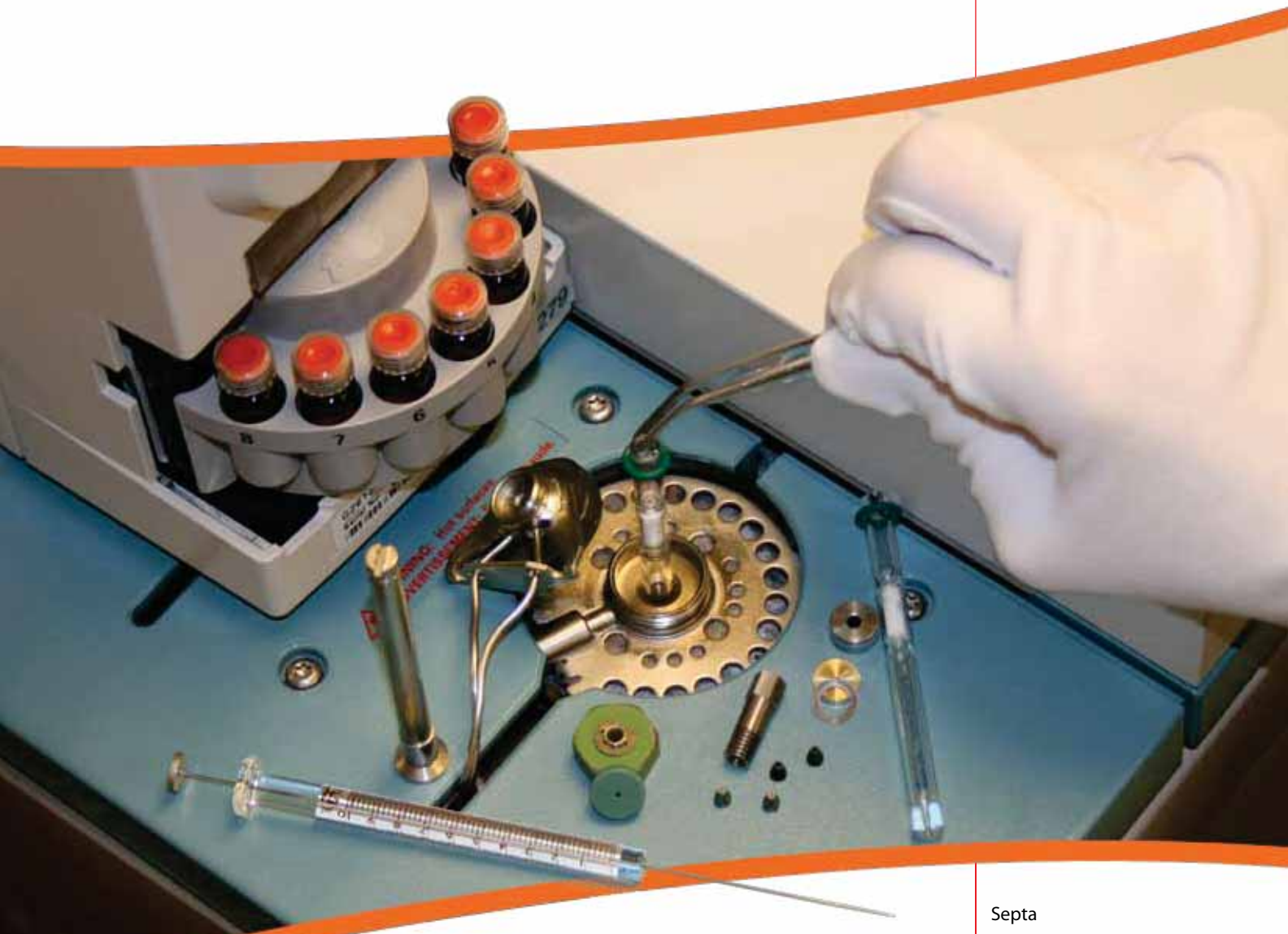


Maximize Performance!

Gas Chromatography Accessories and
Gas Purification/Management Products



- Septa
- Liners
- Ferrules
- Solvents
- 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 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.

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

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

PerkinElmer® AutoSystem™ and Clarus GCs

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

Varian® GCs

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

Septa

Molded Thermogreen LB-2 Septa



Molded Thermogreen LB-2 septa are manufactured from high quality, low bleed material using the same exclusive LB-2 rubber formulation that chromatographers are accustomed to using. The difference is that molded septa, unlike traditional die-cut septa, offer easier installation and better sealing. This is because our liquid injection molding process yields septa that all conform to the same shape with crisp, clean sides.

