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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 O<sub>2</sub>, H<sub>2</sub>O, 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 indi-

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

<sup>\*</sup>Requires exchange of depleted cartridge.



### **AFS Purifier III**

The Advanced Filter System III is a high-capacity gas purifying system that removes H<sub>2</sub>O 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

<sup>\*</sup>Requires exchange of depleted cartridge.



### **AFS Purifier II**

The Advanced Filter System II is a high-capacity gas purifying system that removes H<sub>2</sub>O 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**.

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

<sup>\*</sup>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.



O<sub>2</sub> Adsorbent: Top: Full Capacity; Bottom: Depleted.



H<sub>2</sub>O 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 recieved 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 O<sub>2</sub> or CO<sub>2</sub> 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

<sup>\*</sup>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  $O_2$  Filter removes  $O_2$  from He, Ar,  $N_2$ , H $_2$ , and methane to low ppb levels with very high capacity. The ZPure  $O_2$  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.

#### 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*	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

<sup>\*</sup>Replacement Filters listed on page 23.

<sup>\*</sup>Filter lifetime is dependent on the quality of incoming gas and the flow rate.



### ZPure™ HC Filters

The ZPure HC Filter removes hydrocarbons (C5 and heavier) from inert gases, He, Ar,  $\rm N_2$ , H $_2$ , 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

<sup>\*</sup>Replacement Filters listed on page 23.



ZPure™ H<sub>2</sub>O Filters

The ZPure  $H_2O$  Filter removes  $H_2O$  from inert gases, He, Ar,  $N_2$ ,  $H_2$ , 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  $H_2O$  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

#### DS - 500 cc Filters

6 mm Nickel Plated Brass Fittings

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

202230L-6-PC

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

<sup>\*</sup>Replacement Filters listed on page 23.



### ZPure™ CO<sub>2</sub> Filters

The ZPure  $\mathrm{CO}_2$  Filter removes  $\mathrm{CO}_2$  from inert gases, He, Ar,  $\mathrm{N}_2$ , H $_2$ , 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  $\mathrm{CO}_2$  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

Quiek Connect Eittings*	Hom No
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

<sup>\*</sup>Replacement Filters listed on page 23.



### ZPure™ O<sub>2</sub>/ H<sub>2</sub>O Filters

The ZPure  $O_2/H_2O$  Filter removes  $O_2$  and  $H_2O$  from inert gases, He, Ar,  $N_2$  and  $H_2$ , 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

Item No.
202295XL-B
202295XL-SS
202296XL-B
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

<sup>\*</sup>Replacement Filters listed on page 23.



### ZPure™ PolyGas I Purifiers

The ZPure PolyGas I Purifier removes a wide range of contaminants including  $O_2$ ,  $H_2O$ ,  $CO_2$ , 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,  $N_2$ , and  $H_2$ , 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.
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.
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.
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.
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.
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

<sup>\*</sup>Replacement Filters listed on page 23.



### ZPure™ PolyGas II Purifiers

The ZPure PolyGas II Purifier removes  $\rm H_2O$ ,  $\rm CO_2$ , halogenated compounds, siloxanes, hydrocarbons (C5 and heavier), sulfur-containing molecules, ammonia and other gases . It can be used to purify inert gases, He, Ar,  $\rm N_2$ , and  $\rm H_2$ , 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

Item No.
202287L-B
202287L-SS
202288L-B
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

<sup>\*</sup>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.



### 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 CO<sub>2</sub> 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 <sub>2</sub> O Filter	202230M-V
ZPure M CO <sub>2</sub> Filter	202212M-V
ZPure M PolyGas II Purifier	202287M-V
ZPure O <sub>2</sub> /H <sub>2</sub> O Purifier	202295M-V

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





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





1/2" VCR Fittings

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



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.

<sup>\*</sup>Filter lifetime is dependent on the quality of incoming gas and the flow rate.

<sup>\*</sup>For more detailed specifications on individual applications please contact CRS at Sales@ChromRes.com.



### ZPure™ Glass PolyGas I Purifiers

The ZPure PolyGas I Purifier removes O<sub>2</sub>, H<sub>2</sub>O, CO<sub>2</sub>, CO, halogenated compounds, siloxanes, hydrocarbons (C5 and heavier), sulfur-containing molecules, and ammonia from inert gases, He, Ar, N<sub>2</sub> and H<sub>2</sub>. 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

<sup>\*</sup>Replacement Filters listed on page 24.



