Genuine Restek Replacement Parts

Bruker/Varian GCs

More Parts & Accessories
for More GC Systems

Agilent • Bruker/Varian • PerkinElmer • Shimadzu • Thermo Scientific • And More!

RESTEK **Innovative Chromatography Products** www.restek.com

More Parts & Accessories **for More** GC Systems

Agilent • Bruker/Varian • PerkinElmer • Shimadzu • Thermo Scientific • And More!

Dear Colleague,

Restek's GC Accessories Team is devoted to bringing you the highest-quality products, delivered on time every time, to help you maximize data reproducibility and minimize instrument downtime—regardless of which brand of instrument you use. From our exceptionally inert Restek Premium inlet liners on the right to the invaluable Restek Electronic Leak Detector on page 12, Genuine Restek Replacement Parts are designed to meet or even exceed GC manufacturers' already-strict specifications and performance requirements. And of course, as with all Restek products, we also offer exemplary Plus 1 service before and after you order.

Do you have a product suggestion or question about Restek's GC accessories? Feel free to contact one of our team members or your Restek representative today. We look forward to hearing from you!

Sincerely,
Scott Adams
GC Accessories Product Marketing Manager

Scott Grossman
GC Accessories Chemist

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GC Accessories Associate Product Marketing Manager

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GC Product Line Manager

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GC Accessories Product Marketing Manager

e-mail us at gcaccpmm@restek.com

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? How can we help you today? Contact us. . .

customer **service**: **1-814-353-1300** (ext. 3) | **e-mail:** csreps@restek.com

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sales representatives: **1-814-353-1300** | **e-mail:** salesreps@restek.com

3 ways to **order**:

1. **CALL: 1-800-356-1688** (ext. 3) or 1-814-353-1300 (ext. 3)
   Monday–Friday 8:00 a.m.–6:00 p.m. Eastern Time
2. **FAX: 1-814-353-1309** *24 hours a day*
3. **ONLINE: www.restek.com** *24 hours a day*

Outside the U.S.? *Find a distributor at* ***www.restek.com/distributor***

Restek Premium Inlet Liners for Bruker/Varian GCs

Liners for Bruker/Varian 1177 S/SL Injection Ports	ID OD x Length	Similar to Varian part #	ea.	cat.# 5-pk.
Restek Premium 4 mm Split Liner w/Glass Frit	4.0 mm 6.3 mm x 78.5 mm		23330.1	23330.5
Restek Premium 4 mm Precision Liner w/Wool	4.0 mm 6.3 mm x 78.5 mm		23328.1	23328.5
Restek Premium 4 mm Single Taper	4.0 mm 6.5 mm x 78.5 mm	392611927	23331.1	23331.5
Restek Premium 4 mm Single Taper w/Wool	4.0 mm 6.5 mm x 78.5 mm	392611936	23332.1	23332.5

SPI Liners for Bruker/Varian S/SL Injection Ports	ID OD x Length	Similar to Varian/Bruker part #	ea.	cat.# 5-pk.	25-pk.
SPI Liner	0.53 mm 4.6 mm x 54 mm	190010906	23460.1	23460.5	
SPI Liner	0.8 mm 4.6 mm x 54 mm	190010907	23461.1	23461.5	23461.25

Liners for Bruker/Varian 1078/1079 Injection Ports	ID OD x Length	Similar to Varian part #	ea.	cat.# 5-pk.	25-pk.
Restek Premium 3.4 mm Split–No Frit	3.4 mm 5.0 mm x 54 mm	392611945	23329.1	23329.5	23329.25
Split w/Glass Frit	3.4 mm 5.0 mm X 54 mm	392611946	23462.1	23462.5	
Splitless	2.0 mm 5.0 mm X 54 mm	392611947	23463.1	23463.5	
SPME Liner	0.75 mm 5.0 mm X 54 mm	392611948	23465.1	23465.5	
Split Precision Liner w/Wool	3.4 mm 5.0 mm X 54 mm		23466.1	23466.5	

Patent pending

Intermediate Polarity (IP)–Deactivation

- Phenylmethyl-deactivated surface for better recovery of polar and nonpolar compounds.
- Compatible with most common solvents.
- Our standard deactivation—every clear Restek liner is IP deactivated unless otherwise requested.

Siltek®-Deactivation

For Siltek®-deactivated inlet liners, add the corresponding suffix number to the liner catalog number.

Siltek®-Deactivated Inlet Liners

- Maximizes the inertness of the sample pathway with proprietary deactivation.
- Minimizes breakdown.
- Low bleed.
- Thermally stable.
- "Clean and green"—manufactured without the use of harmful organic solvents.
- Ideal for chlorinated pesticides.

The patented Siltek® deactivation process for liners produces a highly inert glass surface that features high temperature stability, extreme durability, and low bleed. Try Siltek® liners, guard columns, and connectors for better recovery of sample analytes.

qty.	Siltek Liner		Siltek Liner w/Wool		Siltek Liner w/CarboFrit	
each	-214.1	addl. cost	-213.1	addl. cost	-216.1	addl. cost
5-pk.	-214.5	addl. cost	-213.5	addl. cost	-216.5	addl. cost
25-pk.	-214.25	addl. cost	-213.25	addl. cost	-216.25	addl. cost

Base-Deactivation

For base-deactivated inlet liners, add the corresponding suffix number to the liner catalog number.

qty.	Base-Deactivated Liner		Base-Deactivated Liner w/ Base-Deactivated Wool		Base-Deactivated Liner w/CarboFrit	
each	-210.1	addl. cost	-211.1	addl. cost	-229.1	addl. cost
5-pk.	-210.5	addl. cost	-211.5	addl. cost	-229.5	addl. cost
25-pk.	-210.25	addl. cost	-211.25	addl. cost	-229.25	addl. cost

Don't Forget Routine Maintenance

Inlet liners are the key to good injection port maintenance; changing them regularly helps prevent problems such as:

- Sample degradation resulting in poor response.
- Sample adsorption resulting in poor peak shape (tailing).
- Sample discrimination.
- Irreproducibility.
- Extraneous peaks from contamination or cored septum particles.

Finally, be sure to condition your liners at 20 °C higher than the operating inlet temperature for a minimum of 10 minutes to prepare them for use. By following these basic tips, you can avoid inlet problems and improve chromatographic performance.

Splitless Liners for Bruker/Varian 1075/1077 S/SL Injection Ports	Benefits/Uses:	ID* OD x Length	Similar to Bruker/Varian part #	ea.	cat.# 5-pk.	25-pk.
2 mm Splitless	trace samples <2 µL	2.0 mm 6.3 mm x 74 mm	190010905	20721	20722	20723
4 mm Splitless	trace samples >2 µL	4.0 mm 6.3 mm x 74 mm		20904	20905	20906

Split Liners for Bruker/Varian 1075/1077 S/SL Injection Ports	Benefits/Uses:	ID* OD x Length	Similar to Bruker/Varian part #	ea.	cat.# 5-pk.	25-pk.
1 mm Split	purge & trap inlet splitting or samples <1 µL	1.0 mm 6.3 mm x 72 mm		20970	20971	
Splitter w/Deact. Wool	universal, use with rapid autosamplers	4.0 mm 6.3 mm x 72 mm	190010901	20792	20793	20794
Cup Splitter	high & low MW compounds	4.0 mm 6.3 mm x 72 mm		20724	20725	
Cyclosplitter	dirty samples, many injections before cleaning required	4.0 mm 6.3 mm x 72 mm		20727	20728	
Frit Splitter	dirty samples, non-active compounds	4.0 mm 6.3 mm x 72 mm	190010903	20715	20716	20717
Split Precision Liner w/Deact. Wool	dirty samples, active samples	4.0 mm 6.3 mm x 72 mm		21030	21031	

DI Liners for Bruker/Varian 1075/1077 S/SL Injection Ports (0.25/0.32/0.53mm ID)	Benefits/Uses:	ID* OD x Length	ea.	cat.# 5-pk.
Uniliner	trace, active samples, high recovery & linearity	4.0 mm 6.3 mm x 72 mm	20345	20346

SPME Liners for Bruker/Varian 1075/1077 S/SL Injection Ports	Benefits/Uses:	ID* OD x Length	ea.	cat.# 5-pk.
SPME Liner	ideal for low-volume SPME applications	0.75 mm 6.3 mm x 74 mm	21112	21113

*Nominal ID at syringe needle expulsion point.

All liners are shipped with intermediate polarity (IP) deactivation unless otherwise requested. *See page 6.*

SPI Liners for Bruker/Varian S/SL Injection Ports	Benefits/Uses:	ID* OD x Length	Similar to Bruker/Varian part #	ea.	cat.# 5-pk.	25-pk.
0.5 mm SPI	high linearity for 0.25 & 0.32 mm ID columns	0.53 mm 4.6 mm x 54 mm	190010906	20775	20776	20777
0.8 mm SPI	high linearity for 0.53 mm ID columns	0.80 mm 4.6 mm x 54 mm	190010907	20778	20779	20780
SPI with Buffer	dirty samples >1 µL, fits 0.25, 0.32 & 0.53 mm ID columns	2.4 mm 4.6 mm x 54 mm	190010908	20850	20851	20852

Liners for Bruker/Varian 1177 S/SL Injection Ports	Benefits/Uses:	ID* OD x Length	Similar to Bruker/Varian part #	ea.	cat.# 5-pk.
4 mm Split w/Glass Frit	universal	4.0 mm 6.3 mm x 78.5 mm		21045	21046
4 mm Split w/Deact. Wool	universal, use with Agilent 7673 autosampler	4.0 mm 6.3 mm x 78.5 mm	392611934		21079
4 mm Split Precision Liner w/Deact. Wool	dirty samples, trace samples	4.0 mm 6.3 mm x 78.5 mm		20759	20762
Low Pressure Drop Precision Liner w/Deact. Wool	trace samples <2 µL, dirty samples	2.0 mm 6.3 mm x 78.5 mm		22421	22422
2 mm Splitless w/Deact. Wool	trace samples <2 µL	2.0 mm 6.5 mm x 78.5 mm	392599903		21077
Single Taper Splitless (4 mm)	trace samples <2 µL	4.0 mm 6.5 mm x 78.5 mm	392611927	21896	21897
Single Taper Splitless (4 mm) w/Deact. Wool	trace samples <2 µL	4.0 mm 6.5 mm x 78.5 mm	392611928	21896-200.1	21897-200.5
Double Taper Splitless (4 mm)	trace, active samples <2 µL	4.0 mm 6.5 mm x 78.5 mm	392611929	21891	21892

DI Liners for Bruker/Varian 1177 S/SL Injection Ports (For 0.25/0.32/0.53 mm ID Columns)	Benefits/Uses	ID* OD x Length	ea.	cat.# 5-pk.
Drilled Uniliner (hole near top)	trace, active samples, high recovery & linearity	4.0 mm 6.3 mm x 78.5 mm	21470	21471
Drilled Uniliner (hole near bottom)	trace, active samples, high recovery & linearity	4.0 mm 6.3 mm x 78.5 mm	21468	21469

*Nominal ID at syringe needle expulsion point.

All liners are shipped with intermediate polarity (IP) deactivation unless otherwise requested. *See page 6.*

Restek can provide any of the liners shown deactivated by one of three processes, including highly inert Siltek® coating. Ordering information is on **page 6**.

Packing materials, including wool and CarboFrit® inserts, can be provided in any liner—subject to the liner ID and geometry. Ordering information is on **page 10**.

