



2017/2018 Product Catalog

crs | Chromatography
Research Supplies



Since 1991, Chromatography Research Supplies, Inc. (CRS) has become known worldwide as a leading manufacturer and innovator in high-quality specialty supplies, primarily in the GC market. We are grateful for the opportunity to serve our customers, and we look forward to working with you for another 25 years.

At CRS we manufacture and sell products under our own brand name, as well as distributing other well-known brands in the industry. A substantial part of CRS sales are exported, and the company ships to markets all around the world. We specialize in manufacturing electronic and manual crimping tools, gas filters, ferrules, and injection port septa. We also offer a wide range of vials, caps, seals, and other GC accessories. Our GC consumables are used in analytical laboratories worldwide in various industries including food safety, flavor, fragrance, environmental, pharmaceutical, petrochemical, and forensic sciences.

Along with our popular lines of standard products, we can also custom-design and build products for your special applications and requirements. For whatever your analysis demands, our experienced team of chemists and engineers can help meet your specific needs and provide a solution that is right for you.

Our number one job is to provide excellent and useful products and to provide the service you expect. Thank you for trusting us as your partner.

The CRS Team



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**In the lab, we're your
trusted source for
routine analysis.**

**You can rely on CRS
products for consistent
results.**

crs | Chromatography
Research Supplies



Gas Purifiers & Filters

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AFS Purifiers I, II & III

- High purity, clean flow path: Gas contacts only metal, glass and fluoroelastomer seals
- High capacity and efficiency in a single cartridge
- Easy cartridge replacement with twist on/off assembly knob
- Double seal construction for safety (especially when using hydrogen gas)
- Check valves protect gas lines during cartridge replacement
- Includes mounting hardware for wall or bench
- Stainless steel fittings
- Reconditioning program allows for recycling of cartridge

Innovative Design

Two part system includes a small stainless steel manifold and a high capacity purifier cartridge.

The manifold mounts to a laboratory wall or bench with brackets included in the installation kit, and connects to the gas lines with stainless steel compression fittings.

The cartridge easily attaches and detaches from the manifold with an assembly knob. To change the cartridge, simply twist the knob to disconnect the cartridge from the manifold and slide on a new cartridge. Twist the knob back for a tight, secure fit. The manifold contains check valves that close when the cartridge is removed.

All of the AFS Purifiers have very high capacity and can supply multiple GC's for an extended period of time, depending on the laboratory environment.





AFS Purifier I

The Advanced Filter System I is a high-capacity gas purifying system that removes O₂, H₂O, and hydrocarbons (C5 and heavier) from inert gases and hydrogen. It contains a high-sensitivity oxygen and moisture indicator. As shown below, when the cartridge is depleted the oxygen indicator changes from **GREEN** to **GREY** and the moisture indicator changes from **BLUE** to **BROWN**.

cator changes from **GREEN** to **GREY** and the moisture indicator changes from **BLUE** to **BROWN**.

Description	Item No.
AFS Purifier I, 1/8" Fittings, Complete Kit	202900
AFS Purifier I, 1/4" Fittings, Complete Kit	202902
Replacement Cartridge, AFS Purifier I	202910
Reconditioned Cartridge*, AFS Purifier I	202920

**Requires exchange of depleted cartridge.*



AFS Purifier II

The Advanced Filter System II is a high-capacity gas purifying system that removes H₂O and hydrocarbons (C5 and heavier) from inert gases and hydrogen. It contains a high-sensitivity moisture indicator. As shown below, when the cartridge is depleted the moisture indicator changes from **BLUE** to **BROWN**.

BLUE to **BROWN**.

Description	Item No.
AFS Purifier II, 1/8" Fittings, Complete Kit	202903
AFS Purifier II, 1/4" Fittings, Complete Kit	202904
Replacement Cartridge, AFS Purifier II	202950
Reconditioned Cartridge*, AFS Purifier II	202930

**Requires exchange of depleted cartridge.*



AFS Purifier III

The Advanced Filter System III is a high-capacity gas purifying system that removes H₂O from inert gases and hydrogen. It contains a high-sensitivity moisture indicator. As shown below, when the cartridge is depleted the moisture indicator changes from **BLUE** to **BROWN**.

Description	Item No.
AFS Purifier III, 1/8" Fittings, Complete Kit	202905
AFS Purifier III, 1/4" Fittings, Complete Kit	202906
Replacement Cartridge, AFS Purifier III	202955
Reconditioned Cartridge*, AFS Purifier III	202935

**Requires exchange of depleted cartridge.*



Manifolds

Description	Item No.
1/8" AFS Purifier Manifold	202900MN
1/4" AFS Purifier Manifold	202902MN

Visit www.ChromRes.com for product specifications and additional information.

Filter Indicators shown in both the full capacity and depleted state.



O₂ Adsorbent:
Top: Full Capacity; Bottom: Depleted.



H₂O Adsorbent:
Top: Full Capacity; Bottom: Depleted.



What is the reconditioning Program?

When your AFS cartridge is depleted, you can return it to CRS for credit towards a reconditioned cartridge. We can restore a depleted cartridge to like-new specifications by refilling it with new adsorbents. You can then order these reconditioned cartridges for a reduced price.

You benefit by paying less for cartridges, while helping the environment by reducing waste and recycling the cartridge body.

How does it work?

You can order a reconditioned cartridge from CRS at any time. Once you've received the next cartridge, simply ship the original depleted cartridge back to CRS in the box provided. No waiting or instrument downtime!

Shipping of Hazardous Materials?

In some cases, high quality gas filters with active O₂ or CO₂ adsorbents must be shipped as hazardous goods, even after use. If you are not certified to ship dangerous goods please contact CRS Technical Support.

Which products are in the program?

CRS currently offers the reconditioning program for all AFS cartridges. This includes the AFS I, II, and III. The ZPure M Filters are also refillable by CRS and are listed on page 14. If you have any questions regarding the reconditioning program please contact CRS Technical Support.

CRS Technical Support
+ 1.502.491.6300 International
1.800.327.3800 U.S. Only
Sales@ChromRes.com

ZPure™ Inline Gas Filters - Stainless Steel

- High-quality activated adsorbents
- Long purifier life and efficient contaminant removal
- Various size and fitting configurations to fit most existing installations

*Filter lifetime is dependent on the quality of incoming gas and the flow rate.

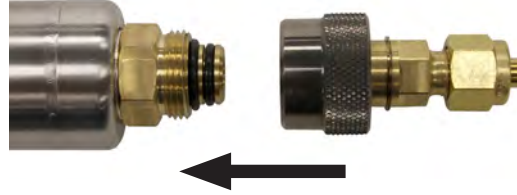
*For more detailed specifications on individual applications please contact CRS at Sales@ChromRes.com.



From Left to Right:
130 cc, 475 cc, 500 cc, 750 cc.



Compression Fittings seal well and can be broken and retightened many times if used properly. They are compatible with industry standard ferrules and tubing.



Quick Connect Fittings are used for fast connections and replacements. They have superior seals that use o-rings and check valves to protect gas lines.



Push-to-Connect Fittings are used to connect plastic tubing with a quick and easy connection. They have lower pressure ratings, and permeation through plastic tubing can have some effect on the ultimate purity level of the gas.



ZPure™ O₂ Filters

The ZPure O₂ Filter removes O₂ from He, Ar, N₂, H₂, and methane to low ppb levels with very high capacity. The ZPure O₂ Filter is available with standard compression fittings or quick connect fittings in 1/4" and 1/8" brass and stainless steel.

Visit www.ChromRes.com for product specifications and additional information.

www.ChromRes.com

130 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202216-B
1/8" Stainless Steel Fittings	202216-SS
1/4" Brass Fittings	202217-B
1/4" Stainless Steel Fittings	202217-SS

Quick Connect Fittings*

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202216-B-QC
1/8" Stainless Steel Fittings	202216-SS-QC
1/4" Brass Fittings	202217-B-QC
1/4" Stainless Steel Fittings	202217-SS-QC

*Replacement Filters listed on page 23.

Gas Purifiers & Filters



ZPure™ HC Filters

The ZPure HC Filter removes hydrocarbons (C5 and heavier) from inert gases, He, Ar, N₂, H₂, and clean dry air (CDA) to low ppb levels. It is recommended for most applications that require hydrocarbon-free gas, and is available in 4 sizes of stainless steel cylinders ranging from 130 cc to 750 cc. The ZPure HC Filter is available with standard compression fittings and quick connect fittings offered in 1/4" and 1/8" brass and stainless steel, or metal push-to-connect fittings in 1/4" and 6 mm for plastic tubing and non-carrier gas lines.

Visit www.ChromRes.com for product specifications and additional information.

130 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202232-B
1/8" Stainless Steel Fittings	202232-SS
1/4" Brass Fittings	202233-B
1/4" Stainless Steel Fittings	202233-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202232-B-QC
1/8" Stainless Steel Fittings	202232-SS-QC
1/4" Brass Fittings	202233-B-QC
1/4" Stainless Steel Fittings	202233-SS-QC

Push-to-Connect Fittings	Item No.
1/4" Nickel Plated Brass Fittings	202232-4-PC
6 mm Nickel Plated Brass Fittings	202232-6-PC

LS - 475 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202232L-B
1/8" Stainless Steel Fittings	202232L-SS

1/4" Brass Fittings	202233L-B
1/4" Stainless Steel Fittings	202233L-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202232L-B-QC
1/8" Stainless Steel Fittings	202232L-SS-QC
1/4" Brass Fittings	202233L-B-QC
1/4" Stainless Steel Fittings	202233L-SS-QC

Push-to-Connect Fittings	Item No.
1/4" Nickel Plated Brass Fittings	202232L-4-PC
6 mm Nickel Plated Brass Fittings	202232L-6-PC

DS - 500 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202232D-B
1/8" Stainless Steel Fittings	202232D-SS
1/4" Brass Fittings	202233D-B
1/4" Stainless Steel Fittings	202233D-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202232D-B-QC
1/8" Stainless Steel Fittings	202232D-SS-QC
1/4" Brass Fittings	202233D-B-QC
1/4" Stainless Steel Fittings	202233D-SS-QC

Push-to-Connect Fittings	Item No.
1/4" Nickel Plated Brass Fittings	202232D-4-PC
6 mm Nickel Plated Brass Fittings	202232D-6-PC

XLS - 750 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202232XL-B
1/8" Stainless Steel Fittings	202232XL-SS
1/4" Brass Fittings	202233XL-B
1/4" Stainless Steel Fittings	202233XL-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202232XL-B-QC
1/8" Stainless Steel Fittings	202232XL-SS-QC
1/4" Brass Fittings	202233XL-B-QC
1/4" Stainless Steel Fittings	202233XL-SS-QC

Push-to-Connect Fittings	Item No.
1/4" Nickel Plated Brass Fittings	202232XL-4-PC
6 mm Nickel Plated Brass Fittings	202232XL-6-PC

*Replacement Filters listed on page 23.



ZPure™ H₂O Filters

The ZPure H₂O Filter removes H₂O from inert gases, He, Ar, N₂, H₂, methane and clean dry air (CDA) to low ppb levels, with very high capacity. It is recommended for any application that requires ultra-dry gas, and is available in 4 sizes of stainless steel cylinders ranging from 130 cc to 750 cc. The ZPure H₂O Filter is available with standard compression fittings or quick connect fittings offered in 1/4" and 1/8" brass and stainless steel, or metal push-to-connect fittings in 1/4" and 6 mm for plastic tubing and non-carrier gas lines.

Visit www.ChromRes.com for product specifications and additional information.

130 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202230-B
1/8" Stainless Steel Fittings	202230-SS
1/4" Brass Fittings	202231-B
1/4" Stainless Steel Fittings	202231-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202230-B-QC
1/8" Stainless Steel Fittings	202230-SS-QC
1/4" Brass Fittings	202231-B-QC
1/4" Stainless Steel Fittings	202231-SS-QC

Push-to-Connect Fittings	Item No.
1/4" Nickel Plated Brass Fittings	202230-4-PC
6 mm Nickel Plated Brass Fittings	202230-6-PC

LS - 475 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202230L-B
1/8" Stainless Steel Fittings	202230L-SS

1/4" Brass Fittings	202231L-B
1/4" Stainless Steel Fittings	202231L-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202230L-B-QC
1/8" Stainless Steel Fittings	202230L-SS-QC
1/4" Brass Fittings	202231L-B-QC
1/4" Stainless Steel Fittings	202231L-SS-QC

Push-to-Connect Fittings	Item No.
1/4" Nickel Plated Brass Fittings	202230L-4-PC
6 mm Nickel Plated Brass Fittings	202230L-6-PC

DS - 500 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202230D-B
1/8" Stainless Steel Fittings	202230D-SS
1/4" Brass Fittings	202231D-B
1/4" Stainless Steel Fittings	202231D-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202230D-B-QC
1/8" Stainless Steel Fittings	202230D-SS-QC
1/4" Brass Fittings	202231D-B-QC
1/4" Stainless Steel Fittings	202231D-SS-QC

Push-to-Connect Fittings	Item No.
1/4" Nickel Plated Brass Fittings	202230D-4-PC
6 mm Nickel Plated Brass Fittings	202230D-6-PC

XLS - 750 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202230XL-B
1/8" Stainless Steel Fittings	202230XL-SS
1/4" Brass Fittings	202231XL-B
1/4" Stainless Steel Fittings	202231XL-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202230XL-B-QC
1/8" Stainless Steel Fittings	202230XL-SS-QC
1/4" Brass Fittings	202231XL-B-QC
1/4" Stainless Steel Fittings	202231XL-SS-QC

Push-to-Connect Fittings	Item No.
1/4" Nickel Plated Brass Fittings	202230XL-4-PC
6 mm Nickel Plated Brass Fittings	202230XL-6-PC

*Replacement Filters listed on page 23.

Gas Purifiers & Filters



ZPure™ CO₂ Filters

The ZPure CO₂ Filter removes CO₂ from inert gases, He, Ar, N₂, H₂, and clean dry air (CDA) to low ppb levels. The filter functions by consuming carbon dioxide in a reaction with highly-dispersed NaOH on a silicate support. The reaction produces water which remains adsorbed in the purifier. In applications where water removal is highly critical, we recommend using an additional moisture trap after the CO₂ Filter. It is available in 4 sizes of stainless steel cylinders ranging from 130 cc to 750 cc. The filter is available with standard compression fittings and quick connect fittings offered in 1/4" and 1/8" brass and stainless steel.

Visit www.ChromRes.com for product specifications and additional information.

130 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202212-B
1/8" Stainless Steel Fittings	202212-SS
1/4" Brass Fittings	202213-B
1/4" Stainless Steel Fittings	202213-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202212-B-QC
1/8" Stainless Steel Fittings	202212-SS-QC
1/4" Brass Fittings	202213-B-QC
1/4" Stainless Steel Fittings	202213-SS-QC

LS - 475 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202212L-B
1/8" Stainless Steel Fittings	202212L-SS
1/4" Brass Fittings	202213L-B
1/4" Stainless Steel Fittings	202213L-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202212L-B-QC
1/8" Stainless Steel Fittings	202212L-SS-QC
1/4" Brass Fittings	202213L-B-QC
1/4" Stainless Steel Fittings	202213L-SS-QC

DS - 500 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202212D-B
1/8" Stainless Steel Fittings	202212D-SS
1/4" Brass Fittings	202213D-B
1/4" Stainless Steel Fittings	202213D-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202212D-B-QC
1/8" Stainless Steel Fittings	202212D-SS-QC
1/4" Brass Fittings	202213D-B-QC
1/4" Stainless Steel Fittings	202213D-SS-QC

XLS - 750 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202212XL-B
1/8" Stainless Steel Fittings	202212XL-SS
1/4" Brass Fittings	202213XL-B
1/4" Stainless Steel Fittings	202213XL-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202212XL-B-QC
1/8" Stainless Steel Fittings	202212XL-SS-QC
1/4" Brass Fittings	202213XL-B-QC
1/4" Stainless Steel Fittings	202213XL-SS-QC

*Replacement Filters listed on page 23.



ZPure™ O₂ / H₂O Filters

The ZPure O₂ / H₂O Filter removes O₂ and H₂O from inert gases, He, Ar, N₂ and H₂, making it ideal for use with GC and GC/MS carrier gas lines. It is also recommended for any application requiring ultra-pure gas free from oxygen and moisture. It is available in 4 sizes of stainless steel cylinders ranging from 130 cc to 750 cc. The filter is available with standard compression fittings and quick connect fittings offered in 1/4" and 1/8" brass and stainless steel.

Visit www.ChromRes.com for product specifications and additional information.

130 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202295-B
1/8" Stainless Steel Fittings	202295-SS
1/4" Brass Fittings	202296-B
1/4" Stainless Steel Fittings	202296-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202295-B-QC
1/8" Stainless Steel Fittings	202295-SS-QC
1/4" Brass Fittings	202296-B-QC
1/4" Stainless Steel Fittings	202296-SS-QC

LS - 475 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202295L-B
1/8" Stainless Steel Fittings	202295L-SS
1/4" Brass Fittings	202296L-B
1/4" Stainless Steel Fittings	202296L-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202295L-B-QC
1/8" Stainless Steel Fittings	202295L-SS-QC
1/4" Brass Fittings	202296L-B-QC
1/4" Stainless Steel Fittings	202296L-SS-QC

DS - 500 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202295D-B
1/8" Stainless Steel Fittings	202295D-SS
1/4" Brass Fittings	202296D-B
1/4" Stainless Steel Fittings	202296D-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202295D-B-QC
1/8" Stainless Steel Fittings	202295D-SS-QC
1/4" Brass Fittings	202296D-B-QC
1/4" Stainless Steel Fittings	202296D-SS-QC

XLS - 750 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202295XL-B
1/8" Stainless Steel Fittings	202295XL-SS
1/4" Brass Fittings	202296XL-B
1/4" Stainless Steel Fittings	202296XL-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202295XL-B-QC
1/8" Stainless Steel Fittings	202295XL-SS-QC
1/4" Brass Fittings	202296XL-B-QC
1/4" Stainless Steel Fittings	202296XL-SS-QC

*Replacement Filters listed on page 23.

Gas Purifiers & Filters



ZPure™ PolyGas I Purifiers

The ZPure PolyGas I Purifier removes a wide range of contaminants including O₂, H₂O, CO₂, CO, halogenated compounds, siloxanes, hydrocarbons (C5 and heavier), sulfur-containing molecules, ammonia and other gases. It can be used to purify inert gases, He, Ar, N₂, and H₂, making it ideal for use with GC and GC/MS carrier gas lines. It is recommended for any application requiring ultra-pure gas free from oxygen, water and hydrocarbons. It is available in 4 sizes of stainless steel cylinders ranging from 130 cc to 750 cc. The ZPure PolyGas I Purifier is available with standard compression fittings and quick connect fittings offered in 1/4" and 1/8" brass and stainless steel.

Visit www.ChromRes.com for product specifications and additional information.

130 cc Filters

Compression Fittings	Item No.
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1/8" Brass Fittings	202285-B
1/8" Stainless Steel Fittings	202285-SS
1/4" Brass Fittings	202286-B
1/4" Stainless Steel Fittings	202286-SS

Quick Connect Fittings*	Item No.
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1/8" Brass Fittings	202285-B-QC
1/8" Stainless Steel Fittings	202285-SS-QC
1/4" Brass Fittings	202286-B-QC
1/4" Stainless Steel Fittings	202286-SS-QC

LS - 475 cc Filters

Compression Fittings	Item No.
----------------------	----------

1/8" Brass Fittings	202285L-B
1/8" Stainless Steel Fittings	202285L-SS

1/4" Brass Fittings	202286L-B
1/4" Stainless Steel Fittings	202286L-SS

Quick Connect Fittings*	Item No.
-------------------------	----------

1/8" Brass Fittings	202285L-B-QC
1/8" Stainless Steel Fittings	202285L-SS-QC
1/4" Brass Fittings	202286L-B-QC
1/4" Stainless Steel Fittings	202286L-SS-QC

DS - 500 cc Filters

Compression Fittings	Item No.
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1/8" Brass Fittings	202285D-B
1/8" Stainless Steel Fittings	202285D-SS
1/4" Brass Fittings	202286D-B
1/4" Stainless Steel Fittings	202286D-SS

Quick Connect Fittings*	Item No.
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1/8" Brass Fittings	202285D-B-QC
1/8" Stainless Steel Fittings	202285D-SS-QC
1/4" Brass Fittings	202286D-B-QC
1/4" Stainless Steel Fittings	202286D-SS-QC

XLS - 750 cc Filters

Compression Fittings	Item No.
----------------------	----------

1/8" Brass Fittings	202285XL-B
1/8" Stainless Steel Fittings	202285XL-SS
1/4" Brass Fittings	202286XL-B
1/4" Stainless Steel Fittings	202286XL-SS

Quick Connect Fittings*	Item No.
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1/8" Brass Fittings	202285XL-B-QC
1/8" Stainless Steel Fittings	202285XL-SS-QC
1/4" Brass Fittings	202286XL-B-QC
1/4" Stainless Steel Fittings	202286XL-SS-QC

*Replacement Filters listed on page 23.



ZPure™ PolyGas II Purifiers

The ZPure PolyGas II Purifier removes H₂O, CO₂, halogenated compounds, siloxanes, hydrocarbons (C₅ and heavier), sulfur-containing molecules, ammonia and other gases. It can be used to purify inert gases, He, Ar, N₂, and H₂, and clean dry air (CDA), to low-ppb levels. A common application is for conditioning the hydrogen and zero air lines used with GC flame ionization detectors. It is available in 4 sizes of stainless steel cylinders ranging from 130 cc to 750 cc. The ZPure PolyGas II Purifier is available with standard compression fittings and quick connect fittings offered in 1/4" and 1/8" brass and stainless steel.

Visit www.ChromRes.com for product specifications and additional information.

130 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202287-B
1/8" Stainless Steel Fittings	202287-SS
1/4" Brass Fittings	202288-B
1/4" Stainless Steel Fittings	202288-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202287-B-QC
1/8" Stainless Steel Fittings	202287-SS-QC
1/4" Brass Fittings	202288-B-QC
1/4" Stainless Steel Fittings	202288-SS-QC

LS - 475 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202287L-B
1/8" Stainless Steel Fittings	202287L-SS
1/4" Brass Fittings	202288L-B
1/4" Stainless Steel Fittings	202288L-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202287L-B-QC
1/8" Stainless Steel Fittings	202287L-SS-QC
1/4" Brass Fittings	202288L-B-QC
1/4" Stainless Steel Fittings	202288L-SS-QC

DS - 500 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202287D-B
1/8" Stainless Steel Fittings	202287D-SS
1/4" Brass Fittings	202288D-B
1/4" Stainless Steel Fittings	202288D-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202287D-B-QC
1/8" Stainless Steel Fittings	202287D-SS-QC
1/4" Brass Fittings	202288D-B-QC
1/4" Stainless Steel Fittings	202288D-SS-QC

XLS - 750 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202287XL-B
1/8" Stainless Steel Fittings	202287XL-SS
1/4" Brass Fittings	202288XL-B
1/4" Stainless Steel Fittings	202288XL-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202287XL-B-QC
1/8" Stainless Steel Fittings	202287XL-SS-QC
1/4" Brass Fittings	202288XL-B-QC
1/4" Stainless Steel Fittings	202288XL-SS-QC

*Replacement Filters listed on page 23.