### ZPure™ Glass PolyGas II Purifiers

The ZPure PolyGas II Purifier removes H<sub>2</sub>O, CO<sub>2</sub>, halogenated compounds, siloxanes, hydrocarbons (C5 and heavier), sulfur -containing molecules, and ammonia from inert gases, He, Ar, N<sub>2</sub>, H<sub>2</sub>, 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

<sup>\*</sup>Replacement Filters listed on page 24.



### ZPure™ Glass O<sub>2</sub> Filters

The ZPure  $O_2$  Filter removes  $O_2$  to low ppb levels from He, Ar,  $N_2$ , 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

<sup>\*</sup>Replacement Filters listed on page 24.



### ZPure™ Glass H<sub>2</sub>O HSMI Filters

The ZPure H<sub>2</sub>O HSMI Filter is for applications requiring high efficiency H<sub>2</sub>O removal. The high sensitivity indicator signals breakthrough at 1 ppm H<sub>2</sub>O 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

<sup>\*</sup>Replacement Filters listed on page 24.



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.



### ZPure™ Glass H<sub>2</sub>O Filters

The ZPure H<sub>2</sub>O Filter removes H<sub>2</sub>O to low ppb levels. The Co-Free H<sub>2</sub>O 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

Item No.
202234-B
202234-SS
202235-B
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

<sup>\*</sup>Replacement Filters listed on page 24.



### ZPure™ Glass H<sub>2</sub>O / HC Filters

The ZPure H<sub>2</sub>O / HC Filter removes H<sub>2</sub>O and hydrocarbons (C5 and heavier) from dry air or inert gases. The Co-Free H<sub>2</sub>O indicator signals breakthrough at 5% relative humidity and changes from **GREEN** to **BLUE**. The ZPure Glass H<sub>2</sub>O / 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

<sup>\*</sup>Replacement Filters listed on page 24.



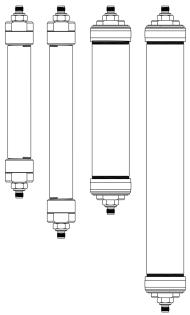
### Did you know?

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

# SPure<sup>™</sup> 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

<sup>\*</sup>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.



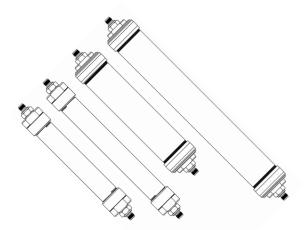
Push-to-Connect Fittings are used to connect plastic tubing with a quick and easy connection. Push-to-connect fittings have lower pressure ratings, and permeation through plastic tubing can have some effect on the ultimate purity level of the gas.

Filter Indicators shown in full capacity and depleted states.



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

<sup>\*</sup>Filter lifetime is dependent on the quality of incoming gas and the flow rate.



### SPure™ H<sub>2</sub>O Filters

The SPure H<sub>2</sub>O 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 H<sub>2</sub>O 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

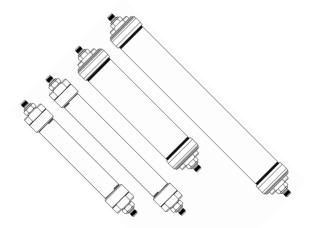
#### DS - 240 cc Filters

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

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

<sup>\*</sup>Replacement Filters listed on page 24.



### SPure™ H<sub>2</sub>O/HC Filters

The SPure H<sub>2</sub>O/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 H<sub>2</sub>O/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.
Quick Collinect Fittings	itelli 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

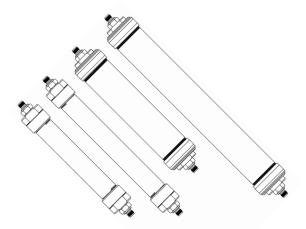
#### DS - 240 cc Filters

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

ALO - 400 GG I IIIGIS	
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
Duck to Occur of Fifthere	Harra Ma
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.



