

Maximize Performance!

Gas Chromatography Accessories and
Gas Purification/Management Products

 **SUPELCO®**



Septa

Liners

Ferrules

Syringes

Vials

Purifiers

and more



Choosing the Correct Products

Choosing the proper items for routine system maintenance and new column installation can save costly downtime and rework, plus help prevent inaccurate chromatographic results. For the practicing gas chromatographer, choosing the correct items when upgrading and replacing parts and accessories for their system can bring on many challenges due to the vast array of commercially available products. At Supelco, we offer our own unique products, as well as products from some of the most trusted names in the industry, to assist in making the selection process easier.

Preventative Maintenance

Often overlooked is the importance of preventative maintenance of the gas chromatographic system. Many times, maintenance is only performed after a serious problem occurs, and serves solely to remedy the situation. A better choice is to take a proactive, instead of a reactive, approach to maintenance in an effort to prevent problems from manifesting. This can best be performed by strictly adhering to a schedule of routine preventative maintenance. Non-volatile material accumulates on injection port items, creating active spots, leading to poor chromatography and loss of sensitivity. Periodical replacement of injection port items will minimize this adsorption of analytes. Over time, purifiers become saturated and must be replaced to maintain the continuous supply of chromatographic quality carrier gas. To maximize the performance of the chromatographic system, Supelco offers preventative maintenance items only of the highest quality; items such as septa, inlet liners, O-rings, inlet seals, ferrules, and purifiers.

Quick Look Up Tables

These quick look-up tables can be used as a reference to find frequently replaced accessories for commonly used GC instruments. In-depth details (photos, descriptions and specifications) can be found elsewhere in this brochure.

Agilent® 5890, 6890, 7890 GCs

Description	Cat. No.	Pkg
Molded Thermogreen™ LB-2 Septa, 9.5 mm, with injection hole	28331-U	50 ea
Molded Thermogreen LB-2 Septa, 11 mm, with injection hole	28336-U	50 ea
Inlet Liner, Cup Design, Wool Packed, 4 mm I.D.	2048205	5 ea
Inlet Liner, Straight Through, Wool Packed, 4 mm I.D.	2048605	5 ea
Inlet Liner, Single Taper, 4 mm I.D.	2046605	5 ea
Inlet Liner, FocusLiner™, Single Taper, Wool Packed, 4 mm I.D.	2879905-U	5 ea
Therm-O-Ring™, 1/4 in.	21003-U	10 ea
Gold Plated Inlet Seal	23319-U	10 ea
Supeltex M-2A Short Capillary Ferrules, 0.25 mm Column	24803-U	10 ea
Supeltex M-4 Short Capillary Ferrules, 0.25 mm Column	24811-U	10 ea
Supeltex M-2A Long Capillary Ferrules, 0.25 mm Column	24826-U	10 ea
Column Nut for Agilent	24833-U	2 ea
Source Column Nut for Agilent MSD	28034-U	5 ea

Installation and Troubleshooting

In addition to being required for a scheduled preventative maintenance routine, quality products are also needed for installation and troubleshooting tasks. Some of the same items and tools are used whether performing an initial set-up of a new instrument, the replacement of system components (such as a column), or troubleshooting activities. To aid in accomplishing these tasks, Supelco offers the highest quality products; products such as column nuts, flow meters, tubing, fittings, valves, particle and oil filters, gas generators, leak detectors and pressure regulators. Additionally, Supelco offers numerous hand tools that have been specifically designed to assist the chromatographer in the installation and maintenance associated with gas chromatography.

Supelco Products

Throughout this brochure you will find GC Accessories and Gas Purification/Management products that are designed to maximize instrument performance while helping to reduce the risk of chromatographic problems. Please note that this represents a brief listing of the GC Accessories and Gas Purification/Management products that we offer. For a complete listing, please refer to our catalog and/or web site, sigma-aldrich.com/gc

PerkinElmer® AutoSystem™ and Clarus GCs

Description	Cat. No.	Pkg
Molded Thermogreen LB-2 Septa, 11 mm, with injection hole	28336-U	50 ea
Inlet Liner, FocusLiner, Single Taper, Wool Packed, 4 mm I.D.	2879105-U	5 ea
Inlet Liner, Straight Through, 2 mm I. D.	2631105	5 ea
Therm-O-Ring, 1/4 in.	21003-U	10 ea
M-2A Long Capillary Ferrules, 0.25 mm Column	24826-U	10 ea
Column Nut for PerkinElmer	28034-U	5 ea

Varian® GCs

Description	Cat. No.	Pkg
Thermogreen LB-2 Septa, 9.0 mm	28021-U	50 ea
Molded Thermogreen LB-2 Septa, 11 mm, with injection hole	28336-U	50 ea
Inlet Liner, FocusLiner, Single Taper, Wool Packed, 3.4 mm I.D. for 1078/1079 injectors	2875705-U	5 ea
Inlet Liner, SPME, 0.75 mm I.D., for CP-1177 Injector	2637505	5 ea
M-2A Long Capillary Ferrules, 0.25 mm Column	24826-U	10 ea
Column Nut for Varian	28033-U	1 ea

Septa

Molded Thermogreen LB-2 Septa



Molded Thermogreen LB-2 septa are manufactured from high quality, low bleed material using the same exclusive rubber formulation as the popular Thermogreen LB-2 septa. Therefore, they exhibit the same traits. The difference is that molded septa, unlike traditional die cut septa, offer easier installation and also provide a better seal inside the injection port. With our liquid injection molding process, every septum conforms to the same shape with crisp, clean sides. Because these are molded, injection holes can be incorporated into the septa. An injection hole allows needle penetration through the same location, time after time. This helps reduce septum coring, and prevents septum fragments from entering the injection port, while still giving a low bleed, leak free injection system.

- Rubber formulation exclusive to Supelco
- Strict tolerances (diameter, thickness) due to the constant dimensions of the mold itself, resulting in easier installation and better sealing
- Strict tolerances of injection hole (centering, size, and depth) resulting in long life due to minimal coring
- Ultra low bleed over a wide range of inlet temperatures (100 °C to 350 °C)
- No foreign substances or powders (which could contaminate the inlet) are used during manufacturing
- Fully tested for bleed and contamination
- Easier needle penetration and high puncture tolerance, ideal for autosamplers
- Already conditioned, ready-to-use
- Ideal for use with low bleed GC-MS columns
- Version without injection hole designed for customers who do not use autosamplers
- Version with injection hole designed for customers who use autosamplers and/or solid phase microextraction (SPME)

Description	Cat. No.	Pkg
9.5 mm	28670-U	50 ea
9.5 mm	28671-U	250 ea
9.5 mm, with injection hole	28331-U	50 ea
9.5 mm, with injection hole	28332-U	250 ea
10 mm	28673-U	50 ea
10 mm	28675-U	250 ea
10 mm, with injection hole	28333-U	50 ea
10 mm, with injection hole	28334-U	250 ea
11 mm	28676-U	50 ea
11 mm	28678-U	250 ea
11 mm, with injection hole	28336-U	50 ea
11 mm, with injection hole	28338-U	250 ea

Thermogreen LB-2 Septa



We test every lot of Thermogreen LB-2 septa, to ensure low bleed and high puncture tolerance. We also condition these septa – they are ready-to-use, right from the container. Popular dimensions are listed below. Other dimensions can be found in our catalog and on our web site.

- Formulation exclusive to Supelco
- Extremely low bleed over a wide range of inlet temperatures (100 °C to 350 °C)
- Already conditioned, ready-to-use
- Easy needle penetration and high puncture tolerance, ideal for autosamplers

Description	Cat. No.	Pkg
9.0 mm	28021-U	50 ea
9.5 mm	20652	50 ea
9.5 mm	20666	250 ea
10 mm	20653-U	50 ea
10 mm	23156	250 ea
11 mm	20654	50 ea
11 mm	23163	250 ea
11 mm	23164	1000 ea
11.5 mm	23154	50 ea
17 mm	23159	50 ea
Plug (for Shimadzu)	20608	10 ea
Plug (for Shimadzu)	20633	50 ea

Merlin Microseal™ System Kits

The Merlin Microseal system incorporates a unique design with two sequential seals that provide long septum life. The patented design is a replacement for the standard septum and septum nut in a capillary inlet system. Popular kits are listed below. Kit components can be found in our catalog and on our web site.

- Sustain many injections without leaks or septum fragments
- For use with 23 gauge blunt tipped needles
- Ideal for use with an SPME device with a 23 gauge needle
- These kits include all necessary items for initial installation

Description	Max. Pressure	Cat. No.
For Agilent 5890/6890/7890 GCs	30 psi	22584
For Agilent 5890/6890/7890 GCs	100 psi	24815-U
For Varian 3400/3800 GCs with 1077/1078/1079 Injectors	100 psi	24817-U
For Varian 3800 GCs with CP-1177 Injector	100 psi	22609-U



technical service: 800-359-3041 (US and Canada only) / 814-359-3041

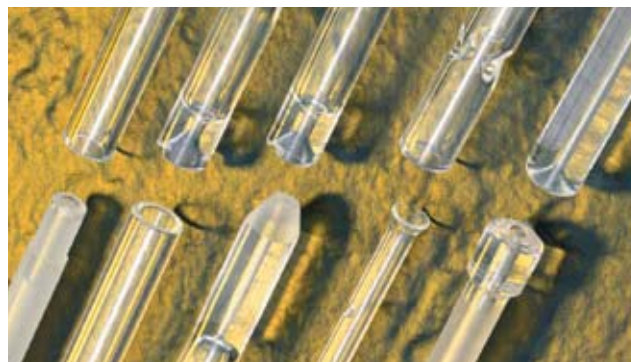
ordering: 800-247-6628 (US only) / 814-359-3441

Liners and Seals

Inlet Liners

A regular schedule of inlet liner replacement as part of a preventative maintenance routine will help prevent adsorption problems that can drastically affect chromatography if left unchecked. Inlet liners should be highly inert and manufactured to the strictest of tolerances. Supelco is recognized as a leader in the manufacturing of high quality inlet liners. Popular inlet liner dimensions are listed below. Other inlet liners can be found in our catalog and on our web site.