DJ's Tech Tips

Vertical mounting of filters gives you more efficient contaminant removal. Media can settle and allow gas to pass over it when they are placed horizontally.

Gas Purifiers & Filters



Read more about our reconditioning and refilling programs on **page 6**.

ZPure™ M Filters

The ZPure M Filter is our largest capacity filter. It is a 3.8 L (3800 cc) canister that has the benefit of higher flow rates, and it is CRS-refillable* at a reduced price. The canister is made from 316 stainless steel and has stainless steel fitting options in 1/2" VCR, 1/4" compression, and 1/4" quick connect fittings.

ZPure M Filters are available in contaminant-specific filters for hydrocarbons, moisture, or carbon dioxide, as well as multi-contaminant versions including an oxygen/moisture filter, and the PolyGas II Purifier.

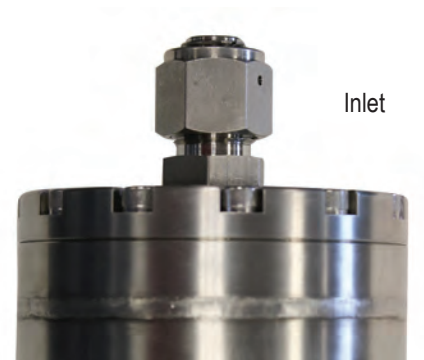
Visit www.ChromRes.com for product specifications and additional information.

*CRS ZPure M CO₂ is excluded from the reconditioning program. Please contact CRS for instructions on returning all ZPure M canisters for reconditioning by CRS.

3800 cc Filters

1/2" VCR Fittings	Item No.
ZPure M HC Filter	202232M-V
ZPure M H ₂ O Filter	202230M-V
ZPure M CO ₂ Filter	202212M-V
ZPure M PolyGas II Purifier	202287M-V
ZPure O ₂ / H ₂ O Purifier	202295M-V

1/4" SS Compression Fittings	Item No.
ZPure M HC Filter	202233M-SS
ZPure M H ₂ O Filter	202231M-SS
ZPure M CO ₂ Filter	202213M-SS
ZPure M PolyGas II Purifier	202288M-SS
ZPure O ₂ / H ₂ O Purifier	202296M-SS



1/2" VCR Fittings

1/4" SS Quick Connect Fittings	Item No.
ZPure M HC Filter	202233M-SS-QC
ZPure M H ₂ O Filter	202231M-SS-QC
ZPure M CO ₂ Filter	202213M-SS-QC
ZPure M PolyGas II Purifier	202288M-SS-QC
ZPure O ₂ / H ₂ O Purifier	202296M-SS-QC

ZPure™ Inline Gas Filters - Glass Indicating

- A range of convenient point-of-use purifiers for many applications, with high-sensitivity visual indicators for oxygen and water breakthrough
- Outer polycarbonate tube isolates the gas stream if the inner glass tube should break
- High capacity adsorbents with consistent performance
- Integrated stainless steel frits for particle removal
- Fluoroelastomer seals for inertness
- Individually helium leak-tested
- Available with compression and quick connect fittings

*Filter lifetime is dependent on the quality of incoming gas and the flow rate.

*For more detailed specifications on individual applications please contact CRS at Sales@ChromRes.com.



Compression Fittings seal well and can be broken and retightened many times if used properly. They are compatible with industry standard ferrules and tubing.



Quick Connect Fittings are used for fast connections and replacements. They have superior seals that use O-rings and check valves to protect gas lines.

Filter Indicators shown in full capacity and depleted states.



Oxygen Adsorbent:
Top: Full Capacity; Bottom: Depleted.



Moisture Adsorbent:
Top: Full Capacity; Bottom: Depleted.



CoFree™ Adsorbent:
Top: Full Capacity; Bottom: Depleted.

Gas Purifiers & Filters



ZPure™ Glass PolyGas I Purifiers

The ZPure PolyGas I Purifier removes O₂, H₂O, CO₂, CO, halogenated compounds, siloxanes, hydrocarbons (C5 and heavier), sulfur-containing molecules, and ammonia from inert gases, He, Ar, N₂ and H₂. It can be used to provide end-point detection for use with other ZPure Filters. The indicators signal oxygen breakthrough when the adsorbent changes from **GREEN** to **GREY** and the moisture indicator changes from **BLUE** to **BROWN**. The ZPure Glass Filters and Purifiers are available with standard compression fittings or quick connect fittings in 1/4" and 1/8" brass and stainless steel.

Visit www.ChromRes.com for product specifications and additional information.

38 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202314-B
1/8" Stainless Steel Fittings	202314-SS
1/4" Brass Fittings	202315-B
1/4" Stainless Steel Fittings	202315-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202314-B-QC
1/8" Stainless Steel Fittings	202314-SS-QC
1/4" Brass Fittings	202315-B-QC
1/4" Stainless Steel Fittings	202315-SS-QC

*Replacement Filters listed on page 24.



ZPure™ Glass PolyGas II Purifiers

The ZPure PolyGas II Purifier removes H₂O, CO₂, halogenated compounds, siloxanes, hydrocarbons (C5 and heavier), sulfur-containing molecules, and ammonia from inert gases, He, Ar, N₂, H₂, and clean dry air (CDA). It can be used to provide end-point detection for use with other ZPure Filters. The moisture indicator signals breakthrough when it changes from **BLUE** to **BROWN**. The ZPure Glass Filters and Purifiers are available with standard compression fittings or quick connect fittings in 1/4" and 1/8" brass and stainless steel.

Visit www.ChromRes.com for product specifications and additional information.

38 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202318-B
1/8" Stainless Steel Fittings	202318-SS
1/4" Brass Fittings	202319-B
1/4" Stainless Steel Fittings	202319-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202318-B-QC
1/8" Stainless Steel Fittings	202318-SS-QC
1/4" Brass Fittings	202319-B-QC
1/4" Stainless Steel Fittings	202319-SS-QC

*Replacement Filters listed on page 24.



ZPure™ Glass O₂ Filters

The ZPure O₂ Filter removes O₂ to low ppb levels from He, Ar, N₂, or methane. The indicator signals oxygen breakthrough when the adsorbent changes from **GREEN** to **GREY**. The ZPure Glass Filters and Purifiers are available with standard compression fittings or quick connect fittings in 1/4" and 1/8" brass and stainless steel.

Visit www.ChromRes.com for product specifications and additional information.

10 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202236-B
1/8" Stainless Steel Fittings	202236-SS
1/4" Brass Fittings	202237-B
1/4" Stainless Steel Fittings	202237-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202236-B-QC
1/8" Stainless Steel Fittings	202236-SS-QC
1/4" Brass Fittings	202237-B-QC
1/4" Stainless Steel Fittings	202237-SS-QC

*Replacement Filters listed on page 24.



ZPure™ Glass H₂O HSMI Filters

The ZPure H₂O HSMI Filter is for applications requiring high efficiency H₂O removal. The high sensitivity indicator signals breakthrough at 1 ppm H₂O and changes from **BLUE** to **BROWN**. The ZPure Glass Filters and Purifiers are available with standard compression fittings or quick connect fittings in 1/4" and 1/8" brass and stainless steel.

Visit www.ChromRes.com for product specifications and additional information.

46 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202283-B
1/8" Stainless Steel Fittings	202283-SS
1/4" Brass Fittings	202284-B
1/4" Stainless Steel Fittings	202284-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202283-B-QC
1/8" Stainless Steel Fittings	202283-SS-QC
1/4" Brass Fittings	202284-B-QC
1/4" Stainless Steel Fittings	202284-SS-QC

*Replacement Filters listed on page 24.



BLOGables

Need help picking an indicator? Read more online at <https://www.ChromRes.com/blog/>

Useful and relevant discussions related to the GC industry including product information, troubleshooting, FAQ, and recommendations from our skilled experts.

Gas Purifiers & Filters



ZPure™ Glass H₂O Filters

The ZPure H₂O Filter removes H₂O to low ppb levels. The Co-Free H₂O indicator signals breakthrough at 5% relative humidity and changes from **GREEN** to **BLUE**. The ZPure Glass Filters and Purifiers are available with standard compression fittings or quick connect fittings in 1/4" and 1/8" brass and stainless steel.

Visit www.ChromRes.com for product specifications and additional information.

46 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202234-B
1/8" Stainless Steel Fittings	202234-SS
1/4" Brass Fittings	202235-B
1/4" Stainless Steel Fittings	202235-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202234-B-QC
1/8" Stainless Steel Fittings	202234-SS-QC
1/4" Brass Fittings	202235-B-QC
1/4" Stainless Steel Fittings	202235-SS-QC

*Replacement Filters listed on page 24.



ZPure™ Glass H₂O / HC Filters

The ZPure H₂O / HC Filter removes H₂O and hydrocarbons (C5 and heavier) from dry air or inert gases. The Co-Free H₂O indicator signals breakthrough at 5% relative humidity and changes from **GREEN** to **BLUE**. The ZPure Glass H₂O / HC Filter is available with standard compression fittings or quick connect fittings in 1/4" and 1/8" brass and stainless steel.

Visit www.ChromRes.com for product specifications and additional information.

46 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202256-B
1/8" Stainless Steel Fittings	202256-SS
1/4" Brass Fittings	202257-B
1/4" Stainless Steel Fittings	202257-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202256-B-QC
1/8" Stainless Steel Fittings	202256-SS-QC
1/4" Brass Fittings	202257-B-QC
1/4" Stainless Steel Fittings	202257-SS-QC

*Replacement Filters listed on page 24.



Did you know?

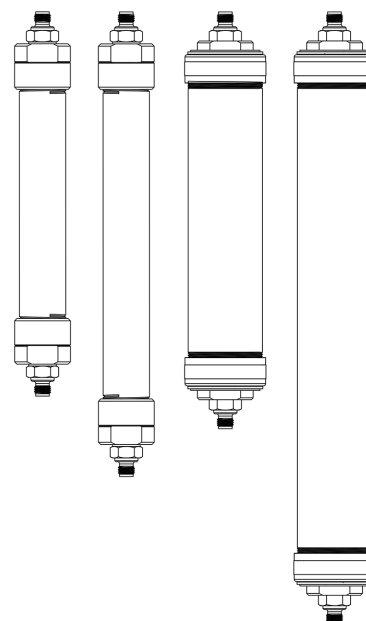
You can contact CRS for filter life estimations based on your specific laboratory environment.

SPure™ Inline Gas Filters - Plastic Body

- Moisture, oil, dust and hydrocarbon traps suitable for general purpose use
- High-strength polycarbonate and acrylic bodies with aluminum endcaps
- Available with standard brass and stainless steel compression fittings, quick connect fittings, and metal push-to-connect fittings
- Not recommended for house compressed air lines or for GC Carrier gases
- Not for use with hazardous, flammable, or reactive gases

*Filter lifetime is dependent on the quality of incoming gas and the flow rate.

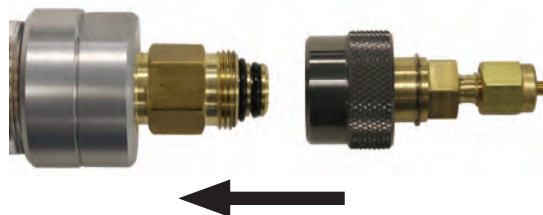
*For more detailed specifications on individual applications please contact CRS at Sales@ChromRes.com.



From Left to Right:
88 cc, 116 cc, 240 cc, 400 cc.



Compression Fittings seal well and can be broken and retightened many times if used properly. Compatible with industry standard ferrules and tubing.



Quick Connect Fittings are used for fast connections and replacements. They have superior seals that use O-rings and check valves to protect gas lines.



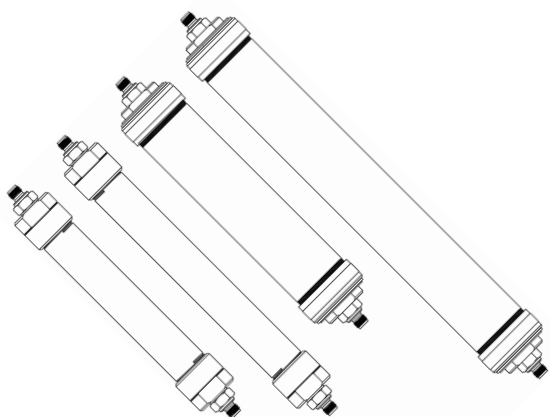
Push-to-Connect Fittings are used to connect plastic tubing with a quick and easy connection. Push-to-connect fittings have lower pressure ratings, and permeation through plastic tubing can have some effect on the ultimate purity level of the gas.

Filter Indicators shown in full capacity and depleted states.



CoFree™ Adsorbent:
Top: Full Capacity; Bottom: Depleted.

Gas Purifiers & Filters



SPure™ H₂O Filters

The SPure H₂O Filter removes moisture, oil and dust from air and inert gases. The cobalt-free moisture indicator signals breakthrough at 5% relative humidity and changes from **GREEN** to **BLUE**. The SPure H₂O Filter is available in an 88 cc tube, a long 116 cc tube, a 240 cc tube, and an extra large 400 cc tube (shown above from left to right). SPure Filters have the option of standard compression fittings and quick connect fittings in 1/4" and 1/8" brass and stainless steel, or metal push-to-connect fittings in 1/4" and 6 mm for plastic tubing and non-carrier gas lines.

Visit www.ChromRes.com for product specifications and additional information.

88 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202238-B
1/8" Stainless Steel Fittings	202238-SS
1/4" Brass Fittings	202239-B
1/4" Stainless Steel Fittings	202239-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202238-B-QC
1/8" Stainless Steel Fittings	202238-SS-QC
1/4" Brass Fittings	202239-B-QC
1/4" Stainless Steel Fittings	202239-SS-QC

Push-to-Connect Fittings	Item No.
1/4" Nickel Plated Brass Fittings	202238-4-PC
6 mm Nickel Plated Brass Fittings	202238-6-PC

LS - 116 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202238L-B
1/8" Stainless Steel Fittings	202238L-SS

1/4" Brass Fittings	202239L-B
1/4" Stainless Steel Fittings	202239L-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202238L-B-QC
1/8" Stainless Steel Fittings	202238L-SS-QC
1/4" Brass Fittings	202239L-B-QC
1/4" Stainless Steel Fittings	202239L-SS-QC

Push-to-Connect Fittings	Item No.
1/4" Nickel Plated Brass Fittings	202238L-4-PC
6 mm Nickel Plated Brass Fittings	202238L-6-PC

DS - 240 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202238D-B
1/8" Stainless Steel Fittings	202238D-SS
1/4" Brass Fittings	202239D-B
1/4" Stainless Steel Fittings	202239D-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202238D-B-QC
1/8" Stainless Steel Fittings	202238D-SS-QC
1/4" Brass Fittings	202239D-B-QC
1/4" Stainless Steel Fittings	202239D-SS-QC

Push-to-Connect Fittings	Item No.
1/4" Nickel Plated Brass Fittings	202238D-4-PC
6 mm Nickel Plated Brass Fittings	202238D-6-PC

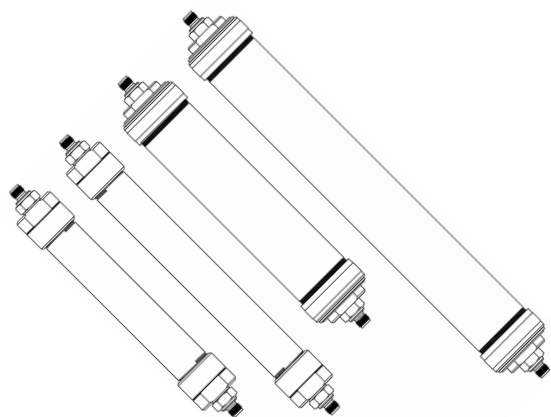
XLS - 400 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202238XL-B
1/8" Stainless Steel Fittings	202238XL-SS
1/4" Brass Fittings	202239XL-B
1/4" Stainless Steel Fittings	202239XL-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202238XL-B-QC
1/8" Stainless Steel Fittings	202238XL-SS-QC
1/4" Brass Fittings	202239XL-B-QC
1/4" Stainless Steel Fittings	202239XL-SS-QC

Push-to-Connect Fittings	Item No.
1/4" Nickel Plated Brass Fittings	202238XL-4-PC
6 mm Nickel Plated Brass Fittings	202238XL-6-PC

*Replacement Filters listed on page 24.



SPure™ H₂O/HC Filters

The SPure H₂O/HC Filter removes moisture, oil, dust, and hydrocarbons (C5 and heavier) from dry air and inert gases. The cobalt-free moisture indicator signals breakthrough at 5% relative humidity and changes from **GREEN** to **BLUE**. The SPure H₂O/HC Filter is available in an 88 cc tube, a long 116 cc tube, a 240 cc tube, and an extra large 400 cc tube (shown above from left to right). SPure Filters have the option of standard compression fittings and quick connect fittings in 1/4" and 1/8" brass and stainless steel, or metal push-to-connect fittings in 1/4" and 6 mm for plastic tubing and non-carrier gas lines.

Visit www.ChromRes.com for product specifications and additional information.

88 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202324-B
1/8" Stainless Steel Fittings	202324-SS
1/4" Brass Fittings	202325-B
1/4" Stainless Steel Fittings	202325-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202324-B-QC
1/8" Stainless Steel Fittings	202324-SS-QC
1/4" Brass Fittings	202325-B-QC
1/4" Stainless Steel Fittings	202325-SS-QC

Push-to-Connect Fittings	Item No.
1/4" Nickel Plated Brass Fittings	202324-4-PC
6 mm Nickel Plated Brass Fittings	202324-6-PC

LS - 116 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202324L-B
1/8" Stainless Steel Fittings	202324L-SS

www.ChromRes.com

1/4" Brass Fittings	202325L-B
1/4" Stainless Steel Fittings	202325L-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202324L-B-QC
1/8" Stainless Steel Fittings	202324L-SS-QC
1/4" Brass Fittings	202325L-B-QC
1/4" Stainless Steel Fittings	202325L-SS-QC

Push-to-Connect Fittings	Item No.
1/4" Nickel Plated Brass Fittings	202324L-4-PC
6 mm Nickel Plated Brass Fittings	202324L-6-PC

DS - 240 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202324D-B
1/8" Stainless Steel Fittings	202324D-SS
1/4" Brass Fittings	202325D-B
1/4" Stainless Steel Fittings	202325D-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202324D-B-QC
1/8" Stainless Steel Fittings	202324D-SS-QC
1/4" Brass Fittings	202325D-B-QC
1/4" Stainless Steel Fittings	202325D-SS-QC

Push-to-Connect Fittings	Item No.
1/4" Nickel Plated Brass Fittings	202324D-4-PC
6 mm Nickel Plated Brass Fittings	202324D-6-PC

XLS - 400 cc Filters

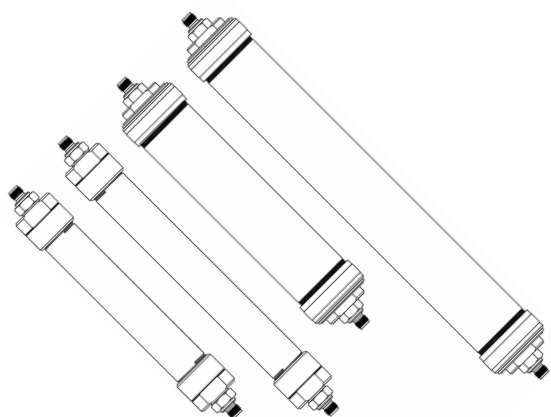
Compression Fittings	Item No.
1/8" Brass Fittings	202324XL-B
1/8" Stainless Steel Fittings	202324XL-SS
1/4" Brass Fittings	202325XL-B
1/4" Stainless Steel Fittings	202325XL-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202324XL-B-QC
1/8" Stainless Steel Fittings	202324XL-SS-QC
1/4" Brass Fittings	202325XL-B-QC
1/4" Stainless Steel Fittings	202325XL-SS-QC

Push-to-Connect Fittings	Item No.
1/4" Nickel Plated Brass Fittings	202324XL-4-PC
6 mm Nickel Plated Brass Fittings	202324XL-6-PC

*Replacement Filters listed on page 24.

Gas Purifiers & Filters



SPure™ HC Filters

The SPure HC Filter removes hydrocarbons (C5 and heavier) from dry air and inert gases. The SPure HC Filter is available in an 88 cc tube, a long 116 cc tube, a 240 cc tube, and an extra large 400 cc tube (shown above from left to right). SPure Filters have the option of standard compression fittings and quick connect fittings in 1/4" and 1/8" brass and stainless steel, or metal push-to-connect fittings in 1/4" and 6 mm for plastic tubing and non-carrier gas lines.

Visit www.ChromRes.com for product specifications and additional information.

88 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202326-B
1/8" Stainless Steel Fittings	202326-SS
1/4" Brass Fittings	202327-B
1/4" Stainless Steel Fittings	202327-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202326-B-QC
1/8" Stainless Steel Fittings	202326-SS-QC
1/4" Brass Fittings	202327-B-QC
1/4" Stainless Steel Fittings	202327-SS-QC

Push-to-Connect Fittings	Item No.
1/4" Nickel Plated Brass Fittings	202326-4-PC
6 mm Nickel Plated Brass Fittings	202326-6-PC

LS - 116 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202326L-B
1/8" Stainless Steel Fittings	202326L-SS

1/4" Brass Fittings	202327L-B
1/4" Stainless Steel Fittings	202327L-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202326L-B-QC
1/8" Stainless Steel Fittings	202326L-SS-QC
1/4" Brass Fittings	202327L-B-QC
1/4" Stainless Steel Fittings	202327L-SS-QC

Push-to-Connect Fittings	Item No.
1/4" Nickel Plated Brass Fittings	202326L-4-PC
6 mm Nickel Plated Brass Fittings	202326L-6-PC

DS - 240 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202326D-B
1/8" Stainless Steel Fittings	202326D-SS
1/4" Brass Fittings	202327D-B
1/4" Stainless Steel Fittings	202327D-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202326D-B-QC
1/8" Stainless Steel Fittings	202326D-SS-QC
1/4" Brass Fittings	202327D-B-QC
1/4" Stainless Steel Fittings	202327D-SS-QC

Push-to-Connect Fittings	Item No.
1/4" Nickel Plated Brass Fittings	202326D-4-PC
6 mm Nickel Plated Brass Fittings	202326D-6-PC

XLS - 400 cc Filters

Compression Fittings	Item No.
1/8" Brass Fittings	202326XL-B
1/8" Stainless Steel Fittings	202326XL-SS
1/4" Brass Fittings	202327XL-B
1/4" Stainless Steel Fittings	202327XL-SS

Quick Connect Fittings*	Item No.
1/8" Brass Fittings	202326XL-B-QC
1/8" Stainless Steel Fittings	202326XL-SS-QC
1/4" Brass Fittings	202327XL-B-QC
1/4" Stainless Steel Fittings	202327XL-SS-QC

Push-to-Connect Fittings	Item No.
1/4" Nickel Plated Brass Fittings	202326XL-4-PC
6 mm Nickel Plated Brass Fittings	202326XL-6-PC

*Replacement Filters listed on page 24.