### 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

202327L-B
202327L-SS
Item No.
202326L-B-QC
202326L-SS-QC
202327L-B-QC
202327L-SS-QC
Item No.
202326L-4-PC
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-OC

item No.
202326D-B-QC
202326D-SS-QC
202327D-B-QC
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.

Item No.
202326XL-B-QC
202326XL-SS-QC
202327XL-B-QC
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

<sup>\*</sup>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<sup>™</sup> Stainless Steel Filter Quick Connect Cartridge Replacements



O <sub>2</sub> Filters	Brass Fitting Kits	SS Fitting Kits
130 cc Filter	202RO2-B-QC	202RO2-SS-QC

H₂O 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 <sub>2</sub> /H <sub>2</sub> 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 <sub>2</sub> 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
02	Brass Fitting Kits	SS Fitting Kits
10 cc Filter	202236RP-B-QC	202236RP-SS-QC
H₂O HSMI	Brass Fitting Kits	SS Fitting Kits
46 cc Filter	202283RP-B-QC	202283RP-SS-QC
H <sub>2</sub> O	Brass Fitting Kits	SS Fitting Kits
46 cc Filter	202234RP-B-QC	202234RP-SS-QC
H₂O / HC	Brass Fitting Kits	SS Fitting Kits
46 cc Filter	202256RP-B-QC	202256RP-SS-QC

# SPure<sup>™</sup> Filter Quick Connect Cartridge Replacements



SPure H <sub>2</sub> 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 <sub>2</sub> 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.

<sup>\*</sup>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  $O_2$  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,  $N_2$ ,  $H_2$  or  $CH_4$ , 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" brass and stainless steel.

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

500 cc

Compression Fittings	Item No.
1/8" Brass Fittings	202200-B
1/4" Brass Fittings	202202-B
1/8" Stainless Fittings	202200-SS
1/4" Stainless Fittings	202202-SS



# Model 500 Molecular Sieve Drying Purifiers

The Model 500 is a high capacity H<sub>2</sub>O 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" brass and stainless steel.

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

500 cc

Compression Fittings	Item No.
1/8" Brass Fittings	202270-B
1/4" Brass Fittings	202272-B
1/8" Stainless Fittings	202270-SS
1/4" Stainless Fittings	202272-SS

<sup>\*</sup>Purifier lifetime is dependent on the quality of incoming gas and the flow rate.



### 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  $\rm H_2$  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" brass and stainless steel.

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

500 cc

Compression Fittings	Item No.
1/8" Brass Fittings	202330-B
1/4" Brass Fittings	202332-B
1/8" Stainless Fittings	202330-SS
1/4" Stainless Fittings	202332-SS



#### **Carbon Dioxide Purifiers**

The Carbon Dioxide Purifier is a high capacity filter that removes CO<sub>2</sub> from the gas stream to low ppb levels. This filter will irreversibly bind the CO<sub>2</sub>; 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" brass and stainless steel.

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

500 cc

Compression Fittings	Item No.
1/8" Brass Fittings	202350-B
1/4" Brass Fittings	202352-B
1/8" Stainless Fittings	202350-SS
1/4" Stainless Fittings	202352-SS



# 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





1/16" to 1/16" Straight Ferrule, 10/pk 1/16" OD 211170























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	
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

<sup>\*</sup>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





Corillary Column Formulas	For Corillor Giros ID	Hom No
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





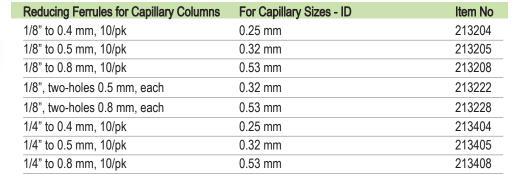
Short Ferrules for Agilent Inlet*	For Capillary Sizes - ID	Item No
1/16" to 0.3 mm, 10/pk	0.10 - 0.18 mm	213163
1/16" to 0.4 mm, 10/pk	0.25 mm	213164
1/16" to 0.5 mm, 10/pk	0.32 mm	213165
1/16" to 0.8 mm, 10/pk	0.53 mm	213168

<sup>\*</sup>Short ferrules for Agilent Inlet systems: 5890, 6890 and 7890

# Ferrules











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

<sup>\*</sup>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.