The useable inlet temperature range of 100-350 °C is adequate for the majority of GC applications. **Don't be fooled by other septa that advertise a maximum temperature of 400 °C (to make a septa with high thermal limits, one must also make it stiffer, resulting in septa that are harder to pierce and easier to core)!** Our molded Thermogreen LB-2 septa offer the perfect combination of temperature range, low bleed, and easy puncturability.

The version with injection hole is for autosampler injections, manual injections, and/or SPME applications. The solid disc version is for manual injections.

- Rubber formulation exclusive to Supelco
- Strict tolerances (diameter, thickness, and injection hole) due to the constant dimensions of the mold itself.
- 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
- Already conditioned, ready-to-use
- Ideal for use with low bleed GC-MS columns

Description	Pkg	Cat. No.
9.5 mm, with injection hole	50 ea	28331-U
9.5 mm, with injection hole	250 ea	28332-U
9.5 mm, solid discs	50 ea	28670-U
9.5 mm, solid discs	250 ea	28671-U
10 mm, with injection hole	50 ea	28333-U
10 mm, with injection hole	250 ea	28334-U
10 mm, solid discs	50 ea	28673-U
10 mm, solid discs	250 ea	28675-U
11 mm, with injection hole	50 ea	28336-U
11 mm, with injection hole	250 ea	28338-U
11 mm, solid discs	50 ea	28676-U
11 mm, solid discs	250 ea	28678-U
11.5 mm, with injection hole	50 ea	29446-U
11.5 mm, with injection hole	250 ea	29448-U
11.5 mm, solid discs	50 ea	29449-U
11.5 mm, solid discs	250 ea	29451-U
17 mm, with injection hole	50 ea	29452-U
17 mm, with injection hole	250 ea	29453-U
17 mm, solid discs	50 ea	29456-U
17 mm, solid discs	250 ea	29457-U

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

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

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

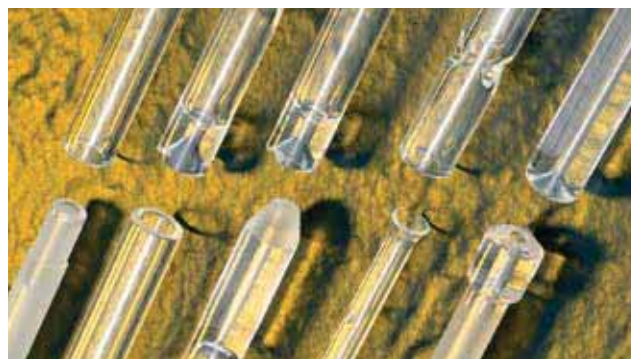


Description	Max Pressure	Cat. No.
For Agilent 5890/6890/7890 GCs	30 psi	22584
For Agilent 5890/6890/7890 GCs	100 psi	24815-U
For Varian 3400/3800 GCs with 1077/1078/1079 Injectors	100 psi	24817-U
For Varian 3800 GCs with CP-1177 Injector	100 psi	22609-U

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.



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- 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)

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

Description	Pkg	Cat. No.
Splitless with recessed gooseneck, 3.4 mm I.D., wool packed	5 ea	2877905-U
Splitless straight through, 2.6 mm I.D., unpacked	5 ea	2633705
SPME, 0.75 mm I.D., unpacked	5 ea	2633905
For Thermo® ThermoQuest 8000/TRACE® (105 mm length x 8 mm O.D.)		
Split, 5 mm I.D., unpacked	5 ea	2877105-U
Split, 3 mm I.D., unpacked	5 ea	2876705-U
Splitless with single taper, 5 mm I.D., unpacked	5 ea	2877305-U
Splitless with single taper, 3 mm I.D., unpacked	5 ea	2877405-U
SPME, 0.8 mm I.D., unpacked	5 ea	2876605-U
For Varian 1075/1077 Injectors (72 mm length x 6.3 mm O.D.)		
Split with baffle, 4 mm I.D., unpacked	5 ea	2050105
Split, 4 mm I.D., unpacked	5 ea	2636105
Split, 4 mm I.D., wool packed	5 ea	2636005
Splitless, 2 mm I.D., unpacked	5 ea	2050205
SPME, 0.75 mm I.D., unpacked	5 ea	2635805
For Varian 1078/1079 Injectors (54 mm length x 5 mm O.D.)		
Split, 3.4 mm I.D., unpacked	5 ea	2637105
Split, 3.4 mm I.D., wool packed	5 ea	2637305
Splitless, 2 mm I.D., unpacked	5 ea	2637405
Splitless, 2 mm I.D., wool packed	5 ea	2637705
SPME, 0.8 mm I.D., unpacked	5 ea	2637805
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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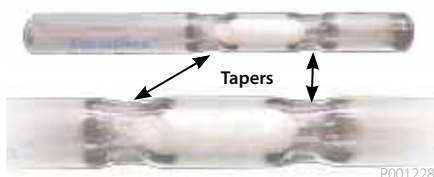
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- Maximum temperature 400 °C
- Silanized – use where minimal activity is required
- Pesticide Grade – use in the analysis of pesticides
- Phosphoric Acid Treated – use in the analysis of free acids, phenols, and glycols
- Puller/Inserter – easily inserts or removes glass wool plugs

