

VICI

VALCO • CHEMINERT

TOOLS FOR SCIENCE AND MEDICINE



**INJECTORS
VALVES
FITTINGS
TUBING
SYRINGES
DETECTORS**

CATALOG 70 INT

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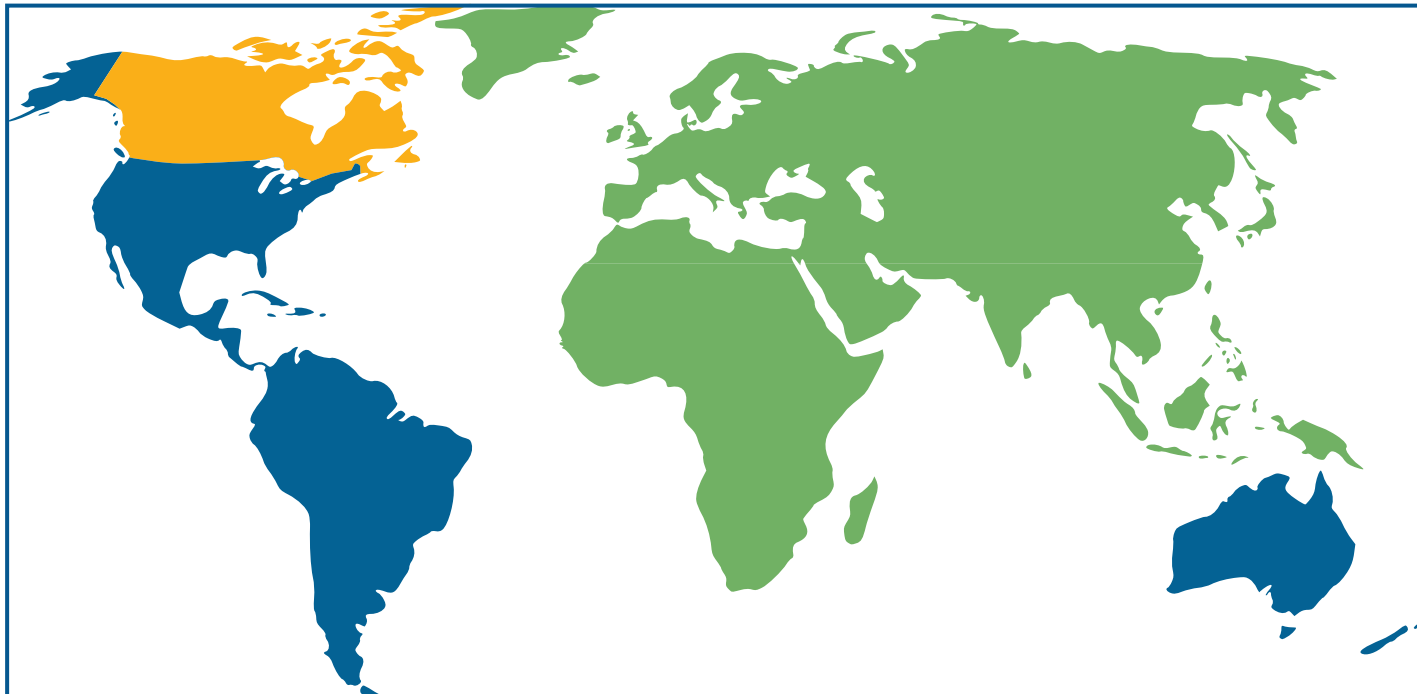
REGULATIONS

As a worldwide supplier of products for the analytical instrument market, we strive to make sure those products comply with regulatory requirements around the world.

All machined products (valves, fittings, etc.) are fully RoHS/REACH/WEEE compliant. Most of the electrical products we manufacture are also CE tested and certified. Only a few legacy products are not CE certified.