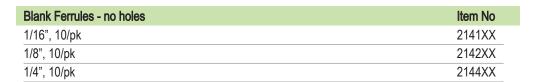




Straight Ferrules - for tubing with ODs listed	Item No
1/16", 10/pk	214100
1/8", 10/pk	214200
3/16", 10/pk	214300
1/4", 10/pk	214400







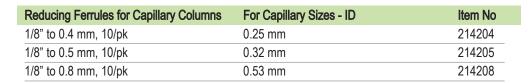




Capillary Column Ferrules	For Capillary Sizes - ID	Item No
1/16" to 0.3 mm, 10/pk	0.10 mm	214103
1/16" to 0.4 mm, 10/pk	0.18 - 0.25 mm	214104
1/16" to 0.5 mm, 10/pk	0.32 mm	214105
1/16" to 0.8 mm, 10/pk	0.53 mm	214108
1/16" to 1.0 mm, 10/pk	0.65 mm	214110
1/16" to 1.2 mm, 10/pk	0.75 mm	214112











Reducing Ferrules for 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



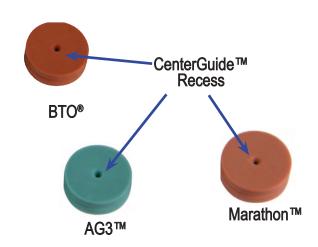
# GC Septa

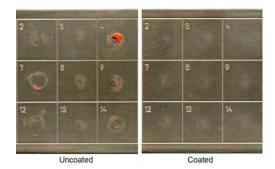
Premium Sep	ota									 4	2-	-45
I	BTO <sup>®</sup>											43
	AG3™											44
I	Marathon™ .											45
General Purp	ose Septa									 4	6-	-47
1	Economy Blu	е.										46
	Puresep T™											46
ı	Puresep P™											47

# GC Septa

# Premium Septa

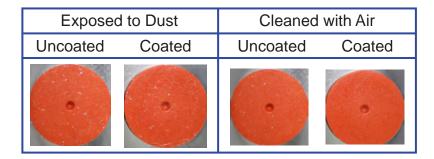
Premium Septa are preconditioned for low bleed, plasma-coated to reduce sticking and are packed in glass jars for high purity. Premium septa are precision molded to ensure an accurate fit.





### **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.



#### **Plasma Coating**

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



Centerguide™ and pre-pierced

42



Non-Centerguide™ and non-pierced

#### CenterGuide™ & Pre-pierced Advantage

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

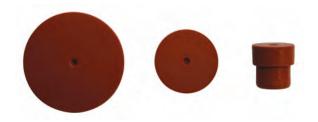
Premium septa are precision-molded with a recess on the injection side, to guide the syringe needle to the same point with every injection. The CenterGuide™ design requires less force on initial penetration for a smoother feel. Pre-pierced septa give long injection life for autosampling, reduce coring,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



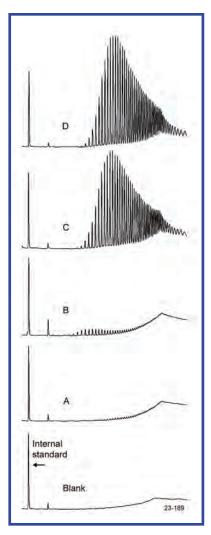
## Septa BTO®

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.

Qty	Item No.
50/pk	298787
50/pk	298755
50/pk	298713
50/pk	298705
50/pk	298745
50/pk	298717
100/pk	298718
50/pk	298777
50/pk	298727
50/pk	298817
50/pk	298735
	50/pk 50/pk 50/pk 50/pk 50/pk 50/pk 100/pk 50/pk 50/pk 50/pk







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

A) BTO<sup>®</sup> B) AG3<sup>™</sup>

C) Competitor's high-temp red septa

D) Competitor's low-bleed green septa

# GC Septa

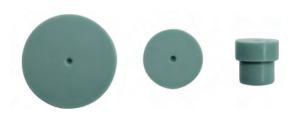
# Premium Septa



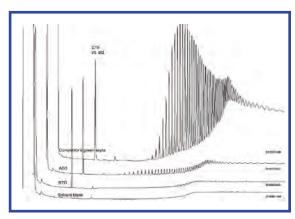
#### Advanced Green 3™

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







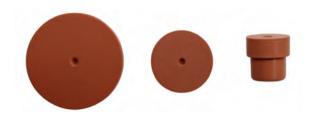
Top to Bottom: Competitor's low-bleed green septa AG3™ BTO® Blank



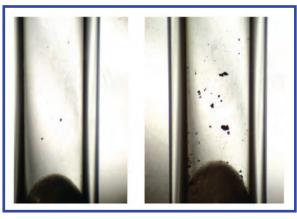
### Marathon™

Marathon are prepierced 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 enchance 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.

