



▶ Chromatography Columns

- Pressure ratings to 1200 psi (80 bar)
- Solvent resistant
- Fixed or adjustable height
- Robust and easy to use

Omnifit's empty glass columns are the perfect solution for most low and mid-pressure liquid chromatography applications. Available with an adjustable endpiece designed for quick and easy height adjustment, they offer the chromatographer a multipurpose column that can be used again and again for a variety of different applications.



 Chromatography Columns

Products:

- 3mm bore columns
- 6.6mm bore columns
- 10mm bore columns
- 15mm bore columns
- 25mm bore columns
- 35mm bore columns
- 50mm bore columns
- Accessories for all column sizes



Manual Rotary Valves

- Large selection
- Chemically inert materials
- 1/4"-28 UNF connections
- Pressure ratings up to 500 psi

A range of small and large manual valves offering a variety of flow paths and connection options. Products include connectors with valves, rotary valves with Omnifit 'Cap-type' connections, high pressure manual rotary valves, stacked distribution valves, a manual sample injection valve, needle valves, click-stop valves, and 1/4"-28 UNF screw-in valves

Large and small electric rotary valves provide exceptional chemical resistance and have various porting options and configurations.

Products:

- High pressure small manual rotary valves with 1/4"-28 UNF helicoil connections
- Small manual rotary valves with Omnifit 'Cap-type' connections
- Distribution and Loop Injection Valves
- Manual sample injection valve
- Omnifit 'cap-type' connectors with valves for 0.5 to 4mm OD tube
- Omnifit 'cap-type' connectors with valves for 4 to 11mm OD tube



 Manual Rotary Valves



▶ Check Valves, Filters, Bubble Traps

- 3 check valve versions available
- Chemically inert materials
- 1/4"-28 or barbed connections
- The Bubble Trap provides effective removal of gas bubbles

Bio-Chem Fluidics offers flow control accessories including check valves and the bubble trap.

Omnifit check valves prevent the flow of gas and liquid in one direction, and at a preset cracking pressure. The two types offered are the Vari-bore with Omnifit 'cap-type' connections and barbed for connecting to soft tubing.

The Bio-Chek™ self-sealing in-line check valves feature an inert flow path, no metal components and zero maintenance in high-purity, low-pressure applications. The valves connect to standard 1/4 - 28 ports and fittings.

The Omnifit Bubble Trap connects in-line to provide an effective, time-saving and costefficient method of bubble removal upstream of sensitive detectors. If gas bubbles are formed in-line, or your pump delivers air instead of liquid, the resulting bubbles will be removed completely by the Trap, the outlet flow will stop and your device remain protected

Products:

- [Bio-Chek™ In-line Check Valve: Series C](#)
- [Varibore check valves and non-return valves](#)
- [Barbed check valves](#)
- [Bubble trap](#)



 [Check Valves, Bio-Chek](#)
 [Bubble Trap](#)



Self-Priming Micro Pumps

- High accuracy dispense settings from 8µl to 250µl
- Low power consumption / minimal heat generation
- Low internal volume
- Positive shut off
- High cycle life - up to 20 million dispense cycles
- Choice of inert wetted materials

Broad range of dispense settings and flow rates

The diaphragm pumps are factory set for discrete outputs ranging from 8µl to 250µl. The pumps can be cycled at up to 2.0 Hz for the smallest version and 1.6 Hz for the largest version. Flow rates reach up to 25 ml / minute. Depending on the dispense setting, very high accuracy can be achieved with deviations from set-point of less than 1%. For optimal accuracy, the pumps should be used for the transfer of fluids between un-pressurized containers.

Self-priming

At startup, the pump is able to draw air. The suction created by the larger pumps is sufficient to pull liquids from an unpressurized container located up to 1.3 meters (4' 3") beneath the pump. Once the pump is primed, it is able to generate around 5 psi (0.3 bar) pressure, equating to 3.5 meters (11' 6") of water.


Wide assortment of inert wetted materials available

The pumps provide a non-metallic, inert fluid path for the dispensing of high purity or aggressive fluids. The standard pump body is made of PPS (polyphenylsulfide). Other materials available for the pump body include PTFE, PEEK and Delrin®. The elastomers that can be used for the diaphragms and check valves include PTFE, EPDM, and Viton®.

