



# Manual Valves



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A range of large and small manual valves offering a variety of flow paths and connection options

- Low and high pressure versions
- Excellent chemical resistance
- Accept 1/4"-28 UNF fittings
- Custom designs available for OEM applications

## Small High Pressure Rotary Valves

These manual rotary valves are constructed from PTFE with a Kel-F® rotor and have a 0.8mm bore size, making them suitable for pressure applications up to 500 psi (33 bar). They are available in 4 and 5 port versions. All ports are 1/4"-28 UNF flat-bottom and will accept any 1/4"-28 UNF male fitting. Omnifit's 1000 psi (68 bar) pressure rated Gripper fittings or Omni-Lok™ fittings are ideal for use with these valves. These valves are bulkhead mountable.

## Small Rotary Valves with 'Omnifit Cap' connections

Omnifit's small manual rotary valves use the 'Omnifit-Cap' connection system and can be used for sampling, flow-splitting, mixing and fluid line interconnection. They have a 1.5mm bore size and accept tubing sizes between 0.5 and 4mm OD. They are pressure rated to 50 psi (3.3 bar).

## Distribution and Loop Injection Valves

These manual valves have a click-stop mechanism to ensure correct flow path alignment. Each valve consists of a glass filled PTFE body with a Kel-F® rotor and a PEEK™ casing. These valves are rated to 500 psi (34 bar).

## Sample Injection Valve

Designed for low to medium pressure chromatography systems, this injection valve system is supplied with 0.5ml, 1.0ml and 2.5ml loops and a 5ml syringe. Other loops can be supplied on request. Pressure rating is 500 psi (34 bar).

## Stacked Distribution Valves

Omnifit's manual stacked distribution valves are constructed using PTFE bodies with a Kel-F® rotor giving excellent chemical compatibility. The valves have a 1.5mm bore size and are available in 2, 3 and 4 tiers to switch 2, 3 or 4 flow lines simultaneously. 1/4"-28 UNF ports are compatible with all Omnifit 1/4"-28 male fittings. A mechanical stop provides positive flow path alignment.



## Small High Pressure Rotary Valves

- Pressure rated to 500 psi (33 bar)
- Accepts 1/4"-28 UNF fittings
- M3 holes for mounting
- Flow paths indicated by control knob



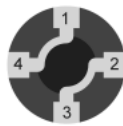
1120



1121



1122



1126



These manual rotary valves are constructed from PTFE with a Kel-F® rotor and have a 0.8mm bore size, making them suitable for high pressure applications up to 500 psi (33 bar). They are available in 4 and 5 port versions and any spare ports can be sealed with a plug (part number 2320) for maximum flexibility. All ports are 1/4"-28 UNF flat-bottom and will accept any 1/4"-28 UNF male fitting. These valves are bulkhead mountable with pre-drilled M3 threaded holes for easy mounting.

### 4-port valves

4-port valves allow flow across selected ports, from either one or two inlets to a combination of the remaining ports.

### 5-port valve

The 5-port valve utilizes the common port as the inlet and allows flow to a combination of the remaining 4 ports.

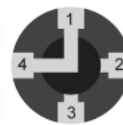
Part Number	Ports	Pack Size
1120	4	1
1121	4	1
1122	4	1
1126	5	1

## Small Rotary Valves with 'Omnifit-Cap' connectors

- Range of flow path options
- PTFE body
- Kel-F® rotor
- Flow paths indicated by control knob



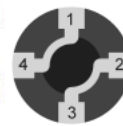
1112



1113



1114



1118



Omnifit's small manual rotary valves use the 'Omnifit Cap' connection system and can be used for sampling, flow-splitting, mixing and fluid line interconnection. They have a 1.5mm bore size and accept tubing sizes between 0.5 and 4mm OD. They are pressure rated to 50 psi (3.3 bar). The valves are available in 4 and 5 port versions and any spare ports can be sealed with a plug (part number 2320) or by using a PTFE cone blank (part number 1514) for maximum flexibility.

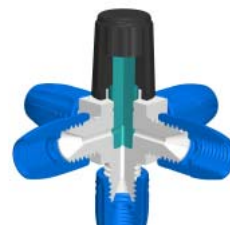
### 4-port valves

4-port valves allow flow across selected ports, from either one or two inlets to a combination of the remaining ports.

### 5-port valve

The 5-port valve utilizes the common port as the inlet and allows flow to a combination of the remaining 4 ports.

See the connectors spec sheet for information on the 'Omnifit Cap' connection system.



Part Number	Ports	Pack Size
1112	4	1
1113	4	1
1114	4	1
1118	5	1

## Distribution and Loop Injection Valves

- 500 psi (33 bar) pressure rating
- Click-stop for port identification & alignment
- Ready for mounting on a flat surface
- PEEK™ casing
- Glass filled PTFE Body
- Kel-F® rotor



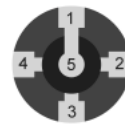
1127-6LI



1127-10LI



1127-4D



### Distribution valve

Omnifit's click-stop distribution valve is available in a 5-port option. This enables it to be used as a 4-way distribution valve, by using one port as the inlet and selecting flow to any of the other available ports for outlet. This distribution valve can be used for sample collection and stream selection.

### Loop injection valves

Omnifit's click-stop loop injection valves are available in 6 or 10-port options.

See back page for application notes.