# GC Septa

# 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



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

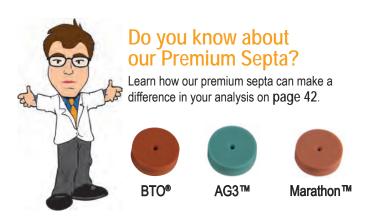
Useful and relevant discussions related to the GC industry including product information, troubleshooting, FAQ, and recommendations from our skilled experts.

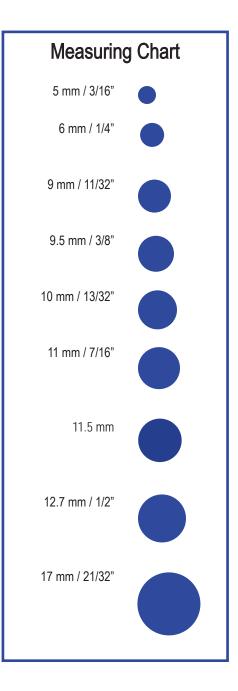


## Puresep P™

Puresep  $\mathsf{P}^{\mathsf{TM}}$  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







# Crimping Tools

Manual Crimping Tools	50
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# **Crimping Tools**

# Manual Crimpers and Decappers

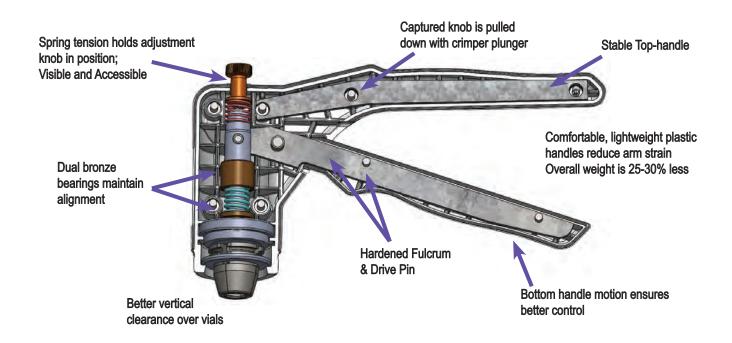
- Easily-viewed adjustment knob
- Strong light-weight plastic body
- Bottom-pull handle design prevents wobbling
- · Curved high-strength plastic handles
- Available for flip-off caps in 13 mm and 20 mm sizes (not for use with flip-up caps)
- Optional crimper stand available (page 54)



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	6A08C0
11 mm Crimper	6A11C0
13 mm Crimper	6A13C0
13 mm Crimper for Flip Off Caps*	6A13F0
20 mm Crimper	6A20C0
20 mm Crimper for Flip Off Caps*	6A20F0
*Not for use with Flip-Up Caps	
11 mm Decapper	6A11D0
13 mm Decapper	6A13D0
20 mm Decapper	6A20D0

# **Crimping Tools**

# **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	6AHPS0
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.



# **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.



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

<sup>\*</sup>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

<sup>\*</sup>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

<sup>\*</sup>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<sup>®</sup>



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

# 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

## $BTO^{\tiny{\circledR}}$



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

## Advanced Green 3™



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

## $Marathon^{\,\text{\tiny TM}}$



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 Tubir	ng 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<sup>®</sup>



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

# 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 & 2	2014 GC's, 0.4 mm 0.25 mm and less	211174
Shimadzu 17A, 2010 & 2	2014 GC's, 0.5 mm 0.32 mm	211175
Shimadzu 17A, 2010 & 2	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<sup>®</sup>



Description	Qty	Item No.
Septa Plug	50/pk	298735

## Advanced Green 3™



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<sup>®</sup>



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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CRS provides a 1 year warranty on all Electronic Crimping Tools.

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