High reliability

The pumps are designed for continuous duty. They are guaranteed for up to 20 million actuations, corresponding to nearly 3,000 hours of continuous use at a 2 Hz cycle rate.



 Self-Priming Micro Pumps

Operating Instructions:

The diaphragm of the pump is held closed with an internal spring mechanism. When voltage is applied, the solenoid coil becomes energized and pulls the diaphragm open. This opening action causes fluid to be drawn into the pump chamber. The fluid is dispensed from the pump when the voltage is dropped enough to de-energize the coil and allow the internal spring to force the diaphragm back to the closed position. To operate the pumps:

1. The pumps require a square wave signal. For ideal dispense properties, provide a 12 volt signal (or 24 volt for 24 volt rated pumps) for 150 milliseconds (200 milliseconds for the 150SP).
2. Cut the voltage for a minimum of 350 milliseconds (400 milliseconds for the 150SP). This will provide a maximum cycle rate of 2.0 hertz (1.6 hertz for the 150SP).

To control the flow or dispense timing, modify the 'off-time'. Lengthening the 'off-time' will cycle the pump slower. The pump can cycle faster, but accuracy and dispense volume may be affected, depending upon the application setup.

Products:

- [Micro Pumps: Series 090SP](#)
- [Micro Pumps: Series 110TP](#)
- [Micro Pumps: Series 120SP](#)
- [Micro Pumps: Series 150SP](#)
- [Micro Pumps: Series 130SP](#)
- [Pump Mounting Hardware](#)
- [CoolCube for reduced response time](#)



Isolation Valves

What is an Isolation Valve?

An Isolation Valve is a solenoid operated valve where the fluid path is completely isolated from the valve's solenoid actuation mechanism. The only wetted parts are the valve diaphragm and the valve body – hence the name Isolation Valve.

Inert

For high purity applications and aggressive media handling, the fluid path in the isolation valve can be made entirely of extremely inert materials such as PTFE – something that can not be done with pinch valves as PTFE tubing would be too hard to pinch. Our all-PTFE solenoid operated isolation valves are the most chemically inert solution available. We also offer a choice of PEEK and PPS valve bodies as well as a range of diaphragm materials to suit a large variety of mechanical and chemical requirements.

Reliable

Our valves use continuous duty solenoids rated to over 20 million cycles. They feature low power consumption and fast response time.

Standard construction

These are a list of the common features and styles of our standard isolation valves:

- 12 volt or 24 volt
- PTFE, PEEK or PPS body materials
- 2 way, normally closed ported
- 2 way, normally closed manifold mount
- 2 way, normally open ported
- 2 way, normally open manifold mount
- 3 way ported
- 3 way manifold mount
- 3 way syringe valve

Customization Services

We routinely offer fully customized solutions on our solenoid operated isolation valves to meet equipment makers' precise specifications. Please [contact](#) us to discuss your special requirements, including:

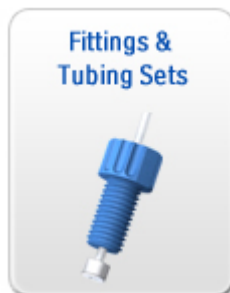
- choice of wetted materials
- operating pressure up to 550 PSIG
- custom lead wire length
- special port threads
- driving voltage from 3 to 220V
- manifold design
- connectorization
- special port locations

3-step Easy Product Selection Guide

Step 1: Select Valve Function (NC= normally closed, NO = normally open)



Related products



 [Download Isolation Valves brochure](#)

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► Gradient and Flow Selection Valves

- Precise flow characteristics
- Compact, robust construction
- Minimal dead volume
- Fast response time
- All PTFE wetted parts; other materials available

Compact valve / manifold configurations

The Bio-Chem Valve flow selection valves are available with three valve sizes, using 0.38 inch, 0.75 inch and 1.00 inch solenoid shell diameters. These sizes correspond to orifice diameters spanning from 0.032 inches to 0.125 inches, covering a broad range of application requirements. For ease of installation, all inlet ports are positioned on the same side of the manifold. The common outlet port is centered between the inlet ports. (Note: in diverting applications, the inlet and outlet ports are reversed.) The compact manifold construction ensures minimal internal volumes.

Optimized flow characteristics

Every solenoid actuator on the flow selection valve is individually adjusted in the factory so as to provide equal flow rates at the same pressure. Ultra-fast response times for gradient applications. Through rapid cycling of the solenoid, the valves can be used to provide modulating flow rates at constant pressures. With opening and closing times of only 2 milliseconds, the 040T valve series is ideally suited to gradient applications.

