

The Spartan Scientific Series 3826 is a unique answer to inert gas and liquid mixing, diverting and media control. Designed for the "feed and bleed" control of linear actuators, the 3826, in conjunction with position feedback and an electronic circuit, can fill and remove gas or liquid from a linear actuator to accomplish linear positioning. In another configuration, the valve can mix two media, at different flow rates, independently or shut off as the need arises. The 3826 incorporates two orifice baskets which accommodate flow rates from .025 to .31 Cv for a custom flow requirement. The valve employs two 2-way operators which function as a 3-way, 3-position blocked center, or two 3-way operators which function as a 4-way, 3-position exhaust center valve. The 3826 operators are designed with spring compensated valve seats for long trouble free life. Operators are available in all standard elastomers with all stainless or brass and stainless guide tubes. Coils are available with spades for DIN connectors or flying-lead termination. The valve body has integrated 1/4" tubing quick connect fittings and is made of Hoechst Ticona Celcon GB25 Acetal resin.

Dimensional Data

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED







Features

- · Fully encapsulated coils
- · 20 million cycles lifetime
- Integrated fittings remove leaking threads
- Multiple function/multiple orifice size valve meets many applications
- · DIN quick connect or flying leaded coils
- · Light weight yet rugged construction
- Quick change orifice
- · FDA approved materials
- · Chemical compatibility

SPARTAN SCIENTIFIC

www.comoso.com



Series 3826

Technical Data

Function:	3/3 way, 4/3 way, or 3/4 way normally open or closed, direct acting. Diverting or mixing	Materials:	Operator: 400 Series Stainless and Brass tube standard (400 and 300 Stainless tube available on request)
Port Sizes:	1/4" O.D. JG (John Guest) tube cartridges (3x)		Shading Ring: Copper standard Springs: 300 Series Stainless Seals: Viton, Nitrile, EPDM standard
Orifice Sizes/			(Chemraz [®] available on request)
Flow Factor:	0.6mm / .025 Cv 0.8mm / .035 Cv		Valve Body: DuPont [®] Celcon GB25 Acetal resin
	1.0mm / .05 Cv 1.2mm / .065 Cv		Fittings: DuPont [®] Celcon GB25 Acetal resin
	1.5mm / .08 Cv 2.0mm / .17 Cv 2.4mm / .24 Cv	Media:	Air, water, potable water, light oils (consult factory for chemical compatibility)
	3.0mm / .31 Cv	Mounting:	Ø.175" mounting holes, 2 places
Pressure Range:	Vacuum to 150 psi (depending on orifice size)	Coil Data:	Glass filled nylon encapsulation (Class F, continuous duty)
Temp. Range:	(Fluid 90°C max.) Ambient - 10 to +55°C		DIN spades or flying lead 6.5 watt standard (other wattages available on request) Voltage: 6, 12, 24 VDC
Response Time:	14-20 ms		24, 120, 220, 240 VAC 50/60 Hz Voltage Tolerance: +/- 10%

Principles of Operation and Application

OPTION 1:

Direct Acting, 3-Way, 3-Position, Blocked Center, Feed and Bleed

This version of the 3826 is made to fix or change position and or pressure applied to a single acting linear actuator.

• Both solenoids de-energized, pressure enters the valve through port "B" and is blocked. Ports "A" and "C" are also blocked.

- Energize solenoid 2 and pressure flows from "B" to "C" filling the actuator.
- De-energization of solenoid 2 blocks the pressure in the actuator holding its position.
- Energizing solenoid 1 connects port "C" with port "A", relieving the pressure in the actuator and dropping the actuator position.
- The solenoids can be alternately energized and de-energized to attain precise positioning of the actuator. Pressure can then be used in conjunction with closed loop sensing and a comparator circuit.





Series 3826



OPTION 2:

Direct Acting, 3-Way, 3-Position, Blocked Center, Diverting

This valve is made to control a single media and divert it into two different locations. Media is presented to port "C" and diverted to ports "A" and "B".

- Pressure / media enters through port "C" and is normally blocked.
- Energization of solenoid 1 connects port "C" to port "A".
- De-energization of solenoid 1 blocks media flow once again.
- Energization of solenoid 2 connects port "C" to port "B" effectively diverting the same media to another location.



OPTION 3:

Direct Acting, 3-Way, 3-Position, Blocked Center, Mixing (or Function)

This valve is made to control two separate and distinct Medias. The two Medias will be presented to ports "A" and "B" separately.

- Pressure/media entering through ports "A" and "B" is normally blocked.
- Energization of solenoid 1 connects port "A" to port "C".
- De-energization of solenoid 1 blocks media flow once again.
- Energization of solenoid 2 connects port "B" to port "C".

SPARTAN SCIEN

· De-energization of solenoid 2 blocks media flow once again









OPTION 4:

Direct Acting, 4-Way, 3-Position, Exhaust Center, Directional Control

This configuration is most often used to control the flow of air to a double acting, linear actuator. The valve features an exhaust middle position.

• Solenoid 1 and solenoid 2 are de-energized; pressure is blocked on port "C". Ports "B" and "A" are connected to exhaust (atmosphere).

• Solenoid 1 is energized, pressure is connected from port "C" to port "A". Air from the actuator is then forced through port "B" to the exhaust port "S" to atmosphere.

• When solenoid 2 is energized, pressure is connected from port "C" to port "B" shifting the actuator into it other position. The pressure trapped in the downstream side of the actuator travels through the "A" port to exhaust port "R" to atmosphere.







P.O. Box 9792, Boardman, Ohio 44513 (330) 758-8446 Fax: (330) 758-3314

www.comoso.com



OPTION 5:

Direct acting, 3-way, 4-Position, Blocked Center, Flow Multiplication

Flow multiplication can be accomplished by tailoring orifice sizes to media flow rates, (both main valve orifices), as needed assuming the same media at ports "A" and "B".

- Solenoids de-energized all ports are blocked.
- Energization of solenoid 1 connects port "A to port "C" at a specified flow rate dependent on orifice chosen.
- Energization of solenoid 2 connects media from port "B" to port "C" at a specific flow rate depending on orifice chosen.
- Simultaneous energization of solenoids 1 and 2 with effectively multiplies flow through port "C" by the sum of the orifice from "A" and "B". Either solenoid can then be de-energized at any time to tailor the flow rates desired. In this way the valve acts as a digital flow control.



OPTION 6:

Direct acting, 3-Way, 4-Position, Blocked Center, Mixing

Assume that two different media are plumbed to ports "A" and "B". Selective energization of solenoid 1 and solenoid 2 flow each media through common port "C".

- · De-energization of solenoids blocks media to all ports.
- Energization of solenoid 1 connects port "A" and port "C".
- Energization of solenoid 2 connects port "B" and port "C".
- Simultaneous energization of solenoid 1 and 2 connect port "A" and "B" with port "C". Simultaneous energization of solenoids effectively mixes the two medias through port "C". This also assumes that the pressures of each media are the same.

www.comoso.com



www.spartanscientific.com



(330) 758-8446 Fax: (330) 758-3314



Series 3826

How To Order



Order Example: 3826-0-12-A3C7 Viton seat, 0.6 mm orifice "A", 1.0 mm orifice "B", Brass / Nylon, 3/3 Mixing, 120 VAC / 50/60 Hz



www.comoso.com