)

#### Maintenance Plate

Mounts between valve and sub-base. Used when servicing individual valves in a manifold system, or replacing a cylinder while the rest of the system is still operating. Two positions, can be locked with a cotter pin:

0. Maintenance position, flow is minimal and valve is isolated<sup>§</sup>;

1. Open position, normal operation - full flow in the system.

§ The low flow in the maintenance position allows slow pressurizing when the valve is returned to service. This low flow also requires the removal of trapped downstream pressure before removing or servicing these same components.

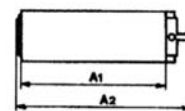
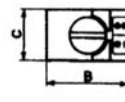
CAUTION: Before service or removal of any components, all trapped pressure must be released. Vertically mounted cylinders, gravity and mechanically loaded actuators must be blocked/disable to avoid injury or system damage. Install blanking station segment kit if this minimal flow is undesirable when the valve is not present.

Material: Aluminum, black anodized.

Pressure range: Vacuum to 150 psi.

dim= IN (mm)

| ISO | Part Number   | A1        | A2        | B         | C         |
|-----|---------------|-----------|-----------|-----------|-----------|
| 1   | 580 159 000 0 | 2.76 (70) | 3.35 (85) | 1.57 (40) | 0.98 (25) |



**Ceram™ Valves, ISO 5599-1 Sizes 1-4**

Manifold accessories, Size 1

**ACCESSORIES (continued)**
**SIZE 1 Sandwich Auxiliary Pressure Block (Port 1)**

The separate pressure block allows for more than two pressures to be provided to a manifold of valves. This unit sandwiches between the valve and base. Pressure to the balance of the manifold is isolated. Kit includes plate (1), gasket (1), screws (4), 3/8" NPTF port plug (1).

**Part No. R432015767**
**(Allows 3 or more pressures to be applied to the same manifold assembly. See manifold assembly page.)**

Auxiliary pressure supply blocked from manifold base port 1 channel

Dimensions

Height 1.18" (30mm)

Maximum Overall Length: 3.9" (99.3mm)

**3/8" NPTF  
INLET**

**SIZE 1 Blanking Plate Kit**

Allow for valve to be added later.

Can be removed to add valve to existing manifold.

Kit includes plate (1), gasket (1), screws (4).

Shown on 1/4" base.

Part No. 5801870000


**ISO 5599-1 TRANSITION PLATE KIT**
**ISO Size 1 to ISO Size 2**
**Dimensions: 5.6" x 1.4" x 3.2"**
**Part No - R432037658**
**ISO Size 1 to ISO Size 3**
**Dimensions: 6.4" x 2.0" x 3.9"**
**Part No - R432037659**


## Ceram™ Valves, ISO 5599-1 Sizes 1-4

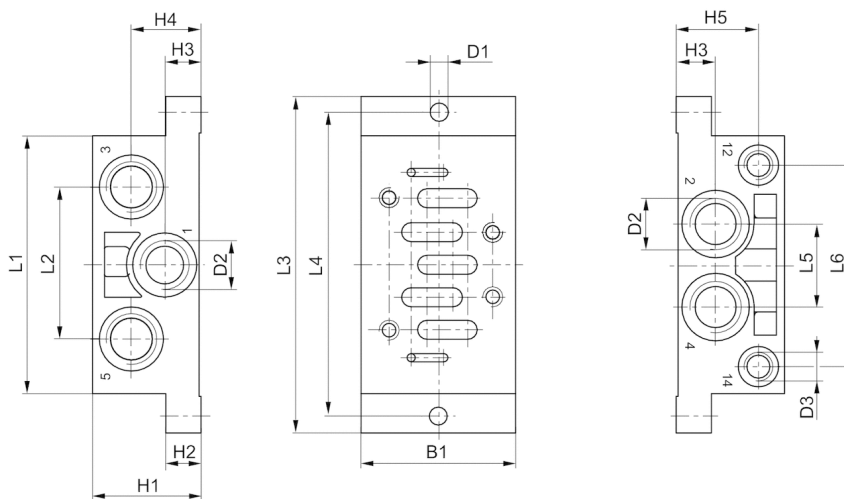
### Subbases and manifolds, Size 2

### ISO SIZE 2 SUBBASES

#### Single Subbase (side ported) 3/8" or 1/2" NPT or G (BSPP) ports

#### Silencers:

R432012058 Silencer, 3/8" NPT  
R432011952 Silencer, 1/2" NPT  
R412010246 Silencer, G 3/8  
R412010247 Silencer, G 1/2



| Part No.   | B1 | H1 | H2 | H3 | H4 | H5 | D1  | D2 *)     | D3 *)     | L1  | L2 | L3  | L4  | L5 | L6   |
|------------|----|----|----|----|----|----|-----|-----------|-----------|-----|----|-----|-----|----|------|
| R432031845 | 57 | 40 | 13 | 14 | 26 | 30 | 6.6 | 3/8" NPTF | 1/8" NPTF | 95  | 56 | 124 | 112 | 30 | 74   |
| 1825503146 | 57 | 40 | 13 | 14 | 26 | 30 | 6.6 | G 3/8     | G 1/8     | 95  | 56 | 124 | 112 | 30 | 74   |
| R432036356 | 57 | 42 | 13 | 15 | 24 | 32 | 6.6 | 1/2" NPTF | 1/8" NPTF | 122 | 60 | 124 | 112 | 31 | 71.2 |
| R432036355 | 57 | 42 | 13 | 15 | 24 | 32 | 6.6 | G 1/2     | G 1/8     | 122 | 60 | 124 | 112 | 31 | 71.2 |

\* Ports. Note: all dimensions in mm.

### ISO SIZE 2 MANIFOLDS

#### End and Bottom Ported Manifolds 1/2" NPT or G (BSPP) delivery ports

#### Manifold Station Segment Part No.\*

R432037642 - 1/2" NPTF (side), 1/2" NPTF (bottom)

R432037641 - 1/2 BSPP (side), 1/2 BSPP (bottom)

#### Left & Right End Plate Kit\*

R432039423 - 1/2" NPTF

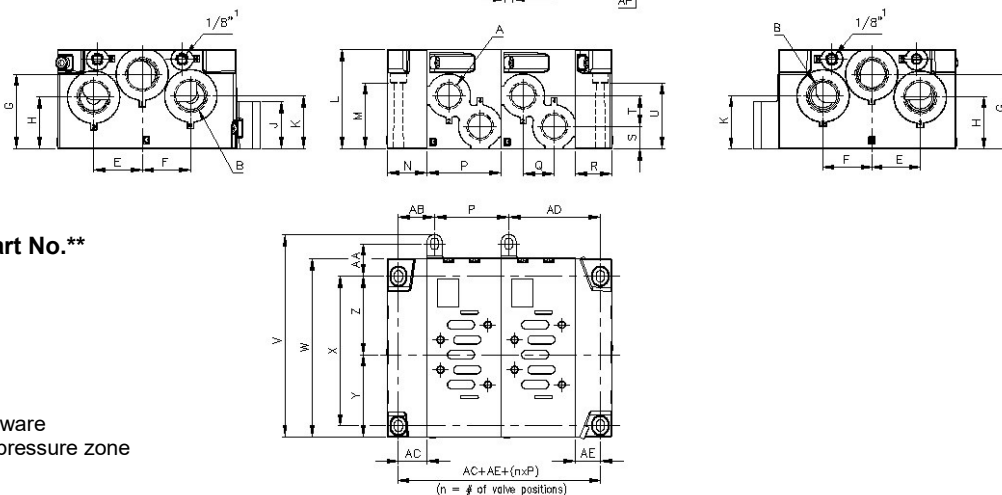
R432041043 - 1/2 BSPP

#### Port Plug, 1/2" NPTF:

Part No. R432027755

#### Pressure Separation Disc Part No.\*\*

R432037662



NOTE: Not intended for use with Air Pilot valves. For manifolds for Air Pilot Valves, see page 33.

\*Includes gaskets and all hardware

\*\* Includes 1 disc for multiple pressure zone

| Size | A <sup>1</sup> | B <sup>1</sup> | C <sup>1</sup> | D <sup>1</sup> | E  | F  | G  | H    | J  | K    | L    | M  | N  | P    | Q  | R    | S  | T    | U  |
|------|----------------|----------------|----------------|----------------|----|----|----|------|----|------|------|----|----|------|----|------|----|------|----|
| 2    | 1/2            | 3/4            | 1/2            | 3/8            | 39 | 39 | 60 | 41.5 | 38 | 42.5 | 79.7 | 53 | 32 | 59.5 | 25 | 29.5 | 18 | 24.8 | 53 |

| Size | V     | W   | X     | Y  | Z  | AA   | AB | AC | AD   | AE | AF   | AG | AH | AJ  | AK  | AL  | AM | AN  | AP  |
|------|-------|-----|-------|----|----|------|----|----|------|----|------|----|----|-----|-----|-----|----|-----|-----|
| 2    | 162.5 | 143 | 119.6 | 66 | 63 | 26.1 | 29 | 23 | 73.5 | 20 | 39.5 | 19 | 11 | 9.1 | 6.6 | 8.2 | 21 | 6.3 | 9.3 |

<sup>1</sup>Available IN G (BSPP) or NPTF threads  
All dimensions in mm.