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

FocusLiner Inlet Liners

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	Pkg	Cat. No.
For Agilent 5890/6890/7890 (78.5 mm length x 6.3 mm O.D.)		
Split/splitless, 4 mm I.D., wool packed	5 ea	2879805-U
Split/splitless, 2.3 mm I.D., wool packed	5 ea	2879605-U
Split/splitless with single taper, 4 mm I.D., wool packed	5 ea	2879905-U
Split/splitless with single taper, 2.3 mm I.D., wool packed	5 ea	2879505-U
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	5 ea	2879205-U
Split/splitless with single taper, 4 mm I.D., wool packed	5 ea	2879105-U
For Shimadzu 17A with SPL-17 Injector (95 mm length x 5 mm O.D.)		
Split/splitless, 3.4 mm I.D., wool packed	5 ea	2878605-U
Split/splitless with single taper, 3.4 mm I.D., wool packed	5 ea	2878405-U
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)	5 ea	2877005-U
Splitless, 5 mm I.D., wool packed (for use with 70 mm needles)	5 ea	2877205-U
Splitless with single taper, 5 mm I.D., wool packed	5 ea	2877505-U

Description	Pkg	Cat. No.
For Varian 1075/1077 Injectors (72 mm length x 6.3 mm O.D.)		
Split, 4 mm I.D., wool packed	5 ea	2875405-U
Split with single taper, 4 mm I.D., wool packed	5 ea	2874805-U
Split, 2.3 mm I.D., wool packed	5 ea	2874705-U
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	5 ea	2875705-U
Split/splitless with dual taper, 3.4 mm I.D., wool packed	5 ea	2875505-U
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	Pkg	Cat. No.
Therm-O-Ring Seal	10 ea	21003-U
Therm-O-Ring Seal	25 ea	21004-U

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

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 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.



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



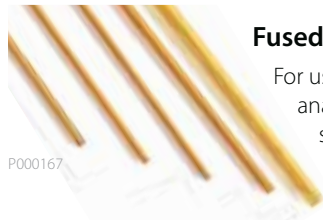
Ferrules

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

Column Nuts

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

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.

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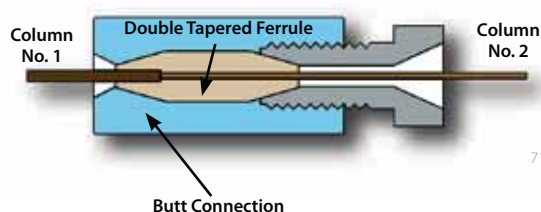
Deactivation	Injection Solvents	Max. Temp.
Non-Polar	Alkanes Carbon disulfide Ethers	360 °C
Intermediate Polarity	Acetone Methylene chloride Toluene	360 °C
Polar	Acetonitrile Methanol Water	260 °C

	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.



7130459

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 or to split the output of one column to two detectors. 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).



P000324

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



Flowmeters

Gas chromatographers must routinely measure gas flows (when setting up an instrument, developing a method, or troubleshooting). Even though many GCs have electronic pressure control (EPC) for setting flow rates, a flowmeter is still an essential tool to have to verify EPC readings when troubleshooting. Additionally, older GCs do not have EPC, requiring that flows be set manually. There are a variety of flow measuring devices available for this, falling into one of two categories, volumetric (bubble) flowmeters and mass flowmeters.