SERVING YOU AROUND THE WORLD



VICI AG INTERNATIONAL

All VICI products		
EUROPE, MIDDLE EAST, ASIA, AFRICA		
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PHONE Int + 41- 41- 925-6200	Parkstrasse 2 CH-6214 Schenkon Switzerland	ISO 9001:2015 ISO 14001:2015
EMAIL order@vici.ch	info@vici.ch	OHSAS 18001:2007
TECHNICAL	SERVICE	
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FAX 613-342-0111	
EMAIL canada@vici.com	

VICI DBS Srl

Announcing the newest VICI company. Products include:

- Air, hydrogen, and nitrogen generators
- Oven coolers and cryobaths
- Related custom products

ISO 9001:2015

For detailed information: www.vicidbs.com

VICI VALCO INSTRUMENTS CO. INC.

Valco and Cheminert valves and fittings for GC, LC, HPLC, and UHPLC, GC detectors, accessories	
UNITED STATES, MEXICO, CENTRAL AMERICA, SOUTH AMERICA, AUSTRALIA, NEW ZEALAND	
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EMAIL sales_usa@vici.com	valco@vici.com
TECHNICAL	SERVICE
PHONE 713-688-9345	713-688-9345
EMAIL tech_usa@vici.com	service@vici.com

VICI PRECISION SAMPLING

Syringes, custom-formed tubing, metal tubing, Mininert valves, probes, micro valves for LC/GC	
UNITED STATES, MEXICO, CENTRAL AMERICA, SOUTH AMERICA, AUSTRALIA, NEW ZEALAND	
CONTACT	ADDRESS
PHONE 225-927-1128 800-828-1653	P.O. Box 15886 Baton Rouge, LA 70895 USA
FAX 225-923-1331	
EMAIL precision@vici.com	

VICI METRONICS

Permeation devices, polymeric tubing, calibration gas generators, capillary columns, gas purifiers	
UNITED STATES, MEXICO, CENTRAL AMERICA, SOUTH AMERICA, AUSTRALIA, NEW ZEALAND	
CONTACT	ADDRESS
PHONE 360-697-9199 877-737-1887	26295 Twelve Trees Ln Poulsbo, WA 98370 USA
FAX 360-697-6682	
EMAIL metronics@vici.com columns@vici.com	

UHPLC

ULTRA-HIGH PERFORMANCE LIQUID CHROMATOGRAPHY

UHPLC FITTINGS

Valco fittings are available for 1/32", 1/16", and 1/8" tubing.

Product information PAGES 8-41



Cheminert Nanovolume® fittings are designed for direct connection of 360 micron tubing (no liners required.)

Product information PAGES 43-44



10K, 15K, AND 20K PSI INJECTORS AND SELECTORS

Cheminert UHPLC injectors, switching valves, and selectors with 360 micron, 1/32", or 1/16" fittings minimize internal volume and eliminate dead volume. Ideal for high speed, high throughput techniques.

NANOVOLUME® (100-150 µm)

Injectors PAGES 127, 134-135
Internal sample injectors PAGES 127, 135
Selectors (150 µm) PAGES 127, 154-155



MICROBORE® (250 µm)

Injectors PAGES 128, 136
Internal sample injectors PAGES 128, 137
Selectors PAGES 128, 155

40,000 PSI ULTRA-HIGH PRESSURE INJECTOR SYSTEM

The VICI 40K UHPLC injector is comprised of six miniature air actuated needle valves, plumbed to simulate the flowpath of a conventional 6 port injector.

Product information PAGE 64



NEW! TRUE NANO HPLC

The Nanovolume® pump/injector is an all-in-one setup with true nanoscale fittings (360 µm) and extremely low flow rates (down to 1 nl/min), providing split-free injections as close to the detector as possible. The pump is available in isocratic and gradient versions, with flow rate resolution to 1400 steps/µl.



LOWER DEAD VOLUME

- 360 µm fittings provide the perfect connection to higher efficiency columns
- Orders of magnitude increase in theoretical plate height
- Use smaller particles for packing

LOW FLOW RATES

- No need to split before the detector
- Low mobile-phase consumption

Product information PAGE 7

TUBING

STAINLESS TUBING

Available in 1/32", 1/16", and 1/8" OD, in pre-cut or custom lengths.

Product information PAGES 73-75

ELECTROFORMED NICKEL TUBING

Available in 360 micron, 1/32", and 1/16" ODs, with a range of IDs and lengths.