Siltek® Treated Liners

Liners for Bruker/Varian 1078/1079 Injection Ports	Benefits/Uses:	ID* OD x Length	Similar to Bruker/Varian part #	ea.	cat.# 5-pk.	25-pk.
1078/1079 Split w/Glass Frit	dirty samples, non-active compounds	3.4 mm 5.0 mm x 54 mm	392611946	21708	21709	
1078/1079 Splitless	trace samples <2 µL	2.0 mm 5.0 mm x 54 mm	392611947	21711	21712	
Open 0.5 mm ID	trace samples <1 µL	0.5 mm 5.0 mm x 54 mm	392611949	20992	20993	
1078/1079 Split–No Frit	active samples	3.4 mm 5.0 mm x 54 mm	392611945	20859	20901	20909
Open 0.75 mm ID	trace, low volume samples	0.75 mm 5.0 mm x 54 mm	392611948	21714	21715	21716
1078/1079 Split Precision Liner w/Deact. Wool	dirty samples, trace samples	3.4 mm 5.0 mm x 54 mm		21024	21025	

DI Liners for Bruker/Varian 1078/1079 Injection Ports (For 0.25/0.32/0.53 mm ID Columns)	Benefits/Uses	ID* OD x Length	ea.	cat.# 5-pk.
Drilled Uniliner (hole near top)	trace, active samples, high recovery & linearity	3.5 mm 5.0 mm x 54 mm	24974	24975

*Nominal ID at syringe needle expulsion point.

All liners are shipped with intermediate polarity (IP) deactivation unless otherwise requested. *See page 6.*

Deactivated Wool

24324

- More inert than our traditional fused silica wool.
- Use to vaporize a sample in a liner prior to introduction into a capillary column.

Description	qty.	cat.#
Deactivated Wool	10 grams	24324

Base-Deactivated Wool

20999

Ideal for amines and other basic compounds.

Description	qty.	cat.#
Base-Deactivated Wool	10 grams	20999

Prepacked Inlet Liners

Let Restek do the work! Just add the appropriate suffix to the liner catalog number.

qty.	Wool	CarboFrit†	
ea.	-200.1	-209.1	addl. cost
5-pk.	-200.5	-209.5	addl. cost
25-pk.	-200.25	-209.25	addl. cost

†CarboFrit® inserts require a neck greater than 2 mm.

CarboFrit® Inlet Liner Packing Material

- Highly inert.
- Extends analytical column lifetime.
- Enhances reproducibility of split and splitless injections.
- Uniform pore size and consistent packing density guarantee consistent flow through the liner.
- Easy to install in any liner with an ID > 3.5 mm when using puller-inserter tool listed below.*

Add the corresponding suffix number to the liner catalog number.

qty.	suffix	
ea.	-209.1	addl. cost
5-pk.	-209.5	addl. cost
25-pk.	-209.25	addl. cost

*Liners with IDs less than 3.5 mm are difficult to pack. We will pack them on a custom basis (minimum neck ID of 2 mm required).

Replacement CarboFrit® Inserts

Description	qty.	cat. #
Frits for liner ID ≤ 4 mm	10-pk.	20295
Frits for liner ID > 4 mm	10-pk.	20294

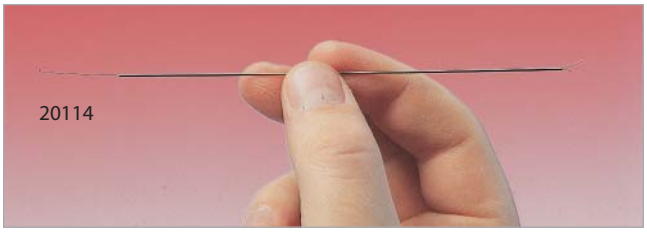
CarboFrit® Puller/Inserter Tool

- Hook end for removing CarboFrit® inserts.
- Bent end (90°) for inserting CarboFrit® inserts.

Description	qty.	cat.#
CarboFrit Puller/Inserter Tool	ea.	21642

tech tip

Use of Packings With an Autosampler
We recommend using an injection port liner with wool or CarboFrit® packing when making injections with an autosampler. If there is no packing material in the liner, the solvent droplets act like water on a hot iron: they bounce around until vaporized (Leidenfrost phenomenon). Because autosamplers make rapid injections, samples can be incompletely vaporized, leading to nonreproducible peak response and tailing. You can prevent this by using wool or CarboFrit® packing material in the splitless liner to provide a surface for the solvent droplets to "sit" on until the heat from the injector vaporizes them.



Mini Wool Puller/Inserter

Insert and remove wool plugs easily. Order a spare pack so you'll always have one available.

Description	qty.	cat.#
Mini Wool Puller/Inserter	2-pk.	20114

Eliminates user variation!

Inlet Liner Packing Tool

- Position wool reproducibly every time.
- Accurate to a specific, measured depth.
- Can be used with all manufacturers' liners.

Loosen the nut on the side of the tool and adjust the gauge to the manufacturer's recommended depth.

Place a plug of loosely bound wool at the top of the inlet liner.

Insert the liner packing tool into the liner until the tool bottoms out. Remove the tool. The wool is now positioned correctly in the liner and the liner is ready for use.

Description	qty.	cat.#
Inlet Liner Packing Tool	ea.	20339

Recommended for inlet liners with an ID ≥ 2 mm.

No more burned fingers!

Inlet Liner Removal Tool

- Easily remove liner from injector—no more burned fingers.
- Made from high-temperature silicone.
- Won't chip or crack the liner.

Description	qty.	cat.#
Inlet Liner Removal Tool	3-pk.	20181

The Claw and The Claw Holder Kit

- Easily removes hot liners from injection ports.
- 4 mL vials (not included) can be replaced when dirty.

Never again will you burn your fingers removing a hot injection port liner. The Claw safely and cleanly removes liners, O-rings, or other small objects from the injection port. You can then place the hot objects in a clean 4 mL vial situated in The Claw holder until ready for reuse.

Description	qty.	cat. #
The Claw	ea.	26261
The Claw Holder Kit (includes The Claw and holder)	kit	26262
WISP 48 Snap Seal Vial	100-pk.	24658

tech tip

Injector Maintenance

Approximately ninety percent of "bad" chromatography is traceable to problems in the injection port. These problems include contaminated carrier gas, incorrect injector flows, active or dirty sites on inlet seals and liners, improper use of wool, leaks, backflash, discrimination, incorrect injector temperature, poor column installation, and use of the wrong injection technique. To minimize injection port problems, set up a routine maintenance schedule and be sure to investigate the injector first when troubleshooting.

22839

restek recommends

When your Leak Detector batteries need to be replaced, send the unit to us for a routine maintenance review to ensure continued sensitivity and reliability. We will replace not only the batteries, but also the probe and internal/external tubing. We will also recertify your unit. Contact Customer Service to send in your Leak Detector for maintenance (cat. #22839-R).

Carrying/storage case included with purchase of unit.

22658

Verify hard-to-reach leaks using the small probe adaptor (sold separately).

Restek Electronic Leak Detector

Don't let a small leak turn into a costly repair—protect your instrument and analytical column by using a Restek Leak Detector.

Features & benefits include:

- Optimized sample flow path.
- Ergonomic, handheld design.
- Rugged side grips for added durability.
- Handy probe storage for cleanliness and convenience.
- Long-lasting battery; up to 6 hours of continuous use.
- Automatic shutoff.
- A convenient carrying and storage case.
- Easy-to-clean probe assembly.
- A universal charger set (U.S., European, UK, and Australian plugs included).

Backed by a 1-year warranty, the Restek Leak Detector is the industry standard for performance and affordability in handheld leak detectors.

Leak Detector Facts

Detectable Gases:	Helium, nitrogen, argon, carbon dioxide, hydrogen
Battery:	Rechargeable Ni-MH internal battery pack (6 hours normal operation)
Operating Temperature Range:	32–120 °F (0–48 °C)
Humidity Range:	0–97%
Warranty:	One year
Certifications:	CE, Ex, Japan
Compliance:	WEEE, RoHS

Limits of Detection

These gases can be detected with the Restek Electronic Leak Detector at the following leak rates:

Minimum Detectable Gas Limits and Indicating LED Color:

- Helium, 1.0×10^{-5}, red LED
- Hydrogen*, 1.0×10^{-5}, red LED
- Nitrogen, 1.4×10^{-3}, yellow LED
- Argon, 1.0×10^{-4}, yellow LED
- Carbon Dioxide, 1.0×10^{-4}, yellow LED

Gas detection limits measured in atm cc/sec

Description	qty.	cat.#
Leak Detector With Hard-Sided Carrying Case and Universal Charger Set (U.S., UK, European, Australian)	ea.	22839
Leak Detector Routine Maintenance Review	ea.	22839-R
Soft-Side Storage Case	ea.	22657
Small Probe Adaptor	ea.	22658

Avoid using liquid leak detectors on a GC! Liquids can be drawn into the system.

*Caution: The Restek Electronic Leak Detector is designed to detect trace amounts of hydrogen in a noncombustible environment. It is NOT designed for determining leaks in a combustible environment. A combustible gas detector should be used for determining combustible gas leaks under any condition. When using it to detect hydrogen, the Restek Electronic Leak Detector may only be used for determining trace amounts in a GC environment.

Checking for leaks maintains the integrity of a GC system.

Restek ProFLOW 6000 Electronic Flowmeter

State-of-the-art features include:

- Measures volumetric flow for gases across a range of 0.5–500 mL/min.
- NIST traceable calibration.
- Ex rating (electrical apparatus for explosive gas atmospheres) for hydrogen and related gas types.
- Accuracy of ± 2% of flow reading or ± 0.2 mL/min, whichever is greater.
- Over-range warning indicator.
- Auto shutoff feature.
- Use as a benchtop or handheld unit.
- Ergonomic design and side grips for comfort.
- Measures most gas types.*
- Convenient carrying/storage case included.
- Uses 2-AA batteries (included).
- Data output via USB port.
- 1-year warranty.
- Recalibration service available.

Flowmeters that can measure flammable gases are becoming mandatory, due to the increased use of hydrogen in chromatography. With its Ex rating, the Restek ProFLOW 6000 Flowmeter is designed specifically with explosive and flammable gases in mind.

The Restek ProFLOW 6000 is the only flowmeter you need for any type of chromatography gas measurement because of its wide range of capabilities. The ProFLOW 6000 is an electronic device capable of measuring volumetric flow for most gases. Real-time measurements can be made for various types of flow paths, including continually changing gas types. This portable unit is designed for easy handheld use, and the stand adds benchtop convenience.

Flowmeter Facts:

Type of Flowmeter:	Volumetric
Battery:	2-AA
Operating Temp. Range:	32–120 °F (0–48 °C)
Warranty:	One year
Certifications:	CE, Ex
Compliance:	WEEE, RoHS

Description	qty.	cat.#
Restek ProFLOW 6000 Electronic Flowmeter With Hard-Sided Carrying Case	ea.	22656
ProFLOW 6000 Recalibration Service	ea.	22656-R
Soft-Side Storage Case	ea.	22657

*The flowmeter is designed to measure clean, dry, non-corrosive gases.

22656

restek recommends

Recalibrate your ProFLOW 6000 Flowmeter once every year. Prolonged failure to recalibrate your unit may result in increased error. To always get the most accurate flow measurements, contact Customer Service to send in your flowmeter for recalibration (cat.# 22656-R).

Inlet Liner Seals
for Bruker/Varian 1177 Injectors

Meets or exceeds original manufacturer's performance.