- Proprietary high temperature silanization (exclusively from Supelco) ensures inertness
- Our in-house glass shop ensures consistent dimensions that meet, or exceed, GC manufacturers' strict tolerances
- Inlet liners that are packed use a high-quality glass wool, deactivated using a proprietary silanization process (exclusively from Supelco)



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Description	Cat. No.	Pkg
For Agilent 5890/6890/7890 (78.5 mm length x 6.3 mm O.D.)		
Split with cup, 4 mm I.D., unpacked	2051005	5 ea
Split with cup, 4 mm I.D., wool packed	2048205	5 ea
Split straight through, 4 mm I.D., unpacked	2879405-U	5 ea
Split straight through, 4 mm I.D., wool packed	2048605	5 ea
Splitless with single taper, 4 mm I.D., unpacked	2046605	5 ea
Splitless with single taper, 4 mm I.D., wool packed	2047805	5 ea
Splitless with dual taper, 4 mm I.D., unpacked	2048505	5 ea
Splitless straight through, 2 mm I.D., unpacked	2051305	5 ea
Splitless straight through, 1.5 mm I.D., unpacked	2051705	5 ea
SPME, 0.75 mm I.D., unpacked	2637505	5 ea
For Finnigan		
Same catalog numbers as Agilent		
For PerkinElmer AutoSystem and Clarus (92 mm length x 6.3 mm O.D.)		
Split, 4 mm I.D., unpacked	2630905	5 ea
Split, 4 mm I.D., wool packed	2631005	5 ea
Splitless straight through, 2 mm I.D., unpacked	2631105	5 ea
SPME, 0.75 mm I.D., unpacked	2631205	5 ea
For Shimadzu® 17A with SPL-17 Injector (95 mm length x 5 mm O.D.)		
Split, 3.4 mm I.D., unpacked	2633605	5 ea
Split, 3.4 mm I.D., wool packed	2632705	5 ea
Splitless with middle gooseneck, 3.4 mm I.D., unpacked	2878305-U	5 ea
Splitless with recessed gooseneck, 3.4 mm I.D., wool packed	2877905-U	5 ea
Splitless straight through, 2.6 mm I.D., unpacked	2633705	5 ea
SPME, 0.75 mm I.D., unpacked	2633905	5 ea

Description	Cat. No.	Pkg
For Thermo® ThermoQuest 8000/TRACE® (105 mm length x 8 mm O.D.)		
Split, 5 mm I.D., unpacked	2877105-U	5 ea
Split, 3 mm I.D., unpacked	2876705-U	5 ea
Splitless with single taper, 5 mm I.D., unpacked	2877305-U	5 ea
Splitless with single taper, 3 mm I.D., unpacked	2877405-U	5 ea
SPME, 0.8 mm I.D., unpacked	2876605-U	5 ea
For Varian 1075/1077 Injectors (72 mm length x 6.3 mm O.D.)		
Split with baffle, 4 mm I.D., unpacked	2050105	5 ea
Split with cup, 4 mm I.D., unpacked	2049805	5 ea
Split, 4 mm I.D., unpacked	2636105	5 ea
Split, 4 mm I.D., wool packed	2636005	5 ea
Splitless, 2 mm I.D., unpacked	2050205	5 ea
SPME, 0.75 mm I.D., unpacked	2635805	5 ea
For Varian 1078/1079 Injectors (54 mm length x 5 mm O.D.)		
Split, 3.4 mm I.D., unpacked	2637105	5 ea
Split, 3.4 mm I.D., wool packed	2637305	5 ea
Splitless, 2 mm I.D., unpacked	2637405	5 ea
Splitless, 2 mm I.D., wool packed	2637705	5 ea
SPME, 0.8 mm I.D., unpacked	2637805	5 ea
For Varian CP-1177 Injectors		
Same catalog numbers as Agilent		

Glass Wool

Glass wool is a fine pliable untreated glass fiber. Silanized glass wool and Pesticide Grade glass wool undergo a proprietary deactivation process to remove active sites that may interfere with an analysis.



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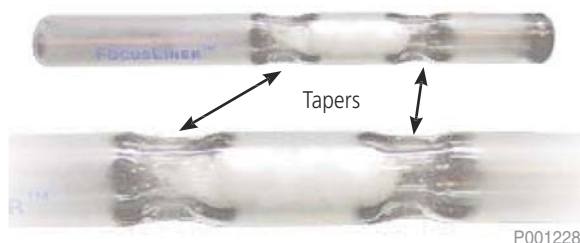
Puller/Insertion

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- Maximum temperature 400 °C
- Silanized – use where minimal activity is required
- Pesticide Grade – use in the analysis of pesticides
- Phosphoric Acid Treated – use in the analysis of free acids, phenols, and glycols
- Puller/Insertion – easily inserts or removes glass wool plugs

Description	Cat. No.	Pkg
Silanized	20411	50 g
Pesticide Grade	20409	10 g
Phosphoric Acid Treated	20383	50 g
Puller/Insertion Tool	22406	2 ea

FocusLiner Inlet Liners



P001228

The use of a wool plug in inlet liners has been used for many years to promote the rapid vaporization of the entire sample, minimize mass discrimination, and prevent non-volatile material from entering the column. FocusLiner inlet liners incorporate a unique design that prevents shifting of the wool plug during repeated injections or sudden inlet pressure changes. Popular FocusLiner inlet liners are listed below. Other inlet liners can be found in our catalog and on our web site.

- Tapers inside the liner stabilize the position of the wool plug, the wool plug is always correctly located
- Unique design prevents shifting of the wool plug during repeated injections or sudden inlet pressure changes
- Large surface area for maximum sample vaporization
- Wiping action removes residual liquid sample from the needle tip, thus preventing droplet formation
- Reduced solvent tailing
- Lower mass discrimination during split injections
- Typically reduces injection variability by at least 96%
- Provide maximum sensitivity and improved detection levels
- High temperature deactivated glass
- Guaranteed to fit

Description	Cat. No.	Pkg
For Agilent 5890/6890/7890 (78.5 mm length x 6.3 mm O.D.)		
Split/splitless, 4 mm I.D., wool packed	2879805-U	5 ea
Split/splitless, 2.3 mm I.D., wool packed	2879605-U	5 ea
Split/splitless with single taper, 4 mm I.D., wool packed	2879905-U	5 ea
Split/splitless with single taper, 2.3 mm I.D., wool packed	2879505-U	5 ea
For Finnigan		
Same catalog numbers as Agilent		
For PerkinElmer AutoSystem and Clarus (92 mm length x 6.3 mm O.D.)		
Split/splitless, 4 mm I.D., wool packed	2879205-U	5 ea
Split/splitless with single taper, 4 mm I.D., wool packed	2879105-U	5 ea
For Shimadzu 17A with SPL-17 Injector (95 mm length x 5 mm O.D.)		
Split/splitless, 3.4 mm I.D., wool packed	2878605-U	5 ea
Split/splitless with single taper, 3.4 mm I.D., wool packed	2878405-U	5 ea
For Thermo ThermoQuest 8000/TRACE (105 mm length x 8 mm O.D.)		
Split, 5 mm I.D., wool packed (for use with 50 mm needles)	2877005-U	5 ea
Splitless, 5 mm I.D., wool packed (for use with 70 mm needles)	2877205-U	5 ea
Splitless with single taper, 5 mm I.D., wool packed	2877505-U	5 ea
For Varian 1075/1077 Injectors (72 mm length x 6.3 mm O.D.)		
Split, 4 mm I.D., wool packed	2875405-U	5 ea
Split with single taper, 4 mm I.D., wool packed	2874805-U	5 ea
Split, 2.3 mm I.D., wool packed	2874705-U	5 ea
For Varian 1078/1079 Injectors (54 mm length x 5 mm O.D.)		
Split/splitless with single taper, 3.4 mm I.D., wool packed	2875705-U	5 ea
Split/splitless with dual taper, 3.4 mm I.D., wool packed	2875505-U	5 ea
For Varian CP-1177 Injectors		
Same catalog numbers as Agilent		

Therm-O-Ring Seals

Inlet liners used in an Agilent GC require an O-ring placed near the top for proper operation. This O-ring ensures that the only path for carrier gas to get to the outside of the inlet liner is through the grooves in the inlet seal at the bottom of the injection port.

- Available exclusively from Supelco
- Fit 6.3 mm, 6.5 mm, or 1/4" O.D. capillary liners that use an O-ring seal
- Can be used with inlet temperatures up to 375 °C without sticking or fragmenting
- Superior replacements for O-rings made from Viton™

Description	Cat. No.	Pkg
Therm-O-Ring Seal	21003-U	10 ea
Therm-O-Ring Seal	21004-U	25 ea



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Inlet Seals

The inlet seals in an Agilent GC must be regularly changed to prevent sample adsorption due to accumulation of sample residue and/or septum fragments. Supelco offers replacement inlet seals of the highest quality.

- Stainless steel for analyses of non-reactive compounds
- Pure gold plating for applications requiring more inertness
- No brighteners used in the plating process
- Cross design intended for high split flows (>200 mL/min.)
- Packs of two or ten include one washer for each seal
- Packs of 100 include 50 washers

Description	Cat. No.	Pkg
Non-plated	23316-U	2 ea
	23317-U	10 ea
	23363-U	100 ea
Gold-plated	23318-U	2 ea
	23319-U	10 ea
Gold-plated, cross design	23413-U	2 ea
	23415-U	10 ea

technical service: 800-359-3041 (US and Canada only) / 814-359-3041

ordering: 800-247-6628 (US only) / 814-359-3441

SUPELCO

Liners and Seals

Ferrules and Nuts

GC ferrules should provide a leak-tight seal, accommodate column O.D. variations, seal with minimum torque, and not stick to the column or fittings. Additionally, they should be resilient enough to maintain their seal when column temperature and corresponding back pressure increases. Three popular ferrule compositions that meet these requirements are listed below. Ferrules of other compositions and/or with other internal diameters can be found in our catalog and on our web site.

Supeltex™ M-2A Ferrules

- Max. Temp.: 400 °C
- Composition: VESPEL® SP-21 (85% polyimide/15% graphite)
- Characteristics: Seal at 1/4-turn past fingertight.
- Benefits: High reusability. Won't stick to metal or glass. Form leaktight seals without sticking to the column. Do not require back ferrules.

Supeltex M-4 Ferrules

- Max. Temp.: 450 °C
- Composition: Flexible graphite
- Characteristics: Seal at 1/4-turn past fingertight.
- Benefits: An improved design that offers a clean, sharp profile with minimal flash. Maximum sealing surface contact. Reduced risk of column contamination at installation.