Product information PAGE 67

HPLC

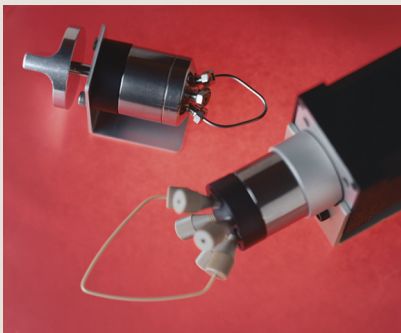
HIGH PERFORMANCE LIQUID CHROMATOGRAPHY

INJECTORS AND SELECTORS

CHEMINERT

Cheminert valves for HPLC operate up to 5,000 psi, and include 4, 6, 8, and 10 port injectors, a through-the-handle front-loading injector, a continuous flow injector, and selectors with 4, 6, 8, and 10 positions. We also offer a submicroliter injector with injection volume as small as 4 nanoliters. Valves feature 1/32" or 1/16" zero dead volume fittings with bore sizes from 0.10 mm (.004") to 0.75 mm (.030").

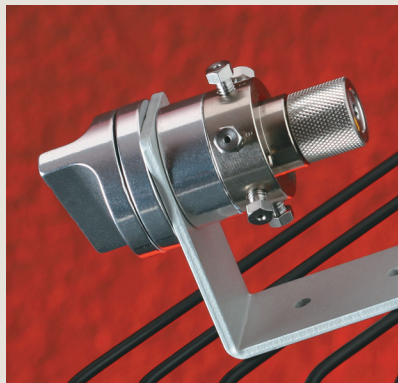
InjectorsPAGES 129, 138-147
Internal sample injectors...129, 139, 141, 145
Selectors..... 156-157



VALCO

Valco offers a diverse line in terms of number of ports, fitting sizes, and materials of construction. 3, 4, 6, 8, 10, 12 port versions are offered, with 1/32", 1/16", or 1/8" fittings. The range of alloys and polymer composites for rotors and bodies are capable of meeting virtually any system requirement. However, longest lifetime is provided by our Cheminert coated-stator injectors.

InjectorsPAGES 96-98
Internal sample injectors.....95
Selectors..... 114-115



HPLC FITTINGS

VALCO

Valco stainless steel fittings are available for 1/32", 1/16", and 1/8" tubing.

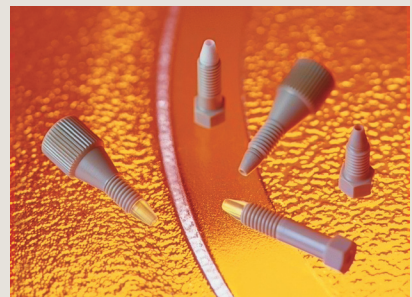
Product information..... PAGES 8-41



CHEMINERT

Cheminert high pressure PEEK fittings are rated at 5000 psi with fingertight nuts, well beyond the burst strength of most PEEK tubing.

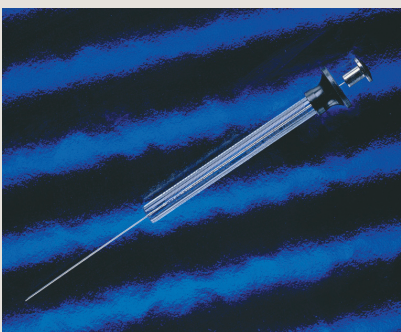
Product information..... PAGES 48-51



SYRINGES

Syringes for Valco, Cheminert, and Rheodyne HPLC injectors.

Product information.....PAGE 242



TUBING

STAINLESS TUBING

Available in 1/32", 1/16", and 1/8" OD, in pre-cut or custom lengths.

Product information..... PAGES 73-75

PEEK TUBING

Available in 1/32", 1/16", and 1/8" OD, natural or color-coded.

Product information..... PAGES 69-71

LOW PRESSURE VALVES AND SELECTORS

The Cheminert line offers two position valves with 4, 6, 8, 10, 12, or 14 ports, and stream selectors that can pick from as many as 28 streams.

Two position valves are available with 1/16" Valco ZDV fittings or 1/4-28 fittings for 1/16" or 1/8" tubing and 1/2-20 fittings for 1/4" tubing. Selectors include those options plus a version offering 20-28 streams with 6-40 fittings for 1/16" tubing.