Quick Connect Cartridge Replacements

Quick Connect Fittings are used for fast connections and replacements. Once you have ordered a filter with a quick connect fittings kit, you can then order replacement cartridges at a reduced price. They have superior seals that use o-rings and check valves to protect gas lines.

Visit www.ChromRes.com for product specifications and additional information.



ZPure™ Stainless Steel Filter Quick Connect Cartridge Replacements



O ₂ Filters	Brass Fitting Kits	SS Fitting Kits
130 cc Filter	202RO2-B-QC	202RO2-SS-QC

H ₂ O Filters	Brass Fitting Kits	SS Fitting Kits
130 cc Filter	202RH2-B-QC	202RH2-SS-QC
475 cc Filter	202RH2L-B-QC	202RH2L-SS-QC
500 cc Filter	202RH2D-B-QC	202RH2D-SS-QC
750 cc Filter	202RH2XL-B-QC	202RH2XL-SS-QC

HC Filters	Brass Fitting Kits	SS Fitting Kits
130 cc Filter	202RHC-B-QC	202RHC-SS-QC
475 cc Filter	202RHCL-B-QC	202RHCL-SS-QC
500 cc Filter	202RHCD-B-QC	202RHCD-SS-QC
750 cc Filter	202RHCXL-B-QC	202RHCXL-SS-QC

O ₂ / H ₂ O Filters	Brass Fitting Kits	SS Fitting Kits
130 cc Filter	202ROH-B-QC	202ROH-SS-QC
475 cc Filter	202ROHL-B-QC	202ROHL-SS-QC
500 cc Filter	202ROHD-B-QC	202ROHD-SS-QC
750 cc Filter	202ROHXL-B-QC	202ROHXL-SS-QC

CO ₂ Filters	Brass Fitting Kits	SS Fitting Kits
130 cc Filter	202RCO-B-QC	202RCO-SS-QC
475 cc Filter	202RCOL-B-QC	202RCOL-SS-QC
500 cc Filter	202RCOD-B-QC	202RCOD-SS-QC
750 cc Filter	202RCOXL-B-QC	202RCOXL-SS-QC

PolyGas I	Brass Fitting Kits	SS Fitting Kits
130 cc Filter	202RP1-B-QC	202RP1-SS-QC
475 cc Filter	202RP1L-B-QC	202RP1L-SS-QC
500 cc Filter	202RP1D-B-QC	202RP1D-SS-QC
750 cc Filter	202RP1XL-B-QC	202RP1XL-SS-QC

PolyGas II	Brass Fitting Kits	SS Fitting Kits
130 cc Filter	202RP2-B-QC	202RP2-SS-QC
475 cc Filter	202RP2L-B-QC	202RP2L-SS-QC
500 cc Filter	202RP2D-B-QC	202RP2D-SS-QC
750 cc Filter	202RP2XL-B-QC	202RP2XL-SS-QC



Did you know?

Our quality leak checks guarantee ultra-high purity outlet gas.

Quick Connect Cartridge Replacements

Quick Connect Fittings are used for fast connections and replacements. Once you have ordered a filter with a quick connect fittings kit, you can then order replacement cartridges at a reduced price. They have superior seals that use o-rings and check valves to protect gas lines.

Visit www.ChromRes.com for product specifications and additional information.



ZPure™ Glass Filter Quick Connect Cartridge Replacements



PolyGas I	Brass Fitting Kits	SS Fitting Kits
38 cc Purifier	202314RP-B-QC	202314RP-SS-QC

PolyGas II	Brass Fitting Kits	SS Fitting Kits
38 cc Purifier	202318RP-B-QC	202318RP-SS-QC

O ₂	Brass Fitting Kits	SS Fitting Kits
10 cc Filter	202236RP-B-QC	202236RP-SS-QC

H ₂ O HSMI	Brass Fitting Kits	SS Fitting Kits
46 cc Filter	202283RP-B-QC	202283RP-SS-QC

H ₂ O	Brass Fitting Kits	SS Fitting Kits
46 cc Filter	202234RP-B-QC	202234RP-SS-QC

H ₂ O / HC	Brass Fitting Kits	SS Fitting Kits
46 cc Filter	202256RP-B-QC	202256RP-SS-QC

SPure™ Filter Quick Connect Cartridge Replacements



SPure H ₂ O	Brass Fitting Kits	SS Fitting Kits
88 cc Filter	202238RP-B-QC	202238RP-SS-QC
116 cc Filter	202238LRP-B-QC	202238LRP-SS-QC
240 cc Filter	202238DRP-B-QC	202238DRP-SS-QC
400 cc Filter	202238XLRP-B-QC	202238XLRP-SS-QC

SPure H ₂ O/HC	Brass Fitting Kits	SS Fitting Kits
88 cc Filter	202324RP-B-QC	202324RP-SS-QC
116 cc Filter	202324LRP-B-QC	202324LRP-SS-QC
240 cc Filter	202324DRP-B-QC	202324DRP-SS-QC
400 cc Filter	202324XLRP-B-QC	202324XLRP-SS-QC

SPure HC	Brass Fitting Kits	SS Fitting Kits
88 cc Filter	202326RP-B-QC	202326RP-SS-QC
116 cc Filter	202326LRP-B-QC	202326LRP-SS-QC
240 cc Filter	202326DRP-B-QC	202326DRP-SS-QC
400 cc Filter	202326XLRP-B-QC	202326XLRP-SS-QC

CRS Legacy Purifiers

CRS has several standard inline purifiers that are known as the Legacy Line. They are sturdy metal cylinders that are recognized for their high pressure ratings, large capacities, and exceptional efficiency. The Legacy Line includes contaminant-specific models for removal of oxygen, moisture, hydrocarbons, and carbon dioxide from the gas stream. The Stainless Steel ZPure Filters are recommended as upgrades to these purifiers.

*Purifier lifetime is dependent on the quality of incoming gas and the flow rate.

*For more detailed specifications on individual applications please contact CRS at Sales@ChromRes.com.



Model 1000 Oxygen Purifiers

The Model 1000 is a high capacity O₂ filter, for long term protection of capillary column stationary phases against oxidation at GC operating temperatures. The Model 1000 is intended for use with non-oxidizing gases such as He, Ar, N₂, H₂ or CH₄, containing less than 0.1% oxygen. The adsorbent binds covalently with oxygen; no gas is generated from this reaction. The filters are available with standard compression fittings in 1/4" and 1/8" nickel-plated brass.

Visit www.ChromRes.com for product specifications and additional information.

500 cc

Compression Fittings	Item No.
1/8" Nickel-Plated Brass Fittings	202200
1/4" Nickel-Plated Brass Fittings	202202

Model 500 Molecular Sieve Drying Purifiers

The Model 500 is a high capacity H₂O filter that reduces moisture to low ppb levels. It is recommended for detector support gases and carrier gases. The filters are available with standard compression fittings in 1/4" and 1/8" nickel-plated brass.

Visit www.ChromRes.com for product specifications and additional information.

500 cc

Compression Fittings	Item No.
1/8" Nickel-Plated Brass Fittings	202270
1/4" Nickel-Plated Brass Fittings	202272

Gas Purifiers & Filters



Did you know?

CRS developed the ZPure Line as an upgrade to the Legacy Purifiers? ZPure Filters and Purifiers have improved safety features, advanced sealing technology, and various size and fitting configurations.



Model 300 High Pressure Hydrocarbon Purifiers

The Model 300 Purifier is a high capacity HC filter that removes hydrocarbons (C5 and heavier) to low ppb levels. It can be used for your FID air and H₂ lines to minimize noise and extraneous peaks in the signal. It is also recommended for use with purge and trap apparatuses, and with GC carrier gases for trace analysis. The filters are available with standard compression fittings in 1/4" and 1/8" nickel-plated brass.

Visit www.ChromRes.com for product specifications and additional information.

500 cc

Compression Fittings	Item No.
1/8" Nickel-Plated Brass Fittings	202330
1/4" Nickel-Plated Brass Fittings	202332



Carbon Dioxide Purifiers

The Carbon Dioxide Purifier is a high capacity filter that removes CO₂ from the gas stream to low ppb levels. This filter will irreversibly bind the CO₂; the reaction will create moisture which is adsorbed by the molecular sieve. When downstream water is a concern, it is recommended to use a second moisture purifier in line as well. The Carbon Dioxide Purifier is not recommended for GC use. The filters are available with standard compression fittings in 1/4" and 1/8" nickel-plated brass.

Visit www.ChromRes.com for product specifications and additional information.

500 cc

Compression Fittings	Item No.
1/8" Nickel-Plated Brass Fittings	202350
1/4" Nickel-Plated Brass Fittings	202352

ZPure™

The most reliable brand
in gas filters.

Now in 5 sizes for quick
drop-in replacements of
leading competitors.

Condense your filter
program to one
vendor that has
everything you need!

crs | Chromatography
Research Supplies





Over 25 Years of Experience
makes us a trusted source for
environmental labs. Let our experts
and high-quality chromatography
products assist in your analysis.

crs | Chromatography
Research Supplies



Ferrules

Graphite Ferrules.	30-32
Vespel® Ferrules	33-34
Vespel®/Graphite Ferrules (60% / 40%)	35-36
Vespel®/Graphite Ferrules (85% / 15%)	37-38
PTFE Ferrules	39

Ferrules

Graphite Ferrules

Graphite ferrules are made from high-purity exfoliated graphite. They seal with minimal torque and can frequently be re-used. They do not shrink in use, but they are very soft and must be packed and handled carefully.



Straight Ferrules - for tubing with ODs listed	Item No
1/16", 10/pk	211100
1/8", 10/pk	211200
1/4", 10/pk	211400
3/8", 10/pk	211600
1/2", 5/pk	211800
3/4", 5/pk	211120



Blank Ferrules - no holes	Item No
1/16", 10/pk	2111XX
1/8", 10/pk	2112XX
1/4", 10/pk	2114XX



Capillary Column Ferrules	For Capillary Sizes - ID	Item No
1/16" to 0.4 mm, 10/pk	0.25 mm	211104
1/16" to 0.5 mm, 10/pk	0.32 mm	211105
1/16" to 0.8 mm, 10/pk	0.53 mm	211108
1/16" to 1.0 mm, 10/pk	0.65 mm	211110
1/16" to 1.2 mm, 10/pk	0.75 mm	211112
1/16", two hole 0.5 mm; each	0.32 mm	211125



Short Ferrules for Agilent Inlets*	For Capillary Sizes - ID	Item No
1/16" to 0.4 mm, 10/pk	0.10 - 0.25 mm	211164
1/16" to 0.5 mm, 10/pk	0.32 mm	211165
1/16" to 0.8 mm, 10/pk	0.45 - 0.53 mm	211168
1/16" to 1.0 mm, 10/pk	0.53 - 0.65 mm	211160

*short ferrules for Agilent inlet systems: 5890, 6890 and 7890.



1/16" to 1/16" Straight Ferrule, 10/pk	1/16" OD	211170
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Reducing Ferrules for Capillary Columns	For Capillary Sizes - ID	Item No
1/8" to 0.4 mm, 10/pk	0.25 mm	211204
1/8" to 0.5 mm, 10/pk	0.32 mm	211205
1/8" to 0.8 mm, 10/pk	0.53 mm	211208
1/8", two hole 0.5 mm; each	0.32 mm	211222
1/4" to 0.5 mm, 10/pk	0.32 mm	211405
1/4" to 0.8 mm, 10/pk	0.53 mm	211408



Reducing Ferrules for Tubing	For Tubing Sizes - OD	Item No
1/8" to 1/16", 10/pk	1/16"	211210
1/4" to 4 mm, 10/pk	4 mm	211440
1/4" to 6 mm, 10/pk	6 mm	211406
1/4" to 1/16", 10/pk	1/16"	211410
1/4" to 1/8", 10/pk	1/8"	211420



Shimadzu Ferrule	Item No
5 mm, Shimadzu 5 mm OD columns, 10/pk	211500



Shimadzu Capillary Column Ferrules	For Capillary Sizes - ID	Item No
Shimadzu 17A, 2010 & 2014 GCs 0.4 mm, 10/pk	0.25 mm and less	211174
Shimadzu 17A, 2010 & 2014 GCs 0.5 mm, 10/pk	0.32 mm	211175
Shimadzu 17A, 2010 & 2014 GCs 0.8 mm, 10/pk	0.53 mm	211178



Thermo Instrument Ferrules - M8 Nut	Item No
0.5 mm ID, 10/pk	211905
0.8 mm ID, 10/pk	211908



Thermo Instrument Cup Ferrules - M4 Nut	For Capillary Sizes - ID	Item No
0.28 mm ID, 10/pk	0.10 mm	211982-10
0.38 mm ID, 10/pk	0.25 mm	211983-10
0.48 mm ID, 10/pk	0.32 mm	211984-10
0.80 mm ID, 10/pk	0.53 mm	211988-10

Ferrules

GC Inlet Liner Seals; O-rings - Graphite and Fluoroelastomer



For Agilent Instruments	Item No
Graphite Liner Seal, 6.35 mm ID, 10/pk	216635
Graphite Liner Seal, 6.52 mm ID, 10/pk	216652
O-ring made of Fluoroelastomer, 12/pk	216973



For Bruker (Former Varian) Instruments 1078/1079	Item No
Graphite Liner Ferrule, 10/pk	211550



For PerkinElmer Instruments	Item No
Graphite O-Ring, 10/pk	216637



For Shimadzu Instruments	Item No
Graphite Liner Seal, 10/pk	211195
Graphite O-ring, Split, 10/pk	216638
Graphite O-ring, Spiltless, 10/pk	216639



For Thermo Instruments Trace GC	Item No
5 mm Graphite Seal, 2/pk	216949
8 mm Graphite Seal, each	216948

Vespel® Ferrules (SP-1)

Vespel ferrules are made from high temperature Dupont polyimide, a hard polymeric material that tends to seal permanently to capillary columns when in use.



Straight Ferrules - for tubing with ODs listed	Item No
1/16", 10/pk	212100
1/8", 10/pk	212200
1/4", 10/pk	212400



Blank Ferrules - no holes	Item No
1/16", 10/pk	2121XX
1/8", 10/pk	2122XX
1/4", 10/pk	2124XX



Capillary Column Ferrules	For Capillary Sizes - ID	Item No
1/16" to 0.3 mm, 10/pk	0.10 mm	212103
1/16" to 0.4 mm, 10/pk	0.18 - 0.25 mm	212104
1/16" to 0.5 mm, 10/pk	0.32 mm	212105
1/16" to 0.8 mm, 10/pk	0.53 mm	212108
1/16" to 1.0 mm, 10/pk	0.65 mm	212110
1/16" to 1.2 mm, 10/pk	0.75 mm	212112
1/16", two hole 0.4 mm; each	0.25 mm	212124
1/16", two hole 0.5 mm; each	0.32 mm	212125



Short Ferrules for Agilent Inlets*	For Capillary Sizes - ID	Item No
1/16" to 0.4 mm, 10/pk	0.25 mm	212164
1/16" to 0.5 mm, 10/pk	0.32 mm	212165
1/16" to 0.8 mm, 10/pk	0.53 mm	212168

*Short ferrules for Agilent inlet systems: 5890, 6890 and 7890

Ferrules



Reducing Ferrules for Capillary Columns	For Capillary Sizes - ID	Item No
1/8" to 0.4 mm, 10/pk	0.25 mm	212204
1/8" to 0.5 mm, 10/pk	0.32 mm	212205
1/8" to 0.8 mm, 10/pk	0.53 mm	212208
1/8", two-hole, 0.5 mm each	0.32 mm	212222



Reducing Ferrules for Tubing	For Tubing Sizes - OD	Item No
1/8" to 1/16", 10/pk	1/16"	212210
1/4" to 1/16", 10/pk	1/16"	212410
1/4" to 1/8", 10/pk	1/8"	212420

Please note general ferrule sizing:

- 0.3 mm ID ferrules fit 0.18 mm ID capillary columns
- 0.4 mm ID ferrules fit 0.25 mm ID capillary columns
- 0.5 mm ID ferrules fit 0.32 mm ID capillary columns
- 0.8 mm ID ferrules fit 0.53 mm ID capillary columns
- Straight ferrules are used for packed columns

Vespel®/Graphite Ferrules - SP-22 (60% / 40%)

Vespel/Graphite ferrules are made from DuPont polyimide/graphite blended compounds. They are ideal for GC/MS interface applications because they are non-porous to oxygen. They seal with minimal torque and are not re-usable. Due to slight shrinking at high temperatures, they must be retightened after initial temperature cycles to avoid leaks. Two types of Vespel/Graphite are commonly used, one with 40% graphite and one with 15% graphite (page 37).



Straight Ferrules - for tubing with ODs listed	Item No
1/16", 10/pk	213100
1/8", 10/pk	213200
1/4", 10/pk	213400
1/2", 5/pk	213800



Blank Ferrules - no holes	Item No
1/16", 10/pk	2131XX
1/8", 10/pk	2132XX
1/4", 10/pk	2134XX



Capillary Column Ferrules	For Capillary Sizes - ID	Item No
1/16" to 0.3 mm, 10/pk	0.10 mm	213103
1/16" to 0.4 mm, 10/pk	0.18 - 0.25 mm	213104
1/16" to 0.5 mm, 10/pk	0.32 mm	213105
1/16" to 0.8 mm, 10/pk	0.53 mm	213108
1/16" to 1.0 mm, 10/pk	0.65 mm	213110
1/16", two hole 0.4 mm; each	0.25 mm	213124
1/16", two hole 0.5 mm; each	0.32 mm	213125



Short Ferrules for Agilent Inlet*	For Capillary Sizes - ID	Item No
1/16" to 0.3 mm, 10/pk	0.10 - 0.18 mm	213163
1/16" to 0.4 mm, 10/pk	0.25 mm	213164
1/16" to 0.5 mm, 10/pk	0.32 mm	213165
1/16" to 0.8 mm, 10/pk	0.53 mm	213168

*Short ferrules for Agilent Inlet systems: 5890, 6890 and 7890

Ferrules



Reducing Ferrules for Capillary Columns	For Capillary Sizes - ID	Item No
1/8" to 0.4 mm, 10/pk	0.25 mm	213204
1/8" to 0.5 mm, 10/pk	0.32 mm	213205
1/8" to 0.8 mm, 10/pk	0.53 mm	213208
1/8", two-holes 0.5 mm, each	0.32 mm	213222
1/8", two-holes 0.8 mm, each	0.53 mm	213228
1/4" to 0.4 mm, 10/pk	0.25 mm	213404
1/4" to 0.5 mm, 10/pk	0.32 mm	213405
1/4" to 0.8 mm, 10/pk	0.53 mm	213408



Reducing Ferrules for Tubing	For Tubing Sizes - OD	Item No
1/8" to 1/16", 10/pk	1/16"	213210
1/4" to 1/16", 10/pk	1/16"	213410
1/4" to 6 mm, 10/pk	6 mm	213406
1/4" to 1/8", 10/pk	1/8"	213420

Vespel®/Graphite Ferrules - SP-21 (85% / 15%)

Vespel/Graphite ferrules are made from DuPont polyimide/graphite blended compounds. They are ideal for GC/MS interface applications because they are non-porous to oxygen. They seal with minimal torque and are not re-usable. Due to slight shrinking at high temperatures, they must be retightened after initial temperature cycles to avoid leaks. Two types of Vespel/Graphite are commonly used, one with 40% graphite (page 35) and one with 15% graphite.



Straight Ferrules - for tubing with ODs listed		Item No
1/16", 10/pk		215100
1/8", 10/pk		215200
1/4", 10/pk		215400



Blank Ferrules - no holes		Item No
1/16", 10/pk		2151XX
1/8", 10/pk		2152XX
1/4", 10/pk		2154XX



Capillary Column Ferrules	For Capillary Sizes - ID	Item No
1/16" to 0.3 mm, 10/pk	0.10 mm	215103
1/16" to 0.4 mm, 10/pk	0.18 - 0.25 mm	215104
1/16" to 0.5 mm, 10/pk	0.32 mm	215105
1/16" to 0.8 mm, 10/pk	0.53 mm	215108
1/16" to 1.0 mm, 10/pk	0.65 mm	215110
1/16", two hole 0.4 mm; each	0.25 mm	215124
1/16", two hole 0.5 mm; each	0.32 mm	215125



Short Ferrules for Agilent Inlet*	For Capillary Sizes - ID	Item No
1/16" to 0.4 mm, 10/pk	0.10 - 0.25 mm	215164
1/16" to 0.5 mm, 10/pk	0.32 mm	215165
1/16" to 0.8 mm, 10/pk	0.53 mm	215168

*Short ferrules for Agilent Inlet systems: 5890, 6890 and 7890

Ferrules



Reducing Ferrules for Capillary Columns	For Capillary Sizes - ID	Item No
1/8" to 0.4 mm, 10/pk	0.25 mm	215204
1/8" to 0.5 mm, 10/pk	0.32 mm	215205
1/8" to 0.8 mm, 10/pk	0.53 mm	215208



Reducing Ferrules for Tubing	For Tubing Sizes - OD	Item No
1/8" to 1/16", 10/pk	1/16"	215210

PTFE Ferrules

PTFE ferrules are made from 100% PTFE. They are soft and completely inert. PTFE ferrules are commonly used in liquid applications.