CapSeal Bullet™ Ferrules

- Available exclusively from Supelco
- Max. Temp.: 450 °C
- Composition: Graphite material captured in aluminum base
- Characteristics: Seal at 1/8-turn past fingertight.
- Benefits: Reusable. A special end taper reduces graphite extrusion into fitting. Aluminum base keeps the ferrule from adhering to the fitting, making it easy to remove.

Column Nuts

Improper nut/ferrule combinations create dead volume (empty space between the ferrule and the injection port that is not swept by carrier gas). This may result in poor chromatography, as evidenced by fronting peaks and band broadening. Ensure that your chromatography is the best it can be by always using the proper nut/ferrule combination. For assistance in determining the correct nut/ferrule combination, contact Supelco Technical Service at 800-359-3041 (US and Canada only), 814-359-3041, or e-mail techservice@sial.com. We offer the following replacements for damaged or misplaced nuts.



Ferrule Designs

Short design ferrules fit:

- The original nuts that ship with Agilent GCs

Long design ferrules fit:

- MSD source nuts for Agilent GCs
- The original nuts that ship with PerkinElmer GCs
- The original nuts that ship with Varian GCs

General purpose ferrules fit:

- Supelco Ferrule Nut Adapters for Agilent GCs
- 1/16 inch compression nuts for PerkinElmer GCs



Ferrules

Column I.D.	Ferrule I.D.	Cat. No.	Pkg
Supeltex M-2A, Short Design			
0.10-0.25 mm	0.4 mm	24803-U	10 ea
0.10-0.25 mm	0.4 mm	24807-U	50 ea
Supeltex M-4, Short Design			
0.10-0.25 mm	0.4 mm	24811-U	10 ea
0.10-0.25 mm	0.4 mm	24819-U	50 ea
CapSeal Bullet, Short Design			
0.10-0.25 mm	0.4 mm	23864	10 ea
0.10-0.25 mm	0.4 mm	23867	50 ea
Supeltex M-2A, Long Design			
0.10-0.25 mm	0.4 mm	24826-U	10 ea
0.10-0.25 mm	0.4 mm	28022-U	50 ea
Supeltex M-4, Long Design			
0.10-0.25 mm	0.4 mm	28025-U	10 ea
0.10-0.25 mm	0.4 mm	28028-U	50 ea
CapSeal Bullet, Long Design			
0.10-0.25 mm	0.4 mm	23488	12 ea
0.10-0.25 mm	0.4 mm	23493	48 ea
Supeltex M-2A, General Purpose			
0.10-0.25 mm	0.4 mm	503258	10 ea
0.10-0.25 mm	0.4 mm	22474	50 ea
Supeltex M-4, General Purpose			
0.10-0.25 mm	0.4 mm	22498	10 ea
0.10-0.25 mm	0.4 mm	22480-U	50 ea
CapSeal Bullet, General Purpose			
0.10-0.25 mm	0.4 mm	23480-U	12 ea
0.10-0.25 mm	0.4 mm	23485	48 ea

Column Nuts

Description	Ferrules Used	Cat. No.	Pkg
Agilent nut	Short design	24833-U	2 ea
Supelco ferrule nut adapter	General purpose	22470-U	2 ea
Agilent MSD source nut	Long design	28034-U	5 ea
PerkinElmer nut	Long design	28034-U	5 ea
1/16 inch compression nut	General purpose	22021	10 ea
Varian nut	Long design	28033-U	1 ea

Guard Columns and Connectors

Fused Silica Guard Columns



For use as guard columns to protect analytical columns from damaging sample components. Match the deactivation of the tubing with the polarity of the injection solvent.

Deactivation	Injection Solvents	Max. Temp.
Non-Polar	Alkanes Carbon disulfide Ethers	360 °C
Intermediate Polarity	Acetone Methylene chloride Toluene	360 °C
Polar	Acetonitrile Methanol Water	260 °C

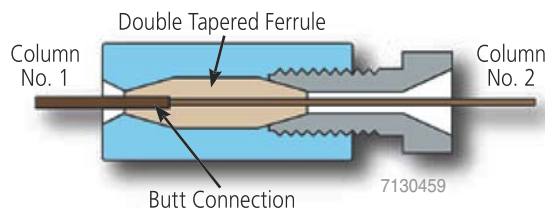
Length (m)	I.D. (mm)	Cat. No.
Non-Polar Deactivation		
3	0.25	25722
5	0.25	25742
3	0.32	25723
5	0.32	25743
Intermediate Polarity Deactivation		
3	0.25	25727
5	0.25	25747
3	0.32	25728
5	0.32	25748-U
Polar Deactivation		
5	0.32	25752-U

Fused Silica Tubing Inner/Outer Diameters

Tubing I.D.	Tubing I.D. Range	Tubing O.D. Range
0.10 mm (1)	0.094 – 0.106 mm	0.348 – 0.370 mm
0.10 mm (2)	0.094 – 0.106 mm	0.285 – 0.315 mm
0.20 mm	0.194 – 0.206 mm	0.345 – 0.375 mm
0.25 mm	0.244 – 0.256 mm	0.345 – 0.375 mm
0.32 mm	0.312 – 0.328 mm	0.425 – 0.455 mm
0.53 mm	0.523 – 0.551 mm	0.650 – 0.690 mm
0.75 mm	0.742 – 0.758 mm	0.875 – 0.925 mm

(1) Columns with non-polar or intermediate polarity stationary phases.
(2) Columns with polar stationary phases.

Capillary Column Butt Connector



This device consists of a double-tapered ferrule and a stainless steel compression housing with a threaded cap. Small and light (2.3 cm x 0.6 cm, 4.4 g with ferrule), it provides a gas tight seal with zero dead volume. This unit maintains inertness with no change in column efficiency.

Description	Cat. No.
Capillary Column Butt Connector, body only	23804
Supeltex M-2B Ferrules, pack of 2, Max. Temp. 350 °C	
To connect 0.20/0.25 mm I.D. to 0.20/0.25 mm I.D.	22453
To connect 0.32 mm I.D. to 0.32 mm I.D.	22454
To connect 0.53 mm I.D. to 0.53 mm I.D.	22591
To connect 0.20/0.25 mm I.D. to 0.53 mm I.D.	22455-U
To connect 0.32 mm I.D. to 0.53 mm I.D.	22586

GlasSeal™ Capillary Column Connectors

Use a GlasSeal connector to attach a guard column to an analytical column or to repair a column which has broken.

Use a GlasSeal "Y" connector to split a sample to two columns for confirmatory analysis. Silanized for an inert inside surface, these can be used with our 0.10-0.53 mm I.D. tubing. To make this an extremely durable connection, use a small drop of polyimide sealing resin (cure at 200 °C, maximum temperature 350 °C).



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Description	Cat. No.	Pkg
Borosilicate Glass Connector	20479	12 ea
Fused Silica Connector	23627	5 ea
Fused Silica Connector	23628	25 ea
Borosilicate Glass "Y" Connector	20480	1 ea
Fused Silica "Y" Connector	23631	1 ea
Fused Silica "Y" Connector	23632	3 ea
Polyimide Sealing Resin	23817	5 g

ordering: 800-247-6628 (US only) / 814-359-3441 technical service: 800-359-3041 (US and Canada only) / 814-359-3041

Guard Columns
and Connectors

Flow Meters

Chromatographers should routinely measure gas flow as part of a preventative maintenance schedule. Discovering and resolving potential issues before they become problems can eliminate costly downtime while troubleshooting the problem's source. While traditional bubble flow meters can be used for this task, newer electronic or digital flow meters are able to perform this task with greater ease. Bubble flow meters are still available, and can be found in our catalog and on our web site.

Veri-Flow 500 Electronic Flow Meters

- Continuous-reading in volume (mL/min.), linear velocity (cm/sec), or split ratio
- Unaffected by temperature or pressure changes
- Multiple-point calibrated to NIST-certified volumetric standards for hydrogen, helium, nitrogen, air, and 5% argon/methane (certificate supplied)
- Superior accuracy helps in complying with ISO 9000, GLP, and other quality control protocols
- Include internal, rechargeable batteries and charger



Optiflow Digital Flow Meters

- Provides a reliable means of measuring gas flow
- Automates the 'positive displacement' technique, which works independent of the type, mass, or mixture of gas being measured
- Can be used with all gases
- Combines the simplicity and versatility of a bubble meter with the speed and accuracy of a microprocessor
- Optical sensors respond more accurately to the passage of a bubble
- Features an easy to read, accurate digital display, eliminating the need for tedious bubble watching, timing, and flow rate/time conversions
- Requires a 9 volt battery for operation



Description	Flow Range	Cat. No.
Veri-Flow 500 Electronic Flow Meters		
Model 500, 110 V	1-500 mL/min.	23143
Model 500, 230 V	1-500 mL/min.	23142
Optiflow Digital Flow Meters		
Model 420	0.5-50 mL/min.	22806
Model 570	0.5-700 mL/min.	22741-U
Model 650	5-5000 mL/min.	22912

Hand Tools

We offer a variety of hand tools that have been specifically designed to assist the chromatographer in the installation and maintenance associated with gas chromatography.



P000911



Description	Cat. No.
Capillary Starter Kit	23639
Hook Septum Puller	20352
Screw Septum Puller	20353
Stainless Steel Forceps	22435-U
Pin Vise Drill Kit	23820-U
Capillary Cleaving Tool, retractable blade	23814
Coddington Magnifier, 20X	23139
Microscope Illuminated Magnifier, 10X	23135
Mirror with Rotating Head	22434
Solvent Rinse Kit	23626
Split Vent Trap	22536

Maximize Performance!

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GC Autosampler Syringes



The syringe is the interface between the sample and the chromatograph. Rapid and precise injection requires a tight fit of the syringe in the autosampler. Supelco carries two brands of top-quality autosampler syringes, Hamilton® and SGE.