Valves.....PAGES 148-149, 151
Internal sample injectors.....150
Selectors..... 158-161



M SERIES SYRINGE-FREE PUMP

The patented M Series liquid handling pump is a syringe-free pump capable of delivering a bidirectional flow to six orders of magnitude.

Product information.....PAGES 62-63



VALVE CLOSURES FOR VIALS

Screw-cap Mininert valves for vials are available in a variety of sizes. The crimp-top valve for 13 mm ID glassware slides into the neck of the vial and features a threaded flange which is turned to provide a leak-tight fit.

Product information..... PAGE 243



LOW PRESSURE FITTINGS

Cheminert low pressure fittings are ideally suited for applications requiring an inert, biocompatible, metal-free flowpath. Wetted materials are PFA, FEP, CTFE, or PEEK, and uniform flow passages minimize mixing. All connections have zero dead volume.

Product information.....PAGES 52-57



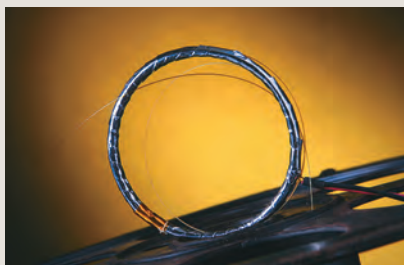
SEE ALSO

The **VICI cap** is the most economical way to helium sparge and deliver LC mobile phases. The insert is manufactured from PTFE with an EPDM O-ring and a polypropylene screw cap.

Product information.....PAGE 61

FAST GC COMPONENTS

For rapid results in the lab or in the field, VICI offers a fast temperature programmer and resistively heated valves, columns, and tubing.



Fast temperature programmer PAGE 204
 Column/fan modules205
 Column bundles.....224
 Nickel-clad FS tubing
 for resistive heating.....68

PULSED DISCHARGE DETECTORS

PDDs utilize a stable, low-powered, pulsed CD discharge in helium as the ionization source.

Product information PAGES 210-215

**THERMAL CONDUCTIVITY DETECTOR**

The newly-updated TCD-3 features full digital control implemented via a user interface or command console.

Product information PAGE 217

VALCO INJECTORS AND SELECTORS

Valco GC valves have been in almost all commercially-produced gas chromatographs from the time that valves originally began to replace other injection methods. New designs are smaller and easier to service, but still exhibit the quality and value that made them the industry standard.

Valves..... PAGES 78-87, 90-91
 Internal sample injectors..... 88-89, 95
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**DIAPHRAGM VALVES**

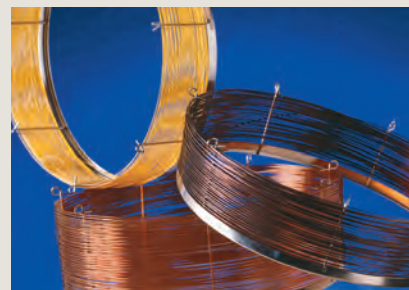
The VICI diaphragm valve is ideal for trouble-free use in applications requiring minimal maintenance and maximum lifetime.

Product information PAGES 122-125

**CAPILLARY COLUMNS**

ValcoBond and ValcoPLOT columns meet the highest standards for resolution, retention characteristics, inertness, bleed, and reproducibility. The ValcoPLOT line includes our unique HayeSep PLOT columns.

ValcoBond® columns PAGES 226-229
 ValcoPLOT® columns..... 230-235

**VALCO FITTINGS**

Valco fittings are compression fittings, in which a ferrule is compressed onto the tube as a nut is tightened. They offer the best stability and reliability for GC applications.