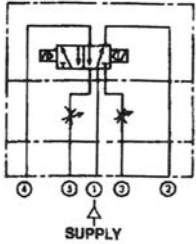


## Ceram™ Valves, ISO 5599-1 Sizes 1-4

Manifold accessories, Size 2

### ISO SIZE 2 ACCESSORIES

#### Sandwich Flow Controls (Meter Out Ports 3 & 5)



Our flow controls sandwich between the valve and subbase eliminating the need for additional piping and external controls for both working ports. Adjustment is with a knob on each side. A fine thread, along with our two stage needle design assures excellent control. Kit includes speed control (1), gasket (1), and screws (4),  
**Part No. 0821201024**  
**Dimensions**  
**Height: 0.98" (25mm)**  
**Maximum Overall Length: 4.02" (102mm)**

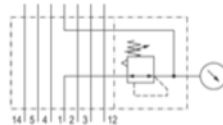


#### Single Sandwich Regulator

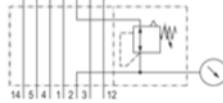
Ideal for applications within a manifold where a particular pressure is required for one or more valves. Our regulator controls inlet pressure through to each cylinder port or delivery port pressures independently. A relieving type, the knob will also lock into a given position. Kit includes regulator (1), gasket (1), and screws (4)

| Port Regulation | Part Number | (10-120 psi) |
|-----------------|-------------|--------------|
|-----------------|-------------|--------------|

1 R422103092



2 R422103093



**Dimensions:**  
**Height: 2.00" (50.9mm)**  
**Max Overall Length: 9.01" (228.9mm)**  
**Optional design (w/o gauge, 1/8" NPT gauge port):**  
**R432009192 (Port 1, 5-60 psi)**  
**R432030015 (Port 1, 3-30 psi)**

### ISO SIZE 2 ACCESSORIES

#### Dual Sandwich Regulator (Ports 2 & 4)

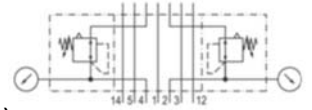
Our pressure regulators sandwich between the valve and subbase eliminating the need for additional piping. Ideal for applications within a manifold where independent regulation of two supply pressures is required; no external pilot supply is required if minimum pilot pressure is available. Lip seal opens when downstream pressure is >30 psi than upstream pressure to allow reverse flow. With locking adjustment knobs at "Control 12" for port 2 and "Control 14" end for port 4. Kit includes regulator (1), gasket (1), and screws (4)

**Part No. R422103094 (10-120 psi)**

**Dimensions:**

**Height: 2.00" (50.9mm)**

**Max Overall Length: 15.29" (388.3mm)**



**Optional design (w/o gauge):**

**(1/8" NPT gauge ports)**

**R432015495 (5-60 psi)**



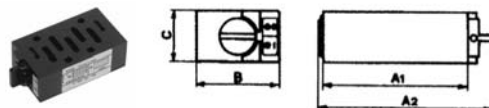
#### Maintenance Plate (Size 1, 2, 3)

Mounts between valve and sub-base. Used when servicing individual valves in a manifold system, or replacing a cylinder while the rest of the system is still operating. Two positions, can be locked with a cotter pin:  
 0. Maintenance position, flow is minimal and valve is isolated;  
 1. Open position, normal operation - full flow in the system.  
 § The low flow in the maintenance position allows slow pressurizing when the valve is returned to service. This low flow also requires the removal of trapped downstream pressure before removing or servicing these same components.

**CAUTION:** Before service or removal of any components, all trapped pressure must be released. Vertically mounted cylinders, gravity and mechanically loaded actuators must be blocked/disable to avoid injury or system damage. Install blanking station segment kit if this minimal flow is undesirable when the valve is not present.

Material: Aluminum, black anodized.  
 Pressure range: Vacuum to 150 psi.

*dim= IN (mm)*





## Ceram™ Valves, ISO 5599-1 Sizes 1-4

Manifold accessories, Size 2

### ISO SIZE 2 ACCESSORIES (continued)

#### **Sandwich Auxiliary Pressure Block (Port 1)**

The separate pressure block allows for more than two pressures to be provided to a manifold of valves. This unit sandwiches between the valve and base. Pressure to the balance of the manifold is isolated. Kit includes plate (1), gasket (1), screws (4).

*For photos, see Size 1 accessories section.*

##### **Dimensions**

**Height:** 1.54" (39.1mm)

**Maximum Overall Length:** 4.28" (108.7)

1/2"-14 NPT INLET



**Part No. R432015769\***

**Part No. R432015770\***

**(Allows 3 or more pressures to be applied to the same manifold assembly. See manifold assembly page.)**

R432015769: auxiliary press. Supply blocked from manifold base port 1 channel

R432015770: auxiliary press. Supply open to valve AND manifold base port 1 channel

#### **Size 2 Blanking Plate Kit**

Allows for valve to be added later

Can be removed to add valve to existing manifold.

Kit includes plate (1), gasket (1), screws (4).

Shown on 1/4" base.

Part No. 5802870000



### ISO 5599-1 TRANSITION PLATE KIT

#### **ISO Size 2 to ISO Size 3**

**Dimensions:** 6.5" x 1.2" x 3.9"

**Part No - R432037657**



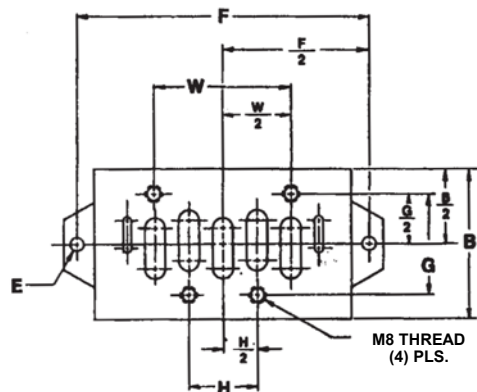
## Ceram™ Valves, ISO 5599-1 Sizes 1-4

### Subbases and manifold, Size 3

### ISO SIZE 3 SUBBASES

#### Single Subbase (side ported)

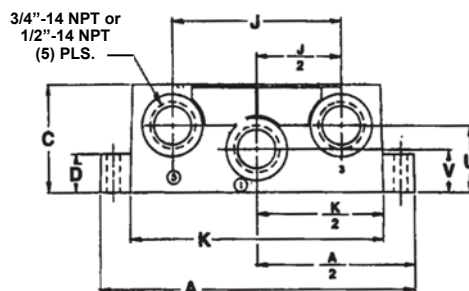
1/2" or 3/4" NPT or G (BSPP) ports



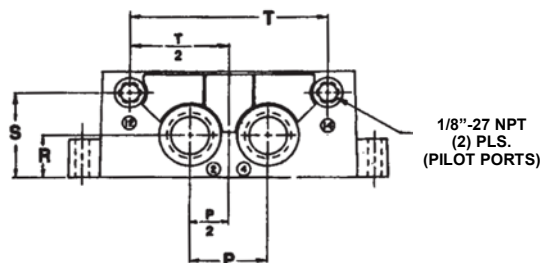
| DIM | A     | B    | C    | D    | E         | F     | G    | H    | J    |
|-----|-------|------|------|------|-----------|-------|------|------|------|
| IN  | 5.87  | 2.80 | 1.97 | 0.71 | 0.26 dia. | 5.34  | 1.89 | 1.26 | 3.15 |
| mm  | 149.0 | 71.0 | 50.0 | 18.0 | 6.6 dia.  | 136.0 | 48.0 | 32.0 | 80.0 |

| DIM | K     | P    | R    | S    | T    | U    | V    | W    |
|-----|-------|------|------|------|------|------|------|------|
| IN  | 4.72  | 1.42 | 0.79 | 1.58 | 3.62 | 1.22 | 0.79 | 2.52 |
| mm  | 120.0 | 36.0 | 20.0 | 40.1 | 92.0 | 31.0 | 20.0 | 64.0 |

#### SIDE VIEW



#### SIDE VIEW (FROM OTHER SIDE)



Part No. R432015308 - port Size 1/2" NPTF  
 R432015309 - port Size 3/4" NPTF  
 1825503149 - port Size G 1/2 (BSPP)  
 R432009166 - port Size G 3/4 (BSPP)

### ISO SIZE 3 MANIFOLDS

#### End and Bottom Ported Manifolds

#### 3/4" & 1" NPT or G (BSPP) delivery ports

#### Manifold Station Segment Part No.\*

R432037644 - 3/4" NPTF (side), 3/4" NPTF (bottom)

R432037643 - 3/4 BSPP (side), 3/4 BSPP (bottom)

#### Left & Right End Plate Kit\*

R432039657 - 1" NPTF

R432041044 - 1 BSPP

#### Port Plug, 1" NPTF:

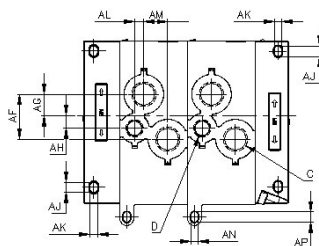
Part No. R432027756

#### Pressure Separation Disc Part No.\*\*

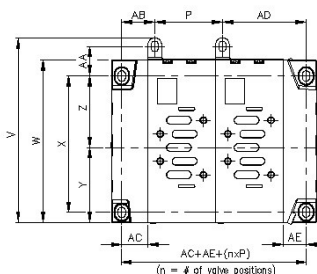
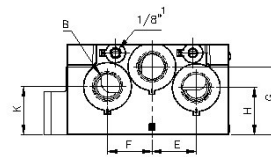
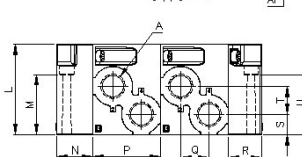
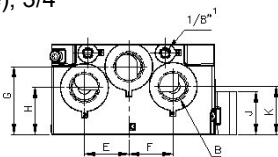
R432037663

\*Includes gaskets and all hardware

\*\* Includes 1 disc for multiple pressure zone



NOTE: Not intended for use with Air Pilot valves. For manifolds for Air Pilot Valves, see page 34.