Straight Ferrules - for tubing with ODs listed	Item No
1/16", 10/pk	214100
1/8", 10/pk	214200
3/16", 10/pk	214300
1/4", 10/pk	214400



Blank Ferrules - no holes	Item No
1/16", 10/pk	2141XX
1/8", 10/pk	2142XX
1/4", 10/pk	2144XX



Capillary Column Ferrules	For Capillary Sizes - ID	Item No
1/16" to 0.3 mm, 10/pk	0.10 mm	214103
1/16" to 0.4 mm, 10/pk	0.18 - 0.25 mm	214104
1/16" to 0.5 mm, 10/pk	0.32 mm	214105
1/16" to 0.8 mm, 10/pk	0.53 mm	214108
1/16" to 1.0 mm, 10/pk	0.65 mm	214110
1/16" to 1.2 mm, 10/pk	0.75 mm	214112



Reducing Ferrules for Capillary Columns	For Capillary Sizes - ID	Item No
1/8" to 0.4 mm, 10/pk	0.25 mm	214204
1/8" to 0.5 mm, 10/pk	0.32 mm	214205
1/8" to 0.8 mm, 10/pk	0.53 mm	214208

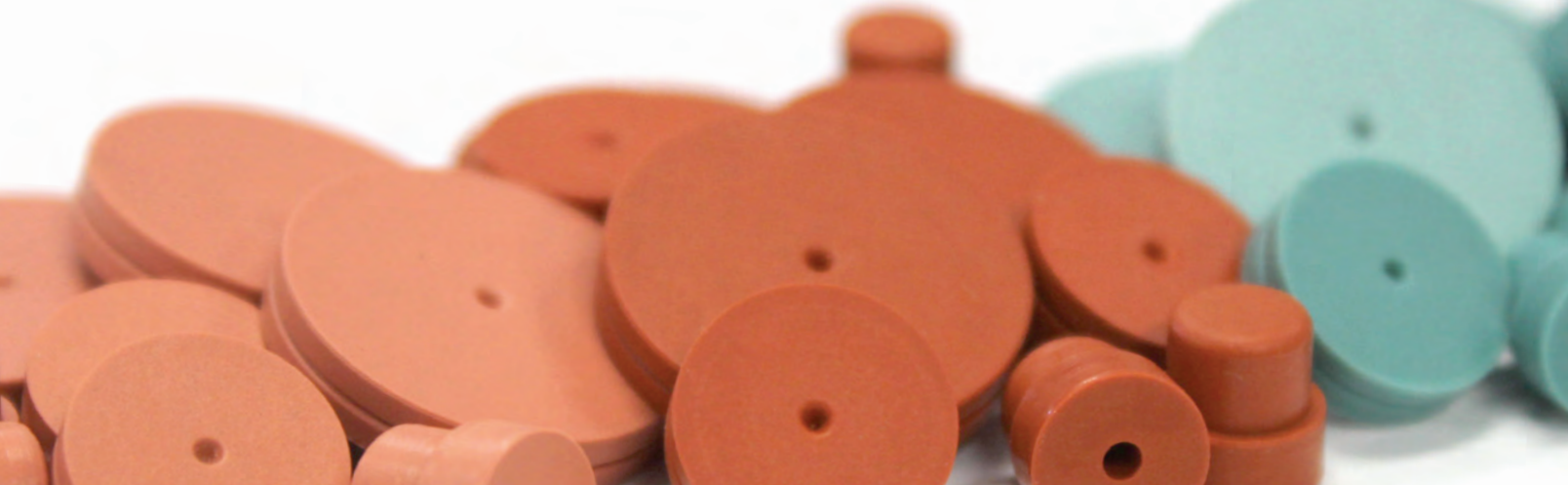


Reducing Ferrules for Tubing	For Tubing Sizes - OD	Item No
1/8" to 1/16", 10/pk	1/16"	214210
1/4" to 6 mm, 10/pk	6 mm	214406
1/4" to 1/16", 10/pk	1/16"	214410
1/4" to 1/8", 10/pk	1/8"	214420
1/4" to 3/16", 10/pk	3/16"	214430



CRS recognizes that food safety is one of the most important industries in analytical chemistry.

Our high-grade, low-extractable products are widely used and trusted by food safety labs.

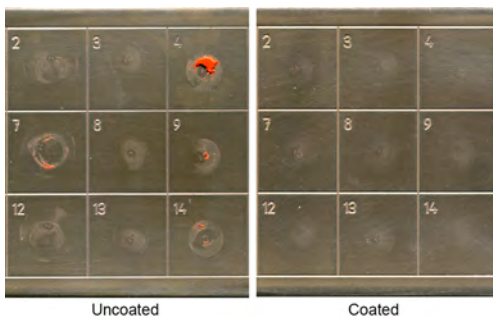
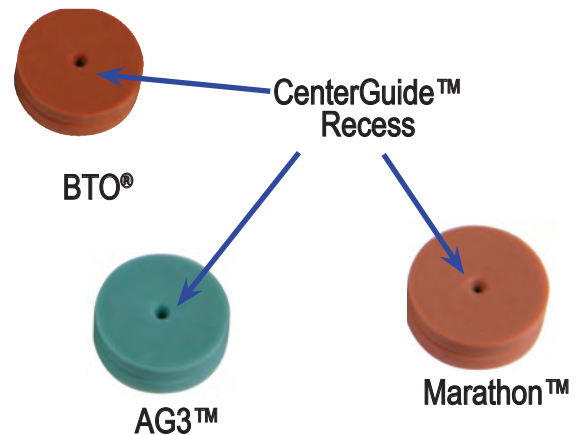


GC Septa

Premium Septa	42-45
BTO [®]	43
AG3 [™]	44
Marathon [™]	45
General Purpose Septa	46-47
Economy Blue	46
Puresep T [™]	46
Puresep P [™]	47

Premium Septa

Premium Septa are preconditioned for low bleed, plasma-coated to reduce sticking and are packed in glass jars for high purity. Premium septa are precision molded to ensure an accurate fit.



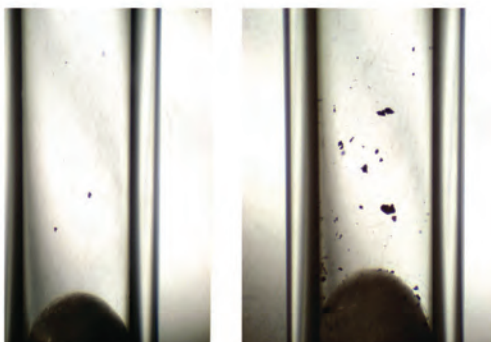
High Temperature Performance

Accelerated high-temperature tests show adhesion of silicone rubber formulations to a steel plate, with and without the CRS Non-stick coating. The difference in adhesion is readily apparent. In actual use this performance means easier septum removal and less injection port cleanup.

Exposed to Dust		Cleaned with Air	
Uncoated	Coated	Uncoated	Coated

Plasma Coating

- Non-stick surface treatment
- Easy to change, even after high-temperature use
- Stays clean, does not attract dust



Centerguide™ and pre-pierced

Non-Centerguide™ and non-pierced

CenterGuide™ & Pre-pierced Advantage

- Center point guides the needle for easy penetration
- Reduces needle bending
- Reduces coring and tearing

Premium septa are precision-molded with a recess on the injection side, to guide the syringe needle to the same point with every injection. The CenterGuide™ design requires less force on initial penetration for a smoother feel. Pre-pierced septa give long injection life for autosampling, reduce coring, and enhance reliable performance.

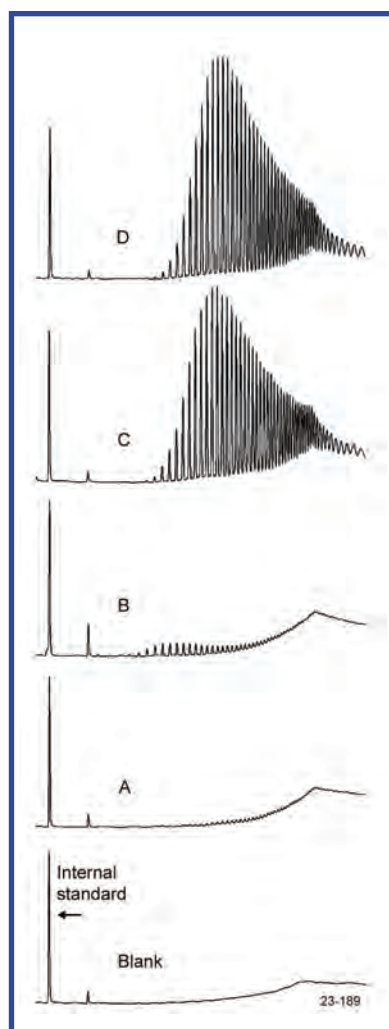
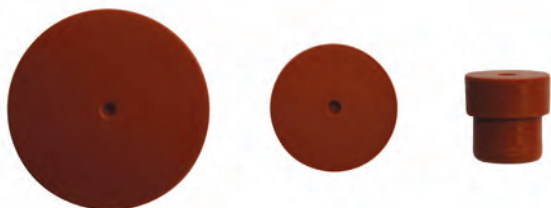


Septa BTO®

Septa BTO is *Bleed and Temperature Optimized* for today's most demanding GC and GC/MS applications. Septa BTO is formulated to extend low-bleed and outstanding mechanical properties of premium GC septa to the highest-temperature applications. It retains remarkable softness and pierceability at high temperatures, with extremely low bleed. Septa BTO are packaged in glass jars for high purity. CenterGuide™ on select sizes are listed.



Description	Qty	Item No.
5 mm CenterGuide™	50/pk	298787
6 mm (1/4")	50/pk	298755
9 mm CenterGuide	50/pk	298713
9.5 mm (3/8")	50/pk	298705
10 mm	50/pk	298745
11 mm (7/16") CenterGuide	50/pk	298717
11 mm (7/16") CenterGuide	100/pk	298718
11.5 mm CenterGuide	50/pk	298777
12.7 mm (1/2") CenterGuide	50/pk	298727
17 mm CenterGuide	50/pk	298817
Shimadzu	50/pk	298735



Septa BTO has the lowest bleed of any septa we have tested. Solvent extracts of residual silicones:

- A) BTO® B) AG3™
- C) Competitor's high-temp red septa
- D) Competitor's low-bleed green septa

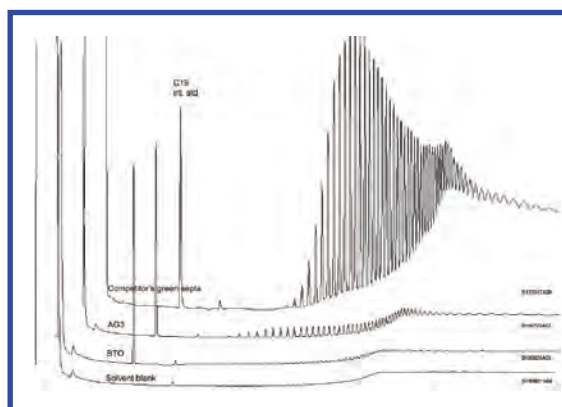
Premium Septa



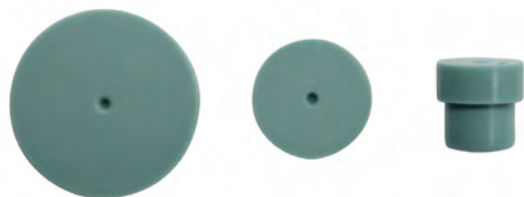
Advanced Green 3™

The CRS Advanced Green 3 Septum was specifically created to combine significantly longer injection life, low bleed and low injection port adhesion. The result is a green septum that can be used for all critical analyses. Advanced Green 3 Septa are packaged in glass jars for high purity. CenterGuide™ on select sizes are listed.

Description	Qty	Item No.
5 mm CenterGuide	50/pk	246525
9 mm CenterGuide	50/pk	246713
9.5 mm (3/8")	50/pk	246124
11 mm (7/16") CenterGuide	50/pk	246225
11 mm (7/16") CenterGuide	100/pk	246228
11.5 mm CenterGuide	50/pk	246725
12.7 mm (1/2") CenterGuide	50/pk	246325
17 mm CenterGuide	50/pk	246624
Shimadzu	50/pk	246424



Top to Bottom:
 Competitor's low-bleed green septa
 AG3™
 BTO®
 Blank



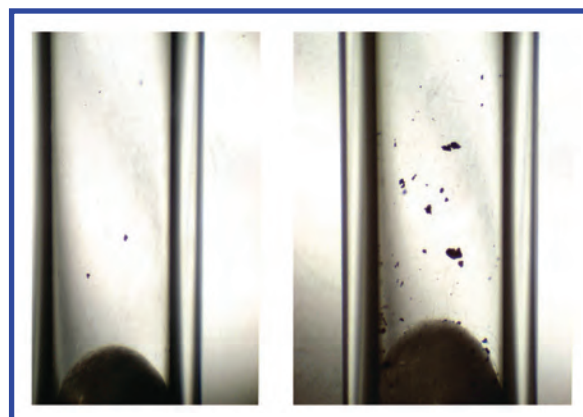


Marathon™

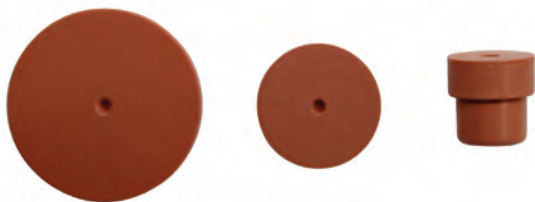
Marathon are pre-pierced to channel the needle through the same spot with each injection, which helps eliminate the common type of coring that may occur on the first injection. The Marathon septum is also ideal for standard manual-injection GC and GC/MS. Marathon Septa are packaged in glass jars for high purity. CenterGuide™ on select sizes are listed.



Description	25/pk	50/pk	100/pk
5 mm CenterGuide	239587	239597	
9 mm CenterGuide	239778	239779	
11 mm (7/16") CenterGuide	239287	239297	239888
11.5 mm CenterGuide	239787	239798	
12.7 mm (1/2") CenterGuide	239387	239397	
17 mm CenterGuide	239688	239698	
Shimadzu	239488	239498	



Our Marathon Septa are pre-pierced to enhance septa life and performance in some applications by minimizing tearing and coring often found when general purpose septa are used. Left: CenterGuide™ and pre-pierced. Right: Non-CenterGuide™ and non-pierced.



General Purpose Septa



Economy Blue Septa

CRS Blue Septa are designed for routine applications. They are made from silicone and easy to penetrate.

Description	50/pk	100/pk
5 mm	234106	234105
6 mm (1/4")	234626	234625
9 mm	234108	234109
9.5 mm (3/8")	234906	234905
10 mm	234111	234110
11 mm (7/16")	234116	234115
11.5 mm	234216	234215
12.7 mm (1/2")	234126	234125
17 mm	234118	234117
Shimadzu	234121	234120



Puresep T™

A silicone-based septum, faced on one side with a double layer of polyimide and PTFE. The polyimide adheres to both the silicone and PTFE, providing a better bond and enhanced durability. The outer PTFE coating assures maximum inertness and helps minimize bleed.

Description	Qty	Item No.
6 mm (1/4")	50/pk	230665
9.5 mm (3/8")	50/pk	230675
11 mm (7/16")	50/pk	230685
11.5 mm	50/pk	230697
12.7 mm (1/2")	50/pk	230695



BLOGables

Are you choosing the right Septa? Find out online at <https://www.ChromRes.com/blog/>

Useful and relevant discussions related to the GC industry including product information, troubleshooting, FAQ, and recommendations from our skilled experts.



Puresep P™

Puresep P™ is made from silicone coated with a layer of high temperature polyimide.

Description	Qty	Item No.
6 mm (1/4")	50/pk	230630
9.5 mm (3/8")	50/pk	230640
11 mm (7/16")	50/pk	230650
11.5 mm	50/pk	230670
12.7 mm (1/2")	50/pk	230660



Do you know about our Premium Septa?

Learn how our premium septa can make a difference in your analysis on page 42.



BTO®

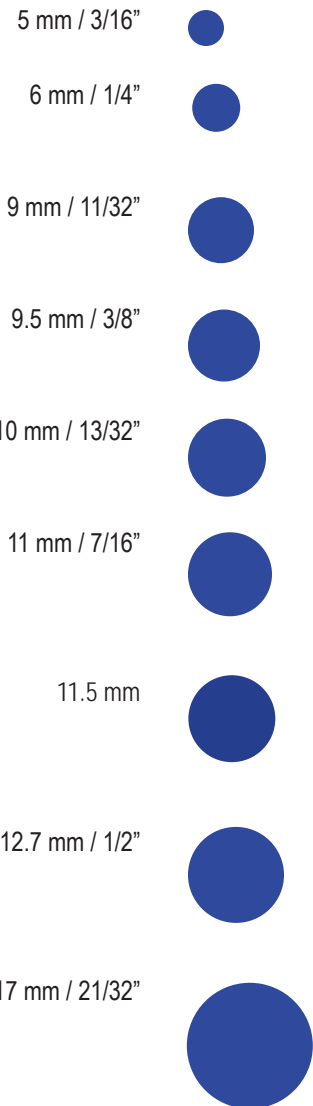


AG3™



Marathon™

Measuring Chart

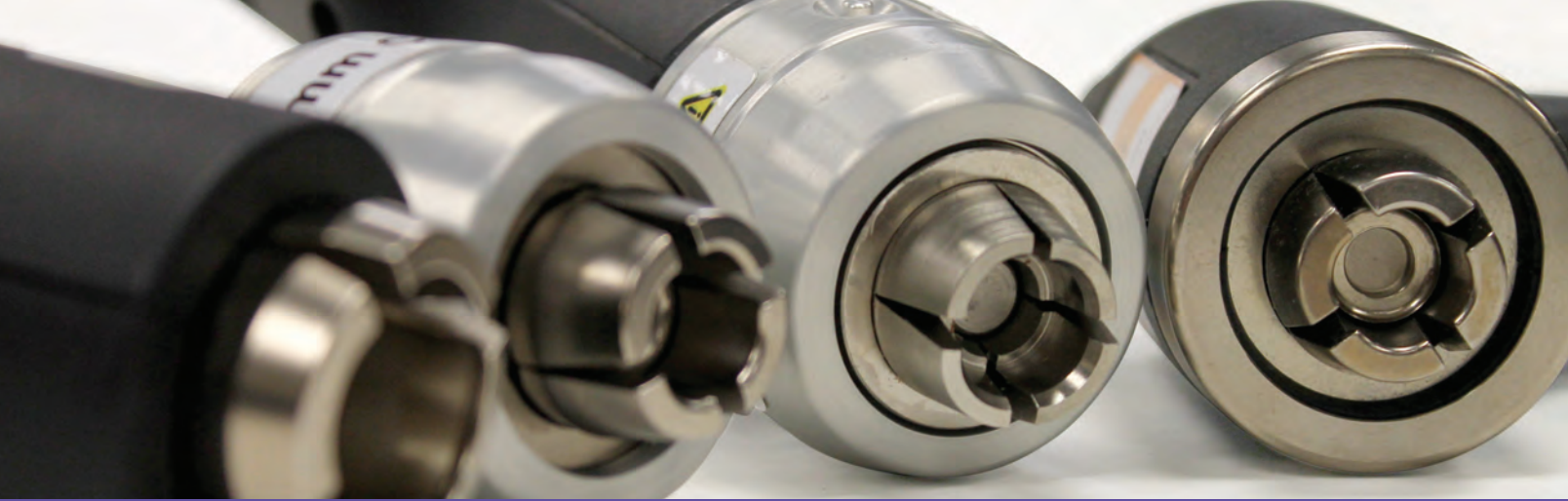




Are strict procedures and uncontaminated components important to you? Us too!

Know exactly what you are getting with high-grade CRS products for your analytical needs.





Crimping Tools

Manual Crimping Tools	50
Electronic Crimping Tools	51
High Power Crimping Tools	52-53
Accessories	54

Crimping Tools

Manual Crimpers and Decappers

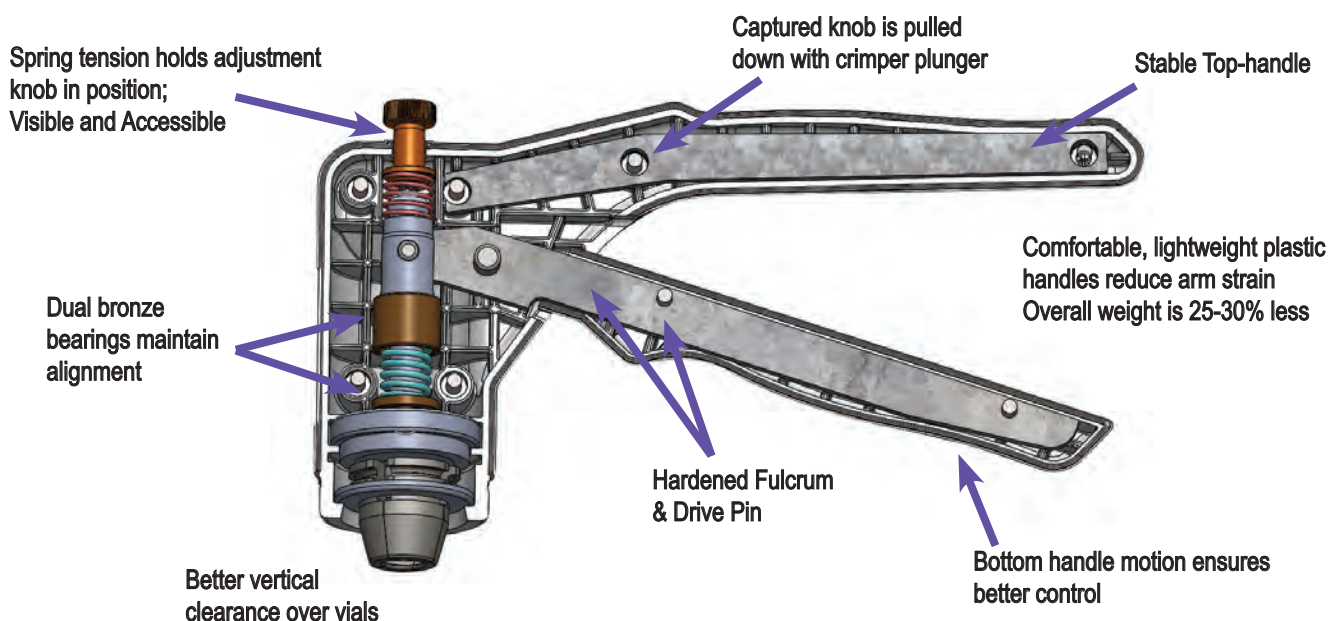
- Easily-viewed adjustment knob
- Strong light-weight plastic body
- Bottom-pull handle design prevents wobbling
- Curved high-strength plastic handles
- Available for flip-off caps in 13 mm and 20 mm sizes (not for use with *flip-up* caps)
- Optional crimper stand available (page 54)



Adjusting the Crimp Setting

The adjustment knob is conveniently positioned at the head of the crimper and clearly displays + and - symbols along with directional arrows. This simplifies adjusting the intensity of the crimp to the desired setting. When the knob touches the crimper body, the crimp setting has been reached. No more “extra squeeze” necessary! Available in 8 mm (crimper only), 11 mm, 13 mm, and 20 mm cap sizes; including the flip-off style in 13 mm and 20 mm cap sizes.

Description	Item No.
8 mm Crimper	308990
11 mm Crimper	311990
13 mm Crimper	313990
13 mm Crimper for Flip Off Caps*	313992
20 mm Crimper	320990
20 mm Crimper for Flip Off Caps*	320992
*Not for use with Flip-Up Caps	
11 mm Decapper	311991
13 mm Decapper	313991
20 mm Decapper	320991



Electronic Crimpers and Decappers

- Powerful motor allows fast cycles
- Long lasting battery with Lithium Ion technology
- Advanced charging system includes warning light when recharging is necessary
- Can be operated while charging
- Convenient controls on top of unit to adjust power
- Not for use with all steel/magnetic caps, see High Power Crimper (page 52)
- Available for flip-off caps in 13 mm and 20 mm sizes (not for use with *flip-up* caps)
- Optional base with mounting kit and stand (page 54)

CRS electronic crimpers and decappers fit standard laboratory vials and seals with aluminum or two-part aluminum/steel caps. For all steel caps see the High Power Crimper on page 52. The crimper jaws easily fit around vials that are set in standard autosampler trays. The electronically-adjustable cycle is accurate and reproducible and can be adjusted with the control pad on top of the unit.