Description	Max. temp.	Similar to Bruker/Varian part #	10-pk. cat.#	50-pk. cat.#
6.35 mm ID Graphite O-Rings for split liners	450 °C	—	20296	20297
6.5 mm ID Graphite O-Rings for splitless liners	450 °C	39-26119-40	20298	20299

Liner Seals
for Bruker/Varian 1078/1079 GCs

Description	Max. temp.	Similar to Bruker/Varian part #	qty.	cat.#
5 mm Graphite Liner Seals for Bruker/Varian 1078/1079 GCs	450 °C	392611919, 392534201	10-pk.	22683

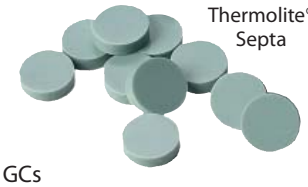
Capillary Nuts for Bruker/Varian GCs

20881

Choose brass or stainless steel construction.

Description	Similar to Bruker/Varian part #	qty.	cat.#
Brass Capillary Nuts	03-949551-00	2-pk.	20881
Stainless Steel Capillary Nuts	03-949551-00	2-pk.	20882

Premium Non-Stick BTO® Septa



Thermolite® Septa

Septa for Bruker/Varian GCs

- Precision molding ensures consistent, accurate fit.
- Preconditioned and ready to use.
- Do not adhere to hot metal surfaces.
- Packaged in precleaned glass jars.

Septum Diameter	25-pk.	50-pk.	100-pk.
Thermolite Septa (usable to 340°C inlet temp.)			
9 mm	27132	27133	27134
9.5 mm (3/8")	27135	27136	27137
10 mm	27138	27139	27140
11 mm (7/16")	27141	27142	27143
Premium Non-stick BTO Septa (usable to 400°C inlet temp.)			
9 mm CenterGuide	—	27084	27085
9.5 mm (3/8")	—	27086	27087
10 mm	—	27088	27089
11 mm (7/16") CenterGuide	—	27090	27091

*Minimum recommended operating temperature for Premium Non-Stick BTO septa is 250 °C.

Note: Due to differences in inlet design, the actual septum temperature for a given inlet setpoint can vary by manufacturer.

HANDY septum size chart

Injector Type	Septum Diameter (mm)
Packed Column	9.5/10
1078/1079	10/11
1177	9
1075/1077	11

Merlin Microseal Septa
for Bruker/Varian GCs

22779

22780

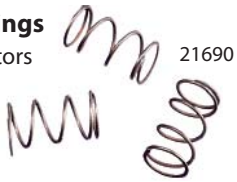
400 °C max injection port temperature.

The advantages of the Merlin Microseal Septum include elimination of septum coring, longer life, and consistently low needle-insertion force. The Microseal septum incorporates two separate sealing mechanisms. These sliding seals eliminate septum coring and the resulting accumulation of septum crumbs in the injection port liner.

The Microseal septum uses a 23-gauge (0.63 mm, 0.025") needle or probe with a blunt, truncated conical tip. Since the syringe plunger end details are determined by manual or autosampler compatibility, often a removable needle syringe is an effective way to match both of these requirements. Installation is simple, requiring no modification of the injection port.

Description	Merlin#	cat.#
General Purpose Kit for Bruker/Varian 1078/1079 GCs Includes: Nut, Adapter, O-Ring, & 1 General-Purpose (#410) Microseal	21-11	22779
General Purpose Kit for Bruker/Varian 1177 GCs Includes Nut, Adapter, O-Ring, & 1 General-Purpose (#410) Microseal	22-11	22780
Replacement Microseals		
General-Purpose Microseal (most applications, 3 to 100 psi)	410	22812
Low-Pressure Microseal (1 to 45 psi)	310	22815
Microseal for SPME Applications (3 to 100 psi)	21-01	22782

Siltek® Treated Inlet Support Springs
for Bruker/Varian 1075/1077 Split Injectors



21690

Siltek® treated to eliminate sample adsorption.

Description	Similar to Bruker/Varian part #	qty.	cat.#
Siltek Treated Inlet Support Springs for Bruker/Varian 1075/1077 Split Injectors	03-949786-00	3-pk.	21690

22335

Capillary Installation Gauge
for Bruker/Varian GCs for use with 1/16" ferrules

- Seats ferrule* onto column for consistent installations.
- Prevents crushed column ends.
- Made from high-quality stainless steel.

Description	qty.	cat.#
Capillary Installation Gauge for Bruker/Varian GCs for use with 1/16" ferrules	ea.	22335

*For use with graphite ferrules only.

restek **innovation**!

Kit installs easily, without special tools or plumbing.

EZ No-Vent® GC Column-Mass Spectrometer Connector for Bruker/Varian Saturn 2000 Series Mass Spectrometers

- Change GC-MS columns in minutes without venting—100 µm transfer line maintains vacuum and prevents venting.
- Easy to install and maintain—no special tools or plumbing required.
- Gold-plated body for inertness.
- High-temperature polyimide ferrules eliminate leaks at the problematic transfer line fitting.
- Lower cost than other "no-vent" fittings.

We designed the EZ No-Vent® GC column-mass spectrometer connector to be simple and easy to use. A critical orifice in the EZ No-Vent® connector minimizes the amount of oxygen allowed into the MS source, eliminating the need for purge gas as is required for other manufacturers' vent systems. This enables you to skip the lengthy vent and pump-down cycle otherwise required when you make a column change, saving nearly a day of downtime with each column change. The EZ No-Vent® connector easily attaches to the MS source without special tools or extra plumbing.

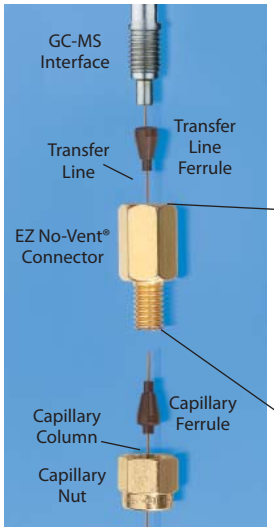


Figure 1: The EZ No-Vent® connector incorporates a laser-machined orifice for optimal flow through the fitting. Coupled with the 100 µm ID transfer line, it minimizes the amount of oxygen entering the MS, which eliminates the need for purge gases.

Change columns in minutes—without venting!

Description	qty.	cat.#
EZ No-Vent Connector Kit for Bruker/Varian Saturn 2000 Series MSs Includes: EZ No-Vent connector, two 0.4 mm ID adaptor ferrules for capillary column, two 0.4 mm ID ferrules for transfer line, 100 µm deactivated transfer line (3 ft.), column plug, column nut	kit	22423
Replacement ferrules for connecting capillary column to EZ No-Vent connector:		
0.4 mm (Polyimide)	2-pk.	21015
0.5 mm (Polyimide)	2-pk.	21016
Replacement ferrules for connecting transfer line to EZ No-Vent connector: 0.4 mm ID	2-pk.	21043
Replacement 100 µm deactivated transfer line	3 ft.	21018
Replacement EZ No-Vent column nut	20-pk.	23100
Replacement EZ No-Vent plug	5-pk.	23112
Open-End Wrenches, 1/4" x 5/16"	2-pk.	20110

GC-MS Cleaning Kit

The Restek GC-MS Cleaning Kit (cat.#s 27194, 27195) includes:

- lint-free nylon gloves (small-2 pair)
- lint-free nylon gloves (large-2 pair)
- lint-free cotton cloth, 9 x 9 (10-pk.)
- micro mesh 4 x 6 sheet (4-pk.)
- aluminum oxide (1-kg jar)
- cotton tip applicators
- tweezers, large
- tweezers, small
- septum puller
- Dremel® tool, battery-operated (optional, 27194)
- tool kit bag

Reorder Kit (cat.# 27196) includes:

- lint-free nylon gloves (small-2 pair)
- lint-free nylon gloves (large-2 pair)
- lint-free cotton cloth, 9 x 9 (10-pk.)
- micro mesh 4 x 6 sheet (4-pk.)

Poor sensitivity, loss of sensitivity at high masses, or high multiplier gain during an auto tune are all indicators that your mass spectrometer source may need to be cleaned. Restek has assembled all of the necessary components for cleaning and polishing your ion source.

Description	qty.	cat.#
Mass Spec Cleaning Kit with Dremel Tool	kit	27194
Mass Spec Cleaning Kit without Dremel Tool	kit	27195
Mass Spec Cleaning Kit Replacement Parts Kit Includes: cloths, micro mesh sheets, small and large gloves	kit	27196

Septum Puller

- Use hooked end for removing septa and O-rings; pointed end works well for removing stuck ferrules or debris.
- Keep several on hand in your laboratory—can be used in many different ways.

Remove a septum without damaging an expensive weldment.

Dislodge a stuck ferrule quickly and easily—without scoring the fitting.

Description	qty.	cat.#
Septum Puller	ea.	20117

Everything you need in one complete kit!

22184

Make Life Easier (MLE) Capillary Tool Kit

for Bruker/Varian GCs

Includes:

- capillary installation gauge for Bruker/Varian GCs
- 1/8", 3/16", and 1/4" nylon brushes
- 1/4", 3/8", and 3/16" stainless steel wire tube brushes
- stainless steel surface brush
- 6 stainless steel jet reamers (0.25–0.65 mm OD)
- 1/4" x 5/16" open end wrench
- 3/8" x 7/16" open end wrench
- 7/16" x 1/2" open end wrench
- 1/2" x 9/16" open end wrench
- rubber-tipped slide-lock tweezers
- scoring wafers
- inlet liner removal tool
- septum puller
- mini wool puller/inserter tool
- 4-inch tapered needle file
- swivel head flashlight
- mini hand drill set
- 15 cm compact steel ruler
- pocket magnifier
- high-temperature string (1 meter)
- pipe cleaner (12 inch)
- cotton tip swabs (pk. of 25)

Description	qty.	cat.#
MLE Capillary Tool Kit	kit	22184

Rethreading Tool

for Bruker/Varian Injection Ports

- Repair worn or damaged threads.
- Multiple uses (injection ports, fittings, etc.).
- Built-in guide to prevent cross-threading.

Make your injection port threads like new!

Screw the tool completely onto the injection port in a clockwise direction. Unscrew the tool and inspect the threads, repeat as necessary. When done, wipe threads with methanol to remove any debris.

Description	qty.	cat.#
Rethreading Tool for 7/16" compression fitting (Bruker/Varian injection ports)	ea.	23019
Rethreading Tool for 1/4" Bruker/Varian-style capillary column fittings	ea.	21893

Scoring Wafer with Handle

- Ceramic wafer is straight-edged for cutting fused silica tubing cleanly.
- Unique, ergonomic handle is made of soft, comfortable rubber.

23015

Hold tubing firmly in one hand, allowing about two inches to extend freely. Hold the scoring wafer at a 45° angle to the tubing. Exert just enough pressure to put a slight arc in the tubing. Pull perpendicularly across the tubing.

The tubing should fall off on its own, or it should easily break at the score with a slight tap of the wafer.

Check the cut against the white of the scoring wafer. Look for a clean, square cut.

Description	qty.	cat.#
Scoring Wafer with Handle	2-pk.	23015

Ceramic Scoring Wafer

- Four straight scoring edges for cutting fused silica tubing and four serrated edges for cutting MXT® metal capillary columns.

20116

Exert just enough pressure to put a slight arc in the tubing. Pull perpendicularly across the tubing. The tubing should fall off or break with a slight tap of the wafer.

Check the cut against the white of the scoring wafer. Look for a clean, square cut.