#### Silencers

1/2" NPT Silencer, Part No. R432011952

3/4" NPT Silencer, Part No. R432012059

G 1/2 Silencer, Part No. R412010247

G 3/4 Silencer, Part No. R412010248

| Size | A <sup>1</sup> | B <sup>1</sup> | C <sup>1</sup> | D <sup>1</sup> | E  | F  | G  | H  | J  | K  | L   | M  | N  | P  | Q  | R  | S    | T    | U  |
|------|----------------|----------------|----------------|----------------|----|----|----|----|----|----|-----|----|----|----|----|----|------|------|----|
| 3    | 3/4            | 1              | 3/4            | 1/2            | 49 | 49 | 76 | 53 | 32 | 53 | 100 | 88 | 37 | 80 | 38 | 36 | 24.5 | 20.5 | 88 |

| Size | V   | W     | X  | Y  | Z  | AA   | AB | AC | AD | AE | AF   | AG   | AH   | AJ  | AK  | AL   | AM   | AN  | AP  |
|------|-----|-------|----|----|----|------|----|----|----|----|------|------|------|-----|-----|------|------|-----|-----|
| 3    | 183 | 164.7 | 99 | 72 | 73 | 30.5 | 28 | 22 | 96 | 22 | 46.3 | 25.1 | 11.2 | 6.8 | 6.8 | 15.8 | 22.5 | 6.3 | 9.3 |

<sup>1</sup>Available IN G (BSPP) or NPTF threads  
 All dimensions in mm.

## Ceram™ Valves, ISO 5599-1 Sizes 1-4

Subbases and manifold accessories, Size 3

### ISO SIZE 3 ACCESSORIES

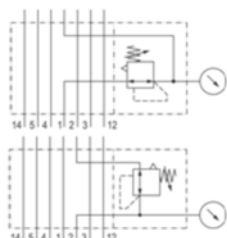
#### Single Sandwich Regulator

Ideal for applications within a manifold where a particular pressure is required for one or more valves. Our regulator controls inlet pressure through to each cylinder port or delivery port pressures independently. A relieving type, the knob will also lock into a given position. Kit includes regulator (1), gasket (1), and screws (4)

**Port Regulation Part Number (10-120 psi)**

**1 R422103096**

**2 R422103097**



#### Dimensions:

**Height:** 2.76" (70mm)

**Max Overall Length:** 11.37" (288.8mm)

**Optional design (w/o gauge, 1/8" NPT gauge port):**

**R432009194 (Port 1, 5-60 psi)**

**R432009195 (Port 1, 3-30 psi)**

### ISO SIZE 3 ACCESSORIES

#### Dual Sandwich Regulator

(Ports 2 & 4)

Our pressure regulators sandwich between the valve and subbase eliminating the need for additional piping. Ideal for applications within a manifold where independent regulation of two supply pressures is required; no external pilot supply is required if minimum pilot pressure is available. Supplying ports 2 and 4, free flow reverse check valves allow flow in both directions. With locking adjustment knobs at "Control 12" for port 2 and "Control 14" end for port 4. Kit includes regulator (1), gasket (1), and screws (4)

**Part No. R422103098 (10-120 psi)**

#### Dimensions:

**Height:** 2.76" (70mm)

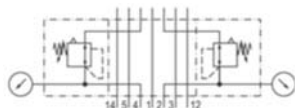
**Max. Overall Length:**

18.46" (469mm)

**Optional design (w/o gauge):**

**(1/8" NPT gauge port)**

**R432009411 (5-60 psi)**



#### Maintenance Plate

Mounts between valve and sub-base. Used when servicing individual valves in a manifold system, or replacing a cylinder while the rest of the system is still operating. Two positions, can be locked with a cotter pin:

0. Maintenance position, flow is minimal and valve is isolated<sup>§</sup>;

1. Open position, normal operation - full flow in the system.

§ The low flow in the maintenance position allows slow pressurizing when the valve is returned to service. This low flow also requires the removal of trapped downstream pressure before removing or servicing these same components.

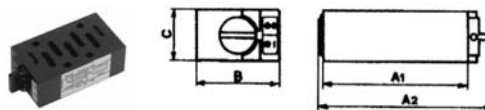
**CAUTION:** Before service or removal of any components, all trapped pressure must be released. Vertically mounted cylinders, gravity and mechanically loaded actuators must be blocked/disable to avoid injury or system damage. Install blanking station segment kit if this minimal flow is undesirable when the valve is not present.

Material: Aluminum, black anodized.

Pressure range: Vacuum to 150 psi.

dim= IN (mm)

| ISO | Part Number   | A1         | A2         | B         | C         |
|-----|---------------|------------|------------|-----------|-----------|
| 3   | 580 359 000 0 | 4.65 (118) | 5.39 (137) | 2.56 (65) | 1.42 (36) |



#### Blanking Plate Kit - Size 3

Allow for valve to be added later. Kit includes plate, gasket and screws.

**Part No. 5803870000**



#### Silencers

**1/2" NPT Silencer, Part No. R432011952**

**3/4" NPT Silencer, Part No. R432012059**

Metric manifolds and subbases are available from online catalog at [www.aventics.com/pneumatics-catalog](http://www.aventics.com/pneumatics-catalog)

#### Sandwich Flow Controls

(Meter Out Ports 3 & 5)

Our flow controls sandwich between the valve and subbase eliminating the need for additional piping and external controls for both working ports. Adjustment is via a screw on each side, assuring excellent control. Kit includes speed control (1), gasket (1) and screws (4).

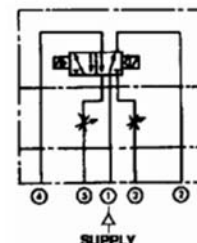
**Part No. R432008895**

#### Dimensions

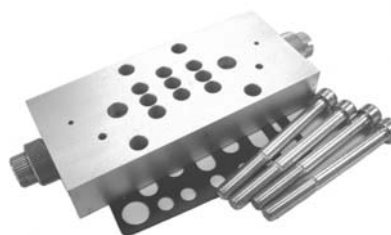
**Height:** 0.94" (23.9mm)

**Maximum Overall Length:** 6.44" (163.6mm)

**Width:** 2.50" (63.5mm)



(Cannot be combined with sandwich regulator.)



## Ceram™ Valves, ISO 5599-1 Sizes 1-4

Subbases, Size 4

### ISO SIZE 4 MANIFOLDS

#### Manifold Station Segment Part No.\*

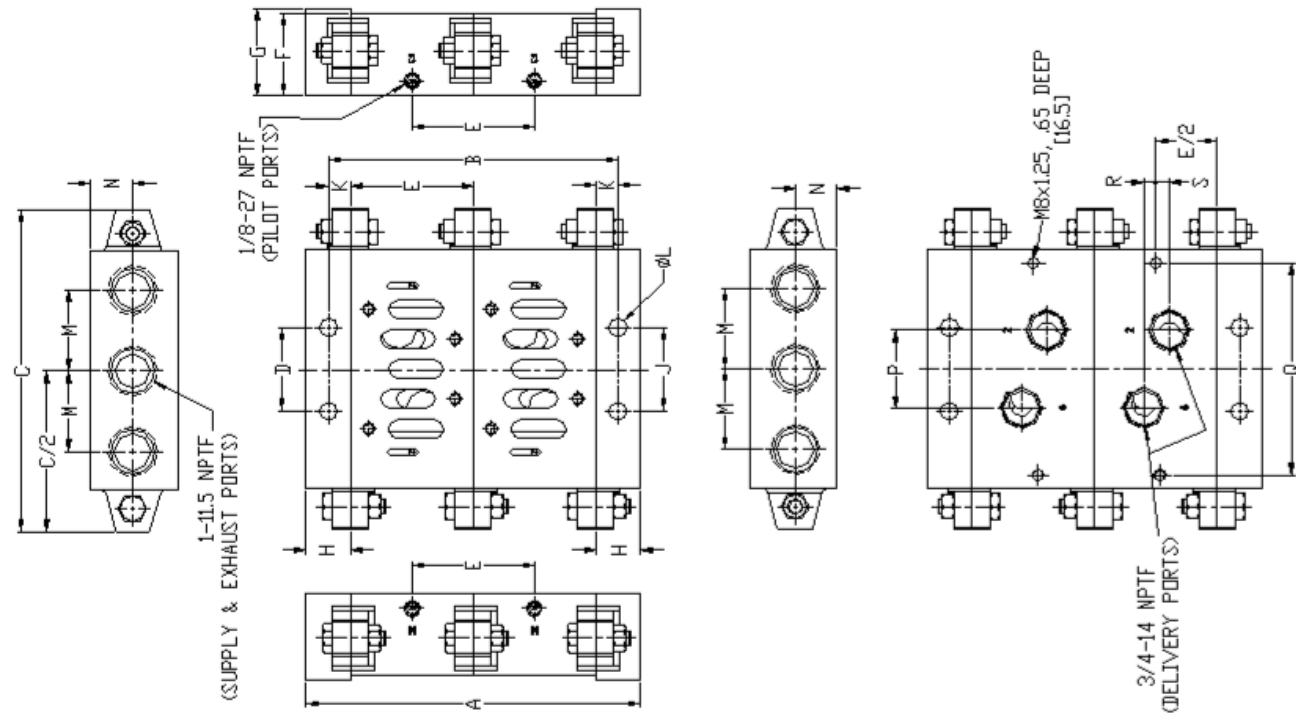
R432039362 - 3/4" NPTF (bottom)

