

Low pressure



CHEMINERT VALVES

Valves with 1/16" VALCO ZDV FITTINGS

0.75 MM PORTS (.030")

Low pressure

10-32 ZDV

1/16" 0.75 mm

Model C22Z includes Valco ZDV PEEK nuts and ferrules.
 Universal actuator: 24 VDC, with autosensing 24 VDC power supply.
 Includes RS232/485 serial interface. See page 174 for other interface options.
 Sample loops are not included with valves. Order separately.

SPECIFICATIONS

250 psi liq
75°C max
 Stator: PPS
 Rotor: Valcon E2

OPTIONS

- Purge option
- Other polymeric rotors and stators are available.
- 12 and 14 port versions are available.



4 Port

Prod No



6 Port

Prod No



8 Port

Prod No



10 Port

Prod No

	Prod No	Prod No	Prod No	Prod No
Manual	C22Z-3184	C22Z-3186	C22Z-3188	C22Z-3180
With universal act.	C22Z-3184EUHA	C22Z-3186EUHA	C22Z-3188EUHA	C22Z-3180EUHA
Replacement valve	C22Z-3184D	C22Z-3186D	C22Z-3188D	C22Z-3180D
Replacement rotor	C12-314	C12-316	C12-318	C12-310
Replacement stator	C22Z-384	C22Z-386	C22Z-388	C22Z-380



10 PORT VALVE
 1/16" PEEK ZDV fittings



Sample loops

Loops include PEEK nuts and ferrules. Loops smaller than 500 µl are made from 1/16" OD tubing; loops 500 µl or bigger are made from 1/8" OD tubing with polymeric unions and 1/16" ends.

These loops are for use with valves on this page.

	FEP	PTFE	PEEK
Volume	Prod No	Prod No	Prod No
5 µl	CZSL5FEP	CZSL5TF	CZSL5PK
10 µl	CZSL10FEP	CZSL10TF	CZSL10PK
20 µl	CZSL20FEP	CZSL20TF	CZSL20PK
50 µl	CZSL50FEP	CZSL50TF	CZSL50PK
100 µl	CZSL100FEP	CZSL100TF	CZSL100PK
250 µl	CZSL250FEP	CZSL250TF	CZSL250PK
500 µl	CZSL500FEP	CZSL500TF	CZSL500PK
1 ml	CZSL1KFEP	CZSL1KTF	CZSL1KPK
2 ml	CZSL2KFEP	CZSL2KTF	CZSL2KPK

ABOUT LOOPS

- Sample loop shape and dimensions may vary from batch to batch due to fluctuations in tubing ID. Loop volume is controlled as closely as possible, but is not calibrated.

PURGE OPTION

The purge option permits a flow of liquid or gas to flush the valve interior of potentially toxic or corrosive components. We recommend this option for applications using materials (such as salt solutions) that could damage the metal parts of the valve.

Consult our technical staff for details.



Valves WITH 1/4-28 FITTING DETAILS FOR 1/16" TUBING

0.75 MM PORTS (.030")

SPECIFICATIONS

250 psi liq
75°C max

Stator: PPS
Rotor: Valcon E2

Model C22 includes multicolored Cheminert 1/4-28 flangeless fittings for 1/16" tubing.
Universal actuator: 24 VDC, with autosensing 24 VDC power supply.
Includes RS232/485 serial interface. See page 174 for other interface options.
Sample loops are not included with valves. Order separately.

Low pressure

1/4-28 Internal

1/16"

0.75 mm



4 Port

Prod No



6 Port

Prod No



8 Port

Prod No



10 Port

Prod No

	4 Port Prod No	6 Port Prod No	8 Port Prod No	10 Port Prod No
Manual	C22-3184	C22-3186	C22-3188	C22-3180
With universal actuator	C22-3184EUHA	C22-3186EUHA	C22-3188EUHA	C22-3180EUHA
Replacement valve	C22-3184D	C22-3186D	C22-3188D	C22-3180D
Replacement rotor	C22-314	C22-316	C22-318	C22-310
Replacement stator	C22-384	C22-386	C22-388	C22-380



6 PORT VALVE
1/4-28 fittings

Valves WITH 1/4-28 FITTING DETAILS FOR 1/8" TUBING

1.50 MM PORTS (.060")

SPECIFICATIONS

250 psi liq
75°C max

Stator: PPS
Rotor: Valcon E2

Model C22 includes multicolored Cheminert 1/4-28 flangeless fittings for 1/8" tubing.
Universal actuator: 24 VDC, with autosensing 24 VDC power supply.
Includes RS232/485 serial interface. See page 174 for other interface options.
Sample loops are not included with valves. Order separately.