Optiflow Bubble Flowmeters

These volumetric (bubble) flowmeters are reliable, accurate, and easy to use.

- Automates the 'positive displacement' technique, which works independent of the type, mass, or mixture of gas being measured
- Combines the simplicity and versatility of a bubble meter with the speed and accuracy of a microprocessor
- Optical sensors respond 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



E001024

Description	Flow Range	Cat. No.
Optiflow Bubble Flowmeters		
Model 520	0.5-500 mL/min.	28679-U

Hand Tools

We offer a variety of hand tools that are 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
Lenscope Illuminated Magnifier, 10X	23135
Mirror with Rotating Head	22434
Solvent Rinse Kit	23626
Split Vent Trap Kit	22536

High-Purity GC Solvents

Our high-purity GC solvents are suitable for a wide variety of applications, including pesticide residue analysis (PRA), metabolites, volatiles, other environmentally relevant substances, and preservatives. All solvents are manufactured and bottled under oxygen-free conditions and sealed with a PTFE-lined cap to prevent product contamination and degradation.

Description	Qty.	Cat. No.
Acetone, PESTANAL®	2.5 L	34480-2.5L
	4 x 2.5 L	34480-4X2.5L
Acetonitrile, PESTANAL	1 L	34481-1L
	6 x 1 L	34481-6X1L
	2.5 L	34481-2.5L
	4 x 2.5 L	34481-4X2.5L
Carbon disulfide, low benzene, <i>ReagentPlus</i> ®, ≥99.9%	1 L	342270-1L
	6 x 1 L	342270-6X1L
Diethyl ether, for residue analysis, ≥99.8%	1 L	31671-1L
	2.5 L	31671-2.5L
Ethyl acetate, PESTANAL	1 L	31063-1L
	2.5 L	31063-2.5L
	4 x 2.5 L	31063-4X2.5L
n-Hexane, PESTANAL	7 L	31063-7L
	2.5 L	34484-2.5L
	4 x 2.5 L	34484-4X2.5L
n-Hexane, ENVISOLV™, ≥95%	2.5 L	34412-2.5L
Isooctane, PESTANAL	1 L	34499-1L
	6 x 1 L	34499-6X1L
	2.5 L	34499-2.5L
Methanol, PESTANAL	2.5 L	34485-2.5L
	4 x 2.5 L	34485-4X2.5L
Methanol, purge and trap grade, ≥99.9%	1 L	414816-1L
Methyl tert-butyl ether (MTBE), PESTANAL	1 L	34498-1L
	2.5 L	34498-2.5L
	4 x 2.5 L	34498-4X2.5L
Methylene chloride, PESTANAL	1 L	34488-1L
	2.5 L	34488-2.5L
	4 x 2.5 L	34488-4X2.5L
Methylene chloride, ENVISOLV, ≥99.8%	2.5 L	34411-2.5L
Pentane, PESTANAL	1 L	34497-1L
	2.5 L	34497-2.5L
Toluene, PESTANAL	2.5 L	34494-2.5L
	4 x 2.5 L	34494-4X2.5L
Toluene, ENVISOLV, ≥99.7%	2.5 L	34413-2.5L

Trademarks

Agilent – **Agilent Technologies**; AutoSystem, Clarus, PerkinElmer – **PerkinElmer Inc.**; CapSeal Bullet, ENVISOLV, GlasSeal, OMI, PESTANAL, *ReagentPlus*, Supelco, Supelpure, Supeltex, Thermogreen, Therm-O-Ring – **Sigma-Aldrich Biotechnology LP**; ChromGas, domnick hunter, NITROX – **Parker domnick hunter**; FocusLiner – **SGE International Pty Ltd.**; GOW-MAC – **GOW-MAC Instruments Co.**; Hamilton – **Hamilton Co.**; Microseal – **Merlin Instrument Company**; Norgren – **C.A. Norgren Co**; Shimadzu – **Shimadzu Corporation**; SIR – **Airgas**; Super Clean – **Scientific Glass Technology B.V.**; Swagelok – **Swagelok Co.**; Teflon, VESPEL, Viton – **E.I. duPont de Nemours & Co., Inc.**; Thermo, TRACE – **Thermo Electron Corp.**; Varian – **Varian Associates Corp.**

GC Headspace Solvents

Analysis of residual solvents using headspace GC techniques is an important quality control procedure in pharmaceutical and food-related laboratories. Our GC headspace solvents are specifically designed and tested for such applications. These solvents provide both high purity to maximize detector sensitivity and extremely low background due to volatile impurities.