- 23s gauge needles – for standard injections
- 26s gauge needles – for on-column and split/splitless injection
- 23s-26s dual gauge needles perform all applications without the need to change syringes
- Available with fixed needle or removable needle

Manufacturer Model Number	Volume	Needle Length in. / mm	Gauge	OD mm	Point Style	Manufacturer Part No.	Pkg. Size	Cat. No.
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Agilent

7673, 7683 and 6850

Hamilton

Modified Microliter Syringes - Removable Needle

7000.5ASRN	0.5 µL	1.71/43	23s	0.64	Cone	86276	1	26214
7000.5ASRN	0.5 µL	1.71/43	26s	0.47	Cone	86274	1	26215
7001ASRN	1 µL	1.71/43	23s	0.64	Cone	80176	1	26216
7001ASRN	1 µL	1.71/43	26s	0.47	Cone	80175	1	26217

Microliter Syringes - Fixed Needle

75ASN	5 µL	1.71/43	23s	0.64	Cone	87987	1	21311
75ASN	5 µL	1.71/43	26s	0.47	Cone	87988	1	21310-U
75ASN	5 µL	1.71/43	23s-26s	0.64-0.47	Cone	87993	1	24570-U
75ASN	5 µL 6/pk	1.71/43	23s	0.64	Cone	87990	6	21315
75ASN	5 µL 6/pk	1.71/43	26s	0.47	Cone	87989	6	21314
75ASN	5 µL 6/pk	1.71/43	23s-26s	0.64-0.47	Cone	87994	6	24571
75ASN	5 µL	1.71/43	23s	0.64	Bevel	87991	1	26714
75ASN	5 µL	1.71/43	26s	0.47	Bevel	87992	1	26721
701ASN	10 µL	1.71/43	23s	0.64	Cone	80387	1	21313
701ASN	10 µL	1.71/43	26s	0.47	Cone	80388	1	21312
701ASN	10 µL	1.71/43	23s-26s	0.64-0.47	Cone	80393	1	24573
701ASN	10 µL 6/pk	1.71/43	23s	0.64	Cone	80390	6	21317
701ASN	10 µL 6/pk	1.71/43	26s	0.47	Cone	80389	6	21316
701ASN	10 µL 6/pk	1.71/43	23s-26s	0.64-0.47	Cone	80391	6	24574
701ASN	10 µL	1.71/43	23s	0.64	Bevel	80398	1	26715
701ASN	10 µL	1.71/43	26s	0.47	Bevel	80399	1	26722

Microliter Syringes - Removable Needle

75ASRN	5 µL	1.71/43	23s	0.64	Cone	87957	1	21321
75ASRN	5 µL	1.71/43	26s	0.47	Cone	87958	1	21320-U
75ASRN	5 µL	1.71/43	23s-26s	0.64-0.47	Cone	87959	1	24572
701ASRN	10 µL	1.71/43	23s	0.64	Cone	80357	1	21323-U
701ASRN	10 µL	1.71/43	26s	0.47	Cone	80358	1	21322-U
701ASRN	10 µL	1.71/43	23s-26s	0.64-0.47	Cone	80359	1	24575

Gastight Syringes - Fixed Needle

175	5 µL	1.71/43	23s	0.64	Cone	80074	1	26716
175	5 µL 6/pk	1.71/43	23s	0.64	Cone	80090	6	26700-U
175	5 µL 6/pk	1.71/43	23s-26s	0.64-0.47	Cone	80092	6	24577
1701	10 µL	1.71/43	23s	0.64	Cone	80080	1	26719
1701	10 µL	1.71/43	23s-26s	0.64-0.47	Cone	80079	1	24579
1701	10 µL 6/pk	1.71/43	23s	0.64	Cone	80094	6	26701
1701	10 µL 6/pk	1.71/43	23s-26s	0.64-0.47	Cone	80096	6	24580

Gastight Syringes - Removable Needle

175	5 µL	1.71/43	23s-26s	0.64-0.47	Cone	80086	1	24578
1701	10 µL	1.71/43	23s	0.64	Cone	80087	1	21325-U
1701	10 µL	1.71/43	26s	0.47	Cone	80088	1	21324
1701	10 µL	1.71/43	23s-26s	0.64-0.47	Cone	80089	1	24581

SGE

Fixed Needle

SK-5F-HP-0.47	5 µL	1.65/42	26	0.47	Cone	001804	6	21910
5F-HP-0.63	5 µL	1.65/42	23	0.63	Cone	001810	1	21542
SK-5F-HP-0.63	5 µL	1.65/42	23	0.63	Cone	001814	6	21911
10F-HP-0.47	10 µL	1.65/42	26	0.47	Cone	002800	1	21541
SK-10F-HP-0.47	10 µL	1.65/42	26	0.47	Cone	002804	6	21912
10F-HP-0.63	10 µL	1.65/42	23	0.63	Cone	002810	1	21543
SK-10F-HP-0.63	10 µL	1.65/42	23	0.63	Cone	002814	6	21544

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GC Autosampler Syringes

SUPELCO

Manufacturer Model Number	Volume	Needle Length in. / mm	Gauge	OD mm	Point Style	Manufacturer Part No.	Pkg. Size	Cat. No.
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Agilent

7673, 7683 and 6850 (contd.)

SGE (contd.)

Fixed Needle - Dual Gauge

5F-HP-0.63/0.47	5 µL	1.65/42	23-26	0.63/0.47	Cone	001822	6	26887-U
10F-HP-0.63/0.47	10 µL	1.65/42	23-26	0.63/0.47	Cone	002822	6	26889-U

Removable Needle

0.5BR-HP-0.47	0.5 µL	1.65/42	26	0.47	Cone	000400	1	24402
0.5BR-HP-0.63	0.5 µL	1.65/42	23	0.63	Cone	000410	1	24403
5R-HP-0.47	5 µL	1.65/42	26	0.47	Cone	001805	1	23963
5R-HP-0.63	5 µL	1.65/42	23	0.63	Cone	001815	1	23962
10R-HP-0.47	10 µL	1.65/42	26	0.47	Cone	002805	1	24417
10R-HP-0.63	10 µL	1.65/42	23	0.63	Cone	002815	1	24416
25R-HP-0.63	25 µL	1.65/42	23	0.63	Cone	003865	1	509701

Removable Needle - Flexible Plunger

10RX-HP-0.47	10 µL	1.65/42	26	0.47	Cone	002844	1	23959
10RX-HP-0.63	10 µL	1.65/42	23	0.63	Cone	002845	1	23958

Gas Tight - Fixed Needle

10R-HP-GT-0.47	10 µL	1.65/42	26	0.47	Cone	002817	1	509671
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Gas Tight - Fixed Needle, Dual Gauge

10F-HP-GT-0.63/0.47	10 µL	1.65/42	23-26	0.63/0.47	Cone	002826	1	26890-U
SK-10F-HP-GT-0.63/0.47	10 µL	1.65/42	23-26	0.63/0.47	Cone	002827	6	26891-U
25F-HP-GT-0.63/0.47	25 µL	1.65/42	23-26	0.63/0.47	Cone	003668	1	26892-U
50F-HP-GT-0.63/0.47	50 µL	1.65/42	23-26	0.63/0.47	Cone	004668	1	26893-U
100F-HP-GT-0.63/0.47	100 µL	1.65/42	23-26	0.63/0.47	Cone	005668	1	26894-U

Gas Tight - Removable Needle

10R-HP-GT-0.47	10 µL	1.65/42	26	0.47	Cone	002817	1	509671
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CTC

A200S, GC PAL Autosamplers

Hamilton

Microliter Syringes - Fixed Needle

7701.2N	1.2 µL	2/51	26P	---	Cone	203185	1	28617-U
75N	5 µL	2/51	26s	0.47	Cone	203189	1	28613-U
701N	10 µL	2/51	26s	0.47	Bevel	203072	1	28614-U
701N	10 µL	2/51	26s	0.47	Cone	203205	1	28615-U

Gasight Syringes - Fixed Needle

1702N	25 µL	2/51	26s	0.47	Cone	203043	1	28649-U
1710N	100 µL	2/51	26s	0.47	Cone	203076	1	28651-U
1725N	250 µL	2/51	26s	0.47	Cone	203078	1	28652-U
1750N	500 µL	2/51	26s	0.47	Cone	203080	1	28653-U

PerkinElmer

GC Autosystem and Clarus® 500

Hamilton

Microliter Syringes - Fixed Needle

75ASN/PE	5 µL	2.75/70	26s	0.47	Blunt	88040	1	24522
75ASN/PE	5 µL	2.75/70	23s	0.64	Blunt	88035	1	24523

SGE

Fixed Needle

5F-PE-0.47	5 µL	2.75/70	26	0.47	Cone	001953	1	509736
5F-PE-0.63	5 µL	2.75/70	23	0.63	Cone	001954	1	509744

Removable Needle (Plunger-in-needle)

0.5BR-PE-0.47	0.5 µL	2.75/70	26	0.47	Cone	000475	1	24406
0.5BR-PE-0.63	0.5 µL	2.75/70	23	0.63	Cone	000478	1	24407

Gas Tight Syringes - Fixed Needle

5F-PE-GT-0.47	5 µL	2.75/70	26	0.47	Cone	001955	1	21930-U
5F-PE-GT-0.63	5 µL	2.75/70	23	0.63	Cone	001957	1	21929-U

Manufacturer Model Number	Volume	Needle Length in./mm	Gauge	OD mm	Point Style	Manufacturer Part No.	Pkg. Size	Cat. No.
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Shimadzu

AOC9 Autosampler

Hamilton

Microliter Syringe - Removable Needle 701	10 µL	2/51	26s	0.47	Bevel	80330	1	20697
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SGE

Fixed Needle - Flexible Plunger 10FX	10 µL	1.97/50	26	0.47	Bevel	002130	6	23966
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Removable Needle - Flexible Plunger 10RX	10 µL	1.97/50	26	0.47	Bevel	002180	6	23967
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Removable Needle 0.5BR-S(9)-0.47	5 µL	1.97/50	26	0.47	Cone	000435	1	509752
0.5BR-S(9)-0.63	10 µL	1.97/50	26	0.47	Cone	002885	1	509760

AOC 14, AOC 17, and AOC 20 GC Autosamplers

SGE

Removable Needle 10R-S-0.47	10 µL	1.65/42	26	0.47	Cone	002897	1	24418
10R-S-0.63	10 µL	1.65/42	23	0.63	Cone	002898	1	24419

Thermo Finnigan Autosamplers

Hamilton

Microliter Syringes - Fixed Needle 701	10 µL	2/51	26s	0.47	Bevel	80300	1	20734
701	10 µL	2/51	26s	0.47	Bevel	80366	6	20779
701	10 µL	2/51	26s	0.47	Cone tip, Side-port	80339	1	24532

Microliter Syringes - Removable Needle 701	10 µL	2/51	26s	0.47	Bevel	80338	1	21357
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Varian Autosamplers

SGE

Varian 8000 GC Autosamplers - Removable Needle 10R-VA80-11	10 µL	1.97/50	25	0.5	Dome	002926	1	24420-U
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Varian 8035, 8100, and 8200 GC Autosamplers - Removable Needle 1BR-VA8X	1 µL	2/51	26	0.47	Cone	000655	1	24410-U
10R-VA8X-11	10 µL	2.09/53	25	0.5	Cone tip, Side-port	002924	1	24421

SGE Replacement Needles and Plungers for Varian Syringes for Varian 8035	---	2.09/53	25	0.5	Bevel	037776	2	24444
for Varian 8035	---	4.13/105	On-Column	0.17	Dome	037778	2	24446
for Varian 8100	---	2.09/53	25	0.5	Cone tip, Side-port	037777	1	24445

Replacement plunger for Varian 10 µL syringes	---	---	---	---	---	031218	1	21924
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GC Autosampler
Syringes

SUPELCO

GC Autosampler Vials

A critical component to a successful chromatography analysis is the autosampler vial. Supelco offers autosampler vials in several configurations to assist in maintaining sample integrity.