Low pressure

1/4-28 Internal

1/8"

1.50 mm

4 Port

Prod No

6 Port

Prod No

8 Port

Prod No

10 Port

Prod No

	4 Port Prod No	6 Port Prod No	8 Port Prod No	10 Port Prod No
Manual	C22-6184	C22-6186	C22-6188	C22-6180
With universal actuator	C22-6184EUHA	C22-6186EUHA	C22-6188EUHA	C22-6180EUHA
Replacement valve	C22-6184D	C22-6186D	C22-6188D	C22-6180D
Replacement rotor	C22-614	C22-616	C22-618	C22-610
Replacement stator	C22-684	C22-686	C22-688	C22-680

Sample loops

Loops include flangeless fittings with white color nuts.
Loops smaller than 250 µl are made from 1/16" OD tubing; loops 250 µl or bigger are made from 1/8" OD tubing.
These loops are for use with valves on this page.



MORE INFO

Actuators
Microelectric 176
Universal 174-175
Materials
Polymers 248
Valve rotors 249

ABOUT LOOPS

• Sample loop shape and dimensions may vary from batch to batch due to fluctuations in tubing ID. Loop volume is controlled as closely as possible, but is not calibrated.

	FEP	PTFE	PEEK
Volume	Prod No	Prod No	Prod No
20 µl	CFSL20FEP	CFSL20TF	CFSL20PK
50 µl	CFSL50FEP	CFSL50TF	CFSL50PK
100 µl	CFSL100FEP	CFSL100TF	CFSL100PK
250 µl	CFSL250FEP	CFSL250TF	CFSL250PK
500 µl	CFSL500FEP	CFSL500TF	CFSL500PK
1 ml	CFSL1KFEP	CFSL1KTF	CFSL1KPK
2 ml	CFSL2KFEP	CFSL2KTF	CFSL2KPK

Low pressure



CHEMINERT VALVES

Internal sample injectors

1/16" VALCO ZDV FITTINGS, 0.40 MM PORTS (.016")

Low pressure

Internal sample

10-32 ZDV

1/16"

0.40 mm

Model C24Z includes Valco ZDV PEEK nuts and ferrules.
 Universal actuator: 24 VDC, with autosensing 24 VDC power supply.
 Includes RS232/485 serial interface. See page 174 for other interface options.



SPECIFICATIONS

250 psi liq
75°C max
 Stator: PPS
 Rotor: Valcon E2

Sample volume	0.2 µl	0.5 µl	1 µl
	Prod No	Prod No	Prod No
Manual	C24Z-2184-.2	C24Z-2184-.5	C24Z-2184-1
With universal actuator	C24Z-2184-.2EUHA	C24Z-2184-.5EUHA	C24Z-2184-1EUHA
Replacement valve	C24Z-2184-.2D	C24Z-2184-.5D	C24Z-2184-1D
Replacement rotor	C24-10R-.2	C24-10R-.5	C24-10R-1
Replacement stator	C24Z-1C8	C24Z-1C8	C24Z-1C8

OPTIONS

- 2.0 µl sample volumes are also available.
- Purge option



INTERNAL SAMPLE INJECTOR
 1/16" PEEK ZDV fittings

Internal sample injectors, 1/4-28 FOR 1/16" TUBING

0.50 MM PORTS (.020")

Low pressure

Internal sample

1/4-28 Internal

1/16"

0.50 mm

Model C24 includes multicolored Cheminert 1/4-28 flangeless fittings for 1/16" tubing.
 Universal actuator: 24 VDC, with autosensing 24 VDC power supply.
 Includes RS232/485 serial interface. See page 174 for other interface options.



Sample volume	0.5 µl	1 µl	2 µl
	Prod No	Prod No	Prod No
Manual	C24-2184-.5	C24-2184-1	C24-2184-2
With universal act.	C24-2184-.5EUHA	C24-2184-1EUHA	C24-2184-2EUHA
Replacement valve	C24-2184-.5D	C24-2184-1D	C24-2184-2D
Replacement rotor	C24-10R-.5	C24-10R-1	C24-10R-2
Replacement stator	C24-1C8	C24-1C8	C24-1C8

SPECIFICATIONS

250 psi liq
75°C max
 Stator: PPS
 Rotor: Valcon E2

OPTIONS

- 0.2 µl sample volumes are also available.
- Purge option
- Other polymeric rotors and stators are available. Consult the factory for prices and information.



INTERNAL SAMPLE INJECTOR
 1/4-28 fittings

PURGE OPTION

The purge option permits a flow of liquid or gas to flush the valve interior of potentially toxic or corrosive components. We recommend this option for applications using materials (such as salt solutions) that could damage the metal parts of the valve.

Consult our technical staff for details.