Description	qty.	cat.#
Ceramic Scoring Wafers	5-pk.	20116

Restek Super-Clean Gas Filters

- High-purity output ensures 99.9999% pure gas (at max. flow of 2 L/min).
- "Quick connect" fittings for easy, leak-tight cartridge changes.
- Glass inside to prevent diffusion; polycarbonate housing outside for safety.
- All traps measure 10 5/8" x 1 3/4" (27 x 4.4 cm).
- Each base plate unit measures 4" x 4" x 1 7/8" (10.2 x 10.2 x 4.8 cm).

22022

Table I: Each Super-Clean gas filter provides high-purity outlet gas.

Type of Filter	Outlet Gas Quality (%)	Maximum Pressure/ Maximum Flow Rates	Use for:	Indicator Color Change	Capacity H_2O (g)	Capacity O_2 (mL)	Capacity Hydrocarbons (g)	Estimated Lifetime (years)
Moisture cat.# 22028	>99.9999	11 bar 159 psi/ 7 L/min	Inert carrier gas Air Hydrogen	Yellow/orange to clear	7.2	—	—	>2
Oxygen cat.# 22029	>99.9999	11 bar 159 psi/ 7 L/min	Inert carrier gas	Green to grey	NA	1,000	—	>2
Hydrocarbons cat.# 22030	>99.9999	11 bar 159 psi/ 7 L/min	Inert carrier gas Air Hydrogen	No indicator	NA	—	12[3]	>2
Fuel Gas[1] cat.# 22022	>99.9999	11 bar 159 psi/ 7 L/min	Inert carrier gas Air Hydrogen	Yellow/orange to clear	3.5	—	24[3]	>1.5
Triple[2] cat.# 22020	>99.9999	11 bar 159 psi/ 7 L/min	Inert carrier gas	Yellow/orange to clear Green to grey	1.8	500	4[3]	>1
Helium Specific[2] cat.# 21982	>99.9999	11 bar 159 psi/ 7 L/min	Helium	Yellow/orange to clear Green to grey	1.8	500	—	>1

[1] Removes hydrocarbons and moisture.
[2] Removes hydrocarbons, moisture, and oxygen.
[3] As *n*-butane.

did you **know**?

All Restek Super-Clean gas filter cartridges (except hydrocarbon filter cat.# 22030) feature easy-to-read indicators. The indicator code is shown on every trap, so there is no confusion about when to replace it.

22020

21982

base plate

Restek Super-Clean Gas Filter Kits and Replacements

Description	qty.	cat.#
Carrier Gas Cleaning Kit Includes: mounting base plate, 1/8" inlet/outlet fittings, and oxygen/moisture/hydrocarbon triple gas filter	kit	22019
Fuel Gas Purification Kit Includes: mounting base plate, 1/8" inlet/outlet fittings, and hydrocarbon/moisture fuel gas filter	kit	22021
Ultra-High Capacity Hydrocarbon Filter	ea.	22030
Ultra-High Capacity Moisture Filter	ea.	22028
Ultra-High Capacity Oxygen Filter	ea.	22029
Replacement Triple Gas Filter (removes oxygen, moisture, and hydrocarbons)	ea.	22020
Replacement Fuel Gas Filter (removes moisture and hydrocarbons)	ea.	22022
Helium-Specific Carrier Gas Cleaning Kit Includes: mounting base plate, 1/8" inlet/outlet fittings, and oxygen/moisture/hydrocarbon helium-specific filter	kit	21983
Replacement Helium-Specific Gas Filter (removes oxygen, moisture, and hydrocarbons)	ea.	21982
Gas Filter Bundle Kit Includes: one triple gas filter (cat.# 22020) and two fuel gas filters (cat.# 22022)	kit	22031

tech tip

Oxygen and Moisture Traps

Restek highly recommends oxygen and moisture traps for make-up gas when operating sensitive detectors such as electron capture detectors (ECD). The hydrogen reaction gas for sensitive electrolytic conductivity detectors (ELCD) also requires a hydrocarbon trap to remove trace impurities.

tech tip

Choosing the Right Ferrule
Graphite ferrules are soft, easy to seal, stable to 450 °C, and contain no binders that might off-gas. Vespel®/graphite ferrules work better for vacuum and high-pressure applications (e.g., GC-MS) because they will not fragment or allow oxygen to permeate into the system, whereas graphite ferrules will. Because Vespel® and graphite ferrules are made from a harder material, they might require retightening after several temperature cycles. Alumaseal® ferrules are ideal for GC-MS. They will not crack or fragment and require no retightening after temperature cycles.

Vespel® Ferrules
- 100% high-temperature polyimide.
- Stable to 350 °C.
- Durable, leak-tight.

Vespel® ferrules

Graphite Ferrules
- Preconditioned to eliminate out-gassing.
- High-purity, high-density graphite.
- Smoother surface and cleaner edges than conventional graphite ferrules.
- Contain no binders that can off-gas or adsorb analytes.
- Stable to 450 °C.

Vespel®/Graphite Ferrules
- 60%/40% Vespel®/graphite blend offers the best combination of sealing and ease of workability.
- Seal with minimal torque, reusable, and preferred for vacuum and high-pressure uses.
- Stable to 400 °C.
- Recommended for mass spec transfer lines.

graphite ferrules

Capillary Ferrules for 1/16-Inch Compression-Type Fittings
Available in Vespel®, graphite, or Vespel®/graphite material.

Ferrule ID	Fits Column ID	qty.	Vespel	Graphite	Vespel/Graphite
0.3 mm		10-pk.	22213	20233	20275
0.4 mm	0.10/0.15/0.18/0.25/0.28 mm	10-pk.	22214	20200	20211
0.4 mm	0.10/0.15/0.18/0.25/0.28 mm	50-pk.	—	20227	20229
0.5 mm	0.32 mm	10-pk.	22215	20201	20212
0.5 mm	0.32 mm	50-pk.	—	20228	20231
0.6 mm	0.28 mm**	10-pk.	—	—	20232
0.8 mm	0.45/0.53 mm	10-pk.	22216	20202	20213
0.8 mm	0.45/0.53 mm	50-pk.	—	20224	20230
1.0 mm	0.75 mm*	10-pk.	22217	21058	24912
1.2 mm	0.75 mm*	10-pk.	22218	—	—
1.6 mm	1.00 mm*	10-pk.	—	21060	—

*For micropacked columns.
**For 0.28 mm MXT columns.

graphite ferrules

Encapsulated Ferrules for 1/16-Inch Compression Fittings
- Reusable—will not deform and stick in fittings.
- Less torque needed to seal ferrule.
- Restek's unique blend of graphite minimizes fragmentation and out-gassing.

Ferrule ID	Fits Column ID	qty.	cat.#
0.4 mm	0.25 mm	10-pk.	21036
0.5 mm	0.32 mm	10-pk.	21037
0.8 mm	0.53 mm	10-pk.	21038

graphite ferrules

Standard Ferrules for 1/16-, 1/8-, and 1/4-Inch Fittings
Available in Vespel®, graphite, or Vespel®/graphite material.

Fitting Size	Ferrule ID	qty.	Vespel	Graphite	Vespel/Graphite
1/4"	3/16"	5-pk.	—	—	20258
1/16"	1/16"	10-pk.	22210	20207	20218
1/8"	1/8"	10-pk.	22211	20208	20219
1/8"	reduce to 1/16"	10-pk.	—	20209	20220
1/4"	1/4"	10-pk.	22212	20210	20221
1/4"	reduce to 1/8"	10-pk.	22219	20225	20222
1/4"	reduce to 1/16"	10-pk.	—	20226	20223

Two-Hole Ferrules for 1/8-Inch and 1/16-Inch Compression-Type Fittings

Fitting Size	Ferrule ID	Fits Column ID	qty.	Vespel/Graphite
1/16"	0.4 mm	0.25/0.28 mm	5-pk.	24848
1/16"	0.5 mm	0.32 mm	5-pk.	24849
1/8"	0.8 mm	0.45/0.53 mm	5-pk.	20246

Reducing Ferrules

Available in graphite or Vespel®/graphite material.

Fitting Size	Ferrule ID	Fits Column ID	qty.	Graphite	Vespel/Graphite
1/8"	0.4 mm	0.25 mm	5-pk.	20205	20254
1/8"	0.5 mm	0.32 mm	5-pk.	20205	20255
1/8"	0.8 mm	0.53 mm	5-pk.	20206	20215
1/4"	0.4 mm	0.25 mm	5-pk.	20203	—
1/4"	0.5 mm	0.32 mm	5-pk.	20203	20257
1/4"	0.8 mm	0.45/0.53 mm	5-pk.	20204	20217

Alumaseal® Ferrules

- Aluminum construction—will not crack or fragment.
- No retightening required after temperature cycles—excellent for GC-MS.
- Eliminate out-gassing and make leak-tight seals for less detector noise.
- Unique two-piece design permanently locks on fused silica tubing without causing breakage.
- Will not stick in fittings, unlike Vespel® or graphite ferrules.
- Stable to 550 °C.
- Use with any 1/16" compression-type fitting.

Ferrule ID	Fits Column ID	qty.	cat.#
0.4 mm	0.25 mm	10-pk.	21472
0.5 mm	0.32 mm	10-pk.	21473
0.8 mm	0.53 mm	10-pk.	21474

PTFE Ferrules

- Upper temperature limit 250 °C.
- 100% PTFE; completely inert.
- One-piece design requires no back ferrule.

Fitting Size	Ferrule ID	qty.	cat.#
1/16"	1/16"	10-pk.	21122
1/16"	0.4 mm	10-pk.	21123
1/16"	0.5 mm	10-pk.	21124
1/16"	0.8 mm	10-pk.	21125
1/8"	1/8"	10-pk.	21126
3/16"	3/16"	10-pk.	21127
1/4"	1/4"	10-pk.	21128

Fit both Restek cage designs.

Secure, reliable column-to-column connections!

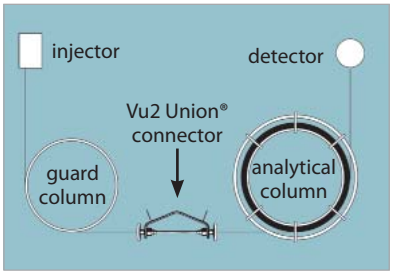
NOTE: This product is not recommended for GC column-to-MS connections—use the Vacuum Vu-Union® union for this type of connection.

Vu2 Union® Connectors

- Connect a guard column to an analytical column.
- Connect a column to a transfer line.
- Connect two columns in series.
- Repair a broken column.
- Fit both Restek cage designs.

Restek's Vu2 Union® connector combines the simplicity of a Press-Tight® union with the strength of a metal union.

A guard column connected to an analytical column by a Vu2 Union® connector.

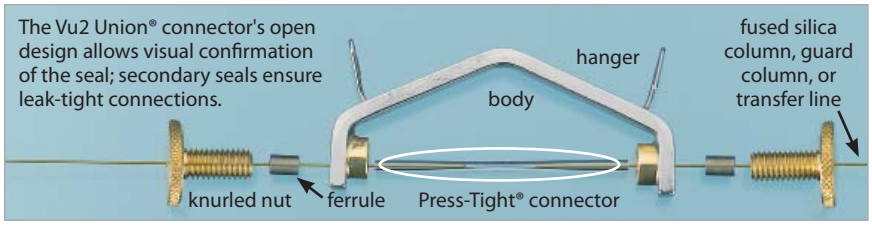


How does a Vu2 Union® connector work?