Description	Qty.	Cat. No.
N,N-Dimethylacetamide, puriss. p.a., ≥99.9%	1 L	44901-1L
N,N-Dimethylformamide, puriss. p.a., ≥99.9%	1 L	51781-1L
1,3-Dimethyl-2-imidazolidinone, puriss. p.a., ≥99.5%	1 L	67484-1L
Dimethyl sulfoxide, puriss. p.a., ≥99.9%	1 L	51779-1L
Water, puriss. p.a.	1 L	53463-1L

Sigma-Aldrich Solvent Grades

Grade	Description
ENVISOLV	Suitable for the analysis of dioxins, furans, and PCBs
PESTANAL	Suitable for pesticide residue analysis (PRA)
Purge and Trap puriss. p.a.	Suitable for analysis of volatiles using purge and trap ≥98.5% pure
<i>ReagentPlus</i>	≥98.5% pure

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

Agilent (7673, 7683 and 6850)

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

Agilent (7673, 7683 and 6850)

Manufacturer Model Number	Volume	Needle Length in./mm	Gauge	O.D. mm	Point Style	Manufacturer Part No.	Pkg. Size	Cat. No.
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Hamilton (contd.)

Gastight Syringes - Fixed Needle								
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								
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
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	002821	1	29616-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-0.63	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
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

CTC (A200S)

Hamilton

Gastight Syringes - Fixed Needle								
1701N	10 µL	2/51	22s	0.72	Blunt	203560	1	29612-U
1702N	25 µL	2/51	22s	0.72	Blunt	203563	1	29613-U
1710N	100 µL	2/51	22s	0.72	Blunt	203566	1	29614-U



CTC (GC PAL Autosamplers)

Manufacturer Model Number	Volume	Needle Length in./mm	Gauge	O.D. mm	Point Style	Manufacturer Part No.	Pkg. Size	Cat. No.
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Hamilton (contd.)

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	Bevel	203269	6	29607-U
701N	10 µL	2/51	26s	0.47	Cone	203205	1	28615-U
701N	10 µL	2/51	23s	0.64	Bevel	203363	1	29606-U
701N	10 µL	2/51	23s	0.64	Cone	203361	1	29603-U
Gastight Syringes - Fixed Needle								
1702N	25 µL	2/51	26s	0.47	Cone	203043	1	28649-U
1702N Slim	25 µL	2/51	26s	0.47	Cone	203074	1	29608-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

Shimadzu (AOC9 Autosampler)

Hamilton

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

SGE

Fixed Needle - Flexible Plunger								
10FX	10 µL	1.97/50	26	0.47	Bevel	002130	6	23966

Shimadzu (AOC9 Autosampler and AOC 14, AOC 17, and AOC 20 GC Autosamplers)

Manufacturer Model Number	Volume	Needle Length in./mm	Gauge	O.D. mm	Point Style	Manufacturer Part No.	Pkg. Size	Cat. No.
SGE								
Removable Needle - Flexible Plunger								
10RX	10 µL	1.97/50	26	0.47	Bevel	002180	6	23967
Removable Needle								
0.5BR-S(9)-0.63	10 µL	1.97/50	26	0.47	Cone	002885	1	509760
Fixed Needle								
10F-S-0.47	5 µL	1.65/42	26	0.47	Cone	001987	1	29619-U
10F-S-0.63	5 µL	1.65/42	23	0.63	Cone	001988	1	29618-U
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
Gas Tight - Removable Needle								
10R-S-GT-0.63	10 µL	1.65/42	23	0.63	Cone	002902	1	29621-U

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

Varian Autosamplers

SGE

Varian 8035, 8100, and 8200 GC Autosamplers – Fixed Needle								
10F-VA8X-11	10 µL	1.97/50	26	0.47	Bevel	002950	1	29617-U
Varian 8035, 8100, and 8200 GC Autosamplers - Removable Needle								
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	---	.09/53	25	0.5	Bevel	037776	2	24444
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

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)



Crimp Top Vials

Description	Pack Size	Cat. No.	Pack Size	Cat. No.
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	–	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	29298-U	–	–
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	100	27239	1000	27240-U
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	–	–