Valves WITH 1/2-20 FITTINGS FOR 1/4" TUBING

2.9 – 3.2 MM (.110" – .125") PORTS

SPECIFICATIONS

100 psi liq
50°C max

Stator: PAEK
Rotor: Valcon E2

Manual version not available.
Model C42R includes Cheminert 1/2-20 flangeless fittings for 1/4" tubing, Delrin nuts, and CTFE ferrules.
Universal actuator: 24 VDC, with autosensing 24 VDC power supply. Includes RS232/485 serial interface. See page 174 for other interface options.

Low pressure

1/2-20 Internal

1/4" 2.8 - 3.2 mm

OPTIONS

- 10 port version available with 2mm (.080") bore
- Other polymeric rotors and stators are available.



4 Ports
3.2 mm (.125")
Prod No



6 Ports
3.2 mm (.125")
Prod No



8 Ports
2.8 mm (.110")
Prod No

With universal actuator	C42R-8144EUTA	C42R-8146EUTA	C42R-8148EUTA
Replacement valve	C42R-8144D	C42R-8146D	C42R-8148D
Replacement rotor	C42R-81R4	C42R-81R6	C42R-81R8
Replacement stator	C42R-8C44	C42R-8C46	C42R-8C48

Fittings 1/2-20



Prod No	
Delrin nut	CFL-4D
CTFE ferrule	CFL-CB4KF-S

Call for a quote on CTFE or PPS 1/2-20 nuts and plugs.



6 PORT VALVE
1/2-20 fittings

Valves WITH 1/2-20 FITTINGS FOR 1/4" TUBING

3.9 – 4.6 MM (.155" – .180") PORTS

SPECIFICATIONS

100 psi liq
50°C max

Stator: PAEK
Rotor: Valcon E2

Manual version not available.
Model C42R includes Cheminert 1/2-20 flangeless fittings for 1/4" tubing, Delrin nuts, and CTFE ferrules.
Universal actuator: 24 VDC, with autosensing 24 VDC power supply. Includes RS232/485 serial interface. See page 174 for other interface options.

Low pressure

1/2-20 Internal

1/4" 3.9 - 4.6 mm

OPTIONS

- Other polymeric rotors and stators are available.



4 Ports
4.6 mm (.180")
Prod No



6 Ports
3.9 mm (.155")
Prod No

With universal actuator	C42R-9144EUTA	C42R-9146EUTA
Replacement valve	C42R-9144D	C42R-9146D
Replacement rotor	C42R-91R4	C42R-91R6
Replacement stator	C42R-9C44	C42R-9C46

MORE INFO

- Actuators
Microelectric 176
Universal 174-175
Materials
Metals 246-247
Polymers 248
Valve rotors 249



CHEMINERT VALVES

APPLICATIONS FOR CHEMINERT TWO POSITION VALVES

These illustrations show basic sample injection techniques using Cheminert two position valves. With rare exceptions, there is no difference between switching valves and external volume sampling valves, so the same valve can be used for either function.

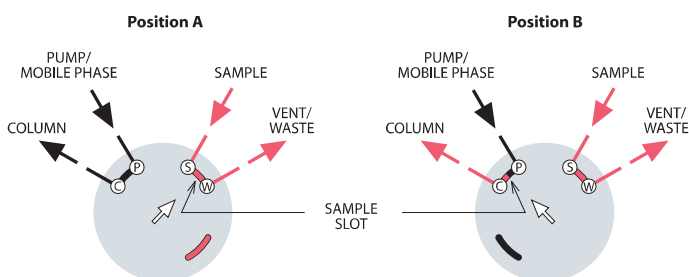
The unique advantage of 8 and 10 port valves is that they reduce extra column volume by combining sampling and switching functions in a single valve. This minimizes expense, maintenance, service, and risk of leaks as compared to multiple 6 port valve systems.

SEE VIDEOS

See VICI valve applications in motion in the support section of vici.com.



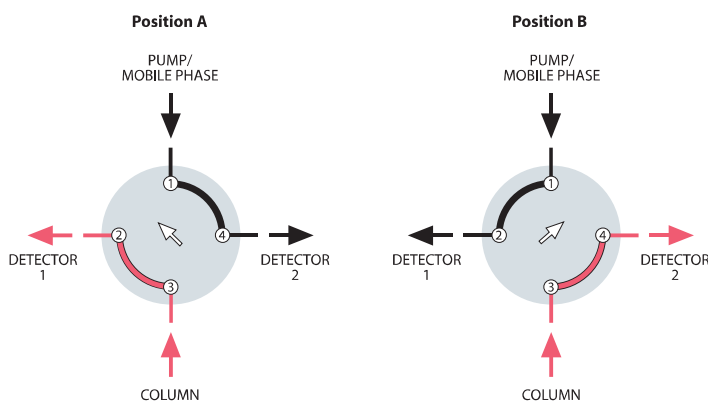
4 PORT – INTERNAL SAMPLE INJECTOR



MICROVOLUME SAMPLE INJECTION

The internal sample (fixed volume) flowpath is used when very small sample volumes are required. The sample size is determined by a passage engraved on the valve rotor, allowing precise, repeatable injections. In Position A, the sample flows through the sample passage while the mobile phase flows through to the column. The third passage is inactive. In Position B, the sample passage is in line with the column and the mobile phase injects the contents of the sample passage into the column. The passage which was inactive in Position A allows the sample to continue flowing without interruption.