A Press-Tight® union in the Vu2 Union® connector joins the fused silica tubing ends together; the ferrule and knurled nut at each end of the connector hold the tubing in place via a secondary seal between the ferrule and the Press-Tight® union. Each knurled nut applies independent pressure to each ferrule to make leak-tight seals with the column ends. These ultra-strong connections will not unexpectedly disconnect under temperature changes, vibrations, or other stresses normally encountered in GC analyses. The open design allows visual confirmation of the seal between the column and the Press-Tight® union to ensure confidence in the connection. Hang the connector from the column cage to minimize stress on the connections.

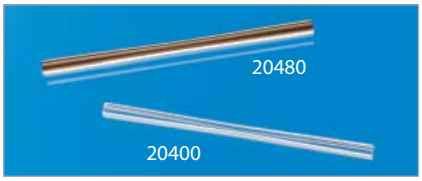
Who will benefit from using Vu2 Union® connectors?

Any analyst using guard columns, transfer lines, or restrictor tubing; performing a dual-column analysis with columns connected in series; or seeking to repair a broken column will find Vu2 Union® connectors the simple, reliable, easy-to-use solution to their connection needs.



Kits include: Vu2 Union® body, 2 knurled nuts, 2 Press-Tight® unions, and 4 ferrules

Description	Ferrules Fit Column ID	qty.	cat.#
Vu2 Union Connector Kit	0.10–0.15 mm	kit	22220
Vu2 Union Connector Kit	0.18–0.28 mm	kit	21105
Vu2 Union Connector Kit	0.32 mm	kit	21106
Vu2 Union Connector Kit	0.45–0.53 mm	kit	21107
Knurled nut		2-pk.	21108



Universal Press-Tight® Connectors

Description	5-pk.	25-pk.	100-pk.
Universal Press-Tight Connectors	20400	20401	20402
Universal Press-Tight Connectors, Deactivated	20429	20430	
Universal Press-Tight Connectors, Siltek Deactivated	20480	20449	

Graphite Ferrules for Vu2 Union® Connectors

- High-purity, high-density graphite.
- Stable to 450 °C.
- No binders that can off-gas or adsorb analytes.
- Smooth surface and clean edges.

Ferrule ID	Fits Column ID	Graphite 2-pk.	Graphite 10-pk.
0.3 mm	0.10–0.15 mm	22221	22222
0.4 mm	0.18–0.28 mm	20280	20281
0.5 mm	0.32 mm	20282	20283
0.8 mm	0.45–0.53 mm	20284	20285

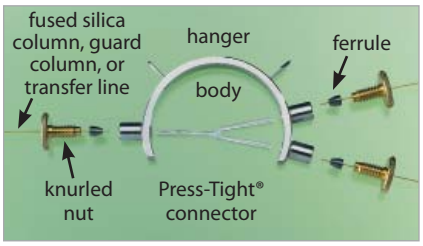
SeCure® "Y" Connector Kits

- Connect two analytical columns to a transfer line or guard column.
- Use standard "Y" Press-Tight® connectors and 1/16" graphite ferrules.
- Reliable seal integrity—will not unexpectedly disconnect during temperature-programmed analyses.
- Open design allows visual confirmation of the seal for added confidence in the connection.
- Fit both Restek cage designs.

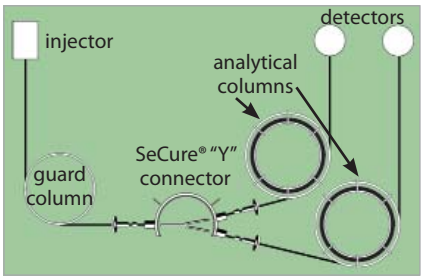
Fit both Restek cage designs.

Combine the simplicity of a "Y" Press-Tight® connector with the strength of a metal union. The ferrules and knurled nuts hold the fused silica tubing in place, which prevents the tubing from unexpectedly disconnecting, even at temperatures as high as 400 °C.

The SeCure® "Y" connector's open design allows visual confirmation of the seal.



Dual-column confirmational analysis with a single injection—one of the SeCure® "Y" connector's many uses.



Secure, reliable column-to-column connections!

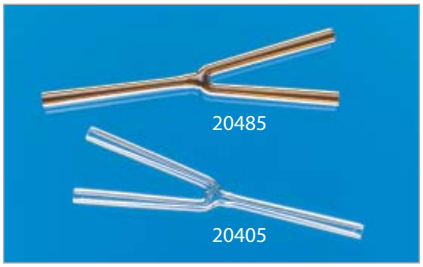
Kits include: SeCure® "Y" connector body, 3 knurled nuts, "Y" Universal Press-Tight® union, 3 ferrules.

Description	Ferrules Fit Column ID	qty.	cat.#
SeCure "Y" Connector Kit	0.18/0.25/0.28 mm	kit	20276
SeCure "Y" Connector Kit	0.32 mm	kit	20277
SeCure "Y" Connector Kit	0.45/0.53 mm	kit	20278
Knurled nut		3-pk.	20279

Universal "Y" Press-Tight® Connectors

An alternative method of performing dual-column confirmational analyses!

- Split sample flow onto two columns—perform confirmation analysis with a single injection.
- Split a single column flow to two detectors.



Description	ea.	3-pk.
Universal "Y" Press-Tight Connector	20405	20406
Universal "Y" Press-Tight Connector, Deactivated	20405-261	20406-261
Universal "Y" Press-Tight Connector, Siltek Deactivated	20485	20486

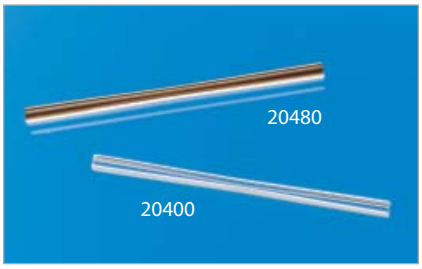
Graphite Ferrules for SeCure® "Y" Connectors

- Preconditioned to minimize out-gassing.
- High-purity, high-density graphite.
- Stable to 450 °C.
- No binders that can off-gas or adsorb analytes.
- Smooth surface and clean edges.

Ferrule ID	Fits Column ID	Graphite 10-pk.	Graphite 50-pk.
0.4 mm	0.10/0.15/0.18/0.25/0.28 mm	20200	20227
0.5 mm	0.32 mm	20201	20228
0.8 mm	0.45/0.53 mm	20202	20224

Press-Tight® Connectors

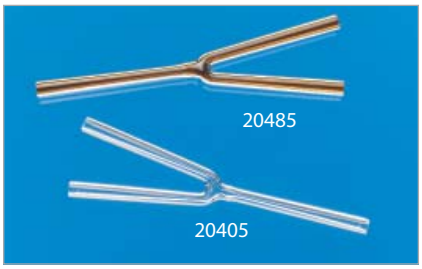
- Deactivated Press-Tight® connectors maintain complete inertness for the GC flow path.
- Siltek®-deactivated connectors are ideal for organochlorine pesticides analysis.
- Fit 0.33–0.74 mm OD columns (Restek 0.1–0.53 mm ID).



Universal Press-Tight® Connectors

- Connect a guard column to an analytical column.
- Repair a broken column.
- Connect a column outlet to a transfer line.

Description	5-pk.	25-pk.	100-pk.
Universal Press-Tight Connectors	20400	20401	20402
Universal Press-Tight Connectors, Deactivated	20429	20430	
Universal Press-Tight Connectors, Siltek Deactivated	20480	20449	

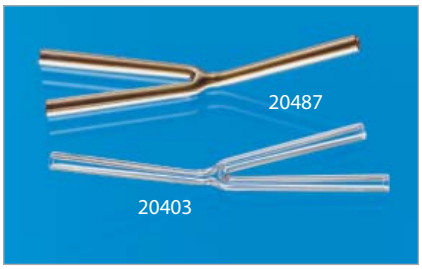


Universal "Y" Press-Tight® Connectors

An alternative method of performing dual-column confirmational analyses!

- Split sample flow onto two columns—perform confirmation analysis with a single injection.
- Split a single column flow to two detectors.

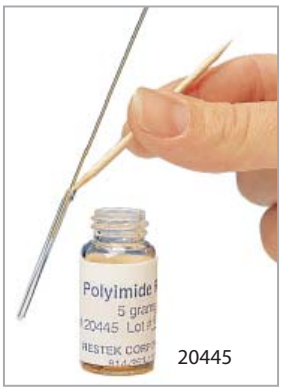
Description	ea.	3-pk.
Universal "Y" Press-Tight Connector	20405	20406
Universal "Y" Press-Tight Connector, Deactivated	20405-261	20406-261
Universal "Y" Press-Tight Connector, Siltek Deactivated	20485	20486



Universal Angled "Y" Press-Tight® Connectors

- Perform confirmation analysis with a single injection.
- Inlet and outlet ends conform to the column curvature—alleviates column-end connection strain.

Description	ea.	3-pk.
Universal Angled "Y" Press-Tight Connector	20403	20404
Universal Angled "Y" Press-Tight Connector, Deactivated	20403-261	20404-261
Universal Angled "Y" Press-Tight Connector, Siltek Deactivated	20487	20469



Polyimide Resin

Securely connects a Press-Tight® connector to a fused silica column.

Description	Max. Temp.	qty.	cat.#
Polyimide Resin	350 °C	5 grams	20445

MXT®-Union Connector Kits for Fused Silica Columns

- Low-dead-volume, leak-tight connection.
- Reusable.
- Siltek® treatment ensures maximum inertness.
- Ideal for connecting a guard column or transfer line to an analytical column.
- Use to oven temperatures of 360 °C.
- Available in union and "Y" configurations.
- Can also be used for connecting fused silica to metal.

These MXT® connectors can be used with fused silica tubing because of a Valcon polyimide, 1/32-inch, one-piece fused silica adaptor. This unique graphite-reinforced composite allows a capillary column to slide into the adaptor and be locked in place simply by loosening and tightening the fitting.

21386

MXT®-Union Connector Kits
for Fused Silica Columns

Each kit contains the MXT® union; two 1/32-inch nuts; and two, one-piece, fused silica adaptors.

Description	qty.	cat.#
For 0.25 mm ID Fused Silica Columns	kit	21386
For 0.32 mm ID Fused Silica Columns	kit	21385
For 0.53 mm ID Fused Silica Columns	kit	21384

MXT® "Y"-Union Connector Kits
for Fused Silica Columns

Each kit contains the MXT® union; three 1/32-inch nuts; and three, one-piece, fused silica adaptors.

21389

Description	qty.	cat.#
For 0.25 mm ID Fused Silica Columns	kit	21389
For 0.32 mm ID Fused Silica Columns	kit	21388
For 0.53 mm ID Fused Silica Columns	kit	21387

1/32-Inch Replacement Nut

20389

Description	qty.	cat.#
1/32" Replacement Nut	5-pk.	20389

20140

20141

20389

Valco® Connectors—One-Piece Valcon Polyimide Adaptor Ferrule for Fused Silica

Fused silica adaptor ferrules are made from Valcon polyimide, a unique, graphite-reinforced composite specially prepared to maximize mechanical stability at temperatures up to 350 °C. The determining factor for selecting adaptor ferrule size is the fused silica tubing OD.