Product information PAGES 8-41

**➔ MORE FOR GC**

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NEW FROM VICI



MULTICHANNEL FAST TEMPERATURE PROGRAMMER

(page 204)

- Up to four independently programmable zones with eight states of rapid heating and cooling
- For use with nickel-wire-wrapped resistively-heated columns
- User friendly interface and control/monitor program on Windows

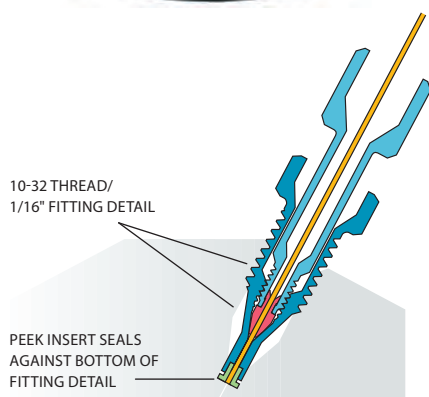
The VICI FTP-200 has up to four channels, with multiple temperature inputs for unparalleled precision heating at ramp rates up to 2,000°C/minute. Independently heat four GC components using up to eight temperature states, eliminating the need for a conventional oven and making portable GC possible at lower cost. With 10X faster data point collection, the FTP-200 will boost your lab efficiency—complex analyses are performed in seconds.



COLUMN/FAN MODULES

(page 205)

- For use with our FTP-200 multichannel temperature programmer
- Includes column, fan, transfer lines, sensors, and connections in one unit
- Wide selection of column types, sizes, and phases
- Choice of high-flow fans for fast cooling
- Resistively-heated transfer lines with a low mass 40 gauge "K" thermocouple



DIRECT-CONNECT FITTING – 360 µm FUSED SILICA TUBING TO 1/16" FITTING DETAIL

- Fingertight to 25,000 psi
- Eliminates dead volume present in competing designs
- For use in valves with port size of 150 microns or smaller

Our new fitting connects a 360 µm FS tube directly into a 1/16" fitting detail, with the bore of the FS tube precisely aligning with the bore of the valve. To ensure zero dead volume, the FS tube end must be prepped with the tools in the kit below. Call for more information.



FUSED SILICA TUBE END PREP KIT

- Produces square cut, polished tube end
- Eliminates dead volume caused by the high point left by typical FS tubing cuts
- Clean flow path—particulates are removed with pressurized food-grade CO₂

Normal methods of cutting fused silica leave a high spot, sabotaging efforts to minimize dead volume with fittings that make up on the face of the tube (like the direct connect fitting above). This kit includes everything needed for a simple lapping procedure which polishes the burred end into a clean, perfectly square-cut surface. Call for more information.



THERMAL CONDUCTIVITY DETECTOR – TCD-3
Detector housing and controller

THERMAL CONDUCTIVITY DETECTOR

(page 217)

- Now with serial control or user-friendly interface and control/monitor program on Windows
- Digital auto-zero feature
- Enhanced thermal stability
- Smaller, compact controller housing

Like our venerable TCD-2, our new TCD-3 is a dual filament unit consisting of the detector housing and separate controller. However, the analog controls of the TCD-2 are replaced with full digital control implemented via a user interface or command console commands. Thermal stability is maintained in the detector to within 0.010°C, producing a stable, low-noise signal.



INTEGRATED NANOPUMP/INJECTOR

WORLD'S FIRST TRUE NANO HPLC

- Operation to 1500 bar (22,000 psi)
- Includes everything but the detector
- 360 micron fittings and tubing throughout for higher efficiency
- Flow rates down to 1 nl/minute for low mobile phase consumption
- Sample volume as low as 5 nl
- No long transfer lines to detector

The integrated nanopump/injector comprises an entire chromatographic system in a small footprint weighing a few pounds. With true nanoscale 360 µm fittings and extremely low flow rates, this system provides split-free injections as close to the detector as possible.

The 360 µm fittings allow use of higher efficiency columns, packed with smaller particles for an orders-of-magnitude increase in theoretical plate height.

The nanopump can be employed in a variety of other single and multipump configurations, isocratic or gradient, with or without integrated injector and selector valves. The gradient version features integral pressure transducers to monitor and adjust for the differing compressibility of the two solvents.

Call us to discuss your requirements.

PUMP SPECIFICATIONS

Maximum pressure	Up to 1500 bar
Maximum capacity*	35 µl
Minimum flow rate	1 nl/min
Flow rate resolution	340 steps/µl

*Maximum capacity of smallest model.
Higher capacity models available.