Snap Top Vials

Description	Pack Size	Cat. No.	Pack Size	Cat. No.
12 x 32 mm, 6.0 mm Opening (contd.)				
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	–	–

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	–	–
0.35 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	–	–

Screw Cap Vials

Description	Pack Size	Cat. No.	Pack Size	Cat. No.
12 x 32 mm, 6.0 mm Opening, 9 mm Thread				
Vials				
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				
Blue polypropylene cap, 6.0 mm centre hole with TEF/natural rubber septa, 1.0 mm thick	100	854161	1000	–
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	2000	27266
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	–
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 29 mm	100	24721	–	–
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	–	–
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

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

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 108-BTEX, 10.0/10.6 eV	Krypton	23129-U
Model 103C, 10.0/10.6 eV	Krypton	22631
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	Pkg	Cat. No.
For use with HP 5700, 5830	1 ea	22403
For use with Varian 3700, 1400, and 2700	1 ea	22404

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) Polishing 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



Supelpure™ HC Hydrocarbon Trap

- 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



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



Molecular Sieve 5A Water Vapor Trap

- 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



Supelpure-O Oxygen Trap

- 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



Supelco Helium Purifier

- Incorporates a 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



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



Carbon Dioxin Trap

- Selectively removes carbon dioxide from gas streams
- Contains sodium hydroxide nonfibrous silicate media
- Media changes color from greenish-brown to white as carbon dioxide is absorbed
- Media can absorb 20-30% of its weight in carbon dioxide before reaching saturation
- Media evolves water as carbon dioxide is absorbed (recommend to install a water vapor trap downstream)



Economy Water Vapor Trap

- Economical choice for moisture removal for compressed air service to pneumatically-controlled devices
- Contains a mixture of Molecular Sieves 4A and 13X
- Purifier body is clear polycarbonate
- Not for use with carrier gases due to permeability of purifier body



Recommended Purifier Options per Application

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

- Option 1: Supelpure HC, High Capacity Gas Purifier, OMI-2
- 2: Supelpure 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: Supelpure 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: Supelpure HC
- 2: Super Clean hydrocarbon

Compress air (for pneumatic control): need to remove moisture

- Option 1: Economy water vapor trap

Purifiers

Description	Design	Indicating?	Fittings	Cat. No.
Polishing Purifiers (remove many contaminants that upstream purifiers miss)				
OMI-2 purifier tube	In-line (1)	Yes (2)	n/a	23906
OMI-4 purifier tube	In-line (1)	Yes (2)	n/a	23909
Hydrocarbon-only Removing Purifiers				
Supelpure HC hydrocarbon trap, 120 cc	In-line	No	1/8 inch	22445-U
Supelpure HC hydrocarbon trap, 120 cc	In-line	No	1/4 inch	22446
Supelpure HC hydrocarbon trap, 750 cc	In-line	No	1/4 inch	24518
Supelpure HC hydrocarbon trap, 750 cc	In-line	No	1/2 inch	24519
Super Clean hydrocarbon trap	Base-plate (3)	No	n/a	SU861023
High Capacity Moisture and Oxygen Removing Purifiers				
High Capacity Gas Purifier, 110 V	In-line	No	1/8 inch	23800-U
High Capacity Gas Purifier, 230 V	In-line	No	1/8 inch	23801
High Capacity replacement purifier tube	In-line	No	1/8 inch	22396
High Capacity Gas Purifier, 110 V	In-line	No	1/4 inch	23802
High Capacity Gas Purifier, 230 V	In-line	No	1/4 inch	23803
High Capacity replacement purifier tube	In-line	No	1/4 inch	22398
Moisture-only Removing Purifiers				
Molecular Sieve 5A water vapor trap, 200 cc	In-line	No	1/8 inch	20619
Molecular Sieve 5A water vapor trap, 200 cc	In-line	No	1/4 inch	20618
Molecular Sieve 5A water vapor trap, 750 cc	In-line	No	1/4 inch	23991
Molecular Sieve 5A water vapor trap, 750 cc	In-line	No	1/2 inch	23992
Super Clean moisture trap	Base-plate (3)	Yes	n/a	SU861021
Economy water vapor trap, 400 cc	In-line	Yes	1/8 inch	23987
Economy water vapor trap, 400 cc	In-line	Yes	1/4 inch	23988
Oxygen-only Removing Purifiers				
Supelpure-O oxygen trap, 120 cc	In-line	No	1/8 inch	22449
Supelpure-O oxygen trap, 120 cc	In-line	No	1/4 inch	22450-U
Supelpure-O oxygen trap, 750 cc	In-line	No	1/4 inch	503088
Supelpure-O oxygen trap, 750 cc	In-line	No	1/2 inch	503096
Super Clean oxygen trap	Base-plate	Yes	n/a	SU861022
Triple Purifiers (remove hydrocarbons, moisture, and oxygen)				
Supelco Helium purifier	In-line	No	1/8 inch	27600-U
Supelco Helium purifier	In-line	No	1/4 inch	27601-U
Super Clean triple purifier	Base-plate (3)	Yes (4)	n/a	SU861026
Super Clean triple purifier, helium specific	Base-plate (3)	Yes (4)	n/a	SU861027
Dual Purifiers (remove hydrocarbons and moisture)				
Super Clean dual purifier	Base-plate (3)	Yes (4)	n/a	SU861025
Carbon Dioxide-only Removing Purifiers				
Carbon dioxide trap, 100 cc	In-line	Yes	1/8 inch	503185
Carbon dioxide trap, 100 cc	In-line	Yes	1/4 inch	503193
Carbon dioxide trap, 250 cc	In-line	Yes	1/8 inch	503207
Carbon dioxide trap, 250 cc	In-line	Yes	1/4 inch	503215