1/32-Inch Valco® Adaptor Ferrules (Valcon Polyimide)

Tubing OD	Tubing ID	Valco #	qty.	cat.#
0.25–0.40 mm	0.25 mm	FS.4-5	5-pk.	20137
0.40–0.50 mm	0.32 mm	FS.5-5	5-pk.	20140
0.50–0.80 mm	0.53 mm	ZF.5V-5	5-pk.	20141
1/32" Replacement Nut			5-pk.	20389

20146

Ferrule Removal Kit

The tapered tools in this kit have teeth designed to grip and remove fused silica adaptor ferrules that have become stuck in the fitting detail. Each kit has two tools: one for removing 1/32-inch adaptor ferrules and one for removing 1/16-inch adaptor ferrules.

Description	Valco #	qty.	cat.#
Ferrule Removal Kit	FRK1	kit	20146

also **available**

Treated Fittings!
See pages 32–33 for our Siltek®/Sulfinert® treated and Silcosteel®–CR treated fittings, as well as Swagelok® brass and stainless steel fittings.

Universal plug set for battery charger included in all kits.

Electronic Rechargeable Crimpers and Decappers

- Easy to use; comfortable grip.
- Hundreds of operations from one charge.
- Adjustable crimping force.
- Large battery allows for faster charge cycle.
- All kits include a universal plug set for the battery charger.
- For 11 mm and 20 mm caps.
- One-year warranty.

These electronic crimpers and decappers have a rechargeable 6.4-volt battery installed. The large battery allows for quick, powerful operation and a faster charge cycle, minimizing downtime. Charging the battery takes thirty minutes to two hours. The universal plug set includes U.S., European, UK, and Australian plug clips.

Description	Size	qty.	cat.#
Electronic Crimper	11 mm	kit	22358
Electronic Crimper	20 mm	kit	22359
Electronic Decapper	11 mm	kit	22360
Electronic Decapper	20 mm	kit	22361
Replacement Battery for Electronic Crimpers and Decappers		ea.	22362

Safer than removing caps with pliers, knives, or screwdriver blades!

Easy Grip Manual Crimpers and Decappers

Our new Easy Grip Crimpers and Decappers feature tough, light, glass-filled plastic bodies with curved handles that improve hand comfort during use. The bottom-pull handle allows for a steadier hold than top-push handles. An easily viewed adjustment knob is located at the head of the product. The clearly shown + and – symbols, along with directional arrows, simplify adjusting the intensity of the crimp/decap needed. The knob is also designed to indicate when the crimp setting has been reached, when it fully contacts the body of the product.

Description	Size	qty.	cat.#
Crimper	11 mm	ea.	23396
Crimper	20 mm	ea.	23398
Decapper	11 mm	ea.	23397
Decapper	20 mm	ea.	23399

2.0 mL Crimp-Top Vials, 12 x 32 mm, 11 mm

Choose with or without white graduated marking spots.

Description	Color	Material	100-pk.	1,000-pk.
Vial w/White Graduated Marking Spot	Clear	Glass	24383	24384
Vial w/White Graduated Marking Spot	Amber	Glass	24385	24386
Vial without Graduated Marking Spot	Clear	Glass	21152	21153

24385

24383

2.0 mL, 11 mm Aluminum Crimp Seals With Septa

Seal Color	Septa Material	100-pk.	500-pk.	1,000-pk.
Silver	PTFE/Natural Rubber	21174	—	21175
Blue	PTFE/Red Rubber	24351	—	24352
Green	PTFE/Red Rubber	24353	—	24354
Red	PTFE/Red Rubber	24355	—	24356
Yellow	PTFE/Red Rubber	24357	—	24358
Mixed	PTFE/Rubber	—	21724	—
Silver	PTFE/Silicone	24359	—	24360
Blue	PTFE/Silicone	24361	—	24362
Green	PTFE/Silicone	24363	—	24364
Red	PTFE/Silicone	24365	—	24366
Yellow	PTFE/Silicone	24367	—	24368
Mixed	PTFE/Silicone	—	21725	—
Silver	PTFE/Silicone/PTFE	24369	—	24370

21724

2.0 mL Crimp Vial Convenience Kits (Vials, Caps & Septa)

Vials packaged in a clear-lid tray. Caps with septa packaged in a plastic bag.

Description	100-pk.	1,000-pk.
Clear 2.0 mL Vial, Deactivated, Silver Seal, PTFE/Natural Rubber Septa	24671	24672
Amber 2.0 mL Vial, Deactivated, Silver Seal, PTFE/Natural Rubber Septa	24673	24674
Clear 2.0 mL Vial, Untreated, Silver Seal, PTFE/Natural Rubber Septa	21196	21197
Amber 2.0 mL Vial, Untreated, Silver Seal, PTFE/Natural Rubber Septa	21198	21199
Clear 2.0 mL Vial, Untreated, Silver Seal, PTFE/Silicone Septa	24646	24647
Amber 2.0 mL Vial, Untreated, Silver Seal, PTFE/Silicone Septa	24648	24649

24671

Inserts for 2.0 mL, 11 mm Crimp-Top & 2.0 mL, 9 mm Short-Cap, Screw-Thread Vials

Description	Volume	Material	100-pk.	1,000-pk.
Big Mouth Insert w/Bottom Spring	50 µL	Glass	24513	21782
Big Mouth Insert w/Bottom Spring	250 µL	Glass	21776	21777
Big Mouth Insert w/Glass Flange (Step Design)*	250 µL	Glass	24516	21779
Insert, Flat Bottom	350 µL	Glass	21780	24517
Insert, Flat Bottom w/ID Ring	350 µL	Glass	24692	24693
Big Mouth Insert w/Bottom Spring	250 µL	Polypropylene	24518	—
Big Mouth Insert w/Bottom Spring & Graduated Markings	250 µL	Polypropylene	24518A	—
Big Mouth Insert, Top Flange	250 µL	Polypropylene	24519	—
Big Mouth Insert, No Spring	250 µL	Polypropylene	24520	—

*Big Mouth insert w/glass flange (step design) not to be used with 9 mm screw-thread vials.

21776

24692

24518A

2.0 mL Crimp-Top Vial With 100 µL Insert

- Plastic vial.
- Choice of glass or polypropylene insert.

Description		100-pk.	1,000-pk.
Clear Plastic Vial	w/100 µL Polypropylene Insert	24651	24652
Clear Plastic Vial	w/100 µL Glass Insert	24653	—

24651

2.0 mL, 11 mm Poly Crimp Seal Caps: Snap-On or Crimp

The Poly Crimp seal is versatile, working as either a snap-on or crimp-top cap. Simply use a standard crimping tool to secure the Poly Crimp seal onto any crimp-top vial. It's that easy!

Seal Color	Liner Material	100-pk.	400-pk.	1,000-pk.
Clear	PTFE/Butyl Rubber	24433	—	24434
Clear	PTFE/Silicone	24443	—	24444
Blue	PTFE/Silicone	24445	—	24446
Clear	PTFE/Silicone/PTFE	24453	—	24454
Blue	PTFE/Silicone/PTFE	24455	—	24456
Mixed	PTFE/Silicone/PTFE	—	21728	—

*Based on continual use for 3–4 days.

21731

2.0 mL, 11 mm GC Snap Ring Cap With Septum

- Snaps on any crimp-style vial.
- Save money! Use this snap cap when you don't need to crimp.

Description	Liner/Septa Material	100-pk.	1,000-pk.
Polypropylene Snap Ring Cap w/Liner	PTFE, 10 mil	21729	21730
Polypropylene Snap Ring Cap w/Septum	PTFE/Butyl Rubber	21731	21732
Polypropylene Snap Ring Cap w/Septum	PTFE/Silicone	21733	21734

22788

22792

Certified Autosampler Vial Kits

Certified Vials, 2.0 mL Screw-Thread Vials

- Certificates enclosed with each kit.
- Vials of clear or amber borosilicate glass with ID marking spots.
- Closures with pre-inserted septa.
- Each kit sealed for integrity.

Certification Parameters Include:

Vial Dimensions:	height, diameter, bottom thickness, neck length, thread profile, and annealing	
Cap/Septum:	diameter, height, thread integrity, center flash, septa insertion, sealing/resealing test, residue by headspace GC, and extractables	
Chemical Test:	HPLC Test:	nonvolatile residue
	GC Test:	volatile residue

Description	100-pk.
Assembled Clear 2.0 mL Vial w/Marking Spot, Cap, Bonded PTFE/Silicone Slit Septa	22789
Assembled Amber 2.0 mL Vial w/Marking Spot, Cap, Bonded PTFE/Silicone Slit Septa	22788
Unassembled Clear 2.0 mL Vial w/Marking Spot, Cap, Bonded PTFE/Silicone Septa	22792
Unassembled Amber 2.0 mL Vial w/Marking Spot, Cap, Bonded PTFE/Silicone Septa	22790
Unassembled Clear 2.0 mL High-Recovery Vial w/Marking Spot, Cap, Bonded PTFE/Silicone Slit Septa	22793
Unassembled Amber 2.0 mL Vial w/Marking Spot, Cap, Bonded PTFE/Silicone Slit Septa	22791

2.0 mL, 9 mm Short-Cap, Screw-Thread Vials, 12 x 32 mm

- Fit all 2.0 mL, 12 x 32 mm, crimp-top vial–based autosamplers.

21140

2.0 mL, 9 mm Short-Cap, Screw-Thread Vials (vial only)

Description	Color	100-pk.	1,000-pk.
Short-Cap Vial w/White Graduated Marking Spot	Clear	21140	21141
Short-Cap Vial w/White Graduated Marking Spot	Amber	21142	21143
Short-Cap Vial without Graduated Marking Spot	Clear	21154	21155

2.0 mL, 9 mm Short-Cap, Screw-Vial Closures (Polypropylene, preassembled)

Cap Color	Liner Material	100-pk.	500-pk.	1,000-pk.
Blue	PTFE/Red Rubber	24473	—	24474
Mixed	PTFE/Red Rubber	—	24668	—
Blue	PTFE/Silicone	24485	—	24486
Green	PTFE/Silicone	24487	—	24488
Yellow	PTFE/Silicone	24493	—	24494
Mixed	PTFE/Silicone	—	24669	—
Blue	PTFE/Silicone/PTFE	24497	—	24498
Black	PTFE/Silicone/PTFE	24495	—	24496
Natural	PTFE/Silicone/PTFE	24501	—	24502
Red	PTFE/Silicone/PTFE	24503	—	24504
Yellow	PTFE/Silicone/PTFE	24505	—	24506
Mixed	PTFE/Silicone/PTFE	—	24670	—

24668

2.0 mL, 9 mm short-cap, screw-thread vials are compatible with Shimadzu SIL-10A, 10Ai, and 10Axl instruments.

2.0 mL Sample Vial Racks

- Racks feature alphanumeric indexing for easier vial identification.
- Racks can be stacked for efficient storage.
- Fits most 2.0 mL, 12 x 32 mm vials (vials sold separately).

Description	Capacity	qty.	cat.#	qty.	cat.#
Polypropylene Storage Rack for 12 x 32 mm Vials	50 vials, 5 x 10	ea.	22856	5-pk.	22857

22856

All vials undeactivated unless otherwise noted.

2.0 mL Screw-Thread Vials, 12 x 32 mm, 8 mm/425 Thread

- Fit all 2.0 mL, 12 x 32 mm, screw-thread 8 mm/425 vial-based autosamplers.