8985041422- 3/4 BSPP (bottom)

#### End Plate Kit Part No.\*

R432039363 - 1" NPTF

8985041442 - 1 BSPP



\* Includes gaskets and all hardware

| DIM | C    | D    | E    | F    | G    | H    | J    | K   | L   | M    | N    | P    | Q    | R   | S   |
|-----|------|------|------|------|------|------|------|-----|-----|------|------|------|------|-----|-----|
| IN  | 8.46 | 6.30 | 3.23 | 2.17 | 2.28 | 1.18 | 2.20 | .59 | .47 | 2.13 | 1.10 | 2.05 | 5.59 | .31 | .35 |
| mm  | 215  | 160  | 82   | 55   | 58   | 30   | 56   | 15  | 12  | 54   | 28   | 52   | 142  | 8   | 9   |

#### Silencers

1" NPT Silencer, Part No. R432012057

G 1 Silencer, Part No. R412010249

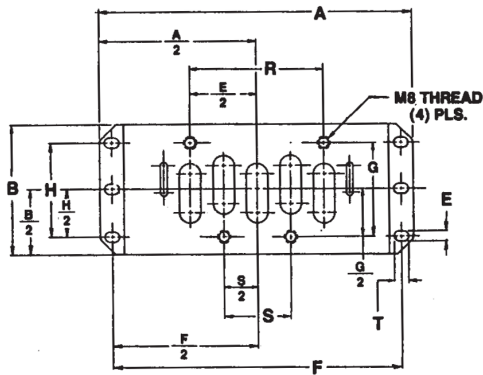
## Ceram™ Valves, ISO 5599-1 Sizes 1-4

Subbases and manifold accessories, Size 4

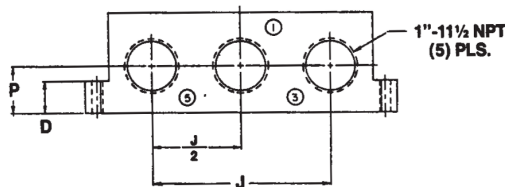
### ISO SIZE 4 SUBBASES

#### Single Subbase (side ported) 1" NPT ports

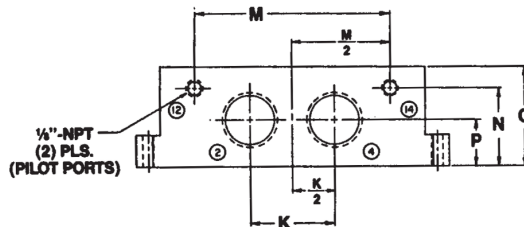
TOP VIEW



SIDE VIEW



SIDE VIEW (FROM OTHER SIDE)



#### Part No. R432031847 - Port Size 1"

| DIM | A     | B    | C    | D    | E   | F     | G    | H    | J     |
|-----|-------|------|------|------|-----|-------|------|------|-------|
| IN  | 7.32  | 3.15 | 2.44 | .71  | .26 | 6.77  | 2.28 | 1.97 | 4.17  |
| mm  | 186.0 | 80.0 | 62.0 | 18.0 | 6.5 | 172.0 | 58.0 | 50.0 | 106.0 |

| DIM | K    | M     | N    | P    | R    | S    | T   |
|-----|------|-------|------|------|------|------|-----|
| IN  | 1.97 | 4.57  | 1.85 | 1.10 | 3.15 | 1.58 | .33 |
| mm  | 50.0 | 116.0 | 47.0 | 28.0 | 80.0 | 40.0 | 8.5 |

#### Silencer

1" NPT Silencer, Part No. R432012057

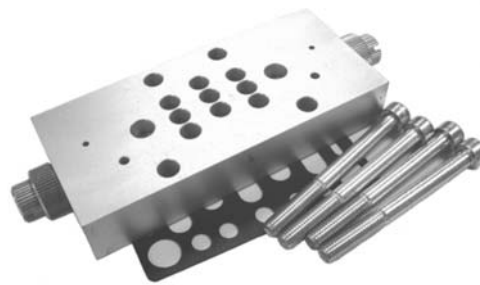
**Size 4 Metric ported subbase, G 3/4 ports (G 1/8 pilot ports):**  
 Part number 8985041404  
 Dimensions available from online catalog.

### ISO SIZE 4 ACCESSORIES

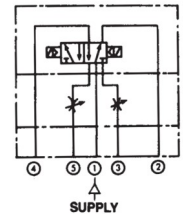
#### Sandwich Flow Controls (Meter Out Ports 3 & 5)

Our flow controls sandwich between the valve and subbase eliminating the need for additional piping and external controls for both working ports. Adjustment is via a screw on each side, assuring excellent control. Kit includes speed control (1), gasket (1), and screws (4).

Part No. R432009004



**Dimensions**  
 Height: 0.94"  
 Maximum Overall  
 Length: 7.75"  
 Width: 3.00"



#### Blanking Plate Kit - Size 4

Allows for valve to be added later. Kit includes plate, gasket and screws.

Part No. 5804870000



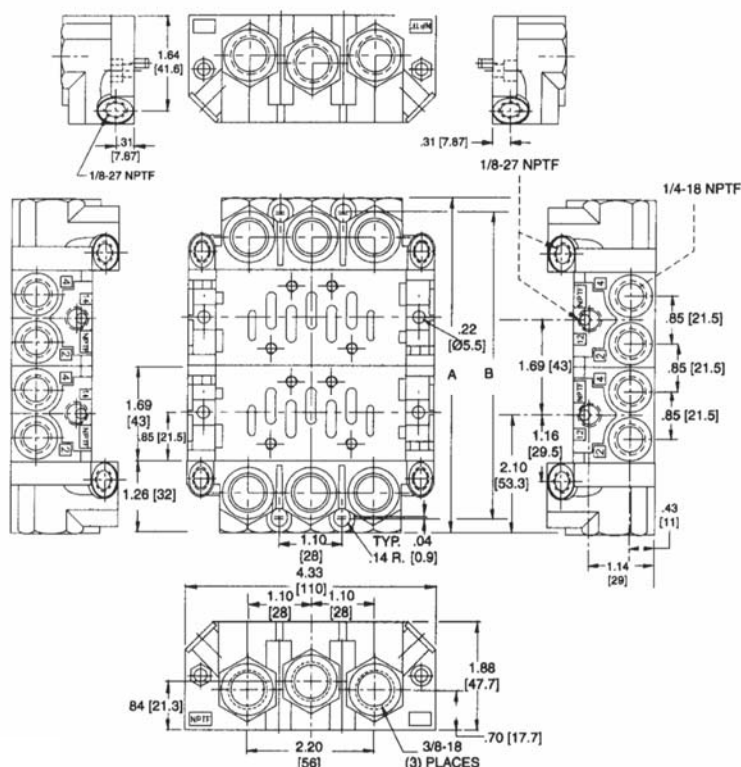
## Air Pilot Valve Manifolds

Size 1 - 3

## ISO SIZE 1 MANIFOLDS

## End Ported Manifolds

**1/4" NPT delivery ports**

**Part Number R432015314\* - Manifold Station Segment\*\***

**Part Number R432015316\* - End Plates (Includes both ends)\*\***

| DIM |      | NUMBER OF VALVES |      |       |      |       |      |       |      |       |       |       |      |       |  |
|-----|------|------------------|------|-------|------|-------|------|-------|------|-------|-------|-------|------|-------|--|
|     |      | 2                |      | 3     |      | 4     |      | 5     |      | 6     |       | 7     |      | 8     |  |
| A   | IN   | mm               | IN   | mm    | IN   | mm    | IN   | mm    | IN   | mm    | IN    | mm    | IN   | mm    |  |
|     | 5.91 | 150.0            | 7.60 | 193.0 | 9.29 | 236.0 | 10.9 | 322.0 | 12.6 | 322.0 | 14.37 | 365.0 | 16.0 | 408.0 |  |
| B   | IN   | mm               | IN   | mm    | IN   | mm    | IN   | mm    | IN   | mm    | IN    | mm    | IN   | mm    |  |
|     | 5.39 | 136.8            | 7.08 | 179.8 | 8.77 | 222.8 | 10.4 | 265.8 | 12.1 | 308.8 | 13.85 | 351.8 | 15.5 | 394.8 |  |

\*Manifold gaskets included.