4 PORT – SWITCHING VALVE

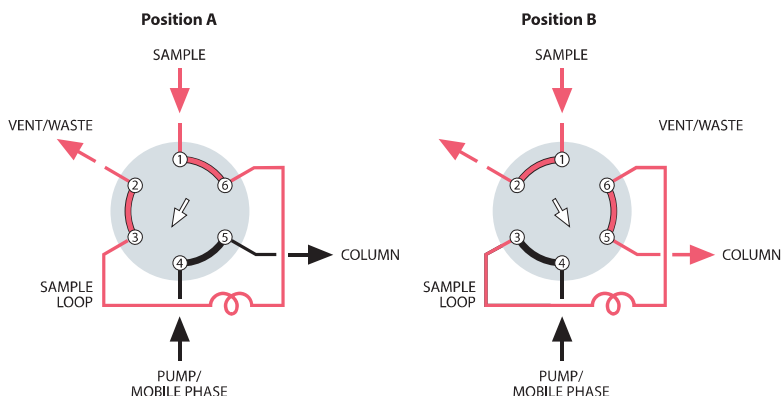


DETECTOR SELECTION FROM TWO COLUMNS OR ONE COLUMN AND AUXILIARY CARRIER

This unique configuration allows analyses of different parts of one analysis with two different detectors, without splitting or multiple injections.



6 PORT – EXTERNAL SAMPLE INJECTOR



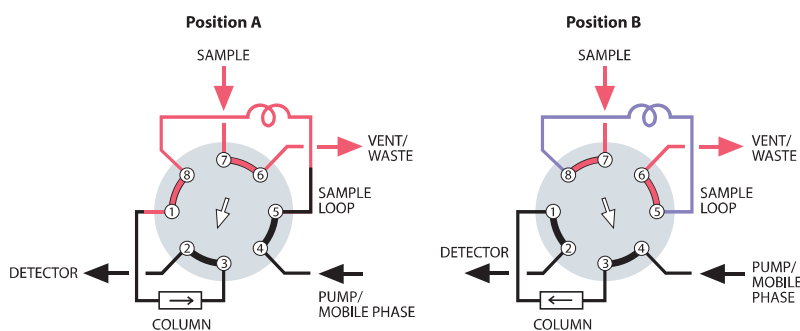
SAMPLE INJECTION

With the valve in Position A, sample flows through the external loop while the mobile phase flows directly through to the column. When the valve is switched to Position B, the sample contained in the sample loop and valve flow passage is displaced by the mobile phase and is carried into the column.

Note: Especially for partial-filled loops, the flow direction of the mobile phase through the loop should be opposite (backflush) to the flow direction during the loading of the loop.

More applicationspages 100-101

8 PORT – SAMPLING/SWITCHING

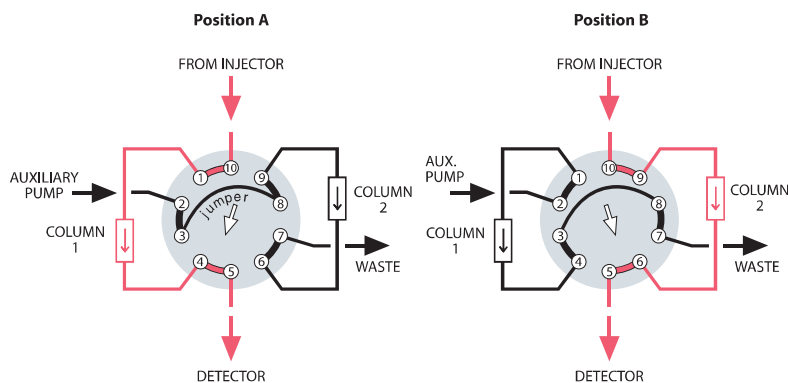


LOOP SAMPLING WITH BACKFLUSH TO DETECTOR

One valve performs the functions of sampling and backflush valves, simplifying operation and reducing cost. When components of interest are detected, the strongly retained components are backflushed and removed from the column without temperature programming.

More applications page 101

10 PORT – SAMPLING/SWITCHING



ALTERNATE COLUMN REGENERATION

When columns must be regenerated following each analysis, this technique permits automation of the process. While one column performs the analysis, the second column undergoes regeneration through use of an auxiliary pump. Once the first analysis is complete, the valve is switched and the regenerated column is ready for analytical use.

More applicationspages 102-103