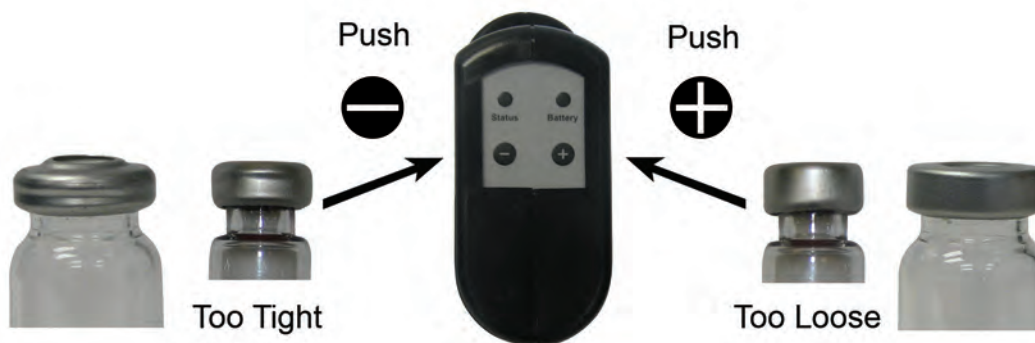
The tools are ergonomically designed to reduce strain and arm injury associated with many manual crimping tools. Available in 8 mm (crimper only), 11 mm, 13 mm, and 20 mm cap sizes; including the flip-off style in 13 mm and 20 mm cap sizes.

Rechargeable

The tools can be recharged in one to two hours with the universal power supply included. The power supply includes a plug set for operation in most countries.



Description	Item No.
8 mm Crimper	5A08C0
11 mm Crimper	5A11C0
13 mm Crimper	5A13C0
13 mm Crimper for Flip Off Caps*	5A13F0
20 mm Crimper	5A20C0
20 mm Crimper for Flip Off Caps*	5A20F0
*Not for use with Flip-Up Caps	
11 mm Decapper	5A11D0
13 mm Decapper	5A13D0
20 mm Decapper	5A20D0



High Power Crimping Tool

- Fastest and most powerful CRS crimping Tool
- Strong enough for all steel and magnetic caps
- Designed with external power source and cord (no battery)
- Uses interchangeable jaw sets (ordered separately)
- Stores separate programs for different caps and seals
- Jaws available for flip-off caps in 13 mm and 20 mm sizes (not for use with *flip-up* caps)
- Optional base and mounting kit (see page 54)



The CRS High Power Crimper is designed with interchangeable jaws so that you only need one crimping tool. You can then choose which size crimper and decapper jaw sets fit your laboratory needs. The jaw sets fit standard laboratory vials with aluminum, two-part aluminum/steel, and all-steel crimp caps. This crimping tool has the ability to store separate programs for different style caps and cap sizes. The tools are ergonomically designed to reduce strain and arm injury associated with many manual crimping tools. Jaw sets are available in 8 mm (crimper only), 11 mm, 13 mm, and 20 mm cap sizes, including flip-off style in 13 mm and 20 mm cap sizes.

Description	Item No.
High Power Electronic Crimping Tool	5AHP50
8 mm Crimper Jaw	308955
11 mm Crimper Jaw	311955
13 mm Crimper Jaw	313955
13 mm Crimper Jaw for Flip Off Caps*	313956
20 mm Crimper Jaw	320955
20 mm Crimper Jaw for Flip Off Caps*	320956
*Not for use with Flip-Up Caps	
11 mm Decapper Jaw	311965
13 mm Decapper Jaw	313965
20 mm Decapper Jaw	320965

Switching Jaw Sets

Jaw sets are easy to interchange. Simply insert the jaw set into the bushing at the bottom of the tool. Push up and twist until the set locks into position. To remove, push the outside button and rotate.



High Power Crimping Tool with External Control

- Programmable version of the High Power crimping tool with a fixed power supply and cord (no battery)
- Serial RS485 connection allows for external control of all the crimper's functions with a programmable controller or PC
- Demonstration software for interface included
- Uses interchangeable jaw sets
- Stores separate programs for different caps and seals
- Strong enough for all steel and magnetic caps
- Jaws available for flip-off caps in 13 mm and 20 mm sizes (not for use with *flip-up* caps)
- Optional base and mounting kit (see page 54)



Description	Item No.
High Power Electronic Crimping Tool External Control	5AHPR0

For full listing of available jaw sets, please see page 52.

The CRS High Power Crimper is designed with interchangeable jaws so that you only need one crimping tool. You can then choose which size crimper and decapper jaw sets fit your laboratory needs. The jaw sets fit standard laboratory vials with aluminum, two-part aluminum/steel, and all-steel crimp caps. This crimping tool has the ability to store separate programs for different style caps and cap sizes. The tools are ergonomically designed to reduce strain and arm injury associated with many manual crimping tools. Jaw sets are available in 8 mm (crimper only), 11 mm, 13 mm, and 20 mm cap sizes, including flip-off style in 13 mm and 20 mm cap sizes. The programmable version allows for external control of crimper functions with a remote or PC. Interface demonstration software is included.



5AHPR0 uses the same jaw sets as the high power crimping tool. See listing on page 52.



BLOGables

Why Should you be using an Electronic Crimper? Find out online at <https://www.ChromRes.com/blog/>

Useful and relevant discussions related to the GC industry including product information, troubleshooting, FAQ, and recommendations from our skilled experts.

Crimping Tools

Crimping Tool Accessories



Base and Mounting Kit

The Base and Mounting Kit is available for use with either the Electronic Crimping Tools or with High Power Electronic Crimping Tools. The kit is easy to assemble and all hardware is included.

Description	Item No.
Base and Mounting Kit	5ABAS0



Crimping Tool Stand

The Crimping Tool Stand is available for use with both the Electronic and Manual Crimping Tools.

Description	Item No.
Crimper Stand	5ASTA0



Replacement Battery

Longer lasting battery with Lithium Ion technology.

Description	Item No.
6.6 Volt Lithium Ion Battery	HPB6-A



DJ's Fun Fact

CRS was first to manufacture and patent the electronic crimper in 1999.



Vials, Caps and Seals

12 x 32 mm Crimp Top	58-61
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Vials, Caps and Seals

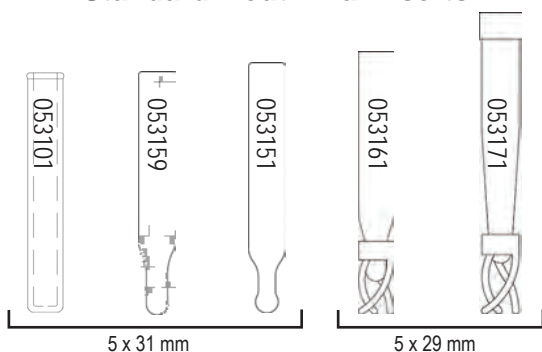
12 x 32 mm Standard Mouth



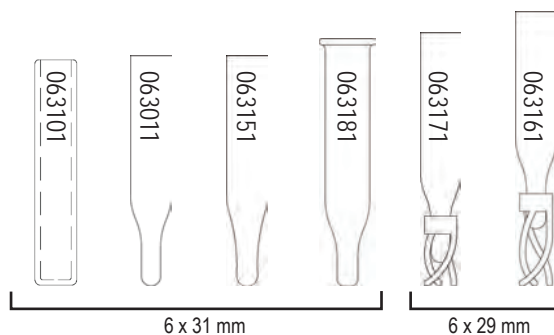
12 x 32 mm Wide Mouth



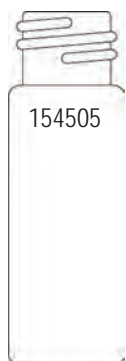
Standard Mouth Vial Inserts



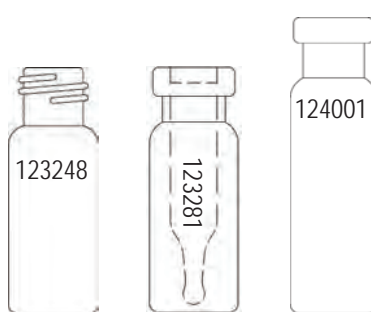
Wide Mouth Vial Inserts



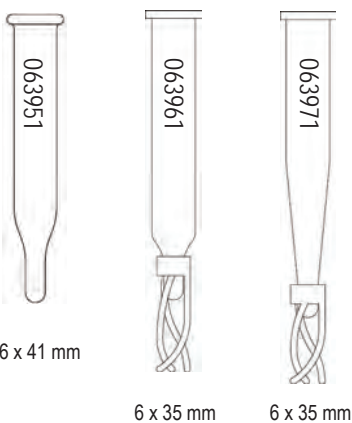
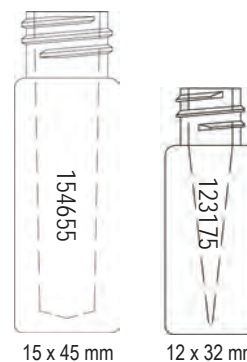
15 x 45 mm Vials and Inserts



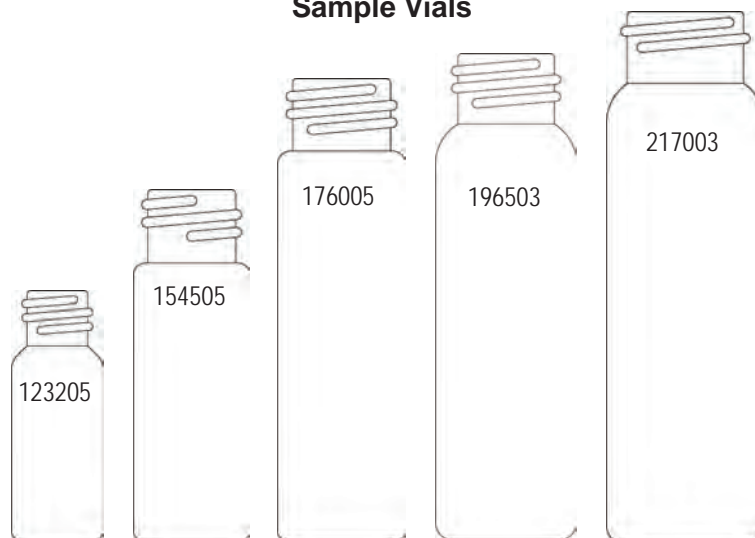
Misc. Vials



Conical / Limited Volume Vials



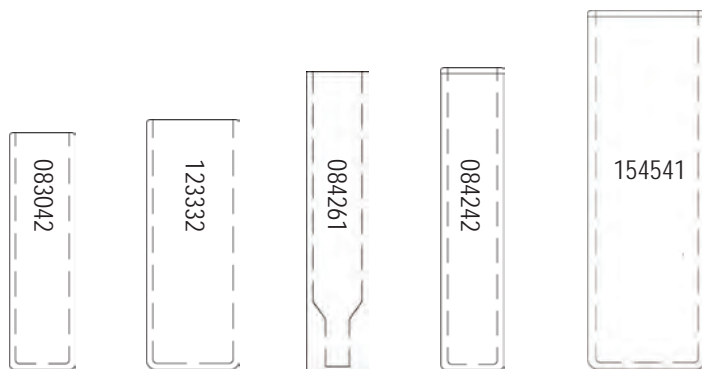
Sample Vials



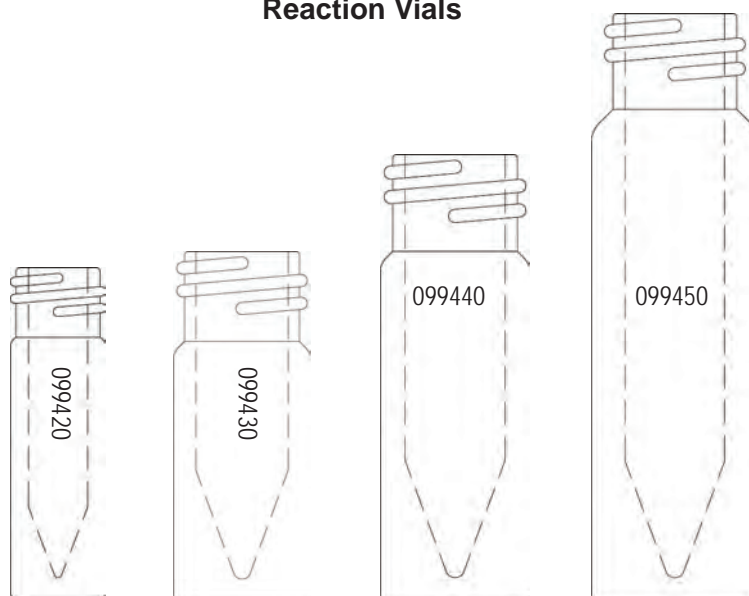
EPA Vials



Shell Vials

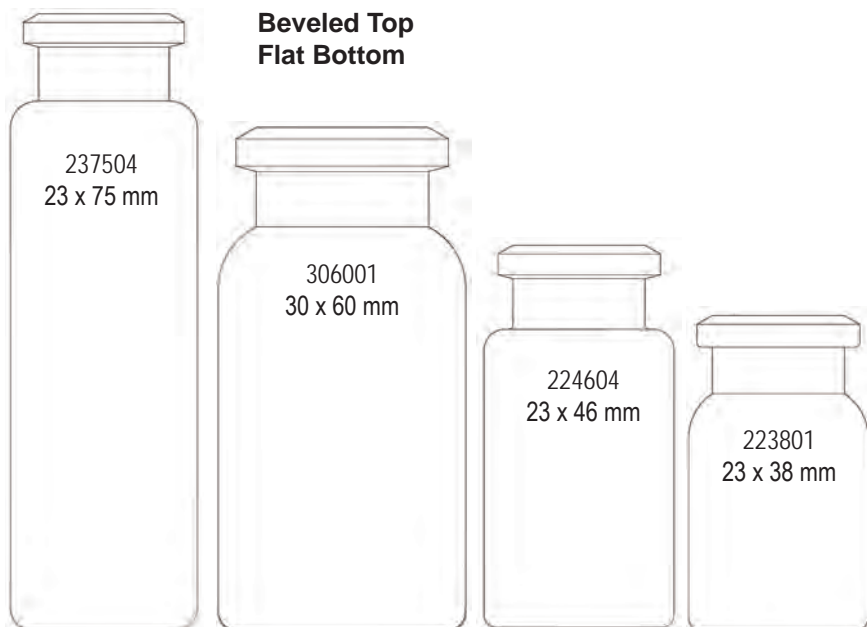


Reaction Vials

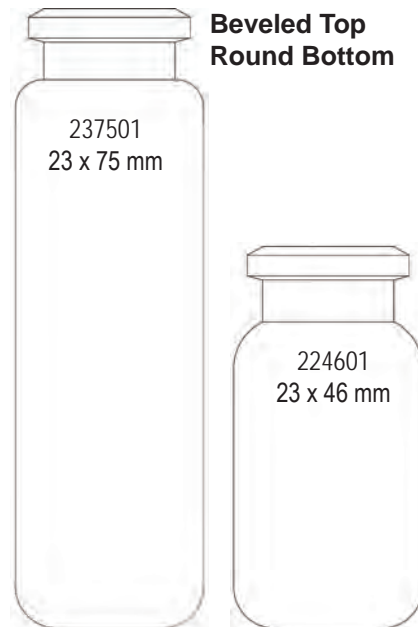


Headspace Vials

Beveled Top Flat Bottom



Beveled Top Round Bottom



Vials, Caps and Seals

12 x 32 mm Crimp, Standard Mouth



1.8 mL Crimp Top Vials

- Compatible with most GC and HPLC autosamplers using 12 x 32 mm (1.8 mL) vials
- All vials are made from type 1 borosilicate glass
- Uses caps and seals listed on page 59

Description	Qty	Item No.
1.8 mL Clear Crimp Vial	100/pk	123201
1.8 mL Amber Crimp Vial	100/pk	123211
1.8 mL Clear Graduated Crimp Vial	100/pk	123202
1.8 mL Amber Graduated Crimp Vial	100/pk	123203



Combo Pack

Description	Qty	Item No.
1.8 mL Clear Vial, Cap, Std. Seal	100/pk	123221
1.8 mL Clear Graduated Vial, Cap, Std. Seal	100/pk	123491



Inserts

- Allows use of microliter-size samples
- Fits inside standard-mouth 12 x 32 mm, 1.8 mL vials
- Mandrel-Point or Pulled-Point tip available
- Inserts measure 5 x 31 mm except TriSpring inserts, 5 x 29 mm
- TriSpring inserts have a plastic spring already attached, to center the insert and absorb shocks to minimize needle damage
- Type 1 borosilicate glass except as noted

Description	Qty	Item No.
250 µL Flat-Bottom Insert	100/pk	053101
100 µL Pulled-Point Insert	100/pk	053159
100 µL Mandrel-Point Insert	100/pk	053151
100 µL TriSpring Insert	100/pk	053161
100 µL TriSpring Insert, Polypropylene	100/pk	053171

Shown above left to right in order listed.



11 mm Crimp Caps and Seals for 1.8 mL Vials

- Caps are made from lacquered aluminum and have an open-hole design
- Pre-stuffed with seals listed below

Standard Seal - Good for routine use; self-sealing.

Seal S - A better-quality PTFE/silicone seal.

Seal TT - Premium-grade seal with two layers of PTFE. Coring is virtually eliminated.

TruSeal™ - A Silicone/PTFE seal offers lower permeability and bleed than natural rubber, and resists degradation to 250°C. Because the TruSeal is soft, lower crimping force is recommended.

Description	Material	Qty	Item No.
Silver Cap, Std. Seal	PTFE/Rubber	100/pk	311001
Blue Cap, Std. Seal	PTFE/Rubber	100/pk	311001B
Green Cap, Std. Seal	PTFE/Rubber	100/pk	311001G
Gold Cap, Std. Seal	PTFE/Rubber	100/pk	311001GO
Orange Cap, Std. Seal	PTFE/Rubber	100/pk	311001O
Purple Cap, Std. Seal	PTFE/Rubber	100/pk	311001PU
Red Cap, Std. Seal	PTFE/Rubber	100/pk	311001R
Yellow Cap, Std. Seal	PTFE/Rubber	100/pk	311001Y
Steel Cap	No Seal	100/pk	311002
Silver Cap and Seal S	PTFE/Sil.	100/pk	311201
Silver Cap and Seal TT	PTFE/Sil./PTFE	100/pk	311401
Silver Cap and TruSeal	PTFE/Silicone	100/pk	311231



DJ Recommends:

Reduce wrist strain with an electronic crimper from CRS!
Read more on [page 51](#).

Vials, Caps and Seals

12 x 32 mm Crimp, Wide Mouth



1.8 mL Wide Crimp Top Vials

- Wider opening minimizes bent autosampler needles, especially when using inserts
- All vials are made from type 1 borosilicate glass

Caps and Seals - Wide-mouth vials use the same caps and seals as CRS standard mouth vials listed on page 59.

Description	Qty	Item No.
1.8 mL Clear Wide Crimp Vial	100/pk	123101
1.8 mL Amber Wide Crimp Vial	100/pk	123211A
1.8 mL Clear Graduated Wide Crimp Vial	100/pk	123222
1.8 mL Amber Graduated Wide Crimp Vial	100/pk	123224



Combo Pack

Description	Qty	Item No.
1.8 mL Clear Wide Vial, Cap, Std. Seal	100/pk	123121
1.8 mL Amber Wide Graduated Vial, Cap, Std. Seal	100/pk	123236



Inserts

- Allows use of microliter-size samples
- Fit inside wide-mouth 12 x 32 mm, 1.8 mL vials
- Mandrel-Point or Pulled-Point tip available
- Inserts measure 6 x 31 mm except TriSpring inserts, 6 x 29 mm
- TriSpring inserts have a plastic spring already attached, to center the insert and absorb shocks to minimize needle damage
- Type 1 borosilicate glass except as noted

Description	Qty	Item No.
350 μ L Flat-Bottom Insert	100/pk	063101
250 μ L Pulled-Point Insert	100/pk	063011
250 μ L Mandrel-Point Insert	100/pk	063151
250 μ L TriSpring Insert	100/pk	063161
250 μ L TriSpring Insert, Polypropylene	100/pk	063171
250 μ L Tapered Hanging Insert	100/pk	063181

Shown above left to right in order listed.



1.8 mL Snap/Crimp Wide Mouth Vials

- Uses caps for Snap/Crimp Vials listed below
- Easy to use
- Type 1 borosilicate glass vials
- Polyethylene caps available with a variety of septum materials

Description	Qty	Item No.
1.8 mL Snap/Crimp Clear Vial	100/pk	123341
1.8 mL Snap/Crimp Amber Vial	100/pk	123343
1.8 mL Snap/Crimp Clear Graduated Vial	100/pk	123371
1.8 mL Snap/Crimp Clear Label Vial with 250 μ L Insert	100/pk	123344



Description	Seal Material	Qty	Item No.
Snap Cap	PTFE	100/pk	311251
Snap Cap	PTFE/Rubber	100/pk	311261
Snap Cap	PTFE/Silicone	100/pk	311271
Snap Cap	Polyethylene	100/pk	311281



0.25 mL Pre-Inserted Crimp Vial

- Vials have a permanently-attached insert
- Unique one-piece design easier for microsampling
- Recommended for Agilent 7673 A/B; 7683 A/B
- Type 1 borosilicate glass vials

Caps and Seals - Wide-mouth vials use the same caps and seals as CRS standard mouth vials listed on page 59.

Description	Qty	Item No.
Pre-Inserted Clear Vial	100/pk	123281
Pre-Inserted Clear Vial with Label	100/pk	123284
Pre-Inserted Amber Vial with Label	100/pk	123286



DJ's Tech Tips

Turn to **page 50** to learn about the benefits of our manual and electronic crimping tools.

Vials, Caps and Seals

12 x 32 mm Screw, Standard Mouth



1.8 mL Screw Top Vials

- Compatible with most GC and HPLC autosamplers requiring 1.8 mL, 12 x 32 mm vials (12 x 35 mm with cap)
- Vials use 8 mm, 8-425 caps
- Combo packs include vial and pre-stuffed cap with PTFE/Silicone seal
- Label vials can be marked with an ordinary pen or pencil on permanent ceramic patch
- Graduated label vials show the approximate volume of contents
- Type 1 borosilicate glass vials

Description	Qty	Item No.
1.8 mL Clear Screw Vial	100/pk	123205
1.8 mL Amber Screw Vial	100/pk	123215
1.8 mL Clear Label Screw Vial	100/pk	123315
1.8 mL Clear Graduated Screw Vial	100/pk	123340
1.8 mL Amber Graduated Screw Vial	100/pk	123342



Combo Pack

Description	Qty	Item No.
Clear Vial, Cap, PTFE/Silicone Seal	100/pk	123225
Amber Vial, Cap, PTFE/Silicone Seal	100/pk	123135
Clear Grad. Vial, Cap, PTFE/Silicone Seal	100/pk	123385



Inserts

- Allows use of microliter-size samples
- Fit inside standard-mouth 12 x 32 mm, 1.8 mL vials
- Mandrel-Point or Punched-Point tip available
- Inserts measure 5 x 31 mm except TriSpring inserts, 5 x 29 mm
- TriSpring inserts have a plastic spring already attached, to center the insert and absorb shocks to minimize needle damage
- Type 1 borosilicate glass except as noted

Description	Qty	Item No.
250 µL Flat-Bottom Insert	100/pk	053101
100 µL Punched-Point Insert	100/pk	053159
100 µL Mandrel-Point Insert	100/pk	053151
100 µL TriSpring Insert	100/pk	053161
100 µL TriSpring Insert, Polypropylene	100/pk	053171

Shown above left to right in order listed.