Part Number	Valve Type	Ports	Pack Size
1127-6LI	Loop injection	6	1
1127-10LI	Loop injection	10	1
1127-4D	Distribution	5	1

## Stacked Distribution Valves

- Pressure rated to 500 psi (33 bar)
- Minimal dead volumes
- 2, 3 or 4 tier configurations
- Positive switch stops

Omnifit's manual stacked distribution valves are constructed using PTFE bodies with a Kel-F® rotor giving excellent chemical compatibility. The valves have a 1.5mm bore size and are available in 2, 3 and 4 tiers to accept 2, 3 or 4 flow lines. The 1/4"-28 UNF ports are compatible with all Omnifit 1/4"-28 male fittings.

Valves are available in three flow configurations and have the same configuration on each tier.



1142



1143



1144



1152



1153



1154



1162



1163



1164

Part Number	Description	Pressure rating	Pack Size
1142	2-tier valve allowing flow between two ports at 90°	500 psi	1
1152	3-tier valve allowing flow between two ports at 90°	100 psi	1
1162	4-tier valve allowing flow between two ports at 90°	100 psi	1
1143	2-tier valve allowing flow between 3 ports in a 'T' formation	500 psi	1
1153	3-tier valve allowing flow between 3 ports in a 'T' formation	100 psi	1
1163	4-tier valve allowing flow between 3 ports in a 'T' formation	100 psi	1
1144	2-tier valve allowing flow between pairs of adjacent ports	500 ps	1
1154	3-tier valve allowing flow between pairs of adjacent ports	100 psi	1
1164	4-tier valve allowing flow between pairs of adjacent ports	100 psi	1

## Sample Injection Valve

- Allows introduction of reproducible sample volumes
- 0.5ml, 1.0ml and 2.5ml sample loops included



1106

Designed for low pressure chromatography systems, this loop injection valve system is supplied with 0.5ml, 1.0ml and 2.5ml loops and a 5ml syringe. Other loops can be supplied on request. A clamp for easy mounting to a retort stand is included.

See application notes below.

Part Number	Description	Pack Size
1106	Manual sample injection valve	1
1106.5	Spare sample loop for use with 1106 0.5ml	1
1106.1	Spare sample loop for use with 1106 1ml	1
1106.2	Spare sample loop for use with 1106 2.5ml	1
1106.5	Spare sample loop for use with 1106 5ml	1

## Application and set up notes.

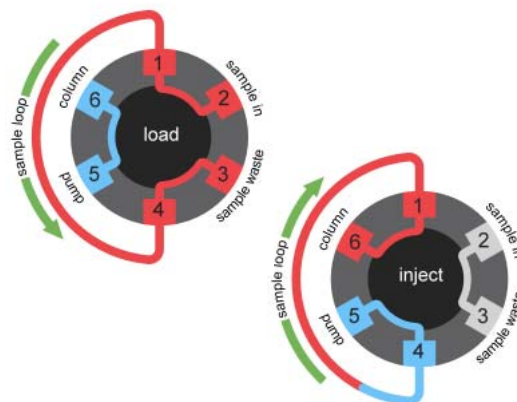
The images below show Omnifit loop inject valves in use as sample injection devices in a chromatography system. These are the most common applications but the use of the valves is not limited to these.

### 6 port loop inject valve used as a sample injector

With the valve in the load position the sample can be injected into the sample loop while the mobile phase is pumped directly through to the column.

When the valve is switched to the inject position, the pump is then connected to the sample loop and the sample is carried onto and through the column. The 'sample in' and 'waste' ports are joined but isolated from the loop.

It is suggested that ports are connected to the corresponding lines as shown. This ensures that the flow of the mobile phase is in opposite directions during the load and inject operations.

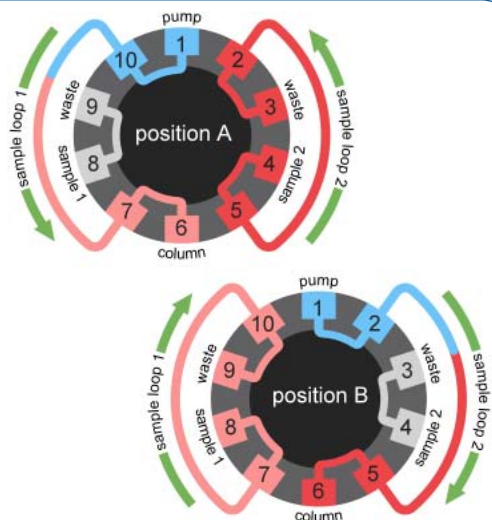


### 10 port loop inject valve used as a sample injector

This valve allows alternate injection from two different sample loops, either identical or of different sizes. This application can alternatively be satisfied with a 4 port switching valve and a 6 port loop inject valve.

With the valve in position A, sample 2 can be loaded into sample loop 2 while the mobile phase is pumped through sample loop 1 and carries sample 1 onto the column. The 'sample 1 in' and 'waste' ports are connected but isolated from the loop.

When the valve is switched to position B, the pump is connected to sample loop 2 and sample 2 is carried onto and through the column. The 'sample 2 in' and 'waste' ports are connected but isolated from the loop. Whilst sample 2 is pumped onto the column, sample loop 1 can be re-loaded.



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PEEK™ is a trademark of Victrex plc

Rev. 0205

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GROUP  
COMPANY