- Available with crimp seals or screw caps
- Available in clear or amber glass
- Amber glass protects sensitive samples from exposure to UV light
- Silanized glass available in some configurations
- Silanization prevents adsorption on glass surfaces



Description	Pack Size	Cat. No.	Pack Size	Cat. No.
Crimp Top Vials				
12 x 32 mm, 6.0 mm Opening				
Vials				
2.0 mL, Clear glass, 6.0 mm opening, crimp top	100	SU860055	1000	854964
2.0 mL, Amber glass, 6.0 mm opening, crimp top	100	SU860063	1000	854981
2.0 mL, Clear glass, 6.0 mm opening, crimp top, with marking spot	100	SU860064	1000	854500
2.0 mL, Clear glass, 6.0 mm opening, crimp top, silanized	100	27060-U	1000	27061
2.0 mL, Amber glass, 6.0 mm opening, crimp top, silanized	100	27225-U	1000	27216
2.0 mL, Amber glass, 6.0 mm opening, crimp top, with marking spot	100	854998	-	-
1.5 mL, Maximum recovery vials, clear glass	100	27274	-	-
1.1 mL, Clear glass, conical bottom (requires support 27335)	100	27310	1000	27311
0.1 mL, Limited volume vials, clear glass	100	24714	-	-
Inserts for 6.0mm vials				
0.1 mL Glass insert with bottom spring, 6 x 28 mm	100	SU860066	1000	854110
0.1 mL Glass insert, conical, 6 x 31 mm	100	SU860067	1000	854988
0.25 mL Glass insert, conical, 6 x 31 mm	100	24717	1000	24718
0.35 mL Glass insert, shell style, 6 x 31 mm	100	24715	1000	24716
11mm Crimp caps				
Aluminum, clear, 5.5 mm opening, TEF/natural rubber, 1.0 mm thick	100	854140	1000	854980-U
Aluminum, green, 5.5 mm opening, TEF/natural rubber, 1.0 mm thick	-	-	1000	854142
Aluminum, red, 5.5 mm opening, TEF/natural rubber, 1.0 mm thick	-	-	1000	854144
Aluminum, blue, 5.5 mm opening, TEF/natural rubber, 1.0 mm thick	100	854187	-	-
Aluminum, gold, 5.5 mm opening, TEF/natural rubber, 1.0 mm thick	100	854188	-	-
Aluminum, clear, 5.5 mm opening, PTFE/white silicone, 1.3 mm thick	100	SU860094	1000	SU860016
Aluminum, clear, 5.5 mm opening, red PTFE/white silicone/red PTFE, 1.0 mm thick	100	SU860080	-	-
Convenience kits				
2.0 mL Clear vials, with PTFE/red rubber cap, unassembled	-	-	1000	SU860008
2.0 mL Amber vials, with PTFE/red rubber cap, unassembled	100	27241	1000	27242-U

Snap Top Vials

12 x 32 mm, 6.0 mm Opening

Vials				
2.0 mL Clear glass, 6.0 mm opening	100	SU860068	1000	854974
2.0 mL Amber glass, 6.0 mm opening	100	SU860089	1000	854993
2.0 mL Clear glass, 6.0 mm opening, with marking spot	100	SU860081	-	-
2.0 mL Amber glass, 6.0 mm opening, with marking spot	100	SU860082	-	-
Inserts for 6.0mm vials				
0.1 mL Glass insert with bottom spring, 6 x 28 mm	100	SU860066	1000	854110
0.1 mL Glass insert, conical, 6 x 31 mm	100	SU860067	1000	854988
0.25 mL Glass insert, conical, 6 x 31 mm	100	24717	1000	24718
0.35 mL Glass insert, shell style, 6 x 31 mm	100	24715	1000	24716
Snap ring caps				
Polyethylene snap caps, 6 mm opening, TEF/natural rubber liner, 1.0 mm thick	100	SU860090	1000	854975
Polyethylene snap caps, 6 mm opening, PTFE/silicone liner, 1.3 mm thick	100	SU860093	-	-
Polypropylene snap caps with PTFE liner, 0.3 mm thick	100	24754	-	-
Polypropylene snap caps with PTFE/silicone with slit, 1.0 mm thick	100	27426	-	-
Polypropylene snap caps with PTFE/silicone with starburst, 1.0 mm thick	100	27427	-	-
Polypropylene snap caps with PTFE/silicone/PTFE with starburst, 1.0 mm thick	100	27428	-	-
Polypropylene snap caps with PTFE/silicone/PTFE, 1.0 mm thick	100	24760-U	-	-

Description	Pack Size	Cat. No.	Pack Size	Cat. No.
Screw Cap Vials				
12 x 32 mm, 4.6 mm Opening, 8/425 Thread				
Vials				
2.0 mL, Amber glass, 4.6 mm opening	100	SU860083	1000	854983
2.0 mL, Clear glass, 4.6 mm opening, with marking spot	100	854171	-	-
2.0 mL, Amber glass, 4.6 mm opening, with marking spot	100	854172	-	-
1.1 mL, Clear glass, tapered bottom, Chromacol (requires sleeve 27335)	100	27317	1000	27318
Inserts for 4.6mm vials				
0.1 mL Glass insert with bottom spring, 5 x 29 mm	100	24707	-	-
0.15 mL Glass insert, conical, 5 x 31 mm	100	854995	-	-
0.35 mL Glass insert, shell style, 5 x 31 mm	100	24701	1000	24702
Caps with septa				
Polypropylene cap, black, 5.5 mm centre hole, TEF/natural rubber, 1.3 mm thick	100	SU860091	1000	854984
Polypropylene cap, black, 5.5 mm centre hole, red PTFE/white silicone, 1.3 mm thick	100	SU860076	-	-
Polypropylene cap, black, 5.5 mm centre hole, red PTFE/cream silicone, 1.3 mm thick	-	-	1000	854985
Caps without septa				
Phenolic cap, black, open top	100	27094-U	-	-
Polypropylene cap, black, open top	100	27052	1000	24764
Phenolic cap, solid caps with PTFE liner	100	27091-U	-	-
Phenolic cap, solid cap with aluminum liner	100	27092-U	-	-
Septa				
Septa, red PTFE/silicone/red PTFE, 1.0 mm thick	100	27096-U	1000	23182-U
Septa, beige PTFE/silicone, 1.5 mm thick	100	27095-U	1000	33213
Septa, red PTFE/white silicone, 1.5 mm thick	100	27097-U	1000	23243
Septa, PTFE/silicone with slit, 1.0 mm thick	100	27098-U	1000	24881
Septa, black viton, 0.75 mm thick	100	27350-U	-	-
Septa, PTFE/red rubber, 1.3 mm thick	100	27132	-	-
Liner, white PTFE, 0.25 mm thick (for use with solid top cap)	100	27133	-	-
12 x 32 mm, 6.0 mm Opening, 9 mm Thread				
Vials				
2.0 mL, Clear glass, 6.0 mm opening	100	SU860105	-	-
2.0 mL, Clear glass, 6.0 mm opening, with marking spot	100	854165	-	-
2.0 mL, Amber glass, 6.0 mm opening, with marking spot	100	SU860033	-	-
Inserts for 6.0mm vials				
0.1 mL, Glass insert with bottom spring, 6 x 28 mm	100	SU860066	1000	854110
0.1 mL, Glass insert, conical, 6 x 31 mm	100	SU860067	1000	854988
0.25 mL, Glass insert, conical, 6 x 31 mm	100	24717	1000	24718
0.35 mL, Glass insert, shell style, 6 x 31 mm	100	24715	1000	24716
Caps				
Transparent polypropylene cap, 6 mm centre hole with red PTFE/white silicone septa, 1.0 mm thick	-	-	1000	854971
Blue polypropylene cap, 6.0 mm centre hole with TEF/natural rubber septa, 1.0 mm thick	100	854161	1000	854973
Blue polypropylene cap, 6.0 mm centre hole with red PTFE/white silicone septa, 1.0 mm thick	100	SU860092	1000	SU860019
Blue polypropylene cap, 6.0 mm centre hole with red PTFE/white silicone/red PTFE septa, 1.0 mm thick	100	SU860079	1000	SU860020
12 x 32 mm, 6.0 mm Opening, 10/425 Thread				
Vials				
2.0 mL, Clear glass, 6.0 mm opening	100	27265	1000	SU860012
2.0 mL, Clear glass, 6.0 mm opening, with 0.25 mL glass insert	100	27418	-	-
2.0 mL, Amber glass, 6.0 mm opening	100	27267-U	1000	854990
2.0 mL, Amber glass with step, 6.0 mm opening	100	27406	-	-
2.0 mL, Amber glass, 6.0 mm opening, with 0.25 mL glass insert	100	27419	-	-
1.0 mL, Polypropylene, 6.0 mm opening	100	27269	1000	27270-U
0.75 mL, Polypropylene, 6.0 mm opening	100	27411	-	-
0.5 mL, Polypropylene, 6.0 mm opening	100	27410	-	-
Inserts for 6.0mm vials				
0.1 mL, Glass insert with bottom spring, 6 x 28 mm	100	SU860066	1000	854110
0.1 mL, Glass insert, conical, 6 x 31 mm	100	SU860067	1000	854988
0.25 mL, Glass insert, conical, 6 x 31 mm	100	24717	1000	24718
0.35 mL, Glass insert, shell style, 6 x 31 mm	100	24715	1000	24716
Caps for 6.0 mm opening vials				
Polypropylene, black, open top	100	27271	1000	27272-U
Polypropylene, yellow, open top	100	27413	-	-
Polypropylene, white, open top	100	27414	-	-
Polypropylene, black, open top with PTFE/silicone septa, 1.5 mm thick	100	27273	-	-
Polypropylene, black, solid cap, PTFE lined	100	27416	-	-
Septa for 6.0 mm opening vials				
Septa, PTFE/silicone/PTFE, 1.0 mm thick	100	27275	1000	27276
Septa, red PTFE/silicone, 1.5 mm thick	100	27277	1000	27278
Septa, PTFE/silicone with slit, 1.0 mm thick	100	27279	1000	27280-U

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GC Autosampler Vials

SUPELCO

Vial Accessories

- Hand Crimper – secures vial closure with a consistent and dependable seal
- Decapper – for quick and easy removal of an aluminum seal
- Vial Rack – convenient storage of screw and crimp cap vials
- Glass Magnet – keeps individual vials in place to prevent them from being accidentally knocked over

Description	Cat. No.	Pkg
Hand Crimper, for use with 11 mm crimp seals	33195	1 ea
Pliers-Type Decapper, for use with 11 mm crimp seals	33281	1 ea
Vial Rack, for 12 x 32 mm vials (holds 50 vials)	23207	5 ea
Glass Magnet, 4 inch diameter	57270	2 ea



PID Lamps

The photoionization detector (PID) lamp is a valuable tool for chromatographers and others investigating the presence of volatile organic compounds (VOCs). In fact, the PID continues to be the preferred choice for detecting VOCs due to its fast response time and sensitivity.