Do you know about our Quick Order option?

With our online Quick Order module, you can add multiple part numbers to your cart in seconds! Great for frequent large ordering!



8 mm Caps and Seals

- Caps have open hole design; 8-425 threads
 - Available individually or pre-stuffed with seals to save time and effort
 - Pierceable screw caps are for single-time use. They have a polypropylene seal molded into the cap, so it cannot fall out
- *Note:** Shimadzu, Hitachi and Jasco autosamplers require a special wide-lip cap, listed at right, or use wide mouth vials with these autosamplers.

Standard Seal - Good for routine use; self-sealing.

Silicone Seal ST - Made from white silicone rubber faced with a PTFE layer.

Seal TT - Premium-grade seal with two layers of PTFE. Coring is virtually eliminated.

TruSeal™ - A Silicone/PTFE seal offers lower permeability and bleed than natural rubber, and resists degradation to 250°C. Because the TruSeal is soft, lower crimping force is recommended.

Slit Seal - Recommended for Hitachi, Jasco and Shimadzu autosamplers. Prescored for easy needle penetration. Use with standard mouth vials and wide lip caps.

Caps

Description	Material	Qty	Item No.
Standard Screw Cap	Black Polypropylene	100/pk	308115
Wide-Lip Screw Cap*	Black Polypropylene	100/pk	309115
Wide-Lip Screw Cap*	White Polypropylene	100/pk	309415



Seals

Description	Material	Qty	Item No.
Silicone Seal ST	PTFE/Silicone	100/pk	308515
Seal TT	PTFE/Silicone/PTFE	100/pk	308715
Slit Seal	PTFE/Silicone	100/pk	309715
TruSeal	PTFE/Silicone	100/pk	308565



Pre-Assembled Open-Hole Screw Caps

Description	Material	Qty	Item No.
Cap with Seal ST	PP/PTFE/Silicone	100/pk	309525
Cap with Seal TT	PP/PTFE/Sil./PTFE	100/pk	309585

Vials, Caps and Seals

12 x 32 mm Screw, Standard Mouth



1.8 mL Pre-Assembled Screw Top Vials

- Completely pre-assembled with PTFE/Silicone seal and open-hole screw cap
- Type 1 borosilicate glass
- Cap is made from polypropylene

Silicone Seal ST - Made from white silicone rubber faced with a PTFE layer.

Seal TT - Premium-grade seal with two layers of PTFE. Coring is virtually eliminated.

Description	Qty	Item No.
1.8 mL Pre-assembled Vial ST Seal	100/pk	123425
1.8 mL Pre-assembled Vial TT Seal	100/pk	123435



0.1 mL Conical Vials

- Standard dimensions of 12 x 32 mm, yet 100 µL capacity for small sample sizes
- Standard mouth design with 8-425 threads
- Use standard 8-425 thread screw caps and seals listed on page 63
- Polypropylene is translucent white in color
- TPX (polymethylpentene) has properties similar to polypropylene, but with transparency close to that of glass

Description	Qty	Item No.
0.1 mL Poly Screw Top Vial	100/pk	123165
0.1 mL TPX Screw Top Vial	100/pk	123175



1.1 mL Tapered Bottom Vial*

- Microsampling and analysis with one vial
- Tapered bottom lets you concentrate samples into the tip by solvent evaporation
- Standard mouth design; 8-425 threads
- Type 1 borosilicate glass

Description	Qty	Item No.
1.1 mL Tapered Bottom Vial	100/pk	123255

* 5 pack minimum order



Did you know?

You can register online at www.ChromRes.com for order history, tracking numbers, and to pay your invoices from your dashboard!

12 x 32 mm Screw, Wide Mouth



1.8 mL Screw Top Vials

- 40% larger opening than our standard vial
- Minimizes risk of bent needles; especially when using small volume inserts
- Compatible with most GC/HPLC autosamplers requiring 1.8 mL, 12 x 32 mm vials
- Type 1 borosilicate glass
- Uses 10-425 thread caps and seals listed at right

Description	Qty	Item No.
1.8 mL Clear Wide Screw Vial	100/pk	123405
1.8 mL Amber Wide Screw Vial	100/pk	123406
1.8 mL Clear Graduated Wide Screw Vial	100/pk	123408
1.8 mL Amber Graduated Wide Screw Vial	100/pk	123409



Combo Pack

Description	Qty	Item No.
1.8 mL Wide Vial, Cap, PTFE/Silicone	100/pk	123415



10 mm Cap and 9 mm Seals

- 10 mm, 10-425 thread caps fits the thread dimensions of 1.8 mL wide mouth vials
- Made from polypropylene; open-hole design
- Wide mouth vials are recommended for use with autosamplers that require vials to be suspended by the cap, including Shimadzu, Hitachi and Jasco (not recommended for the Agilent 7673 or 7683 A/B)
- Caps use 9 mm seals

Silicone Seal ST - Made from white silicone rubber faced with a PTFE layer.

Seal TT - Premium-grade seal with two layers of PTFE. Coring is virtually eliminated.

Seal PTFE - Disk is pure PTFE; not resealable.

Slit Seal - Recommended for Hitachi, Jasco and Shimadzu autosamplers. Pre-scored for easy needle penetration. Use with standard mouth vials and wide lip caps.

Cap

Description	Material	Qty	Item No.
10 mm Black Cap	Polypropylene	100/pk	310115

Seals

Description	Material	Qty	Item No.
9 mm Silicone Seal ST	PTFE/Silicone	100/pk	310515
9 mm Seal TT	PTFE/Sil./PTFE	100/pk	310615
9 mm Seal PTFE	PTFE	100/pk	310005
9 mm Slit Seal	PTFE/Silicone	100/pk	310815

- For use when you only have a small amount of sample available for analysis

Inserts for 12 x 32 mm Vials

- Available in a variety of styles, to fit both standard and wide mouth 1.8 mL, 12 x 32 mm vials
- Inserts for standard mouth vials measure 5 x 31 mm except TriSpring inserts which are 5 x 29 mm
- Inserts for wide mouth vials measure 6 x 31 mm except TriSpring inserts which are 6 x 29 mm

Flat Bottom Inserts - have the largest capacity. They are placed directly in the host vial.

Tapered Bottom Inserts - allow sampling of just microliters of liquid, with nearly complete withdrawal from the tip. They are also set directly into the host vial. The tips are either drawn during manufacture ("pulled point") or formed ("mandrel point").

TriSpring Inserts - have a plastic spring already attached to the tapered bottom. The spring centers the insert in the host vial and acts as a shock absorber if the insert is touched by the autosampler needle.

Hanging Insert - has a lip that rests on top of a wide mouth crimp or screw vial. The septum seals directly and positively against the insert, reducing the risk of solvent evaporation. Available for wide-mouth vials only.



Description	Qty	Item No.
Inserts for Standard Mouth 1.8 mL Vials, Type 1 Borosilicate Glass		
250 µL Flat Bottom Insert	100/pk	053101
100 µL Pulled Point Insert	100/pk	053159
100 µL Mandrel Point Insert	100/pk	053151
100 µL TriSpring Insert	100/pk	053161

Inserts for Standard Mouth 1.8 mL Vials, Polypropylene		
100 µL TriSpring Insert	100/pk	053171

Shown above left to right in order listed.



Inserts for Wide Mouth 1.8 mL Vials, Type 1 Borosilicate Glass		
350 µL Flat Bottom Insert	100/pk	063101
250 µL Pulled Point Insert	100/pk	063011
250 µL Mandrel Point Insert	100/pk	063151
250 µL TriSpring Insert	100/pk	063161
250 µL Tapered Hanging Insert	100/pk	063181

Inserts for Wide Mouth 1.8 mL Vials, Polypropylene		
250 µL TriSpring Insert, Polypropylene	100/pk	063171

Shown above left to right in order listed.

Tapered Inserts Mandrel-Point vs. Pulled-Point

Tapered glass inserts are manufactured in different ways. The point can either be flame-drawn and pulled (pulled point) or shaped over a die (mandrel point). The pulled point is less costly to produce, while the mandrel point typically has more accurate dimensional tolerances.



9 mm Screw Thread Vials



1.8 mL Screw Thread Vials

- Large-opening vials
- 9 mm finish
- For use with Agilent 7673 and other robotic arm autosamplers that use 12 x 32 mm screw top vials
- Excellent for long-term storage
- Clear vials type 1 borosilicate glass, 33 expansion glass
- Amber vials for light sensitive samples

Description	Qty	Item No.
Clear Screw Vial	100/pk	123242
Clear Screw Vial with Graduated Label	100/pk	123248
Amber Screw Vial with Graduated Label	100/pk	123253



Combo Packs

Description	Qty	Item No.
Clear Vial, Cap, PTFE/Silicone	100/pk	123243
Clear Vial, Cap, PTFE/Silicone/PTFE	100/pk	123247
Label Clear Vial, Cap, PTFE/Silicone	100/pk	123250
Label Clear Vial, Cap, Slit PTFE/Silicone	100/pk	123252
Label Amber Vial, Cap, PTFE/Silicone	100/pk	123254



Pre-Stuffed Caps for 9 mm Vials

- Fits 9 mm screw thread vials for Agilent 7673 and other robotic arm autosamplers that use 12 x 32 mm screw top vials
- Caps are pre-stuffed with various seal materials

Description	Qty	Item No.
PTFE	100/pk	309041
PTFE/Silicone Rubber	100/pk	309042
PTFE/Pre-slit Silicone	100/pk	309044
PTFE/Silicone/PTFE	100/pk	309045
PTFE/Silicone Rubber - Red Cap	100/pk	309042R

Vials, Caps and Seals

HPLC Vials



1.2 mL Waters® 96 Style Shell Vial

- Matches the Waters vial design; 8 x 40 mm (8 x 45 mm with cap, included)
- Made from Type 1 borosilicate glass except as noted
- Polyethylene cap is pre-scored in a star design for easier syringe penetration
- Insert available for small-volume sampling; fits into the cap

Description	Qty	Item No.
200 µL Insert, Glass	100/pk	053852
8 mm Snap Plug for Waters 96 Vial	100/pk	308051

Combo Pack

Description	Qty	Item No.
1.2 mL Clear Shell Vial with Polyethylene Cap	100/pk	084242
1.2 mL Amber Shell Vial with Plug	100/pk	084252
1 mL Polypropylene Tapered Shell Vial with Polypropylene Cap	100/pk	084261

Shown above left: 084242, right: 084261.



1 mL 8 x 40 mm Crimp Top Vials & Caps

- For Waters 96 Vial Tray
- Tapered bottom for microsampling work
- Use standard 8 mm aluminum crimp caps or polyethylene plug caps
- Vials are made from type 1 borosilicate glass

Description	Material	Qty	Item No.
1.0 mL Tapered Crimp Top Vial*		125/pk	084051
8 mm Crimp Cap and Std. Seal	PTFE/Rubber	100/pk	308001
8 mm Crimp Cap and Seal TT	PTFE/Sil./PTFE	100/pk	308401
Plug Cap for 8 mm Vials Polyethylene		100/pk	308021

* 4 pack minimum order



Combo Pack

Description	Qty	Item No.
1.0 mL Vial, Cap, Std. Seal*	100/pk	084071
1.0 mL, with PE Plug Cap*	100/pk	084091

* 5 pack minimum order

Miscellaneous Vials



0.8 mL, 8 x 30 mm Shell Vial

- A handy alternative to crimp-top vials
- Comes complete with polyethylene plug cap; just push to seal
- Cap has 0.5 mm thickness in needle penetration zone for easy piercing
- Not for use with autosamplers that pressurize the vial
- Type 1 borosilicate glass

Description	Qty	Item No.
Shell Vial and Polyethylene Plug	100/pk	083042



4 mL Shell Vial

- No need to crimp or assemble screw caps
- Polyethylene plug cap included; just push to seal
- Type 1 borosilicate glass

Description	Qty	Item No.
Shell Vial with Plug	100/pk	154541



12 x 32 mm Shell Vials

- Alternative to crimp or screw top vials; just push to seal cap
- Can be used in most autosamplers except robot arm types, and autosamplers that pressurize the vial (Not usable with Agilent 7673/83A and 1090A autosamplers)
- Polyethylene plug cap included; the needle pierces the cap directly
- Type 1 borosilicate glass

Description	Qty	Item No.
2 mL Clear Shell Vial with Plug Cap	100/pk	123332
2 mL Amber Shell Vial with Plug Cap	100/pk	123362



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Miscellaneous Vials and Seals



Reaction Vials

These minivials are useful for micro and semi-micro scale reactions or concentration work. The vials have thick walls, conical tapered interiors and come complete with PTFE-faced silicone liners and open-hole screw caps. Vials have graduation marks and are made from Type 1 borosilicate glass. Available in 1.0, 3.0, 5.0, and 10.0 mL vials shown above from left to right.

Description	Thread Size	Qty	Item No.
1.0 mL Clear Vial	13-425	12/pk	099420
3.0 mL Clear Vial	20-400	12/pk	099430
5.0 mL Clear Vial	20-400	12/pk	099440
10.0 mL Clear Vial	20-400	12/pk	099450
10.0 mL Amber Vial	20-400	12/pk	099452



2.5 mL, 12 x 40 mm Vial

- Fits Thermo Instruments AS 800, ICI LC1600, Pharmacia LKB 2157-020
- Uses standard 11 mm crimp caps and seals listed on page 59
- Type 1 borosilicate glass vial

Description	Qty	Item No.
2.5 mL Clear Crimp Vial	100/pk	124001



Soil Sample Septa

- GC-quality septa; specially developed for purge-and-trap analysis using soil sample jars in DynaSoils®, DynaTrap® and similar instruments
- Conditioned to be free of volatiles
- Also superior for EPA sampling
- 22 mm diameter and 3 mm thick, coated on one side with PTFE

Description	Qty	Item No.
22 mm Soil Sample Septa	100/pk	322545

15 x 45 mm Screw Vials



4.0 mL Vials

- Ideal for your most demanding sampling needs
- Recommended for pH-sensitive work and other highly critical applications
- Graduated label vials show the approximate volume of contents
- 13-425 threads
- Type 1 borosilicate glass
- Uses caps and seals listed on page 72

Description	Qty	Item No.
4.0 mL Clear Screw Vial	100/pk	154505
4.0 mL Amber Screw Vial	100/pk	154515
4.0 mL Clear Graduated Screw Vial	100/pk	154506
4.0 mL Amber Graduated Screw Vial	100/pk	154507

Inserts

- Allows small volume sampling in 15 x 45 mm vials
- Shell inserts fit directly into the vial; 8 x 42 mm
- Tapered glass (6 x 41 mm) and tapered polyethylene (6 x 35 mm) inserts require a spring for support; the spring is reusable
- TriSpring inserts have a plastic support spring permanently attached
- Type 1 borosilicate glass, except as noted

Description	Qty	Item No.
300 µL Tapered Insert*	100/pk	063951
300 µL TriSpring Insert	100/pk	063961
250 µL TriSpring Insert, Polypropylene	100/pk	063971

Shown above from left to right.

**Requires spring for support.*



Combo Pack

Description	Qty	Item No.
4.0 mL Clear Vial, Cap, Seal ST	100/pk	154525
4.0 mL Clear Vial, Cap, Seal PTFE	100/pk	154545
4.0 mL Amber Vial, Cap, Seal ST	100/pk	154535

Vials, Caps and Seals

15 x 45 mm Screw Vials



4.0 Pre-Assembled Screw Top Vials

- Completely pre-assembled with PTFE/Silicone seal and open-hole screw cap
- Type 1 borosilicate glass
- Cap is made from polypropylene

Silicone Seal ST - Made from white silicone rubber faced with a PTFE layer.

Seal TT - Premium-grade seal with two layers of PTFE. Coring is virtually eliminated.

Description	Qty	Item No.
4.0 mL Pre-assembled Vial ST	100/pk	154565
4.0 mL Pre-assembled Vial PTFE	100/pk	154575



Caps and Seals

- Caps are made from polypropylene; open-hole design
- 12 mm caps (13-425 threads) fit the threads of 15 x 45 mm vials

Silicone Seal ST - Made from white silicone rubber faced with a PTFE layer.

Seal PTFE - 12 mm disk of pure PTFE. For one-time use; not resealable.

Seal TT - Premium-grade seal with two layers of PTFE. Coring is virtually eliminated.

TruSeal™ - A Silicone/PTFE seal offers lower permeability and bleed than natural rubber, and resists degradation to 250°C. Because the TruSeal is soft, lower crimping force is recommended.

Cap

Description	Material	Qty	Item No.
12 mm Black Screw Cap	Polypropylene	100/pk	312115

Seals

Description	Material	Qty	Item No.
12 mm Silicone Seal ST	PTFE/Silicone	100/pk	312515
12 mm Seal TT	PTFE/Sil./PTFE	100/pk	311715
12 mm Seal PTFE	PTFE	100/pk	312005
12 mm TruSeal	PTFE/Silicone	100/pk	312565



1.2 mL, 2.5 mL Reduced Volume Polypropylene Vial

- Screw top polypropylene vial fits WISP® and other autosamplers directly
- Reduced volume and non-ionic makes it ideal for IC and HPLC applications
- Interior is tapered at the bottom to allow nearly complete sample withdrawal
- Uses the same 12 mm (13-425) screw caps and seals listed on page 72

Description	Qty	Item No.
2.5 mL Polypropylene Screw Vial	100/pk	154655



Combo Pack

Description	Qty	Item No.
2.5 mL Vial, Cap, PTFE Seal	100/pk	154675



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Vials, Caps and Seals

Sample Vials



Sample Vials

- Ideal for sample storage; available in several sizes
- Vials are made from type 1 borosilicate glass
- Use PTFE-lined screw caps shown at right

Clear Sample Vials

Description			Qty	Item No.
	Dia. x Ht, mm	Cap Size		
1.8 mL	12 x 32	8-425	100/pk	123205
4 mL	15 x 45	13-425	100/pk	154505
8 mL	17 x 60	15-425	100/pk	176003
12 mL	19 x 65	15-425	200/pk	196503
16 mL	21 x 70	18-400	200/pk	217003
24 mL	27.5 x 57	24-400	100/pk	275705
40 mL	27.5 x 95	24-400	100/pk	279505

Shown above from left to right in order listed.

Amber Sample Vials

Description			Qty	Item No.
	Dia. x Ht, mm	Cap Size		
1.8 mL	12 x 32	8-425	100/pk	123215
4 mL	15 x 45	13-425	100/pk	154515
8 mL	17 x 60	15-425	100/pk	176005
12 mL	19 x 65	15-425	144/pk	196505
40 mL	27 x 98	24-400	100/pk	279515



PTFE Lined Screw Caps

- Solid (no-hole) replacement screw caps for all of your sample vials and jars
- PTFE-faced foam seals are ultrasonically bonded to the inside of the caps
- Not autoclavable

Description	Qty	Item No.
8-425 Thread Screw Cap	100/pk	309925
13-425 Thread Screw Cap	100/pk	309935
15-425 Thread Screw Cap	100/pk	520110
18-400 Thread Screw Cap	100/pk	520310
20-400 Thread Screw Cap	100/pk	520210
22-400 Thread Screw Cap	100/pk	520410
24-400 Thread Screw Cap	100/pk	520510
38-400 Thread Screw Cap	100/pk	520810
48-400 Thread Screw Cap	100/pk	521110

Headspace Vials - Crimp Top



Rounded Bottom Vials

- Vial lip has a beveled shape (slightly raised inner edge) for better, tighter seals
- Type 1 borosilicate glass
- Dimensions are: Above Left: 10 mL, 23 x 46 mm; Above Right: 20 mL, 23 x 75 mm
- Vials use standard 20 mm aluminum crimp caps and seals shown on pages 76-77

Description	Qty	Item No.
10 mL Headspace Vial	100/pk	224601
20 mL Headspace Vial	100/pk	237501



Combo Pack

Description	Qty	Item No.
10 mL Vial, Cap, Septum 3	100/pk	224621
10 mL Vial, Precleaned, press release seal	100/pk	224621A
20 mL Vial, Cap, Septum 3	100/pk	237521
20 mL Vial, Precleaned, press release seal	100/pk	237521A



Flat Bottom Vials

- Flat bottom headspace vials for those who cannot use the rounded bottom style
- Vials use standard 20 mm aluminum crimp caps and seals shown on pages 76-77
- Dimensions are: 6 mL, 23 x 38 mm; 10 mL, 23 x 46 mm; 20 mL, 23 x 75 mm; 27 mL, 30 x 60 mm shown above left to right

Description	Qty	Item No.
6 mL Headspace Vial	100/pk	223801
10 mL Headspace Vial	100/pk	224604
20 mL Headspace Vial	100/pk	237504
27 mL Headspace Vial	100/pk	306001



Combo Pack

Description	Qty	Item No.
6 mL Vial, Cap, Septum 3	100/pk	223821
6 mL Vial, Precleaned, press release seal	100/pk	223821A
10 mL Vial, Cap, Septum 3	100/pk	224624
20 mL Vial, Magnetic Cap, Septum 3	100/pk	237524

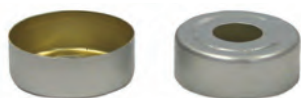
Vials, Caps and Seals

20 mm Caps and Seals

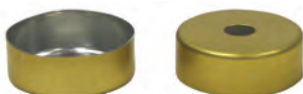


20 mm Caps

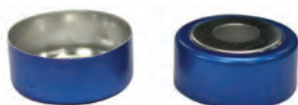
Standard Cap - Made from lacquered aluminum with an open hole design. It fits 6 mL, 10 mL, 20 mL and 27 mL headspace vials.



Safety Cap - Specially designed to vent high-pressure gas at approximately 5 bar (78 psi). The safety cap is aluminum.



Magnetic Cap - Nickel plated steel cap is for use with autosamplers made by LEAP and CTC, and other autosamplers using a magnetic pick-up arm.



Magnetic Ring Crimp Cap - This is a 20 mm aluminum crimp cap, pre-assembled with an internal steel ring. The inner steel ring allows use with magnetic pick-up autosamplers while the outer aluminum cap can still be crimped with the 20 mm manual crimper and rechargeable electronic crimper on page 50 and 51.