1. Must be installed into a reusable holder prior to use.
2. Indicating for moisture and oxygen.

3. Must be installed into a reusable base-plate prior to use.
4. Not indicating for hydrocarbons.

Purifiers

Purifier Accessories

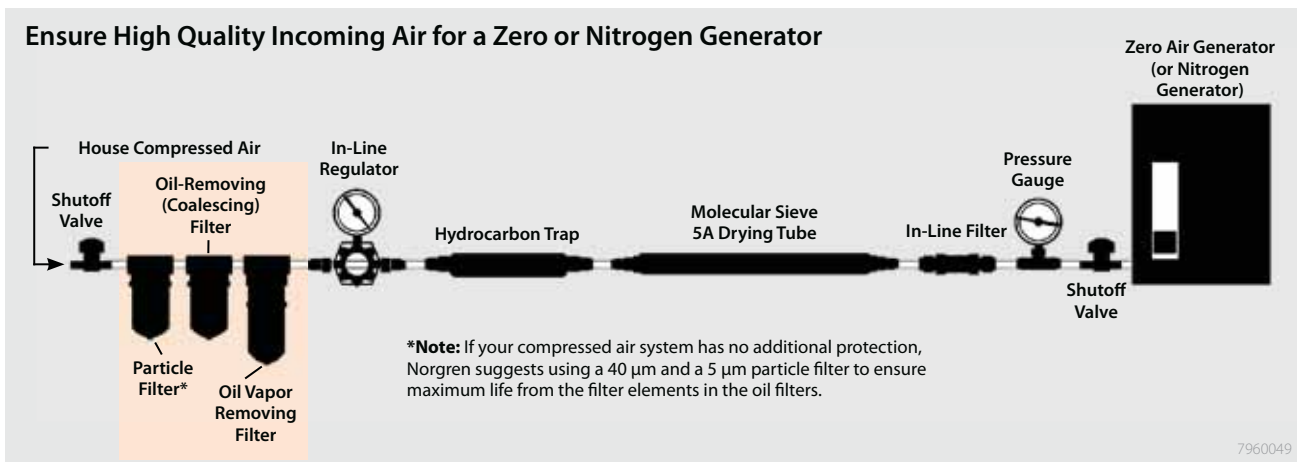
Description	Cat. No.
OMI Holders	
OMI-2 holder, 1/8 inch stainless steel fittings	23921
OMI-4 holder, 1/8 inch stainless steel fittings	23926
Super Clean Base-Plates	
One position, 1/8 inch brass fittings	SU861011
Two position, 1/8 inch brass fittings	SU861012
Three position, 1/8 inch brass fittings	SU861013
Mounting Clips	
For 100 cc traps, 1 ea	502936
For 120 cc traps, 1 ea	23993
For 200 cc traps, 1 ea	503231
For 400 cc traps, 1 ea	23990
For 750 cc traps, 1 ea	24983
Purifier Refills	
Supelpure HC hydrocarbon trap refill, non-indicating, 400 cc	22451
Molecular Sieve 5A water vapor trap refill, non-indicating, 220 g	20298
Carbon dioxide trap refill, indicating, 500 cc	503223
Economy water vapor trap refill, indicating, 475 cc	23989