2.0 mL, 8 mm Screw-Thread Vials (vial only)

Description	Volume	Color	100-pk.	1,000-pk.
Vial w/White Graduated Marking Spot	2.0 mL	Clear	24619	24620
Vial w/White Graduated Marking Spot	2.0 mL	Amber	24621	24622

2.0 mL, 8 mm Caps and Septa (preassembled)

Cap Color	Septa Material	100-pk.	1,000-pk.
Black	Red PTFE/Silicone, 0.065"	21149	21720
Black Top Hat	PTFE/Silicone	21721	21722

Caps & Septa for 2.0 mL, 8 mm Screw-Thread Vials

Description	Septa Material	100-pk.	1,000-pk.
Black Polypropylene, Open-Hole Caps		21176	21177
Septa, 8 mm x 0.045"	Red PTFE/Silicone	21178	21179
Septa, 8 mm x 0.065"	Red PTFE/White Silicone	21795	21147

2.0 mL Autosampler Vial Convenience Kits

- Vials packaged in a clear-lid tray. Preassembled caps with septa packaged separately in a plastic bag.
- Black polypropylene open-hole caps and 8 mm red PTFE/silicone septa, 0.065".

Description	100-pk.	1,000-pk.
Clear 2.0 mL Vial, Silcote CL7-Deactivated, Black Cap, Red PTFE/Silicone Septa, 0.065"	24638	24639
Amber 2.0 mL Vial, Silcote CL7-Deactivated, Black Cap, Red PTFE/Silicone Septa, 0.065"	24640	24641
Clear 2.0 mL Vial, Untreated, Black Cap, Red PTFE/Silicone Septa, 0.065"	21192	21193
Amber 2.0 mL Vial, Untreated, Black Cap, Red PTFE/Silicone Septa, 0.065"	21194	21195

2.0 mL Preassembled Vial Kits

8 mm/425 Screw-Thread, Unmarked Vials, Septa, and Caps

Caps attached to vials.

Description	100-pk.	1,000-pk.
Clear 2.0 mL Vial, Black Cap, Red PTFE/Silicone Septa, 0.065"	24634	24635
Amber 2.0 mL Vial, Black Cap, Red PTFE/Silicone Septa, 0.065"	24636	24637

Autosampler Syringes for Bruker/Varian 8000 Series GCs

- Hamilton and SGE syringes are designed and tested to meet critical autosampler performance needs.
- Needle point styles are designed to withstand multiple, rapid injections through a septum.

Hamilton

Volume	Needle Term.	Needle Gauge	Needle Length	Point Style	Hamilton Model	Hamilton cat.#	qty.	Restek cat.#
Bruker/Varian 8100/8200 Syringes								
10 µL	RN	26s	1.99"	5	701 Varian	202880	ea.	24956

SGE

Volume	Needle Term.	Needle Gauge	Needle Length	Point Style	SGE Model	SGE cat.#	qty.	Restek cat.#
Bruker/Varian 8035, 8100, & 8200 Syringes								
10 µL*	F	25	53 mm	S/Hole	10F-VA8X-11	002923	ea.	24851
10 µL*	R	25	53 mm	S/Hole	10R-VA8X-II	002924	ea.	24852
100 µL	R	25	53 mm	S/Hole	100R-VA8X	005921	ea.	24853
Bruker/Varian CP 8400, CP8410 Syringes								
10 µL	F	26	50 mm	Cone	10F-C/F-5/0.47C	002980	ea.	24922
10 µL	F	26	50 mm	Bevel	10F-VA8400-5/0.47	002950	ea.	21202

*Gas-tight syringe.

24956

24851

24922

Replacement Needles for Bruker/Varian 8000 Series Autosampler Syringes

24857

SGE

Syringe Volume	Needle Gauge	Needle Length	Point Style	SGE cat.#	qty.	Restek cat.#
10 µL	23	53 mm	S/Hole	037779	2-pk.	24857
10 µL*	25	53 mm	S/Hole	037780	ea.	24858
10 µL**	25	53 mm	S/Hole	037777	ea.	24854
10 µL	25	53 mm	2	037776	2-pk.	24855

*straight needle shaft, 0.20 mm ID needle, for use with viscous samples
**tapered needle shaft, 0.12 mm ID needle

Guide to Needle Termination Codes

Hamilton:
(RN) Removable Needle

SGE:
(F) Fixed Needle
(R) Removable Needle

Overview of Restek Ultra-High Purity (UHP) Gas Regulators

- Regulators feature metal-to-metal seals throughout for long-term leak-tightness.
- Metal diaphragm outlet valve ensures gas purity.
- Each regulator is helium leak-test-certifiable to $1x10^{-8}$ scc/sec.
- Temperature range: -40 °C to 60 °C.

Ultra-High Purity (UHP) Brass Body Gas Regulators

UHP brass regulators are the best choice when using ultra-high purity carrier gas for sensitive GC applications using MS, PID, or ECD detection methods. They feature reduced internal dead-volume relative to stainless steel bodies. The metal valve diaphragm ensures leak-free shutoff. Oxidation-resistant chrome plating maintains a like-new appearance.

Dual-Stage Ultra-High Purity Chrome-Plated Brass Gas Regulators

- Oxidation-resistant, chrome-plated.
- Most stable outlet pressure control.
- Secondary pressure regulation not needed.
- Most widely used regulator.
- Less internal volume than stainless steel gas regulators.

Inlet gauge: 0 to 4,000 psig (0–27,579 kPa)
Outlet assembly: diaphragm valve, 1/4" tube fitting

Fitting	Outlet Pressure	Outlet Gauge	qty.	cat.#
CGA 580 (N_2 He, Ar)	0 to 100 psig (0–689 kPa)	30" – 0 to 200 psig (0–1,379 kPa)	ea.	21667
CGA 350 (H_2, P_5)	0 to 100 psig (0–689 kPa)	30" – 0 to 200 psig (0–1,379 kPa)	ea.	21668
CGA 590 (Air)	0 to 100 psig (0–689 kPa)	30" – 0 to 200 psig (0–1,379 kPa)	ea.	21669
DIN 477 #1 (H_2)	0 to 7 bar (0–100 psig)	30" – 0 to 14 bar (0–200 psig)	ea.	22369
DIN 477 #6 (He, Ar)	0 to 7 bar (0–100 psig)	30" – 0 to 14 bar (0–200 psig)	ea.	22368
DIN 477 #9 (Air)	0 to 7 bar (0–100 psig)	30" – 0 to 14 bar (0–200 psig)	ea.	22370
DIN 477 #10 (N_2)	0 to 7 bar (0–100 psig)	30" – 0 to 14 bar (0–200 psig)	ea.	22371

NOTE: CGA fittings are for U.S. use; DIN fittings are for European use.

Single-Stage Ultra-High Purity Chrome-Plated Brass Gas Regulators

- Oxidation-resistant, chrome-plated.
- Use when there is secondary pressure regulation downstream.
- Identical gas purity protection as with dual-stage gas regulators.

Inlet gauge: 0 to 4,000 psig (0–27,579 kPa)
Outlet assembly: diaphragm valve, 1/4" tube fitting

Fitting	Outlet Pressure	Outlet Gauge	qty.	cat.#
CGA 580 (N_2, He, Ar)	0 to 100 psig (0–689 kPa)	30" – 0 to 200 psig (0–1,379 kPa)	ea.	20646
CGA 350 (H_2, P_5)	0 to 100 psig (0–689 kPa)	30" – 0 to 200 psig (0–1,379 kPa)	ea.	20647
CGA 590 (Air)	0 to 100 psig (0–689 kPa)	30" – 0 to 200 psig (0–1,379 kPa)	ea.	20648
DIN 477 #1 (H_2)	0 to 7 bar (0–100 psig)	30" – 0 to 14 bar (0–200 psig)	ea.	22373
DIN 477 #6 (He, Ar)	0 to 7 bar (0–100 psig)	30" – 0 to 14 bar (0–200 psig)	ea.	22372
DIN 477 #9 (Air)	0 to 7 bar (0–100 psig)	30" – 0 to 14 bar (0–200 psig)	ea.	22374
DIN 477 #10 (N_2)	0 to 7 bar (0–100 psig)	30" – 0 to 14 bar (0–200 psig)	ea.	22375

NOTE: CGA fittings are for U.S. use; DIN fittings are for European use.

Ultra-High Purity Chrome-Plated Brass Line Gas Regulator

- Oxidation-resistant, chrome-plated.
- Use where you need to reduce the line pressure by 20 psig (138 kPa) or more.
- Same purity protection as high-pressure cylinder regulators.

Inlet connections: 1/4" FPT
Outlet assembly: 1/4" FPT port

Fitting	Outlet Pressure	Outlet Gauge	qty.	cat.#
1/4" female NPT ports*	0-50 psig (0-345 kPa)	30" - 0 to 100 psig (0-689 kPa)	ea.	21666
1/4" female NPT ports*	0-100 psig (0-689 kPa)	30" - 0 to 200 psig (0-1,379 kPa)	ea.	22452

*Order appropriate male connector, pipe-to-tube fittings.

Swagelok® Male Connector, Pipe-to-Tube Fittings

23134

23179

Fitting Type	Size (inches)	Similar to Swagelok	Brass qty.	Brass cat.#	Stainless Steel qty.	Stainless Steel cat.#
Male Connector	1/4" to 1/4" NPT	400-1-4	10-pk.	23134	2-pk.	23184
Male Connector	1/8" to 1/4" NPT	200-1-4	10-pk.	23136	2-pk.	23186
Tube End Reducer	1/4" to 1/8"	200-R-4	5-pk.	23129	2-pk.	23179

Ultra-High Purity (UHP) Stainless Steel Body Gas Regulators

UHP stainless steel regulators are the standard for ultra-high-purity and corrosion-resistant pressure regulation. They are more easily purged of atmospheric components compared to brass gas regulators, making them ideal for the most demanding applications. Stainless steel is especially useful in atmospheres of dry corrosive gases such as hydrogen.

Dual-Stage Ultra-High Purity Stainless Steel Gas Regulators

- Most stable outlet pressure control.
- Secondary pressure regulation not needed.

Fitting	Outlet Pressure	Outlet Gauge	qty.	cat.#
CGA 580 (N_2, He, Ar)	0 to 100 psig (0–689 kPa)	30" – 0 to 200 psig (0–1,379 kPa)	ea.	20662
CGA 350 (H_2, P_5)	0 to 100 psig (0–689 kPa)	30" – 0 to 200 psig (0–1,379 kPa)	ea.	20663
CGA 590 (Air)	0 to 100 psig (0–689 kPa)	30" – 0 to 200 psig (0–1,379 kPa)	ea.	20664
DIN 477 #1 (H_2)	0 to 7 bar (0–100 psig)	30" – 0 to 14 bar (0–200 psig)	ea.	22377
DIN 477 #6 (He, Ar)	0 to 7 bar (0–100 psig)	30" – 0 to 14 bar (0–200 psig)	ea.	22376
DIN 477 #9 (Air)	0 to 7 bar (0–100 psig)	30" – 0 to 14 bar (0–200 psig)	ea.	22378
DIN 477 #10 (N_2)	0 to 7 bar (0–100 psig)	30" – 0 to 14 bar (0–200 psig)	ea.	22379

NOTE: CGA fittings are for U.S. use; DIN fittings are for European use.

Inlet gauge: 0 to 4,000 psig (0–27,579 kPa)
Outlet assembly: diaphragm valve, 1/4" tube fitting

Single-Stage Ultra-High Purity Stainless Steel Gas Regulators

- Use when there is secondary pressure regulation downstream.
- Identical gas purity protection as with dual-stage gas regulators.