Caps - No Seals

Description	Qty	Item No.
20 mm Crimp Cap ¹	100/pk	320001
20 mm Safety Crimp Cap ¹	100/pk	320301
20 mm Magnetic Crimp Cap ²	100/pk	320605
20 mm Magnetic Ring Crimp Cap ¹	100/pk	320607

¹ Suitable for use with manual and battery powered crimpers (page 50 and 51).

² High Power Crimper (page 52-53) recommended.



20 mm Seals

Septum 3 - Pure silicone rubber, 3 mm thick, coated with PTFE.



Septum 2 - 2.4 mm thick silicone faced with PTFE.



Soil Sample Septa - This is a 20 mm version of our popular seal for soil sampling. Suitable for your most sensitive analysis; it is pre-conditioned to be free from volatiles. Layer of PTFE on silicone; 3 mm total thickness.

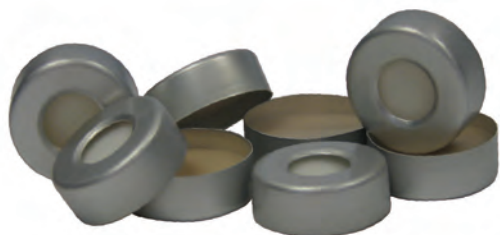


Chlorobutyl Septum - Gray. This is made from pure chlorobutyl rubber, 3 mm thick.



Bellows Seal - Chlorobutyl rubber faced with PTFE for superior sample protection. Only PTFE contacts the sample, while the soft outer ring of rubber makes a tight seal.

Description	Qty	Item No.
20 mm Septum 3	100/pk	320101
20 mm Septum 2	100/pk	320201
20 mm Chlorobutyl Septum (Gray)	100/pk	320401
20 mm Bellows Seal	100/pk	320501
20 mm Soil Sample Septum	100/pk	320545



20 mm Pre-Stuffed Caps

Seals are pre-stuffed for added convenience and lower contamination risk. These fit all standard 6 mL, 10 mL, 20 mL and 27 mL headspace vials. Aluminum caps may be crimped using the 20 mm electronic crimper listed on page 51.

Standard Cap - Made from lacquered aluminum; open hole design.

Safety Cap - Specially designed to vent high-pressure gas at approximately 5 bar (78 psi). The safety cap is aluminum.

Magnetic Cap - Made from nickel-plated steel for use with magnetic pick-up arm autosamplers. Not suitable for use with the rechargeable electronic crimper or decapper. The High Power Crimper on page 52 and 53 is recommended.

Septum 3 - Pure silicone rubber coated with PTFE.

Septum 2 - Silicone faced with PTFE.

Butyl Septum - Black. Standard butyl rubber (not chlorobutyl) available pre-stuffed in the aluminum cap. Good for routine use.

Bellows Seal - Chlorobutyl rubber faced with PTFE for superior sample protection. Only PTFE contacts the sample, while the outer ring of rubber makes a tight seal.

Description	Qty	Item No.
Aluminum Crimp Cap ¹ /Septum 3	100/pk	320121
Safety Crimp Cap ¹ /Septum 3	100/pk	320122
Magnetic Crimp Cap ² /Septum 3	100/pk	320123
Aluminum Crimp Cap ¹ /Blue/White Septa	100/pk	320130
Aluminum Crimp Cap ¹ /Septum 2	100/pk	320221
Safety Crimp Cap ¹ /Septum 2	100/pk	320222
Magnetic Crimp Cap ² /Septum 2	100/pk	320223
Aluminum Crimp Cap ¹ /Black Butyl	100/pk	320421
Aluminum Crimp Cap ¹ /Bellows Seal	100/pk	320521
Magnetic Crimp Cap ² /Septum 3	100/pk	320610

¹ Suitable for use with manual and battery powered crimpers (page 50 and 51).

² High Power Crimper (page 52-53) recommended.



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Headspace Vials - Screw Tops



Precision-Thread Vials

- Made from Type 1 borosilicate glass
- Vials can be used either for traditional headspace analyses or SPME
- Use with magnetic screw caps and seals shown at right
- Vials have rounded bottoms and 18 mm diameter necks.
- Dimensions are: Above left: 10 mL, 23 x 46 mm;
Above right: 20 mL, 23 x 76 mm

Description	Qty	Item No.
10 mL Clear Screw Headspace Vial	100/pk	224608
10 mL Amber Screw Headspace Vial	100/pk	224609
20 mL Clear Screw Headspace Vial	100/pk	237508
20 mL Amber Screw Headspace Vial	100/pk	237509



Combo Pack

Description	Qty	Item No.
10 mL Clear, Cap, PTFE/Silicone	100/pk	224611
20 mL Clear, Cap, PTFE/Silicone	100/pk	237511



Magnetic Precision-Thread Screw Caps with Seals

- Use with precision-thread vials shown at left
- Flat upper surface assures strong magnetic bond
- 8 mm center hole also suitable for SPME

Caps come with 18 mm liners already installed. Liners are available in a range of hardness, as measured by Shore A durometer. Liners are thinner than typical crimp top headspace liner seals, so they may be more easily pierced by SPME sampling systems.

Description	Thickness	Shore A	Qty	Item No.
White PTFE/Blue Silicone	1.3 mm	35	100/pk	320125
Gray PTFE/Red Butyl Rubber	1.6 mm	55	100/pk	320128
Red PTFE/White Silicone	1.3 mm	45	100/pk	320124
Blue PTFE/White Silicone	1.5 mm	55	100/pk	320126
Chlorobutyl			100/pk	320129

EPA Sampling Vials



Bulk EPA Vials

- Meet specifications for water sampling under EPA 40 CFR
- Type 1 borosilicate glass
- Dimensions: Above left: 24 mL, 27.5 x 57 mm;
Above right: 40 mL, 27.5 x 95 mm
- All have 24-400 thread and use 24 mm screw caps with 22 mm seals shown at right

Description	Qty	Item No.
24 mL Clear EPA Vial	100/pk	275705
24 mL Amber EPA Vial	100/pk	275805
40 mL Clear EPA Vial	100/pk	279505
40 mL Amber EPA Vial	100/pk	279515

Combo Pack

Description	Qty	Item No.
24 mL Clear Vial, Cap, Seal	100/pk	275725
24 mL Amber Vial, Cap, Seal	100/pk	275905
40 mL Clear Vial, Cap, Seal	100/pk	279525
40 mL Amber Vial, Cap, Seal	100/pk	279535

*All combo packs listed above come with seal 322515 and cap 324115 shown at right



24 mm Caps

- 24-400 or 24-414 threads; made from polypropylene. Both fit 24-400 thread vials.
- The 24-414 threads caps are deeper, and are recommended for use with thick seals
- Open-hole design

Description	Qty	Item No.
Black Screw Cap, 24-400	100/pk	324115
Black Screw Cap, 24-414	100/pk	324114
Preassembled White Screw Caps		
Screw Cap, 24-414 and Seal	100/pk	324415
Screw Cap, 24-414 and Seal, Level 3	100/pk	324425



22 mm Seals

- All seals for headspace are 22 mm diameter
- Seals are made from silicone with a PTFE layer, except PTFE Disk

Description	Qty	Item No.
Standard Seal, PTFE/Silicone	100/pk	322515
PTFE/Silicone	100/pk	322516
PTFE Disk	100/pk	322005
Economy PTFE/Silicone Septa	100/pk	322550
22 mm Soil Sample Septa	100/pk	322545

Vials, Caps and Seals

Pre-Assembled EPA Sampling Vials



Pre-Stuffed EPA Screw Caps

- Can be heated to 125°C for preparation per EPA protocols or for autoclaving
- The PTFE/Silicone seal is welded to the polypropylene cap so it cannot fall out
- Fits 20, 40 and 60 mL EPA vials. 24-414 threads.

Description	Qty	Item No.
24 mm Prestuffed EPA Caps	100/pk	324415
24-414 Cap with Bonded PTFE/Silicone Seal, Level 3	100/pk	324425



Standard Pre-Assembled Vials

- Vial is completely pre-assembled, with PTFE/Silicone seal and open-hole cap
- Dimensions: 20 mL, 28 x 56 mm; 40 mL, 28 x 95 mm
- The seal is bonded to the open-hole polypropylene cap using a proprietary process without glue, so it cannot fall out
- Type 1 borosilicate glass

Description	Qty	Item No.
20 mL EPA Vials, Preassembled	100/pk	275745
40 mL EPA Vials, Preassembled	100/pk	279545

Pre-Cleaned EPA Sampling Vials



Pre-Cleaned & Pre-Assembled Vials

- Pre-cleaned EPA vials come pre-cleaned with cap and PTFE/Silicone seal
- Dimensions: 20 mL, 28 x 56 mm; 40 mL, 28 x 95 mm; 60 mL, 27 x 140 mm
- Vials are cleaned to Protocol B as specified in the EPA "Specifications and Guidance for Contaminant-Free Sample Containers"
- Type 1 borosilicate glass
- Level 3 - pre-cleaned; sent to an independent lab for QC analysis. Vials comes with certificate.*

Description	Qty	Item No.
20 mL Clear Pre-cleaned EPA Vials	72/pk	275825
20 mL Amber Pre-cleaned EPA Vials	72/pk	275835
40 mL Clear Pre-cleaned EPA Vials	72/pk	279825
40 mL Amber Pre-cleaned EPA Vials	72/pk	279835
60 mL Clear Pre-cleaned EPA Vials	72/pk	271425
60 mL Amber Pre-cleaned EPA Vials	72/pk	271435
Level 3 Certificate		
40 mL Clear Pre-cleaned EPA Vial*	72/pk	279815
40 mL Amber Pre-cleaned EPA Vial*	72/pk	279816

Combo Pack

Description	Qty	Item No.
40 mL Clear EPA Vial Level 3 Certificate*	100/pk	279580

Combo pack listed above comes un-assembled with vial 279505 and level 3 certificate cap with bonded PTFE/Silicone Seal - 324425.

Vials, Caps and Seals

Crimp Caps (no seal)



8 mm Caps

These fit all standard 6, 7 and 8 mm diameter crimp vials and others with 8 mm lips.

Description	Qty	Item No.
Blank Crimp Cap (no seal)	100/pk	308501

11 mm Caps

These fit all common 12 x 32 mm (1.8 mL) crimp vials, both standard and wide mouth. Caps with standard seals are available silver, blue, green, gold, orange, purple, red and yellow.

Description	Qty	Item No.
Blank Crimp Cap (no seal)	100/pk	311501
Magnetic Crimp Cap (no seal)	100/pk	311002

20 mm Caps

These fit the 6 mL, 10 mL, 20 mL, 27 mL headspace vials.

Description	Qty	Item No.
Blank Crimp Cap (no seal)	100/pk	320001
Safety Crimp Cap (no seal)	100/pk	320301
Magnetic Crimp Cap (no seal)	100/pk	320605
Magnetic Ring Crimp Cap (no seal)	100/pk	320607



Did you know?

We manage our inventory carefully so that you always get on time shipping!

Crimp Caps Pre-Stuffed with Seals



8 mm Caps Pre-Stuffed with Seals

These fit all standard 6, 7 and 8 mm diameter crimp vials and others with 8 mm lips.

Description	Qty	Item No.
Crimp Cap/Standard Seal	100/pk	308001
Crimp Cap/Seal S	100/pk	308201
Crimp Cap/Seal TT	100/pk	308401
Crimp Cap/TruSeal	100/pk	308231



11 mm Caps Pre-Stuffed with Seals

Fits 12 x 32 mm (1.8 mL) crimp vials, standard and wide mouth.

Description	Qty	Item No.
Crimp Cap/Standard Seal, Silver	100/pk	311001
Crimp Cap/Standard Seal, Blue	100/pk	311001B
Crimp Cap/Standard Seal, Green	100/pk	311001G
Crimp Cap/Standard Seal, Gold	100/pk	311001GO
Crimp Cap/Standard Seal, Orange	100/pk	311001O
Crimp Cap/Standard Seal, Purple	100/pk	311001PU
Crimp Cap/Standard Seal, Red	100/pk	311001R
Crimp Cap/Standard Seal, Yellow	100/pk	311001Y
Crimp Cap/Seal S	100/pk	311201
Crimp Cap/Seal TT	100/pk	311401
Crimp Cap/TruSeal	100/pk	311231



20 mm Caps Pre-Stuffed with Seals

These fit the 6 mL, 10 mL, 20 mL, 27 mL headspace vials.

Description	Qty	Item No.
Aluminum Crimp Cap/Septum 3	100/pk	320121
Safety Crimp Cap/Septum 3	100/pk	320122
Magnetic Crimp Cap/Septum 3	100/pk	320123
Aluminum Crimp Cap/Septum 2	100/pk	320221
Safety Crimp Cap/Septum 2	100/pk	320222
Magnetic Crimp Cap/Septum 2	100/pk	320223
Aluminum Crimp Cap/Black Butyl	100/pk	320421
Aluminum Crimp Cap/Bellows Seal	100/pk	320521
Magnetic Crimp Cap/Septum 3	100/pk	320610



Seal Descriptions

Standard Seal - Good for routine use; self-sealing.

Seal S - A quality PTFE/Silicone seal; silicone offers good sealing properties.

Seal TT - Premium-grade seal with two layers of PTFE. Coring is virtually eliminated.

TruSeal™ - A Silicone/PTFE seal offers lower permeability and bleed than natural rubber, and resists degradation to 250°C. Because the TruSeal is soft, lower crimping force is recommended.

Septum 3 - Pure silicone rubber coated with PTFE.

Septum 2 - Silicone faced with PTFE.

Butyl Septum - Black. Standard butyl rubber (not chlorobutyl) available pre-stuffed in the aluminum cap. Good for routine use.

Bellows Seal - Chlorobutyl rubber faced with PTFE for superior sample protection. Only PTFE contacts the sample, while the outer ring of rubber makes a tight seal.

Screw Caps and Seals



Open Hole Screw Caps, Polypropylene

- 8 mm Screw Caps - 8-425 threads. Fit standard mouth 12 x 32 mm vials.
- 8 mm Wide Lip Screw Caps - 8-425 threads. Specially designed for Shimadzu, Hitachi and Jasco autosamplers. It fits standard 12 x 32 mm vials, but is made with a wider outer lip.
- 10 mm Screw Caps - 10-425 threads. Fits wide mouth 12 x 32 mm vials.
- 12 mm Screw Caps - 13-425 threads. Fits standard 15 x 45 mm (4 mL WISP) vials.

Description	Qty	Item No.
8 mm Black Screw Cap	100/pk	308115
8 mm Wide Lip Screw Cap	100/pk	309115
10 mm Black Screw Cap	100/pk	310115
12 mm Black Screw Cap	100/pk	312115
24 mm Screw Cap, 24-414	100/pk	324115
24 mm Screw Cap, 24-414	100/pk	324114



Pre-Assembled Screw Caps

Using the open hole design screw caps shown above. Prestuffed with the following seals:

Seal ST - Made from white silicone rubber faced with a PTFE layer.

Seal TT - Premium-grade seal with two layers of PTFE. Coring is virtually eliminated.

Septum 3 - Pure silicone rubber coated with PTFE.

Septum 2 - Silicone faced with PTFE.

Description	Material	Qty	Item No.
8 mm			
Cap with Seal ST	PP/PTFE/Silicone	100/pk	309525
Cap with Seal TT	PP/PTFE/Sil./PTFE	100/pk	309585
24-414			
Cap and Seal	PTFE/Sil.	100/pk	324415
Cap and Seal Level 3	PTFE/Sil.	100/pk	324425



Polyethylene Plug Caps

These are for use with screw or crimp top vials; not for use with shell vials. Do not use with systems that pressurize the vial. Plug 8-1 fits 7 x 40 mm and 8 x 30 mm vials. Plug 11-2 fits 12 x 32 mm standard mouth vials.

Description	Qty	Item No.
Plug 8-1	100/pk	308021
Plug 11-2	100/pk	311021



PTFE-Lined Screw Caps

Solid (no-hole) replacement screw caps for all of your sample vials and jars. PTFE-faced foam seals are ultrasonically bonded to the inside of the caps. Not autoclavable.

Description	Qty	Item No.
8-425 Thread PTFE Lined Screw Cap	100/pk	309925
13-425 Thread PTFE Lined Screw Cap	100/pk	309935
15-425 Thread PTFE Lined Screw Cap	100/pk	520110
18-400 Thread PTFE Lined Screw Cap	100/pk	520310
20-400 Thread Screw Cap	100/pk	520210
22-400 Thread PTFE Lined Screw Cap	100/pk	520410
24-400 Thread PTFE Lined Screw Cap	100/pk	520510
38-400 Thread PTFE Lined Screw Cap	100/pk	520810
48-400 Thread PTFE Lined Screw Cap	100/pk	521110



Magnetic Precision-Thread Screw Cap with Seals

Caps come with 18 mm liners already installed. Liners are thinner than typical crimp top headspace liner seals, so they may be more easily pierced by SPME sampling systems.

Description	Thickness	Shore A	Qty	Item No.
White PTFE/Blue Silicone	1.3 mm	35	100/pk	320125
Gray PTFE/Red Butyl Rubber	1.6 mm	55	100/pk	320128
Red PTFE/White Silicone	1.3 mm	45	100/pk	320124
Blue PTFE/White Silicone	1.5 mm	55	100/pk	320126
Chlorobutyl			100/pk	320129



Did you know?

For more literature, look up our products at www.ChromRes.com and click on the documents tab!

Seals



Seals

Silicone Seal ST - Made from white silicone rubber faced with PTFE layer.

Silicone Seal - Similar to our Silicone ST Seal, except the PTFE layer is thicker for added protection. Cream colored PTFE on white silicone.

Seal TT - Premium-grade seal with two layers of PTFE. Coring is virtually eliminated.

TruSeal™ - A Silicone/PTFE seal offers lower permeability and bleed than natural rubber, and resists degradation to 250°C. Because the TruSeal is soft, lower crimping force is recommended.

Slit Seal - Recommended for Hitachi, Jasco and Shimadzu autosamplers. Prescored for easy needle penetration. Use with standard mouth vials and wide lip caps.

Seal PTFE - Disks of pure PTFE. For one-time use; not resealable. The 7.5 mm size fits 8 mm crimp caps.

Septum 3 - Pure silicone rubber, 3 mm thick, coated with PTFE.

Septum 2 - 2.4 mm thick silicone faced with PTFE.

Soil Sample Septa - This is a 20 mm version of our popular seal for soil sampling. Suitable for your most sensitive analysis; it is pre-conditioned to be free from volatiles. Layer of PTFE on silicone; 3 mm total thickness.

Chlorobutyl Septum - Gray. This is made from pure chlorobutyl rubber, 3 mm thick.

Bellows Seal - Chlorobutyl rubber faced with PTFE for superior sample protection. Only PTFE contacts the sample, while the soft outer ring of rubber makes a tight seal.

Description	Qty	Item No.
7.5 mm Seal PTFE	100/pk	307001
8 mm Silicone Seal ST (Red)	100/pk	308515
8 mm Cream Silicone Seal	100/pk	308915
8 mm Seal TT	100/pk	308715
8 mm TruSeal	100/pk	308565
8 mm Slit Seal	100/pk	309715
9 mm Seal ST (Red)	100/pk	310515
9 mm Seal TT	100/pk	310615
9 mm Slit Seal	100/pk	310815
9 mm Seal PTFE	100/pk	310005
10 mm Seal PTFE	100/pk	310001
12 mm Silicone Seal ST (Red)	100/pk	312515
12 mm Natural Silicone Seal	100/pk	312915
12 mm Seal TT	100/pk	311715
12 mm TruSeal	100/pk	312565
12 mm Seal PTFE	100/pk	312005
18 mm Seal PTFE	100/pk	318005
20 mm Septum 3	100/pk	320101
20 mm Soil Sample Septum	100/pk	320545
20 mm Septum 2	100/pk	320201
20 mm Chlorobutyl Septum (Gray)	100/pk	320401
20 mm Bellows Seal	100/pk	320501
20 mm Seal PTFE	100/pk	320005
22 mm Standard Seal, PTFE/Silicone	100/pk	322515
22 mm PTFE/Silicone	100/pk	322516
22 mm PTFE Disk	100/pk	322005
22 mm Economy PTFE/Silicone Septa	100/pk	322550

Accessories



Autosampler Vial Racks

- Holds up to eighty 1.5 and 2 mL vials
- Flip the rack over and it holds up to 60 PCR or microcentrifuge tubes from 0.2 - 0.5 mL
- Made of autoclavable polypropylene, allowing great chemical resistance
- Racks can be anchored to one another with special pins supplied with each rack
- Supplied with two removable handles
- Frosted area on both sides for bar coding, labeling or writing
- Dimensions: 9-3/4" x 2-5/8 in x 1-1/16" (232 mm x 67 mm x 27 mm)
- Transparent lid is optional

Description	Qty	Item No.
Vial Rack, 80 Places, Blue	10	868880B
Vial Rack, 80 Places, Green	10	868880G
Vial Rack, 80 Places, Orange	10	868880O
Vial Rack, 80 Places, Pink	10	868880P
Vial Rack, 80 Places, Red	10	868880R
Vial Rack, 80 Places, Yellow	10	868880Y
Vial Rack, 80 Places, Assorted*	10	868880AS
Lid, Transparent	10	868880

*Assorted colors: Blue, green, orange, pink, red, and yellow.



50 Position 1.8 mL Vial Rack

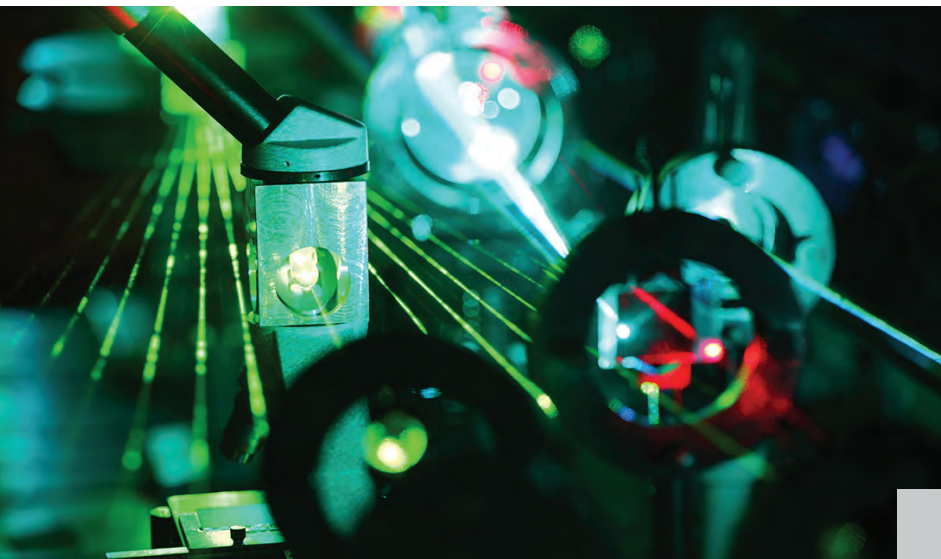
- Plastic racks, available in 50 position
- 50 position holds 1.8 mL vials
- Polyethylene racks are not autoclavable
- Dimensions: 50 position (for 1.8 mL) 4 in x 7-5/8 in x 1-1/8"

Description	Qty	Item No.
50 Position for 1.8 mL Vials Polyethylene	5/pk	868850



Did you know?