**\*\*All hardware is included.**

## END PORTED MANIFOLDS

**STATION SEGMENT (R432015314)**

Each station segment kit comes complete with pipe plugs (to block unused delivery ports), fastening hardware, and a gasket. The gasket is placed between each station segment. The standard sealing gasket (A GASKET, PART NUMBER - R432008985) including has windows open for ports 1,3, & 5

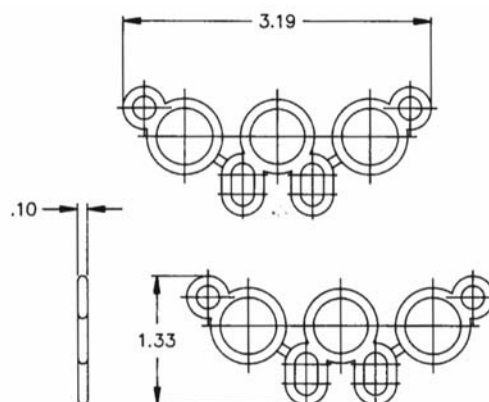
## END PLATE KITS (R432015316)

Consists of two end plates complete with pipe plugs (to block unused supply and exhaust ports), fastening hardware, and the standard sealing gasket (A GASKET, Part Number - R432008985)

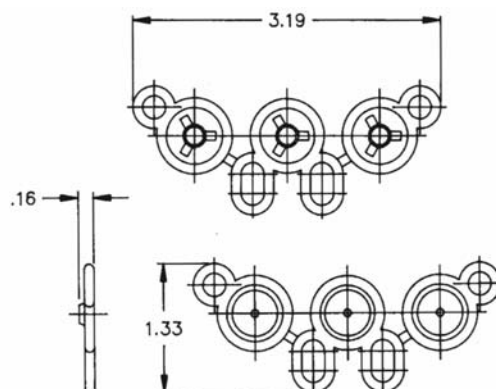
## MANIFOLD WITH TWO DIFFERENT SUPPLY PRESSURES

Different supply pressures can be provided by placing blocking gasket B (1821015043) between two of the station segments to divide the two different pressures.

**BLOCKING GASKET A  
R432008985**



**BLOCKING GASKET B**  
**1821015043**



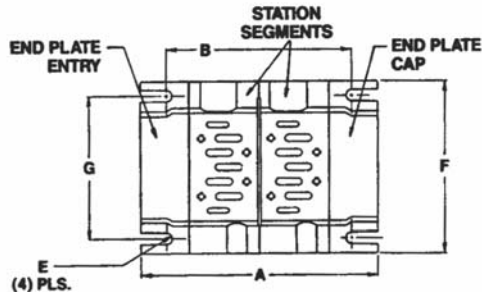
## Air Pilot Valve Manifolds

Size 1 - 3

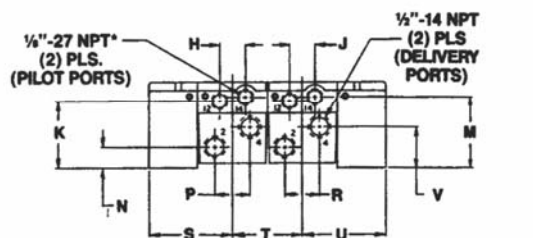
### ISO SIZE 2 MANIFOLDS

End Ported Manifold

1/2" NPT delivery port

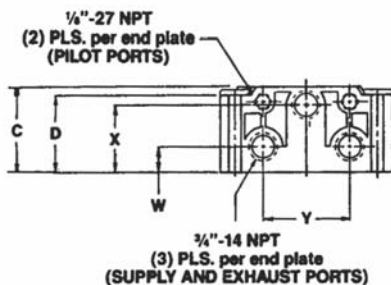


SIDE VIEW



\*Note: other side contains port 12  
only (1/8"-27 NPT)

END VIEW



Part Number R432015318\* - Manifold Station Segment

Part Number R432015319 - End Plates (Includes both ends)\*\*

| DIM | C    | D    | E    | F     | G     | H    | J    | K    | M    | N    |
|-----|------|------|------|-------|-------|------|------|------|------|------|
| IN  | 3.15 | 2.82 | .17R | 4.96  | 7.09  | .79  | .79  | 2.52 | 2.68 | .67  |
| mm  | 80.0 | 71.6 | R4.3 | 126.0 | 104.0 | 20.0 | 20.0 | 64.0 | 68.0 | 17.0 |

| DIM | P    | R    | S    | T    | U    | V    | W    | X    | Y    |
|-----|------|------|------|------|------|------|------|------|------|
| IN  | 1.02 | 1.02 | 2.68 | 2.20 | 2.68 | 1.42 | 1.18 | 2.44 | 2.44 |
| mm  | 26.0 | 26.0 | 68.0 | 56.0 | 68.0 | 36.0 | 30.0 | 62.0 | 62.0 |

| DIM | NUMBER OF VALVES |       |      |       |       |       |       |       |       |       |       |       |       |       |
|-----|------------------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|     | 2                |       | 3    |       | 4     |       | 5     |       | 6     |       | 7     |       | 8     |       |
| A   | IN               | mm    | IN   | mm    | IN    | mm    | IN    | mm    | IN    | mm    | IN    | mm    | IN    | mm    |
|     | 7.56             | 192.0 | 9.76 | 248.0 | 11.97 | 304.0 | 14.17 | 360.0 | 16.38 | 416.0 | 18.58 | 472.0 | 20.79 | 528.0 |
| B   | IN               | mm    | IN   | mm    | IN    | mm    | IN    | mm    | IN    | mm    | IN    | mm    | IN    | mm    |
|     | 6.01             | 168.0 | 8.82 | 224.0 | 11.00 | 279.4 | 13.23 | 336.0 | 15.43 | 392.0 | 17.64 | 448.0 | 19.84 | 504.0 |

\*Manifold gaskets included.

\*\*All hardware is included.

## AVENTICS END PORTED MANIFOLDS

### STATION SEGMENT

Each station segment kit comes complete with hardware, seals, and a sealing plate. The sealing plate is placed between each segment to ensure sealing between the Buna N gaskets. The standard sealing plate (PLATE A) included has windows open for ports 1, 3, & 5.

### END PLATE KITS

Consists of two end plates complete with hardware and seals. Pressure is blocked on Size II end plates with 3/4" pipe plugs (included).

### MANIFOLD WITH TWO DIFFERENT SUPPLY PRESSURES

On size 2 manifolds, place plate B where the pressure division is desired and remove pipe plugs from the end cover.

PLATE A  
1, 3, & 5 Open  
R432015343

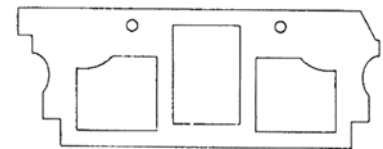


PLATE B  
All ports blocked  
R432015342

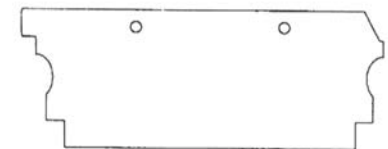
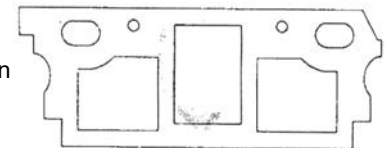
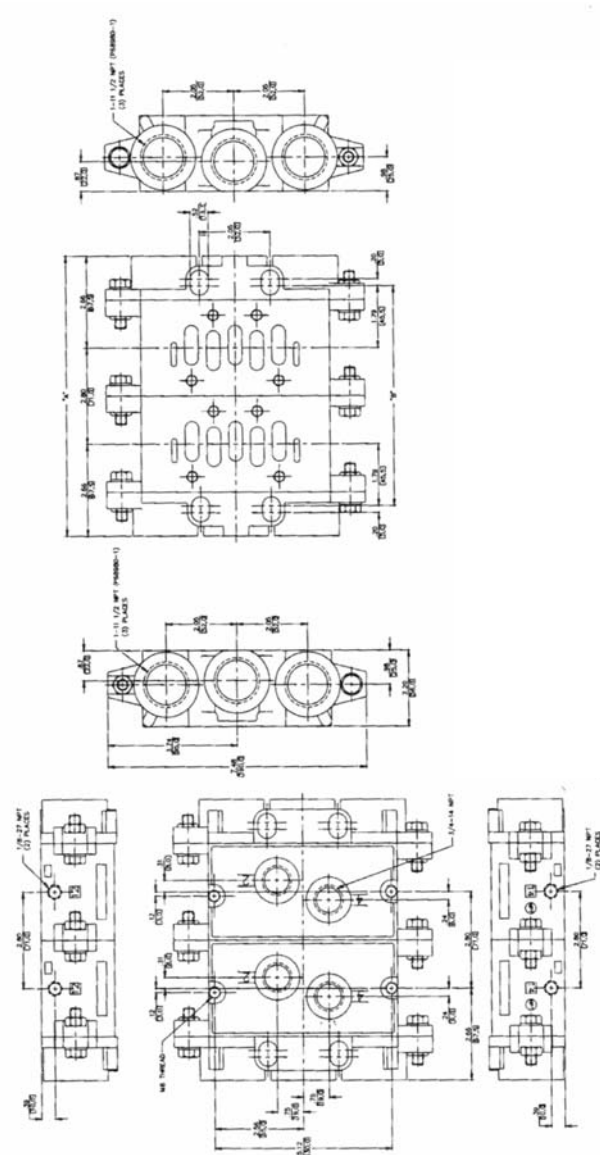


PLATE C  
1, 3, 5, 12 & 14 Open  
R432015344



**Air Pilot Valve Manifolds**  
Size 1 - 3

**ISO SIZE 3 MANIFOLDS**  
**1/2" or 3/4" NPT Delivery Ports**



Part No. R432015491 - Manifold Station Segment (1/2" NPT)  
Part No. R432015490 for 3/4" NPT Delivery Ports  
Part No. R432015492 - End Plates (includes both ends)

| DIM | NUMBER OF VALVES |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|     | 2                |       | 3     |       | 4     |       | 5     |       | 6     |       | 7     |       | 8     |       |
| A   | IN               | mm    | IN    | mm    | IN    | mm    | IN    | mm    | IN    | mm    | IN    | mm    | IN    | mm    |
|     | 8.10             | 205.7 | 10.90 | 276.9 | 13.70 | 348.0 | 16.50 | 419.1 | 19.30 | 490.2 | 22.10 | 561.3 | 24.90 | 632.5 |
| B   | 6.38             | 162.1 | 9.18  | 233.2 | 11.98 | 304.3 | 14.78 | 375.4 | 17.58 | 446.5 | 20.38 | 517.7 | 23.18 | 588.8 |