P001229

- Can detect volatiles as low as 1 ppb
- Emits very stable, precise photon energy
- More selective alternative than the flame ionization detector (FID)

Description	Chamber Gas	Cat. No.
Model 108, 10.0/10.6 eV	Krypton	22626
Model 103C, 10.0/10.6 eV	Krypton	22631
Model 108-BTEX, 10.0/10.6 eV	Krypton	23129-U
Model 107, 8.4 eV	Xenon	23132-U
Model 108, 9.6 eV	Xenon	23133-U
PID Window Cleaning Kit	---	22627

Wire Brush Detector Cleaning Kit

A collection of wire brushes specially tailored to clean FIDs and injection ports that accept 1/4 inch columns. The brass brushes prevent scratching and marring of expensive FID components.



P000304

Kit includes:

- Two detector brushes
- One injector port tube brush
- Brass toothbrush (for cleaning jets)
- A piece of emery (for electrical contacts)

Description	Cat. No.	Pkg
For use with HP 5700, 5830	22403	1 ea
For use with Varian 3700, 1400, and 2700	22404	1ea

Related Information

Interested in learning more? Here is a short list of technical and application pieces designed to assist you in meeting your analyses needs, available for download at no charge. Simply visit sigma-aldrich.com/gc, or contact Supelco Technical Service at 800-359-3041 (US and Canada only), 814-359-3041, or techservice@sial.com

Lit. Code	Type	Description
T401027 DWM	Product Information Sheet	Capillary Injector Products for Agilent Technologies GCs
T407082 JQV	Product Information Sheet	Molded Thermogreen LB-2 Septa
T100741 AXR	Bulletin	Ferrules and Fittings for Packed and Capillary GC
T196899 BBB	Bulletin	Capillary GC Inlet Liner Selection Guide
T404081 HCH	Poster	Selecting The Appropriate Inlet Liner
T197918 BIT	Bulletin	Selecting Purifiers for Gas Chromatography
T196898 AYW	Bulletin	Gas Management Systems for GC
T112853 AIP	Bulletin	Capillary GC Troubleshooting Guide

Purifiers

Gas purification begins by determining the contaminants that need to be removed from the particular gas stream, levels to which the contaminants must be reduced, flow and pressure needs of the system, and the desired frequency of purifier change-out. Multiple purifiers may be necessary to remove the desired levels of contaminants to adequately protect the column and detector. Purifiers for most applications are listed below. Other purifiers are available, and can be found in our catalog and on our web site.

OMI™ (Oxygen Moisture Indicating) Purifier

- Polishing purifier that removes many contaminants that other upstream purifiers miss
- Simultaneously removes moisture, oxygen, carbon monoxide, carbon dioxide, most sulfur compounds, most halogen compounds, alcohols, and phenols to less than 10 ppb
- Detects moisture and oxygen in hydrogen, helium, nitrogen, argon, and argon/methane
- As little as 1 ppm of moisture or oxygen will change the indicating resin from black to brown
- The indicating resin is licensed exclusively to Supelco for use in chromatographic applications
- Inert glass body prevents diffusion of ambient room contaminants into the carrier gas stream
- See-through polycarbonate holder provides safety



High Capacity Gas Purifier

- Removes moisture, oxygen, carbon monoxide, and carbon dioxide
- No other purifier removes both moisture and oxygen in such large quantities
- Removes up to 35 liters of moisture or 14 liters of oxygen
- Clamshell heating unit has been specifically designed to ensure maximum gas purity
- Purifier tube is heated inside an oven where moisture and oxygen react with the reactant material in the tube
- Irreversible chemical reaction prevents contaminants from returning to the gas stream even when the purifier tube reaches saturation



Supelcarb™ HC Hydrocarbon Purifier

- Removes hydrocarbons from carrier gas, compressed air, and hydrogen
- Supelcarb HC adsorbent is available exclusively from Supelco
- Manufactured in our own facility to ensure the cleanest material available to give the best trapping ability per gram
- Has twice the trapping ability of activated charcoal



Supelpure™ HC Hydrocarbon Purifier

- Activated charcoal purifier that adsorbs hydrocarbons and other contaminants from carrier gas, compressed air, and hydrogen
- When the total hydrocarbons in the incoming gas average 100 ppm, operates efficiently for approximately six months

Molecular Sieve 5A Water Vapor Purifier

- Can reduce moisture in the gas stream to final concentrations less than 0.1 ppm
- Also preferred for use on in-house gas lines where moisture content could be high
- Offers greater working capacity than similar molecular sieves



technical service: 800-359-3041 (US and Canada only) / 814-359-3041

ordering: 800-247-6628 (US only) / 814-359-3441

SUPELCO

Purifiers

Supelpure-O Oxygen Purifier

- Reduces oxygen to less than 0.5 ppm when the level in the incoming gas does not exceed 10 ppm
- Oxygen-removing catalyst coated on a molecular sieve, will also trap significant amounts of moisture
- 120 cc purifier removes up to 1.5 g of moisture
- 750 cc purifier removes up to 10.2 g of moisture



P000230

Supelco Helium Purifier

- Incorporates multiple beds of highly effective, high capacity adsorbent material to remove hydrocarbons, moisture, oxygen, carbon monoxide, and carbon dioxide from helium streams
- Ideal for any GC or GC-MS application where high purity helium is essential
- Output gas is 99.99999% pure
- Output purity: <100 ppb total of all contaminants, <30 ppb hydrocarbons (as methane), <20 ppb moisture, <2 ppb oxygen, <20 ppb carbon monoxide, <20 ppb carbon dioxide



P000332

Super Clean™ Inline Design Purifiers

- Once the unique click-on connectors are installed into the gas line, they never need to be disconnected
- Eliminates the risk of leaking fittings
- Integral check valve in connectors prevents room air from entering gas line during purifier change-out
- Subsequent replacement of purifiers is simple, no tools required, and can be done in seconds
- Purifiers remove contaminants to produce better than 6.0 gas quality (99.9999% pure), independent of the purity of the incoming gas
- Triple removes hydrocarbons, moisture, and oxygen
- Dual removes hydrocarbons and moisture



E000937

Super Clean Base-Plate Design Purifiers

- Specially designed base plate has needle valves that instantly close to provide a diffusion-proof seal when the purifier is removed
- Purifier replacement can be performed in seconds without exposing the gas lines to room air
- Purifiers remove contaminants to produce better than 6.0 gas quality (99.9999% pure), independent of the purity of the incoming gas
- Triple removes hydrocarbons, moisture, and oxygen
- Dual removes hydrocarbons and moisture



E000938

Recommended Purifier Options per Application

Carrier gas: need to remove hydrocarbons, moisture, and oxygen

- Option 1: Supelcarb HC, High Capacity Gas Purifier, OMI-2
- 2: Supelcarb HC, Molecular Sieve 5A, Supelpure-O, OMI-2
- 3: Supelco Helium Purifier, OMI-2
- 4: Super Clean hydrocarbon, Super Clean moisture, Super Clean oxygen, OMI-2
- 5: Super Clean dual, Super Clean oxygen, OMI-2
- 6: Super Clean triple, OMI-2

Compressed air (for FIDs): need to remove hydrocarbons and moisture

- Option 1: Supelcarb HC, Molecular Sieve 5A
- 2: Super Clean hydrocarbon, Super Clean moisture
- 3: Super Clean dual