We're on Facebook! Like and follow us @ChromRes or Chromatography Research Supplies, Inc.



CRS can offer premium parts for the laser and optics industry.

We can help you transform your innovations into tangible results.



Accessories

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Accessories



Universal Fused Silica Connectors

These quartz connectors will join columns from 0.25 mm to 0.53 mm ID. Handy for joining broken columns or attaching guard columns. Procedure: cut the capillary column with a ceramic column scribe; be sure the end is cut squarely. Insert the column into the appropriate leg of the connector to make a snug fit. Heat in the GC oven under carrier gas flow for one hour at 250°C, to fuse the column's polyimide coating to the wall of the union.

Description	Item No.
Universal Quartz Connector, 5/pk	207950
Universal Y-Splitter, each	207960



Ferrule Remover

These are great for removing capillary GC ferrules. Insert into ferrule, give a slight twist, then pull out. Two removers are supplied for capillary ferrules from 0.4 mm to 0.8 mm ID.

Description	Item No.
Ferrule Remover, 2/pk	205315



Column Scribe

Used for cutting capillary tubing. It is made from hard ceramic and easy to use. Just pull one smooth edge of the scribe, tilted about 45 degrees, across the column to lightly score the fused silica. Bend the column opposite the score and the column separates cleanly.

Description	Item No.
Column Scribe, 10/pk	205312



Septa Pick

The Septa Pick is useful for removing small pieces of septa lodged in the threads and corners of the septum cap or injection port. It can also be used to remove small bits of graphite ferrule from the cap and fittings of column connectors; other small cleaning jobs.

Description	Item No.
Septa Pick	205465

Solid Phase Extraction

Solid Phase Extraction cartridges from CRS provide fast and efficient sample clean-up and concentration prior to analysis. Cartridges use medical grade polypropylene tubes, porous polyethylene frits, and highly reproducible sorbents. SPE syringe cartridges are equipped with male luer tips, for versatility in connections and processing.

Choosing the Proper Packing Type

Reversed Phase - C18, C8, and Phenyl bonded phases in various selections are available. Non-polar to moderately polar compounds in a polar matrix are retained by reversed-phase sorbents. Reversed-phase packings require conditioning with an organic solvent followed by an aqueous solvent prior to use. Elution of moderately polar compounds is often accomplished with mid-polarity solvents while non-polar compounds require less polar solvents.

Normal Phase - Silica, Florisil, Amino, Cyano, Diol and Alumina are usually used to retain polar compounds from non-polar matrices. Conditioning is carried out with a non-polar solvent. Elution is accomplished with more polar solvents. Compounds with pH basic functional groups are readily retained by silica. However, very polar compounds such as carbohydrates can be irreversibly retained on silica surface. In this case, a bonded and mid-polarity phase such as Diol or Amino is a better choice.

Ion Exchange - Strong anion (SAX) and cation (SCX) exchangers are available. Anions and cations are retained on the corresponding resin by exchanging the anion or cation in the buffers, 0.1 M - 0.5 M, or by changing the pH of elution solvent such that the sample compound is no longer charged. These resins are silica based and lose some exchange capacity with increasing organic solvent content in the sample.

Solid Phase Extraction



Reverse Phase SPE Cartridges, Non-Polar

C18 (ODS)

Description	Qty	Item No.
C18, 100 mg/1 mL	100/pk	186311
C18, 200 mg/3 mL	50/pk	186312
C18, 500 mg/3 mL	50/pk	186313
C18, 500 mg/6 mL	50/pk	186314
C18, 1000 mg/6 mL	30/pk	186315

C8 (Octyl)

Description	Qty	Item No.
C8, 100 mg/1 mL	100/pk	186321
C8, 200 mg/3 mL	50/pk	186322
C8, 500 mg/3 mL	50/pk	186323
C8, 500 mg/6 mL	50/pk	186324
C8, 1000 mg/6 mL	30/pk	186325

Phenyl

Description	Qty	Item No.
Phenyl, 100 mg/1 mL	100/pk	186341
Phenyl, 200 mg/3 mL	50/pk	186342
Phenyl, 500 mg/3 mL	50/pk	186343
Phenyl, 500 mg/6 mL	50/pk	186344
Phenyl, 1000 mg/6 mL	30/pk	186345



Non-Silica SPE Cartridges

Alumina A

Description	Qty	Item No.
Alumina A, 100 mg/1 mL	100/pk	186461
Alumina A, 200 mg/3 mL	50/pk	186462
Alumina A, 500 mg/3 mL	50/pk	186463
Alumina A, 500 mg/6 mL	50/pk	186464
Alumina A, 1000 mg/6 mL	30/pk	186465

Alumina N

Description	Qty	Item No.
Alumina N, 100 mg/1 mL	100/pk	186481
Alumina N, 200 mg/3 mL	50/pk	186482
Alumina N, 500 mg/3 mL	50/pk	186483
Alumina N, 500 mg/6 mL	50/pk	186484
Alumina N, 1000 mg/6 mL	30/pk	186485

Alumina B

Description	Qty	Item No.
Alumina B, 100 mg/1 mL	100/pk	186471
Alumina B, 200 mg/3 mL	50/pk	186472
Alumina B, 500 mg/3 mL	50/pk	186473
Alumina B, 500 mg/6 mL	50/pk	186474
Alumina B, 1000 mg/6 mL	30/pk	186475

Florisil™

Description	Qty	Item No.
Florisil, 100 mg/1 mL	100/pk	186491
Florisil, 200 mg/3 mL	50/pk	186492
Florisil, 500 mg/3 mL	50/pk	186493
Florisil, 500 mg/6 mL	50/pk	186494
Florisil, 1000 mg/6 mL	30/pk	186495

Solid Phase Extraction



Normal Phase SPE Cartridges, Polar

Silica

Description	Qty	Item No.
Silica, 100 mg/1 mL	100/pk	186361
Silica, 200 mg/3 mL	50/pk	186362
Silica, 500 mg/3 mL	50/pk	186363
Silica, 500 mg/6 mL	50/pk	186364
Silica, 1000 mg/6 mL	30/pk	186365

Diol

Description	Qty	Item No.
Diol, 100 mg/1 mL	100/pk	186391
Diol, 200 mg/3 mL	50/pk	186392
Diol, 500 mg/3 mL	50/pk	186393
Diol, 500 mg/6 mL	50/pk	186394
Diol, 1000 mg/6 mL	30/pk	186395

Cyano (CN)

Description	Qty	Item No.
Cyano, 100 mg/1 mL	100/pk	186381
Cyano, 200 mg/3 mL	50/pk	186382
Cyano, 500 mg/3 mL	50/pk	186383
Cyano, 500 mg/6 mL	50/pk	186384
Cyano, 1000 mg/6 mL	30/pk	186385

Amino (NH₂)

Description	Qty	Item No.
Amino, 100 mg/1 mL	100/pk	186371
Amino, 200 mg/3 mL	50/pk	186372
Amino, 500 mg/3 mL	50/pk	186373
Amino, 500 mg/6 mL	50/pk	186374
Amino, 1000 mg/6 mL	30/pk	186375

Ion Exchange SPE Cartridges

SAX

Description	Qty	Item No.
SAX, 100 mg/1 mL	100/pk	186411
SAX, 200 mg/3 mL	50/pk	186412
SAX, 500 mg/3 mL	50/pk	186413
SAX, 500 mg/6 mL	50/pk	186414
SAX, 1000 mg/6 mL	30/pk	186415

SCX

Description	Qty	Item No.
SCX, 100 mg/1 mL	100/pk	186421
SCX, 200 mg/3 mL	50/pk	186422
SCX, 500 mg/3 mL	50/pk	186423
SCX, 500 mg/6 mL	50/pk	186424
SCX, 1000 mg/6 mL	30/pk	186425

Mininert® Valves & Reaction Vials



Mininert Valves

These are unique push-button PTFE vial closures featuring inertness and syringe access without exposure of the vial contents. When used with a glass vial, only PTFE and glass are in contact with the sample. A silicone rubber gasket above the PTFE valve stem (isolated from the contents) provides a seal for the needle and prevents leakage or exposure of the contents during sampling. Push the green button to open, insert the needle and take sample, withdraw the needle, then push the red button to close. The needle seal septum may be replaced as needed with the valve closed to avoid exposing contents. Mininert valves can be used up to 48°C. Packages of 12.

Description	Thread Size	Item No.
13 mm Screw Cap 12/pk	13-425	614158
15 mm Screw Cap 12/pk	15-425	614160
18 mm Screw Cap 12/pk	18-400	614161
20 mm Screw Cap 12/pk	20-400	614170
24 mm Screw Cap 12/pk	24-400	614163
20 mm Crimp Cap 12/pk		614250
Replacement Septa, 50/pk		644350



Mininert Septum Installing Tool, each

644850

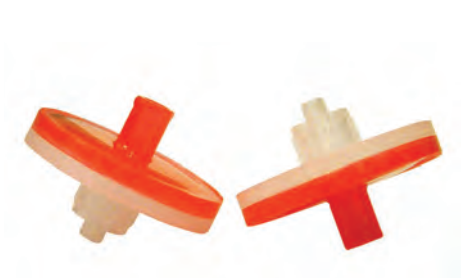


Reaction Vials

These are useful for micro and semi-micro scale reactions or concentration work. The vials have thick walls, conical tapered interiors and come complete with PTFE-faced silicone liners and open-hole screw caps. Vials have graduation marks. Made from borosilicate glass. Packages of 12.

Description	Thread Size	Item No.
1.0 mL Clear Vials 12/pk	13-425	099420
3.0 mL Clear Vials 12/pk	20-400	099430
5.0 mL Clear Vials 12/pk	20-400	099440
10.0 mL Clear Vials 12/pk	20-400	099450

Syringe Filters & Disposable Syringes



Syringe Filters

We offer a wide range of syringe filters for most sample clean up applications. Filter housings are made from polypropylene and have luer hubs to fit all luer lock syringes. Two membrane materials are available; Nylon (hydrophilic) for general filtration of aqueous samples and many solvents, and PTFE for gases, virtually all solvents, and highly corrosive acids and bases. PTFE can be used with aqueous samples by pre-wetting with methanol.

- 4 mm size - Low sample hold-up of less than 10 μ L. 100/pk
- 17 mm size - For general laboratory sampling. Filters have higher sample capacity than the 4 mm size. Maximum pressure for filtering is 5 bar (75 psi). 100/pk
- 30 mm size - For all around lab use. The 30 mm diameter allows greater throughput when hold-up of some sample is not critical. Maximum pressure is 5 bar (75 psi). 100/pk

Description	Item No
4 mm Nylon Filter, 0.2 micron 100/pk	189000
4 mm Nylon Filter, 0.45 micron 100/pk	189001
4 mm PTFE Filter, 0.2 micron 100/pk	189002
4 mm PTFE Filter, 0.45 micron 100/pk	189003
17 mm Nylon Filter, 0.2 micron 100/pk	186502
17 mm Nylon Filter, 0.45 micron 100/pk	186503
17 mm PTFE Filter, 0.2 micron 100/pk	186500
17 mm PTFE Filter, 0.45 micron 100/pk	186501
30 mm Nylon Filter, 0.2 micron 100/pk	186055
30 mm Nylon Filter, 0.45 micron 100/pk	186054
30 mm PTFE Filter, 0.2 micron 100/pk	186057
30 mm PTFE Filter, 0.45 micron 100/pk	186058

Disposable Syringes

Useful for sample preparation, especially when used with CRS syringe filters. Syringes are made from polypropylene and polyethylene and are silicone-free. Extractables are minimized when compared with rubber-tipped plunger syringes. Syringes are individually wrapped in sterile "peel packs." Packages of 100.

Description	Item No.
3 mL 100/pk	186603
5 mL 100/pk	186605
10 mL 100/pk	186610
20 mL 100/pk	186620



Product by GC Manufacturer

For Agilent Instruments	98-99
For Bruker Instruments	100-101
For PerkinElmer Instruments	102-103
For Shimadzu Instruments	104-105
For Thermo Instruments	106-107

For Agilent Instruments

Graphite Ferrules



Capillary Column Ferrules

Description	For Capillary Sizes - ID	Item No.
1/16" to 0.4 mm	0.25 mm	211104
1/16" to 0.5 mm	0.32 mm	211105
1/16" to 0.8 mm	0.53 mm	211108
1/16" to 1.0 mm	0.65 mm	211110
1/16" to 1.2 mm	0.75 mm	211112



Short Ferrules for Agilent Inlets*

Description	For Capillary Sizes - ID	Item No.
1/16" to 0.4 mm	0.10 - 0.25 mm	211164
1/16" to 0.5 mm	0.32 mm	211165
1/16" to 0.8 mm	0.45 - 0.53 mm	211168
1/16" to 1.0 mm	0.53 - 0.65 mm	211160

*short ferrules for Agilent inlet systems: 5890, 6890 and 7890.

Vespel®/Graphite Ferrules - SP-22 (60%/40%)



Capillary Column Ferrules

Description	For Capillary Sizes - ID	Item No.
1/16" to 0.3 mm	0.10	213103
1/16" to 0.4 mm	0.18 - 0.25 mm	213104
1/16" to 0.5 mm	0.32 mm	213105
1/16" to 0.8 mm	0.53 mm	213108
1/16" to 1.0 mm	0.65 mm	213110



Short Ferrules for Agilent Inlet*

Description	For Capillary Sizes - ID	Item No.
1/16" to 0.3 mm	0.10 - 0.18 mm	213163
1/16" to 0.4 mm	0.25 mm	213164
1/16" to 0.5 mm	0.32 mm	213165
1/16" to 0.8 mm	0.53 mm	213168

*Short ferrules for Agilent Inlet systems: 5890, 6890 and 7890

Vespel®/Graphite Ferrules - SP-21 (85%/15%)



Capillary Column Ferrules

Description	For Capillary Sizes - ID	Item No.
1/16" to 0.3 mm	0.10	215103
1/16" to 0.4 mm	0.18 - 0.25 mm	215104
1/16" to 0.5 mm	0.32 mm	215105
1/16" to 0.8 mm	0.53 mm	215108
1/16" to 1.0 mm	0.65 mm	215110



Short Ferrules for Agilent Inlet*

Description	For Capillary Sizes - ID	Item No.
1/16" to 0.4 mm	0.25 mm	215164
1/16" to 0.5 mm	0.32 mm	215165
1/16" to 0.8 mm	0.53 mm	215168

*Short ferrules for Agilent Inlet systems: 5890, 6890 and 7890

Graphite Liner Ferrules



Description	For Capillary Sizes - ID	Item No.
Graphite Liner Seal, 6.5 mm ID	0.53 - 0.65 mm	216652

Premium Septa

GC	Septum Size
5880A, 5890, 6890, 6850, 7820, 7820A, 7890A	11 mm
On-column injection	5 mm

BTO[®]



Description	Qty	Item No.
5 mm CenterGuide	50/pk	298787
7/16" (11 mm) CenterGuide	50/pk	298717
7/16" (11 mm) CenterGuide	100/pk	298718
5 mm CenterGuide	50/pk	246525

Advanced Green 3[™]



Description	Qty	Item No.
7/16" (11 mm) CenterGuide	50/pk	246225
7/16" (11 mm) CenterGuide	100/pk	246228
5 mm CenterGuide	50/pk	239597

Marathon[™]



Description	Qty	Item No.
7/16" (11 mm) CenterGuide	50/pk	239297
7/16" (11 mm) CenterGuide	100/pk	239888

Product by GC Manufacturer

For Bruker Instruments (former Varian)

Graphite Ferrules



Capillary Column Ferrules

Description	For Capillary Sizes - ID	Item No.
1/16" to 0.4 mm	0.25 mm	211104
1/16" to 0.5 mm	0.32 mm	211105
1/16" to 0.8 mm	0.53 mm	211108
1/16" to 1.0 mm	0.65 mm	211110
1/16" to 1.2 mm	0.75 mm	211112

Graphite Liner Ferrules



Description	Item No.
Graphite Liner Ferrule, each	211550

Vespel®/Graphite Ferrules - SP-22 (60%/40%)



Capillary Column Ferrules

Description	For Capillary Sizes - ID	Item No.
1/16" to 0.3 mm	0.10 mm	213103
1/16" to 0.4 mm	0.18 - 0.25 mm	213104
1/16" to 0.5 mm	0.32 mm	213105
1/16" to 0.8 mm	0.53 mm	213108
1/16" to 1.0 mm	0.65 mm	213110

Vespel®/Graphite Ferrules - SP-21 (85%/15%)



Capillary Column Ferrules

Description	For Capillary Sizes - ID	Item No.
1/16" to 0.3 mm	0.10 mm	215103
1/16" to 0.4 mm	0.18 - 0.25 mm	215104
1/16" to 0.5 mm	0.32 mm	215105
1/16" to 0.8 mm	0.53 mm	215108
1/16" to 1.0 mm	0.65 mm	215110

Premium Septa

Inlet	Septum Size
1177	9 mm
1040/41/60/61	3/8" (9.5 mm)
1075/77/78, 1079, 1093/94 SPI	11.5 mm

BTO®



Advanced Green 3™



Description	Qty	Item No.
9 mm CenterGuide	50/pk	298713
9.5 mm	50/pk	298705
11.5 mm CenterGuide	50/pk	298777

Description	Qty	Item No.
9 mm CenterGuide	50/pk	246713
9.5 mm	50/pk	246124
11.5 mm CenterGuide	50/pk	246725

Marathon™



Description	Qty	Item No.
9 mm CenterGuide	50/pk	239779
11.5 mm CenterGuide	50/pk	239798

For PerkinElmer Instruments

Graphite Ferrules



Reducing Ferrules

Description	For Capillary Sizes - ID	Item No.
1/8" to 0.4 mm	0.25 mm	211204
1/8" to 0.5 mm	0.32 mm	211205
1/8" to 0.8 mm	0.53 mm	211208
1/16", two hole 0.5 mm; each	0.32 mm	211222



Reducing Ferrules

Description	For Tubing Sizes - ID	Item No.
1/8" to 1/16"	1/16 im	211210

Vespel®/Graphite Ferrules - SP-22 (60%/40%)



Reducing Ferrules

Description	For Capillary Sizes - ID	Item No.
1/8" to 0.4 mm	0.25 mm	213204
1/8" to 0.5 mm	0.32 mm	213205
1/8" to 0.8 mm	0.53 mm	213208
1/8", two-holes 0.5 mm, each	0.32 mm	213222
1/8", two-holes 0.8 mm, each	0.53 mm	213228



Reducing Ferrules

Description	For Tubing Sizes - OD	Item No.
1/8" to 1/16"	1/16"	213210

Vespel®/Graphite Ferrules - SP-21 (85%/15%)



Reducing Ferrules

Description	For Capillary Sizes - ID	Item No.
1/8" to 0.4 mm	0.25 mm	215204
1/8" to 0.5 mm	0.32 mm	215205
1/8" to 0.8 mm	0.53 mm	215208



Reducing Ferrules

Description	For Tubing Sizes - OD	Item No.
1/8" to 1/16"	1/16" 215210	Graphite

O-Ring-for PerkinElmer Autosys XL or Clarus



Description	Item No.
O-Ring, 10/pk	216637

Premium Septa

GC	Septum Size
Sigma Series, 900, 990, 8000 Series	11 mm
Auto SYS™, Auto SYS XL	11 mm

BTO®



Description	Qty	Item No.
7/16" (11 mm) CenterGuide	50/pk	298717
7/16" (11 mm) CenterGuide	100/pk	298718

Advanced Green 3™



Description	Qty	Item No.
7/16" (11 mm) CenterGuide	50/pk	246225
7/16" (11 mm) CenterGuide	100/pk	246228

Marathon™



Description	Qty	Item No.
7/16" (11 mm) CenterGuide	50/pk	239297
7/16" (11 mm) CenterGuide	100/pk	239888

Product by GC Manufacturer

For Shimadzu Instruments

Graphite Ferrules



Description	Item No.
5 mm Shimadzu 5 mm OD columns	211500



Capillary Column Ferrules

Description	For Capillary Sizes - ID	Item No.
Shimadzu 17A, 2010 & 2014 GC's, 0.4 mm	0.25 mm and less	211174
Shimadzu 17A, 2010 & 2014 GC's, 0.5 mm	0.32 mm	211175
Shimadzu 17A, 2010 & 2014 GC's, 0.8 mm	0.53 mm	211178

Graphite Liner Seals; O-Rings



Description	Item No.
Graphite Liner Seal, 10/pk	211195
Graphite O-Ring, Split, 10/pk	216638
Graphite O-Ring, Splitless, 10/pk	216639

Premium Septa

GC

Septum Size

9A, 14, 15A, 16, 17A

Plug

2010, 2014

Plug

BTO®



Advanced Green 3™



Description	Qty	Item No.
Septa Plug	50/pk	298735

Description	Qty	Item No.
Septa Plug	50/pk	246424

Marathon™



Description	Qty	Item No.
Septa Plug	50/pk	239498

For Thermo Instruments

Graphite Ferrules



M8 Nut Ferrules

Description	Item No.
0.5 mm ID	211905
0.8 mm ID	211908



Cup Ferrules - M4 Nut

Description	For Capillary Sizes - ID	Item No.
0.28 mm ID	0.10 mm	211982-10
0.38 mm ID	0.25 mm	211983-10
0.48 mm ID	0.32 mm	211984-10
0.80 mm ID	0.53 mm	211988-10

Graphite Liner Seal



Description	Item No.
5 mm Graphite Seal, 2/pk	216949
8 mm Graphite Liner Seal, each	216948

Premium Septa

GC	Septum Size
9001, GCQ	9 mm
Trace 1300 Series	11 mm
PTV Injector	1/2" (12.7mm)
Fisons/Carlo Erba 8000 Series, Trace, Focus Split/Splitless	17 mm

BTO®



Description	Qty	Item No.
9 mm CenterGuide	50/pk	298713
7/16" (11 mm) CenterGuide	50/pk	298717
7/16" (11 mm) CenterGuide	100/pk	298718
1/2" (12.7 mm) CenterGuide	50/pk	298727
17 mm CenterGuide	50/pk	298817

Advanced Green 3™



Description	Qty	Item No.
9 mm CenterGuide	50/pk	246713
7/16" (11 mm) CenterGuide	50/pk	246225
7/16" (11 mm) CenterGuide	100/pk	246228
1/2" (12.7 mm) CenterGuide	50/pk	246325
17 mm CenterGuide	50/pk	246624

Marathon™



Description	Qty	Item No.
9 mm CenterGuide	50/pk	239779
7/16" (11 mm) CenterGuide	50/pk	239297
7/16" (11 mm) CenterGuide	100/pk	239888
1/2" (12.7 mm) CenterGuide	50/pk	239397
17 mm CenterGuide	50/pk	239698

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