Ceram™ Valves, ISO 5599/1 Sizes 1-4  
Pressure gauges for sandwich regulators

Figure 1



Figure 2



| Compressed Air Connection |          | Nominal diameter | Application | Display range | Operating pressure | Scale value | Part No.   | Figure |
|---------------------------|----------|------------------|-------------|---------------|--------------------|-------------|------------|--------|
| Size                      | Location |                  |             |               |                    |             |            |        |
| R 1/8                     | Bottom   | 50 mm            | 0 - 10 bar  | 0 - 12 bar    | 0 / 12 bar         | 0.2 bar     | 8901703200 | 1      |
| G 1/8                     | Back     | 40 mm            | 0 - 8 bar   | 0 - 10 bar    | 0 / 10 bar         | 0.2 bar     | R412003857 | 2      |
| 1/8" NPT                  | Back     | 1.58"            | 0 - 150 psi | 0 - 200 psi   | 0 / 200 psi        | 5 psi       | R412010064 | 2      |

## Ceram™ Valves, ISO 5599/1 Sizes 1-4

Internal to external pilot field conversions, Sizes 1 and 2

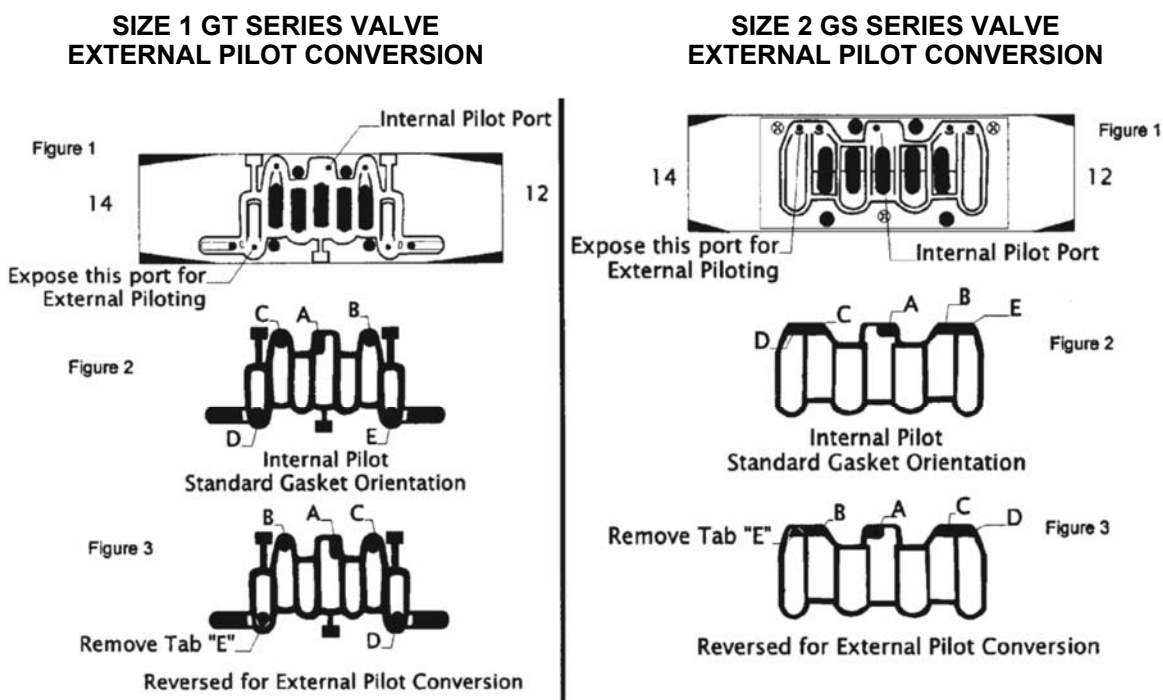
### GT Series Size 1 and GS Series Size 2 Valves

#### \*\* Solenoid Valve Internal To External Pilot Field Conversion\*\*

**CAUTION:** Air Supply should be removed before modification.

EXTERNALLY PILOTED VALVES ARE AVAILABLE DIRECTLY FROM THE FACTORY. See model explanation on page 7 as well as individual notes on pages 8-14 under standard valve models for ordering instructions.

The following procedure should be used to convert a solenoid valve from internal pilot pressure operation. All valves come from the factory internally piloted. External pilot function is required if the supply pressure is below the minimum pilot pressure of 29 psi (2-position valves; 44 psi for 3-position models) or if the customer is using vacuum for supply pressure.



For external pilot conversion, remove gasket from valve body as shown in Figure 1 and 2. Flip gasket end-to-end so that Tab "A" will cover the internal pilot port shown in Figure 1. Remove Tab "E" shown in Figure 2. Mount valve to base.

**Apply a minimum of 29 psi (2-position valves) or 44 psi (3-position valves) to Port 14. Port 14 will provide pilot pressure to all solenoids regardless of single or double configuration.**

NOTE: Port 12 does not need to be plugged. Port 12 is used only on Double Air Pilot models.

Note: This page does not apply to air piloted/air spring return valves.

## Ceram™ Valves, ISO 5599/1 Sizes 1-4

Internal to external pilot field conversion, Sizes 3 and 4

### Internal to External Pilot Conversion, Size 3 & 4

#### GASKET ORIENTATION INFORMATION FOR REPAIR OF EXTERNAL PILOT CONVERSION

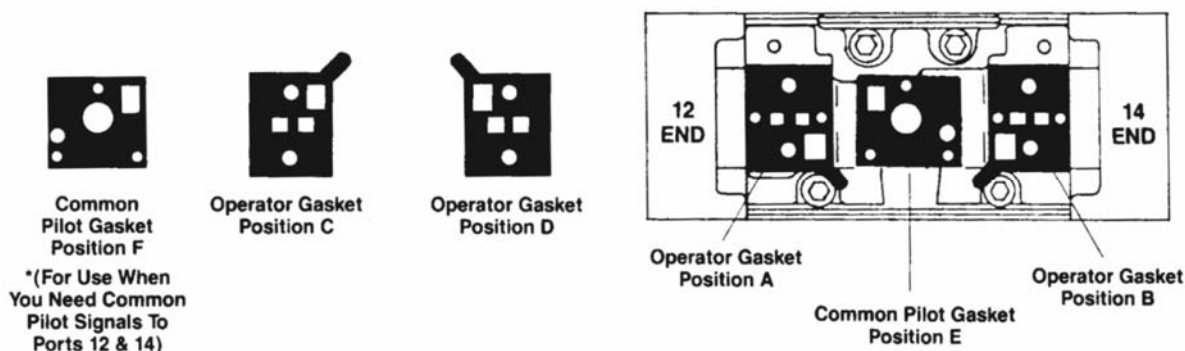
**CAUTION:** Air supply should be removed before modification.

EXTERNALLY PILOTED VALVES ARE AVAILABLE DIRECTLY FROM THE FACTORY. See model explanation on page 7 as well as individual notes on pages 8-14 under standard valve models for ordering instructions.

The following procedure should be used to convert a solenoid valve from internal pilot to external pilot pressure operation. All valves come from the factory internally piloted. External pilot function is required if the supply pressure is below the minimum pilot pressure of 29 psi (2-position valves; 44 psi for 3-position models) or if the customer is using vacuum for supply pressure.

Reorient the gaskets located underneath the blue saddle cover. Pneumatic symbols are stamped on the cover of the valve to indicate which function have been chosen. The black corner tab of each gasket is visible through a hole (in the cover) located by the symbol of the operator chosen. As you can see by the diagram below, each outside operator gasket can be rotated in one of four positions (details A, B, C, or D).

Also shown is the common pilot gasket which can be rotated in two positions (details E & F). This gasket should always be in the "E" position except for double solenoid (external pilot) with a common pilot. Port 12 or 14 must be used for the common pilot, but the other unused port must be blocked. For separate pilot pressures, continue to use position E.



| OPERATOR COMBINATION DESIRED                                  | 12 END | COMMON PILOT GASKET | 14 END |
|---|--------|---------------------|--------|
| Single Solenoid (internal pilot)/metal spring return          | C      | E                   | B      |
| Single Solenoid (internal pilot)/air spring return (internal) | B      | E                   | B      |
| Single Solenoid (internal pilot)/air spring return (external) | D      | E                   | B      |
| Single Solenoid (external pilot)/metal spring return          | C      | E                   | D      |
| Single Solenoid (external pilot)/air spring return (internal) | B      | E                   | D      |
| Single Solenoid (external pilot)/air spring return (external) | D      | E                   | D      |
| Double Solenoid (internal pilot) 2 & 3 position               | A      | E                   | B      |
| *Double Solenoid (external pilot) 2 & 3 position              | C      | F                   | D      |
| Air Pilot/Metal Spring  | C      | E                   | C      |
| Air Pilot/Air Spring (internal)                               | B      | E                   | C      |
| Air Pilot/Air Spring (external)                               | D      | E                   | C      |
| Double Air Pilot 2 & 3 positions                              | D      | E                   | C      |

\*NOTE: Position "F" for double solenoid external pilot supply only. All other valve models use position "E."