Hydrogen fuel gas (for FIDs): need to remove hydrocarbons

- Option 1: Supelcarb HC
- 2: Super Clean hydrocarbon

Purifiers

Description	Design	Fittings	Cat. No.
Single Bed Purifiers, Indicating			
OMI-1 purifier tube	Inline	n/a	23900-U
OMI-2 purifier tube	Inline	n/a	23906
OMI-2 holder	Inline	1/8 inch	23921
OMI-4 purifier tube	Inline	n/a	23909
OMI-4 holder	Inline	1/8 inch	23926
Super Clean moisture purifier	Base-plate	n/a	SU861021
Super Clean moisture purifier, pack of 2	Base-plate	n/a	SU861028
Super Clean oxygen purifier	Base-plate	n/a	SU861022
Single Bed Purifiers, Non-Indicating			
High Capacity Gas Purifier, 110 V	Inline	1/8 inch	23800-U
High Capacity Gas Purifier, 230 V	Inline	1/8 inch	23801
High Capacity replacement purifier tube	Inline	1/8 inch	22396
High Capacity Gas Purifier, 110 V	Inline	1/4 inch	23802
High Capacity Gas Purifier, 230 V	Inline	1/4 inch	23803
High Capacity replacement purifier tube	Inline	1/4 inch	22398
Supelcarb HC hydrocarbon purifier, 120 cc	Inline	1/8 inch	24448
Supelcarb HC hydrocarbon purifier, 120 cc	Inline	1/4 inch	24449
Supelcarb HC hydrocarbon purifier, 750 cc	Inline	1/4 inch	24564
Supelpure HC hydrocarbon purifier, 120 cc	Inline	1/8 inch	22445-U
Supelpure HC hydrocarbon purifier, 120 cc	Inline	1/4 inch	22446
Supelpure HC hydrocarbon purifier, 750 cc	Inline	1/4 inch	24518
Molecular Sieve 5A water vapor purifier, 200 cc	Inline	1/8 inch	20619
Molecular Sieve 5A water vapor purifier, 200 cc	Inline	1/4 inch	20618
Molecular Sieve 5A water vapor purifier, 750 cc	Inline	1/4 inch	23991
Supelpure-O oxygen purifier, 120 cc	Inline	1/8 inch	22449
Supelpure-O oxygen purifier, 120 cc	Inline	1/4 inch	22450-U
Supelpure-O oxygen purifier, 750 cc	Inline	1/4 inch	503088
Super Clean hydrocarbon purifier	Inline	n/a	28863-U
Super Clean hydrocarbon purifier	Base-plate	n/a	SU861023
Super Clean hydrocarbon purifier, pack of 2	Base-plate	n/a	SU861029
Super Clean moisture purifier	Inline	n/a	28861-U
Super Clean oxygen purifier	Inline	n/a	28862-U
Multi-Bed Purifiers, Non-Indicating			
Supelco Helium purifier	Inline	1/8 inch	27600-U
Supelco Helium purifier	Inline	1/4 inch	27601-U
Super Clean triple purifier	Inline	n/a	28864-U
Super Clean triple purifier (helium specific)	Inline	n/a	28865-U
Super Clean dual purifier	Inline	n/a	28866-U
Multi-Bed Purifiers, Indicating (Not Indicating for Hydrocarbons)			
Super Clean triple purifier (helium specific)	Inline	n/a	28867-U
Super Clean triple purifier	Base-plate	n/a	SU861026
Super Clean triple purifier (helium specific)	Base-plate	n/a	SU861027
Super Clean dual purifier	Base-plate	n/a	SU861025
Super Clean Click-on Connectors and Base Plates			
Click-on connectors, stainless steel, pack of 2	Inline	1/8 inch	28873-U
Click-on connectors, stainless steel, pack of 2	Inline	1/4 inch	28872-U
Click-on connectors, brass, pack of 2	Inline	1/8 inch	28869-U
Click-on connectors, brass, pack of 2	Inline	1/4 inch	28868-U
Base-plate, single position, brass fittings	Base-plate	1/8 inch	SU861011
Base-plate, two position, brass fittings	Base-plate	1/8 inch	SU861012
Base-plate, three position, brass fittings	Base-plate	1/8 inch	SU861013

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Purifiers

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Tubing, Cutters, and Fittings

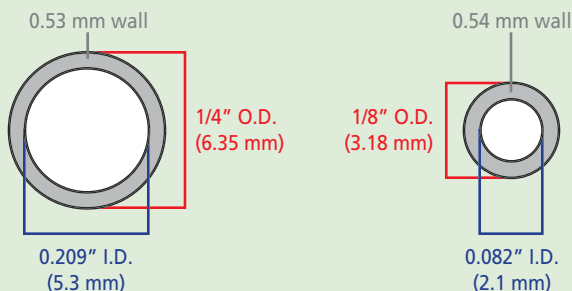


P000301

Many types of tubing are available to supply a variety of gases for gas chromatography systems. Supelco recommends using stainless steel for the most sensitive applications, such as high resolution MS detection (MS-MS, ion trap, or TOF). More economical copper tubing is recommended for all other GC and GC-MS plumbing needs. All of our tubing is specially cleaned to remove any residue. Other tubing choices are available and can be found in our catalog and on our web site.

Premium Grade 304 Stainless Steel Tubing

Stainless Steel Tubing Dimensions



- Virtually impermeable to the diffusion of room air through the tubing walls
- Undergoes a proprietary cleaning procedure to remove all active sites and to ensure inertness
- Best choice for the most sensitive applications, such as high resolution MS detection (MS-MS, ion trap, or TOF)

Cleaned Copper Tubing

- Most commonly used tubing for gas chromatography
- Cleaned according to ASTM B-280 plus a proprietary Supelco cleaning procedure, resulting in tubing that exceeds instrument manufacturers' requirements
- Best choice for most GC and GC-MS plumbing needs

Description	Cat. No.
Premium Grade 304 Stainless Steel Tubing	
50 ft. x 1/4 inch (6.35 mm) O.D. x 0.209 inch (5.3 mm) I.D.	20527
50 ft. x 1/8 inch (3.18 mm) O.D. x 0.085 inch (2.1 mm) I.D.	20526-U
100 ft. x 1/16 inch (1.59 mm) O.D. x 0.030 inch (0.762 mm) I.D.	20553
Cleaned Copper Tubing	
50 ft. x 1/4 inch (6.35 mm) O.D. x 0.190 inch (4.83 mm) I.D.	20489
50 ft. x 1/8 inch (3.18 mm) O.D. x 0.065 inch (1.65 mm) I.D.	20488

Tubing Cutters

Proper gas line connections are important for maximum chromatographic performance. Leaks, caused by a poor fit between tubing and the mating seat, can cause serious damage to GC columns. Therefore, it is critical for tubing to have crisp, clean ends.



58539-U

P000836

- TC-20, voltage selectable (110/220 V), CE compliant
- TC-20 cuts 1/16, 1/8, or 1/4 inch copper or stainless steel
- Heavy duty cuts 1/8 or 1/4 inch copper or stainless steel
- Tubing bender – easily bends copper and stainless tubing up to 180° without kinking
- Tubing reamer – opens and rounds tubing after cutting



20425-U

20389

P000256

20424-U

P000254

P000225

Description	Cat. No.
TC-20 Tubing Cutter (110/220 V)	58539-U
Heavy Duty Tubing Cutter	20425-U
1/8 inch O.D. Tubing Bender	20422-U
1/4 inch O.D. Tubing Bender	20424-U
Tubing Reamer	20389

Swagelok® Tubing Fittings

A leak free system is the first requirement in a systematic approach to supplying quality gas to a chromatography system. Swagelok fittings combine superior design principles with close manufacturing tolerance and rigid quality to provide such a leak free connection. Some of the most popular items are listed. For a complete listing, please refer to our catalog and/or our web site.



P000252

Description	Cat. No.
Swagelok Fittings Kit	22668-U
Nuts Plus Front and Back Ferrules, brass, 1/8 inch, 10 of each	22014
Nuts Plus Front and Back Ferrules, stainless steel, 1/8 inch, 5 of each	22040-U
Tee, brass, 1/8 inch	22020-U
Tee, stainless steel, 1/8 inch	22046
On/off throttling valve, brass, 1/8 inch	22138-U
On/off throttling valve, stainless steel, 1/8 inch	22139-U
Toggle valve, brass, 1/8 inch	22699
Toggle valve, stainless steel, 1/8 inch	22698

Maximize Performance!

sigma-aldrich.com/gc

Valves and Gauges

Diaphragm Shutoff Valve

- Multiple metal diaphragms provides a permanent seal
- Diaphragm prevents diffusion of air and moisture into gas flow
- Brass body
- Kel-F seat



P000208

Description	Cat. No.	Pkg.
1/4 in. male NPT, 1/4 in. female NPT	23896	1ea
1/4 in. male NPT	23897	1ea

Related Information

For more information on plumbing gas lines to a GC, whether a single system or a complete facility, request T196898 AYW (Gas Management Systems for GC), or contact Supelco Technical Service at 800-359-3041 (US and Canada only), 814-359-3041, or techservice@sial.com

Pressure Gauge

- Steel and copper alloy construction
- 2 inch diameter gauge
- Brass tee



P000209

Description	Cat. No.	Pkg
0-30 psi, in-line tee: 1/8 in.	20469	1ea
0-60 psi, in-line tee: 1/8 in.	20470	1ea
0-100 psi, in-line tee: 1/8 in.	22423	1ea
0-30 psi, in-line tee: 1/8 in. male NPT	20393	1ea
0-60 psi, in-line tee: 1/8 in. male NPT	20394	1ea

Pressure Gauge Kit

- 0-100 psi
- 1/8 inch tee
- Includes 1/2 meter of copper tubing



P000210

Description	Cat. No.	Pkg
Pressure gauge kit	20392	1ea

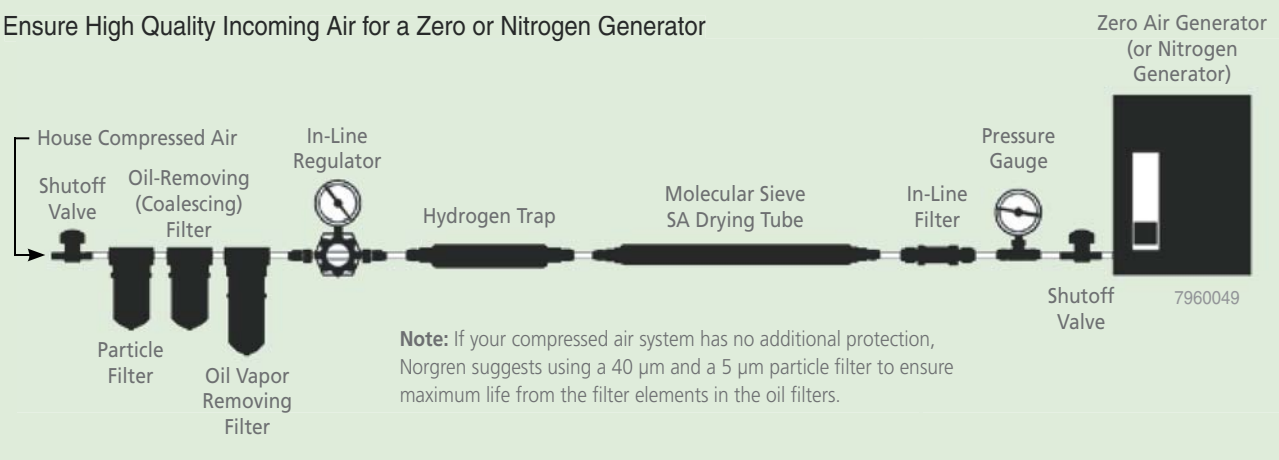
Norgren® Particle and Oil Filters

Airborne dust can be drawn into the intake of an air compressor. These dust particles as well as any oils released from an air compressor can damage any downstream gas generator. Norgren filters are designed to remove solid and liquid particles in addition to oil aerosols. The oil-removing and oil vapor-removing filters must be protected with a particle filter upstream.