Choice of inert wetted materials

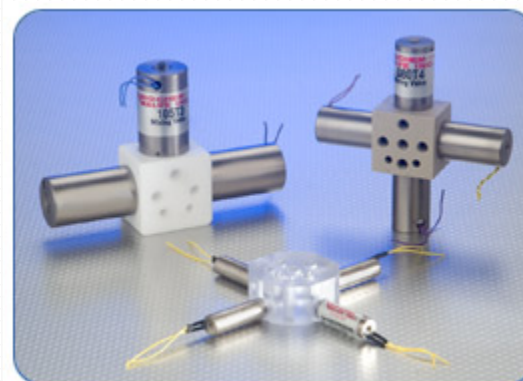
The isolation valve design used with the Bio-Chem Valve flow selection valves ensures that the only wetted parts are the valve diaphragm and the valve seat, which is part of the manifold. In the standard flow selection valve, both parts are made of PTFE, offering the most chemically inert solution available. For different mechanical and chemical requirements, the customer also has the option of using PEEK™ or PPS for the manifold material and EPDM, Viton® or a perfluorelastomer for the diaphragm material.

Quick-Change Customization™

Through Bio-Chem Valve's Quick-Change Customization™ process, the standard flow selection valve configurations shown on this product data sheet can be modified to meet the customer's specifications. For possibilities regarding solenoid and spring response times, operating pressures, port threads and locations, wetted material and other features, please consult Bio-Chem Valve and Omnifit.

Products:

- Gradient Valves: Series 040T
- Flow Selection Valves: Series 080T
- Flow Selection Valves: Series 105T



 Gradient and Flow Selection (Mixing) Valves



► Pinch Valves

Bio-Chem Valve Pinch Valves feature:

- Inertness similar to an isolation valve
- Straight, no-clog flow path
- A wide range of medical grade, class VI tubing with sizes ranging from 1/32" I.D. to 1/4" I.D.
- On/Off control
- A selector or diverter flow control in 3 way configurations
- Dual 2-way and dual 3-way configurations are available in 100P series products

The new Pinch Valve enhancements offer the same features mentioned above, plus:

- Quiet version - Eliminates the clicking noise level on actuation from 72 dB to 52 dB. Available on all pinch valve series, add a "Q" to the end of the part number when ordering.
- Feedback sensor version - comes with a built-in, infrared feedback sensor that instantaneously detects the position of the pusher/armature assembly to verify whether the valve is open or closed. Available on 100P series products only, add an "F" to the end of the part number when ordering.

Bio-Chem Valve pinch valves have been designed to assure sterility while managing the isolation, diversion, and flow of high purity fluids, blood, or saline in patient applications involving liquid or gas measurements within a fixed instrument. As the flow control component within a transfer site, the Bio-Chem Valve Pinch Valves enable fast, easy removal and replacement of sterile tubing sets, eliminate the need for disassembly or removal of the valve from the instrument, and isolate fluid contact to the sterile tubing.

Products:

- Pinch Valves: Series 075P
- Pinch Valves: Series 100P
- Pinch Valves: Series 150P
- Valve Mounting Hardware
- CoolCube for reduced response time



 Pinch Valves



► Inert Relief Valves

- 2 Versions
 - 075RV - stand-alone, spring loaded
 - 075RS - spring loaded with solenoid control (open when energized)
- 6 Pressure Relief Settings from 20 to 150 psi
- Fully Chemically Inert
- Chemraz® and PPS Wetted Fluid Path
- Minimal Internal Volume
- High Cycle Life

The Omnifit 075RV / 075RS relief valve series is ideally suited for use with aggressive and high-purity fluids. Wetted parts consist of the PPS (Ryton) valve body and the Chemraz® diaphragm. Custom body and diaphragm configurations are available from a broad menu of engineered plastics and elastomers, including Teflon®. The unique Bio-Chem Valve diaphragm retention design ensures the most reliable performance and longest life available.

The solenoid operated, normally closed 075RS relief valve provides dual functionality as a solenoid valve with pressure relief function. This provides flow control and the capability to periodically purge the system.

Products:

- Relief Valves: Series 075RV & 075RS



 Relief Valves