## Ceram™ Valves, ISO 5599/1 Sizes 1-4

### Piping procedures

### Piping Instructions - All Sizes (1, 2, 2, 4)

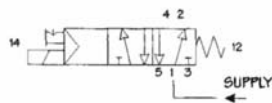
**CAUTION:** Air supply should be removed before modification.

#### Normal Piping Procedure

Use these connections if you have one supply pressure only.

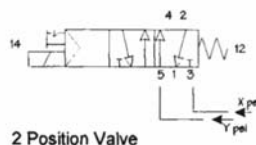
#### Single Pressure

| Port     | Marking                   |
|----------|---------------------------|
| 1=       | Supply Pressure           |
| 2 & 4=   | Delivery (Cylinder) Ports |
| 3 & 5=   | Exhaust Ports             |
| 12 & 14= | External Pilot Ports      |

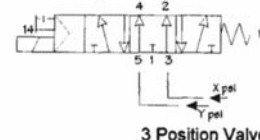


#### Dual Pressure Piping Procedure

2 Position Valve Piping. (Do not use unless you must use 2 different supply pressures.)



| Port     | Marking                   |
|----------|---------------------------|
| 1=       | Common Exhaust Port       |
| 2 & 4=   | Delivery (Cylinder) Ports |
| 3 & 5=   | Supply Pressures          |
| 12 & 14= | External Pilot Ports      |



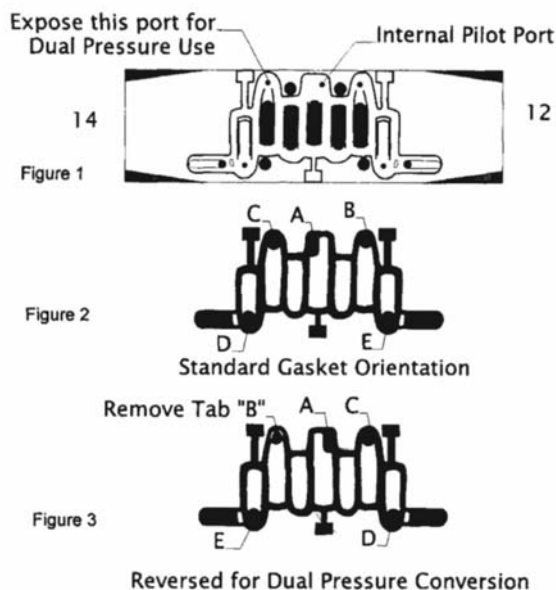
3 Position Valve Piping. (Use for supplied center or for 2 different supply pressure.)

#### Dual Pressure Valve Conversion Instructions (Size 1 & 2)

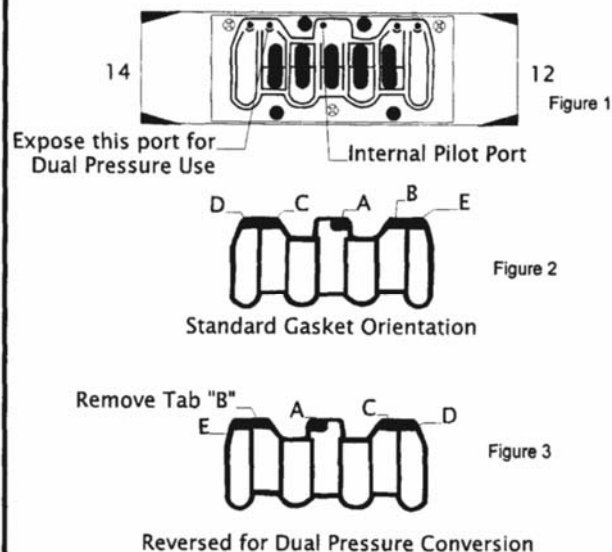
Please note that the supply pressure in Port 5 must be at least 29 psi (for 2-position models) or 44 psi (for 3-position models).

If minimum pressure is not met on port 5, external piloting must be used; see page 38 for directions. Size 1 & 2 CERAM Valves are designed for dual pressure applications. For this service "replumb" the subbase by using ports "3" and "5" for the two different supplies, and port "1" for a common exhaust. (Ports "2" and "4" are still the delivery ports.) Port "3" will supply port "2", and port "5" will supply port "4". After the subbase has been "replumbed", remove the valve from the subbase and remove the bottom gasket as shown in Figure 1 and 2. Flip the gasket end-to-end so the internal pilot hole will be covered by the gasket as shown in Figure 3. remove tab "B" as shown in Figure 3. Remount valve to base.

#### SIZE 1 GT SERIES VALVE DUAL PRESSURE CONVERSION



#### SIZE 2 GS SERIES VALVE DUAL PRESSURE CONVERSION



#### Dual Pressure Valve Conversion Instructions (Sizes 3 & 4)

Convert to external pilot according to instructions on previous page, then follow instructions at top right of this page.

## Solenoid Connectors and Cables

### Solenoid Connectors for Ceram™, Series 740, and CD07™ Valves (DIN 43650-FORM A/ISO 4400 30MM)

#### STRAIN RELIEF CONNECTORS NON-LIGHTED



8941000302\*  
(Old Part No. H -894100-00302)  
(Standard)



\*\*Part No. R432013747  
(Old Part No. P -067325-00000)  
(for use with wireways)

#### 1/2" CONDUIT CONNECTORS NON-LIGHTED



Part No. R432015626  
(Old Part No P -069390-00000)  
(Molded Engineering Plastic)



Part No. R432015781\*\*  
(Old Part No. P -069707-00000)  
(Metallic)

#### Lighted



| Part No.     | Old Part No.    |         |
|--------------|-----------------|---------|
| **R432013726 | P -067261-00000 | 110 VAC |
| **R432013728 | P -067262-00000 | 230 VAC |
| **R432013729 | P -067264-00000 | 12 VDC  |
| **R432013730 | P -067265-00000 | 24 VDC  |
| **R432015629 | P -069417-00000 | 24 VAC  |

#### 3/8" CONDUIT CONNECTOR NON-LIGHTED



Part No. R432015404\*\*\*  
(Old Part No. P -068674-00000)

#### Lighted



| Part No.   | Old Part No.    |               |
|------------|-----------------|---------------|
| R432008421 | P -026078-00001 | 110V AC/DC*** |
| R432008422 | P -026078-00002 | 230V AC/DC*** |
| R432008423 | P -026078-00004 | 12V AC/DC***  |
| R432008424 | P -026078-00005 | 24V AC/DC***  |

### Solenoid Connectors For Series 581 and Series 830 Valves ONLY (INDUSTRIAL FORM§ 22MM)

#### Non-Lighted



\*8941004702  
Old Part No. H -894100-04702

#### STRAIN RELIEF CONNECTORS

| Part No.    | Old Part No.    |         |
|-------------|-----------------|---------|
| *R432013878 | P -067854-00000 | 110 VAC |
| *R432013879 | P -067855-00000 | 230 VAC |
| *R432013880 | P -067857-00000 | 12 VDC  |
| *R432013881 | P -067858-00000 | 24 VDC  |
| *R432008426 | P -026079-00000 | 24 VAC  |

#### Lighted



§ Not FORM B.

### Solenoid Connectors for Series 840, Series 579, & Series TC Valves ONLY (Form C) 15MM

| VOLTAGE (lighted version) | PART NO.   | OLD PART NO.    |
|---------------------------|------------|-----------------|
| 110 VAC/DC (Without Lead) | R432011981 | P -048824-00001 |
| 110 VAC/DC (W/3' LEAD)    | R432011961 | P -048803-00001 |
| 110 VAC/DC (W/6' LEAD)    | R432011963 | P -048804-00001 |
| 24 VAC/DC (Without Lead)  | R432011982 | P -048824-00005 |
| 24 VAC/DC (w/3' LEAD)     | R432011962 | P -048803-00005 |
| 24 VAC/DC (W/6' LEAD)     | R432011964 | P -048804-00005 |

#### Solenoid Connector Lighted



#### Strain Relief Solenoid Connector Non-Lighted



Part No.  
8941012202  
(Old part no.  
H -894101-02202)

Recommended Wire Size for Solenoid Connector: 18-22 gauge wire Cable diameter: .080" to .265" O.D.  
R432008830 (Old Part No. P -027609-00000) 1/2" conduit connector for 840 wireway.

\*0.236-0.315 O.D. Cable Diameter, \*\*0.315-0.394 O.D. Cable Diameter, \*\*\*Cable Diameter up to 0.200  
All connectors this page: Maximum Wire Size A.W.G. #14. (14 gauge may not fit in lighted connector.)

## Pneumatic Directional Control Valve Features Available

|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

• = Available

Notes: <sup>1</sup> CL03, CL03-EV, CL03-XL are IP69K wash down rated  
<sup>2</sup> See [www.aventics.com/us/QuickShip](http://www.aventics.com/us/QuickShip) for details.

**Mechanical Operators Available:**

[illegible]

# NOTICE TO PRODUCT USERS

## 1. WARNING: FLUID MEDIA

AVENTICS pneumatic devices are designed and tested for use with filtered, clean, dry, chemical free air at pressures and temperatures within the specified limits of the device. For use with media other than air or for human life support systems, AVENTICS must be consulted. Hydraulic cylinders are designed for operation with filtered, clean, petroleum based hydraulic fluid; operation using fire-resistant or other special types of fluids may require special packing and seals. Consult the factory.