- Install between air compressors and gas generators
- Designed to be used together as a three- or four-filter system
- Elements are easily replaced

Description	Fittings	Cat. No.
Particle filter, 40 µm	1/4 inch female NPT	24990-U
Particle filter, 5 µm	1/4 inch female NPT	24992
Oil-removing filter	1/4 inch female NPT	24994
Oil vapor-removing filter	3/8 inch female NPT	24996

Ensure High Quality Incoming Air for a Zero or Nitrogen Generator



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Valves and Gauges
Norgren Filters

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Gas Generators

Laboratory gas generators are a great alternative to gas cylinders. In addition to being a much more sensible source of gas from a cost standpoint, generators are safer, cosmetically better, take up less space, and do not require the labor needed to transport bulky cylinders into the lab. Supelco offers gas generators from Parker domnick hunter. Models for hydrogen, zero air, and nitrogen are listed below. Other gas generators can be found in our catalog and on our web site.

Parker ChromGas® Hydrogen Generators



P000946

- Easy to use, an electrical outlet and deionized water are all that are required to generate hydrogen for weeks of continuous operation
- Minimal maintenance required
- Uses a solid polymer electrolyte, rather than a liquid electrolyte, eliminating the need for toxic liquids
- Built-in sensing circuit shuts the generator down if a leak is detected
- Can be used with any instrumentation requiring fuel grade hydrogen
- Connections: 1/8" compression fitting
- Delivery purity: 99.9995% (99.99997% for Model 9800)

Parker ChromGas Zero Air Generators



P000945

- Easy to use, an electrical outlet and a compressed air source are all that are required to produce ultra-high purity zero air
- Minimal maintenance required
- Recommended for use with flame ionization detectors to stabilize baselines and improve detection
- Inlet air pressure: 2-125 psi
- Connections: 1/8" compression fitting
- Delivery purity: <0.1 ppm total hydrocarbons (as methane)

domnick hunter® NITROX™ Hydrocarbon-free Nitrogen Generators

- Employs pressure swing adsorption technology to produce a continuous supply of hydrocarbon-free nitrogen.
- Integral oil-free air compressor eliminates need for a separate air compressor
- Filtered compressed air goes across a bed of carbon molecular sieve, which selectively removes hydrocarbons, moisture, oxygen, and carbon dioxide
- Heated catalyst reduces any residual hydrocarbons
- Connections: 1/4" NPT fitting
- Delivery purity: <10 ppm oxygen
- Delivery purity: <0.1 ppm total hydrocarbons (as methane)



P000998

domnick hunter NITROX High-Purity Nitrogen Generators

- Employs pressure swing adsorption technology to produce a continuous supply of high purity nitrogen
- Integral oil-free air compressor eliminates need for a separate air compressor
- Filtered compressed air goes across a bed of carbon molecular sieve, which selectively removes hydrocarbons, moisture, oxygen, and carbon dioxide
- Connections: 1/4" NPT fitting
- Delivery purity: <10 ppm oxygen

Description	Max. Output	Cat. No.
Parker ChromGas Hydrogen Generators		
Model 9090, 110 V	90 mL/min.; 90 psi	27773-U
Model 9150, 110 V	160 mL/min.; 90 psi	27620-U
Model 9200, 110 V	250 mL/min.; 90 psi	22751
Model 9400, 110 V	500 mL/min.; 90 psi	22801
Model 9800, 110 V	1200 mL/min.; 100 psi	22835
Parker ChromGas Zero Air Generators		
Model 1000, 110 V	1000 mL/min.; 125 psi	22824
Model 3500, 110 V	3500 mL/min.; 125 psi	27625-U
Model 1001, 230 V	1000 mL/min.; 125 psi	22830-U
Model 3501, 230 V	3500 mL/min.; 125 psi	27626-U
domnick hunter Hydrocarbon-free Nitrogen Generators		
Model 1001, 110 V	1000 mL/min.; 73 psi / 5 bar	27765-U
Model 1001, 230 V	1000 mL/min.; 73 psi / 5 bar	28366-U
domnick hunter High-Purity Nitrogen Generators		
Model 0751, 110 V	750 mL/min.; 73 psi / 5 bar	27760-U
Model 1501, 110 V	1500 mL/min.; 73 psi / 5 bar	27761-U
Model 3001, 110 V	3000 mL/min.; 73 psi / 5 bar	27762-U
Model 0751, 230 V	750 mL/min.; 73 psi / 5 bar	28360-U
Model 1501, 230 V	1500 mL/min.; 73 psi / 5 bar	28361-U
Model 3001, 230 V	3000 mL/min.; 73 psi / 5 bar	28362-U

Leak Detectors

Using liquids to detect gas leaks in a gas chromatography system can lead to unforeseen problems. Small amounts of liquid can seep into fittings, or through the septum, and damage the column. Electronic leak detectors are a much better alternative than liquid detectors, and can easily and quickly pinpoint gas leaks that are too small to detect with a soap solution. Liquid leak detectors are still available, and can be found in our catalog and on our web site.



P000330

GOW-MAC® Gas Leak Detectors

- Easy to operate
- Allow leaks to be found quickly without risk of contaminating the system
- Provides maximum usable sensitivity with high signal to noise ratio amplification
- Operates on the same principle as a thermal conductivity detector
- Will respond to any gas mixture that has a thermal conductivity value different from that of air
- Include internal, rechargeable batteries and charger

Description	Cat. No.
Model 21-250, selectable 110/220 V	22409
Model 21-070, miniature, 115 V	22807
Model 21-072, miniature, 230 V	22808
Carrying case for 22807 or 22808	22809

Pressure Regulators

Choosing the correct pressure regulators is critical to having a gas delivery system that will provide consistent results and help to ensure maximum column life. For all chromatographic applications, it is recommended to use a regulator manufactured using appropriate materials and processes resulting in a regulator that does not allow contaminants to enter the gas stream. The high purity and ultra-high purity models meet these stringent demands. Select a regulator based on the application and type of gas to be used.

- Easy-to-read gauges
- Leak tested, ready to use
- Bar stock bodies manufactured from either nickel-plated brass or brass
- Ultrasonically cleaned to eliminate halocarbons and hydrocarbon residues
- Diaphragms made from 316 grade stainless steel, virtually impermeable to the diffusion of room air
- High purity models use captive Teflon gasket diaphragm seals
- Ultra-high purity models use metal-to-metal diaphragm seals

Smart Indicating Regulators (SIR®)

- Incorporate a unique indicating purifier that removes contaminants as they pass through
- Patented quick-change base has an integral check valve, allowing a spent purifier to be changed without room air entering
- Check valve at the inlet prevents room air from entering during cylinder change-out
- Maximum inlet pressure of 3000 psi / 204 bar



P001108

Conventional Regulators

- 20 µm sintered filters protect regulator from particles and pressure surges
- Maximum inlet pressure of 3000 psi / 204 bar



P000205

Inline Regulators

- Adjust pressure at the point of use
- Install downstream of a cylinder regulator
- Maximum inlet pressure of 400 psi / 27 bar



P000211

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Leak Detectors
Pressure Regulators

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Regulators

Description	Type	Inlet	Outlet	Cat. No.
Smart Indicating Regulators (SIR)				
High purity, with purge valve	Two-stage	CGA 580	1/4 inch male Swagelok	28817-U
High purity, with purge valve	Single-stage	CGA 580	1/4 inch male Swagelok	28813-U
High purity, with purge valve	Two-stage	CGA 350	1/4 inch male Swagelok	28816-U
High purity, with purge valve	Single-stage	CGA 350	1/4 inch male Swagelok	28812-U
High purity, with purge valve	Two-stage	CGA 590	1/4 inch male Swagelok	28818-U
High purity, with purge valve	Single-stage	CGA 590	1/4 inch male Swagelok	28814-U
Replacement triple purifier	n/a	n/a	n/a	28827-U
Replacement triple purifier, pack of 3	n/a	n/a	n/a	28828-U
Conventional Regulators				
High purity, with purge valve	Two-stage	CGA 580	1/8 inch male Swagelok	23879
High purity, with purge valve	Single-stage	CGA 580	1/8 inch male Swagelok	23876
High purity, without purge valve	Two-stage	CGA 580	1/4 inch male NPT	503398
High purity, without purge valve	Single-stage	CGA 580	1/4 inch male NPT	503355
Ultra-high purity, with purge valve	Two-stage	CGA 580	1/8 inch male Swagelok	23872
Ultra-high purity, with purge valve	Single-stage	CGA 580	1/8 inch male Swagelok	23870
Ultra-high purity, without purge valve	Two-stage	CGA 580	1/4 inch male Swagelok	503339
Ultra-high purity, without purge valve	Single-stage	CGA 580	1/4 inch male Swagelok	503312
High purity, with purge valve	Two-stage	CGA 350	1/8 inch male Swagelok	23880-U
High purity, with purge valve	Single-stage	CGA 350	1/8 inch male Swagelok	23877
High purity, without purge valve	Two-stage	CGA 350	1/4 inch male NPT	503401
High purity, without purge valve	Single-stage	CGA 350	1/4 inch male NPT	503363
Ultra-high purity, with purge valve	Two-stage	CGA 350	1/8 inch male Swagelok	23873
Ultra-high purity, without purge valve	Two-stage	CGA 350	1/4 inch male Swagelok	503347
Ultra-high purity, without purge valve	Single-stage	CGA 350	1/4 inch male Swagelok	503320
High purity, with purge valve	Two-stage	CGA 590	1/8 inch male Swagelok	23881
High purity, with purge valve	Single-stage	CGA 590	1/8 inch male Swagelok	23878
High purity, without purge valve	Two-stage	CGA 590	1/4 inch male NPT	503428
High purity, without purge valve	Single-stage	CGA 590	1/4 inch male NPT	503371
High purity, with purge valve	Two-stage	DIN 6	1/8 inch male Swagelok	24972
High purity, with purge valve	Two-stage	DIN 1	1/8 inch male Swagelok	24974
High purity, with purge valve	Two-stage	DIN 13	1/8 inch male Swagelok	24973
Inline Regulators				
High purity	Single-stage	n/a	1/8 inch male Swagelok	23882
Ultra-high purity	Single-stage	n/a	1/8 inch male Swagelok	23884

Inlet	For Use With
CGA 580	helium, nitrogen, argon
CGA 350	hydrogen, methane, argon/methane
CGA 590	compressed air
DIN 6	helium, nitrogen, argon
DIN 1	hydrogen, methane, argon/methane
DIN 13	compressed air

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