Fitting	Outlet Pressure	Outlet Gauge	qty.	cat.#
CGA 580 (N_2, He, Ar)	0 to 100 psig (0–689 kPa)	30" – 0 to 200 psig (0–1,379 kPa)	ea.	20665
CGA 350 (H_2, P_5)	0 to 100 psig (0–689 kPa)	30" – 0 to 200 psig (0–1,379 kPa)	ea.	20666
CGA 590 (Air)	0 to 100 psig (0–689 kPa)	30" – 0 to 200 psig (0–1,379 kPa)	ea.	20667
DIN 477 #1 (H_2)	0 to 7 bar (0–100 psig)	30" – 0 to 14 bar (0–200 psig)	ea.	22380
DIN 477 #6 (He, Ar)	0 to 7 bar (0–100 psig)	30" – 0 to 14 bar (0–200 psig)	ea.	22445
DIN 477 #9 (Air)	0 to 7 bar (0–100 psig)	30" – 0 to 14 bar (0–200 psig)	ea.	22446
DIN 477 #10 (N_2)	0 to 7 bar (0–100 psig)	30" – 0 to 14 bar (0–200 psig)	ea.	22447

NOTE: CGA fittings are for U.S. use; DIN fittings are for European use.

Inlet gauge: 0 to 4,000 psig (0–27,579 kPa)
Outlet assembly: diaphragm valve, 1/4" tube fitting

Flexible Stainless Steel Hoses

Description	Length	Fittings	qty.	cat. #
Flexible Stainless Steel Hose	36"	1/4" Female NPT	ea.	21339
Flexible Stainless Steel Hose	18"	1/4" Female NPT	ea.	21340

Flammable Gas Flash Arrestor—Factory Mutual Approved*

- Gas flow shuts off in the event of a flashback.
- Flame extinguished—flame front prevented from reaching the gas supply.
- No gas flow restriction under normal operating conditions.

Description	Fittings	qty.	cat.#
Flammable Gas Flash Arrestor, Brass Body	1/4" NPTF	ea.	21334

*Approved for brass body servicing hydrogen, acetylene, propane, or natural gas only.

21334

CGA Fittings

CGA-specified nuts and nipples with internal frit, 1/4-inch NPT nickel-plated brass.

Description	qty.	cat.#
CGA 580 Fitting, (N_2, He, Ar)	ea.	21336
CGA 350 Fitting, (H_2, P_5)	ea.	21337
CGA 590 Fitting, (Air)	ea.	21338

21336

ordering **note**

International Fittings

All gas regulators are available with the following BS (British Standard) and DIN (German Industrial Standards Organization) connections. Please contact your local Restek representative for more information.

BS 341 #01	BS 341 #08	BS 341 #15	DIN 477 #06	DIN 477 #10	DIN 477 #14
BS 341 #02	BS 341 #10	DIN 477 #01	DIN 477 #07	DIN 477 #11	DIN 477 #15
BS 341 #03	BS 341 #13	DIN 477 #03	DIN 477 #08	DIN 477 #12	
BS 341 #04	BS 341 #14	DIN 477 #05	DIN 477 #09	DIN 477 #13	

Swagelok® Fittings (Brass & Stainless Steel)

Restek is pleased to offer one of the premier lines of fittings available for chromatographers in the market today. We can supply the entire line of Swagelok® fittings. If you don't see the exact product you're looking for, please call us or contact your Restek representative for a quote.

nut

front ferrule

back ferrule

nut & ferrule set

plug

union

reducing union

tee

cross

tube end reducer

port connector

male connector

female connector

male quick coupling

female quick coupling

			Brass		316 Grade Stainless Steel	
Fitting Type	**Size**	**Swagelok #**	**qty.**	**cat.#**	**qty.**	**cat.#**
Nut	1/16"	102-1	20-pk.	23100	5-pk.	23150
	1/8"	202-1	40-pk.	23101	10-pk.	23151
	1/4"	402-1	40-pk.	23102	10-pk.	23152
Front Ferrule	1/16"	103-1	20-pk.	23103	10-pk.	23153
	1/8"	203-1	40-pk.	23104	20-pk.	23154
	1/4"	403-1	40-pk.	23105	20-pk.	23155
Back Ferrule	1/16"	104-1	20-pk.	23106	10-pk.	23156
	1/8"	204-1	40-pk.	23107	20-pk.	23157
	1/4"	404-1	40-pk.	23108	20-pk.	23158
Nut & Ferrule Set	1/16"		10-pk.	23109	2-pk.	23159
	1/8"		20-pk.	23110	5-pk.	23160
	1/4"		20-pk.	23111	5-pk.	23161
Plug	1/16"	100-P	5-pk.	23112	2-pk.	23162
	1/8"	200-P	10-pk.	23113	4-pk.	23163
	1/4"	400-P	10-pk.	23114	4-pk.	23164
Union	1/16"	100-6	3-pk.	23115	ea.	23165
	1/8"	200-6	5-pk.	23116	2-pk.	23166
	1/4"	400-6	5-pk.	23117	2-pk.	23167
Reducing Union	1/8" to 1/16"	200-6-1	5-pk.	23118	ea.	23168
	1/4" to 1/16"	400-6-1	5-pk.	23119	2-pk.	23169
	1/4" to 1/8"	400-6-2	5-pk.	23120	2-pk.	23170
Tee	1/16"	100-3	2-pk.	23121	ea.	23171
	1/8"	200-3	2-pk.	23122	ea.	23172
	1/4"	400-3	2-pk.	23123	ea.	23173
Cross	1/8"	200-4	2-pk.	23124	ea.	23174
	1/4"	400-4	2-pk.	23125	ea.	23175
Tube End Reducer	1/8" to 1/16"	100-R-2	5-pk.	23126	2-pk.	23176
	1/4" to 1/16"	100-R-4	5-pk.	23127	2-pk.	23177
	1/8" to 1/4"	400-R-2	5-pk.	23128	2-pk.	23178
	1/4" to 1/8"	200-R-4	5-pk.	23129	2-pk.	23179
Port Connector	1/8"	201-PC	5-pk.	23130	2-pk.	23180
	1/4"	401-PC	10-pk.	23131	2-pk.	23181
	1/8" to 1/4"	401-PC-2	5-pk.	23132	2-pk.	23182
Male Connector	1/8" to 1/8" NPT	200-1-2	10-pk.	23133	2-pk.	23183
	1/4" to 1/4" NPT	400-1-4	10-pk.	23134	2-pk.	23184
	1/16" to 1/8" NPT	100-1-2	5-pk.	23135	2-pk.	23185
	1/8" to 1/4" NPT	200-1-4	10-pk.	23136	2-pk.	23186
	1/4" to 1/8" NPT	400-1-2	10-pk.	23137	2-pk.	23187
Female Connector	1/8" to 1/8" NPT	200-7-2	5-pk.	23138	2-pk.	23188
	1/4" to 1/4" NPT	400-7-4	5-pk.	23139	2-pk.	23189
	1/4" to 1/8" NPT	400-7-2	5-pk.	23140	2-pk.	23190
Male & Female Quick Couplings	1/8" male*	QC4D-200	—	—	ea.	23191
	1/8" male	QC4S-200	—	—	ea.	23192
	1/8" female*	QC4B-200	—	—	ea.	23193
	1/4" male*	QC4D-400	—	—	ea.	23194
	1/4" male	QC4S-400	—	—	ea.	23195
	1/4" female*	QC4B-400	—	—	ea.	23196

*Includes self-sealing shutoff valve.

Swagelok® Fittings (Siltek®/Sulfinert® & Silcosteel®-CR Treated)

- Full line of treated 1/16", 1/8", and 1/4" fittings.
- Silcosteel®-CR treatment enhances corrosion resistance by 10x or more.
- For custom treatment on any Swagelok® fitting or other system parts not listed here, call us or contact your Restek representative.

			Siltek/Sulfinert Treated		Silcosteel-CR Treated	
Fitting Type	**Size**	**Swagelok #**	**qty.**	**cat.#**	**qty.**	**cat.#**
Union	1/16"	SS-100-6	ea.	22540	ea.	22575
	1/8"	SS-200-6	ea.	22541	ea.	22576
	1/4"	SS-400-6	ea.	22542	ea.	22577
	3/8"	SS-600-6	ea.	22909	ea.	22904
Tee	1/16"	SS-100-3	ea.	22543	ea.	22578
	1/8"	SS-200-3	ea.	22544	ea.	22579
	1/4"	SS-400-3	ea.	22545	ea.	22580
	3/8"	SS-600-3	ea.	22910	ea.	22905
Reducing Union	1/8" to 1/16"	SS-200-6-1	ea.	22546	ea.	22581
	1/4" to 1/16"	SS-400-6-1	ea.	22547	ea.	22582
	1/4" to 1/8"	SS-400-6-2	ea.	22548	ea.	22583
	3/8" to 1/4"	SS-600-6-4	ea.	22911	ea.	22906
Elbow	1/8"	SS-200-9	ea.	22549	ea.	22584
	1/4"	SS-400-9	ea.	22550	ea.	22585
Plug	1/8"	SS-200-P	ea.	22573	ea.	22620
	1/4"	SS-400-P	ea.	22574	ea.	22597
Cross	1/8"	SS-200-4	ea.	22551	ea.	22586
	1/4"	SS-400-4	ea.	22552	ea.	22587
Tube End Reducer	1/8" tube to 1/16"	SS-100-R-2	ea.	22553	ea.	22588
	1/4" tube to 1/16"	SS-100-R-4	ea.	22554	ea.	22589
	1/8" tube to 1/4"	SS-400-R-2	ea.	22555	ea.	22590
	1/4" tube to 1/8"	SS-200-R-4	ea.	22556	ea.	22591
Port Connector	1/8"	SS-201-PC	ea.	22557	ea.	22592
	1/4"	SS-401-PC	ea.	22558	ea.	22593
	1/8" tube to 1/4"	SS-401-PC-2	ea.	22559	ea.	22594
Male Connector	1/8" to 1/8" NPT	SS-200-1-2	ea.	22561	ea.	22595
	1/4" to 1/4" NPT	SS-400-1-4	ea.	22562	ea.	22596
	1/16" to 1/8" NPT	SS-100-1-2	ea.	22563	ea.	22610
	1/8" to 1/4" NPT	SS-200-1-4	ea.	22564	ea.	22611
	1/4" to 1/8" NPT	SS-400-1-2	ea.	22565	ea.	22612
	3/8" to 3/8" NPT	SS-600-1-6	ea.	22912	ea.	22907
Female Connector	1/8" to 1/8" NPT	SS-200-7-2	ea.	22566	ea.	22613
	1/4" to 1/4" NPT	SS-400-7-4	ea.	22567	ea.	22614
	1/4" to 1/8" NPT	SS-400-7-2	ea.	22568	ea.	22615
	1/8" to 1/4" NPT	SS-200-7-4	ea.	22569	ea.	22616
Bulkhead Union	1/8"	SS-200-61	ea.	22570	ea.	22617
	1/4"	SS-400-61	ea.	22571	ea.	22618

union

tee

reducing union

elbow

plug

cross

tube end reducer

port connector

male connector

female connector

bulkhead union

Swagelok® Fitting Kits

Save more than 40% by purchasing a Restek Swagelok® fittings kit compared to paying full price for the individual parts!

- Includes the most common assortment of 1/8" and 1/4" brass or stainless steel fittings.
- Parts list makes reordering easy.
- Parts come in sturdy toolbox for easy and convenient storage.

40% savings

Description	qty.	cat.#
Swagelok Fitting Kit, Brass	kit	23141

Description	qty.	cat.#
Swagelok Fitting Kit, Stainless Steel	kit	23197

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