## 2. WARNING: MATERIAL COMPATIBILITY

Damage to product seals or other parts caused by the use of non-compatible lubricants, oil additives or synthetic lubricants in the air system compressor or line lubrication devices voids the AVENTICS warranty and can result in product failure or other malfunction. See lubrication recommendations below.

**AIR LINE LUBRICANTS!** In service higher than 18 cycles per minute or with continuous flow of air through the device, an air line lubricator is recommended.\* (Do not use line lubrication with vacuum products.) However, the lubricator must be maintained since the oil will wash out the grease, and lack of lubrication will greatly shorten the life expectancy. The oils used in the lubricator must be compatible with the elastomers in the device. The elastomers are normally BUNA-N, NEOPRENE, VITON, SILICONE and HYTREL. AVENTICS recommends the use of only petroleum based oils without synthetic additives, and with an aniline point between 180° F and 210° F.

**COMPRESSOR LUBRICANTS!** All compressors (with the exception of special "oil free" units) pass oil mist or vapor from the internal crankcase lubricating system through to the compressed air. Since even small amounts of non-compatible lubricants can cause severe seal deterioration (which could result in component and system failure) special care should be taken in selecting compatible compressor lubricants.

## 3. WARNING: INSTALLATION AND MOUNTING

The user of these devices must conform to all applicable electrical, mechanical, piping and other codes in the installation, operation or repair of these devices.

**INSTALLATION!** Do not attempt to install, operate or repair these devices without proper training in the technique of working on pneumatic or hydraulic systems and devices, unless under trained supervision. Compressed air and hydraulic systems contain high levels of stored energy. Do not attempt to connect, disconnect or repair these products

when a system is under pressure. Always exhaust or drain the pressure from a system before performing any service work. Failure to do so can result in serious personal injury.

**MOUNTING!** Devices should be mounted and positioned in such a manner that they cannot be accidentally operated.

## 4. WARNING: APPLICATION AND USE OF PRODUCTS

The possibility does exist for any device or accessory to fail to operate properly through misuse, wear or malfunction. The user must consider these possibilities and should provide appropriate safe guards in the application or system design to prevent personal injury or property damage in the event of a malfunction.

## 5. WARNING: CONVERSION, MAINTENANCE AND REPAIR

When a device is disassembled for conversion to a different configuration, maintenance or repair, the device must be tested for leakage and proper operation after being reassembled and prior to installation.

**MAINTENANCE AND REPAIR!** Maintenance periods should be scheduled in accordance with frequency of use and working conditions. All AVENTICS products should provide a minimum of 1,000,000 cycles of maintenance free service when used and lubricated as recommended. However, these products should be visually inspected for defects and given an "in system" operating performance and leakage test once a year. Where devices require a major repair as a result of the one million cycles, one year, or routine inspection, the device must be disassembled, cleaned, inspected, parts replaced as required, rebuilt and tested for leakage and proper operation prior to installation. See individual catalogs for specific cycle life estimates.

## 6. PRODUCT CHANGES

Product changes including specifications, features, designs and availability are subject to change at any time without notice. For critical dimensions or specifications, contact factory.

\*Many AVENTICS pneumatic valves and cylinders can operate with or without air line lubrication; see individual sales catalogs for details.

-Refer to the appropriate service manual for parts and service information, most are available for download from [www.aventics.com/us/downloads](http://www.aventics.com/us/downloads)

## WARRANTIES

7.1 Emerson warrants that:

- a) Emerson will transfer title to the Goods (excluding Software and Firmware) to Customer under Clause 4 of our Terms and Conditions of Sale\*;
- b) Goods, Documentation and Services will conform with the Specification;
- c) Goods made by Emerson or its Affiliates will, under normal use and care, be free from defects in materials or workmanship; and
- d) Emerson and its Affiliates' Personnel delivering Services are trained and will use reasonable skill and care.

7.2 **Warranty Periods.** Unless otherwise specified by Emerson, the warranties in Clause 7.1 apply as follows:

- a) **Goods:** until the earlier of 12 months from the first installation or 18 months from delivery (90 days from delivery in the case of consumables);
- b) **Services:** for 90 days from completion of the Services;
- c) **Goods repaired, replacement items and Services re-performed:** from delivery of the replacement or completion of the repair or re-performance, for 90 days or until the end of the original warranty period (if later).

7.3 **Warranty Procedure.** Clause 7.3 applies if, within the warranty period, Customer discovers any non-conformity with a warranty in Clause 7.1, tells Emerson in writing and, in the case of Goods, returns the non-conforming items at Customer's cost, freight and insurance pre-paid, to the repair facility chosen by Emerson. Where this Clause applies, Emerson will, at its sole option, either:

- a) correct any non-conforming Documents and Services; or
- b) repair or replace non-conforming Goods FCA (Incoterms® 2010) at the repair location; or
- c) instead refund the price of the non-conforming item.

### 7.4 Exclusions from Warranty.

- a) The warranties in Clause 7.1(b), (c) and (d) exclude and Customer will pay the cost of all repairs and replacements caused by any of the following: normal wear and use; inadequate maintenance; unsuitable power sources or environmental conditions; improper handling, storage, installation, or operation; misuse or accident caused by anybody except Emerson; a modification or repair not approved by Emerson in writing; materials or workmanship made, provided or specified by Customer; contamination; the use of unapproved parts, firmware or software; Cyber Attack; any other cause not the fault of Emerson.
- b) Emerson will not pay any costs relating to non-compliance with a warranty in Clause 7.1, except where agreed in writing in advance. Unless accepted in writing by Emerson, Customer will pay:
  - (i) all costs of dismantling, freight, reinstallation and the time and expenses of Emerson Personnel for travel under Clause 7; and
  - (ii) all costs incurred by Emerson in correcting nonconformities for which Emerson is not responsible under Clause 7 and in examining items that comply with the warranties in Clause 7.1.
- c) If Emerson relies on wrong or incomplete information supplied by Customer, all warranties are void unless Emerson agrees otherwise in writing.
- d) Customer alone is responsible for the selection, maintenance and use of the Goods.
- e) Resale Products carry only the warranty given by the original manufacturer. Emerson has no liability for Resale Products beyond making a reasonable commercial effort to arrange procurement and shipping of the Resale Products.

7.5 **Disclaimer.** The limited warranties set out in this Clause 7 are the only warranties made by Emerson and can be changed only with Emerson's signed written agreement. THE WARRANTIES AND REMEDIES IN CLAUSE 7 ARE EXCLUSIVE. THERE ARE NO REPRESENTATIONS OR WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, ABOUT MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE OR ANYTHING ELSE FOR ANY OF THE GOODS, DOCUMENTATION OR SERVICES.

\*Additional conditions apply - for full details, visit our website to download our Terms and Conditions of Sale:

For U.S.: [www.aventics.com/us/downloads](http://www.aventics.com/us/downloads) | For Canada: [www.aventics.com/ca](http://www.aventics.com/ca) | (AVENTICS Corporation is owned by Emerson Electric Co.)



# AVENTICS Quick Ship Focused Delivery Program for Pneumatics

## Saving you time

The AVENTICS Quick Ship program gives you access to a wide selection of our most popular pneumatic products with fast, reliable lead times that meet or exceed market lead times. Quick Ship saves you delivery time, and by standardizing on these products, you will save time over the life of your projects by using products that are readily available. Add to this your reduced downtime due to using quality, reliable AVENTICS pneumatic products vs. inferior choices.

### **Quick Ship Catalog SC-QS available in hard copy and PDF:**

- The Quick Ship catalog provides an overview of the product lines included in Quick Ship in the categories of Air Preparation, Pneumatic Valves, Pneumatic Actuators and Accessories. On each product overview page is an Internet shortcut to the specific product line Quick Ship web page, for example: [www.aventics.com/us/QuickShipCeram](http://www.aventics.com/us/QuickShipCeram) for Ceram™ valves. The online version (with updates) of the complete SC-QS catalog is available at [www.aventics.com/us/QuickShip](http://www.aventics.com/us/QuickShip).
- After each product overview page, you will find specific part numbers that are included in the Quick Ship program. Listed for each part number is the lead time in business days (many are next business day shipping) and the maximum quantity that can be ordered as a Quick Ship item at one time. Products will be shipped from your local distributor or AVENTICS in the USA within the time frame stated.



Focused  
Delivery  
Program



**AVENTICS Corporation**

1953 Mercer Road  
Lexington, KY 40511  
Tel 859.254.8031  
Fax 800.489.1488  
[www.aventics.com/us](http://www.aventics.com/us)  
[info.us@aventics.com](mailto:info.us@aventics.com)

**AVENTICS Incorporated**

5515 North Service Rd  
Suite #104  
Burlington, Ontario L7L 6G4  
Tel 905.332.0399  
Fax 905.332.8596  
[www.aventics.com/ca](http://www.aventics.com/ca)  
[info.ca@aventics.com](mailto:info.ca@aventics.com)

**AVENTICS México, S. de R.L. de C.V.**

AV. Paseo de la Reforma 250, Esquina Niza  
Deleg. Cuauhtémoc  
06280 México, D.F.  
Tel 866.873.0635  
[www.aventics.com/mx](http://www.aventics.com/mx)  
[info.mx@aventics.com](mailto:info.mx@aventics.com)

Further contacts:

[www.aventics.com/en/contact](http://www.aventics.com/en/contact)

The data specified only serve to describe the product. No statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgment and verification. It must be remembered that our products are subject to a natural process of wear and aging.