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



Tubing, Cutters, and Fittings

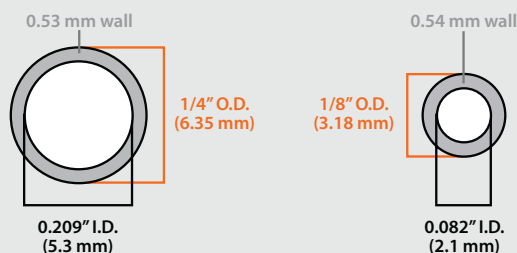


P000301

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.



P000836

- TC-20 is voltage selectable (110/220 V) and 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



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

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

Pressure Gauge

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



P000209

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

Pressure Gauge Kit

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



P000210

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

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

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.



P001377

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 21-070, miniature, 115 V	22807
Model 21-072, miniature, 230 V	22808
Carrying case for 22807 or 22808	22809



Pressure Regulators

For all chromatographic applications, it is recommended to use a regulator that does not allow contaminants to enter the gas stream. Our HP, HP+, and UHP regulators meet this stringent demand. We only offer regulators with bar stock bodies. Compared to forged body regulators, ours have:

- Smoother internal surfaces resulting in more efficient gas flows (no eddy swirling), and that contaminants will not cling to
- Much smaller internal volumes (about 20X less) that take less time to purge

Each of our cylinder regulators also has two additional features, which help keep contaminants from entering the regulator body.

- A check valve in the inlet fitting, activated during cylinder change-out
- A shut-off valve on the outlet side that can be closed when replacing downstream components

Two-Stage Cylinder Regulators

- Reduces cylinder pressure to a factory-set intermediate pressure, then to a user-set final pressure
- Use when the gas cylinder is located within 25 feet of the instrumentation



E001123

Single-Stage Cylinder Regulators

- Reduces cylinder pressure to a user-set intermediate pressure
- Use when the gas cylinder is located more than 25 feet from the instrumentation
- Requires an in-line regulator to be installed within 25 feet of the instrumentation



E001124

In-line Regulators

- Reduces an intermediate pressure to a user-set final pressure
- Install within 25 feet of the instrumentation



P000211

Cylinder Pressure Regulator Features

Feature	HP	HP+	UHP
Check valve in inlet	•	•	•
Bar stock nickel-plated brass body	•	•	•
Stainless steel diaphragm with captive Teflon seal	•	•	
Stainless steel diaphragm with metal-to-metal seal			•
Nickel-plated zinc bonnets	•	•	
Machined brass bonnets (panel-mount capable)			•
2 1/2 inch diameter gauges	•	•	•
Needle shut-off valve	•		
Diaphragm shut-off valve		•	•
1/8 inch male stainless steel Swagelok outlet fitting	•	•	•

Pressure Regulators

Description	Grade	Maximum Inlet Pressure (psi / bar)	Maximum Delivery Pressure (psi / bar)	Cat. No.
CGA 580 Cylinders (for helium, nitrogen, and argon)				
Two-stage	HP	3000 / 204	0-100 / 0-6.9	29557-U
Single-stage	HP	3000 / 204	0-100 / 0-6.9	29556-U
Two-stage	HP+	3000 / 204	0-100 / 0-6.9	29574-U
Two-stage	HP+	3000 / 204	0-150 / 0-10.3	29575-U
Single-stage	HP+	3000 / 204	0-100 / 0-6.9	29573-U
Two-stage	UHP	3000 / 204	0-100 / 0-6.9	29585-U
Single-stage	UHP	3000 / 204	0-100 / 0-6.9	29584-U
DIN 6 Cylinders (for helium, nitrogen, and argon)				
Two-stage	HP	3000 / 204	0-100 / 0-6.9	29559-U
Single-stage	HP	3000 / 204	0-100 / 0-6.9	29558-U
Two-stage	HP+	3000 / 204	0-100 / 0-6.9	29577-U
Two-stage	HP+	3000 / 204	0-150 / 0-10.3	29578-U
Single-stage	HP+	3000 / 204	0-100 / 0-6.9	29576-U
Two-stage	UHP	3000 / 204	0-100 / 0-6.9	29588-U
Single-stage	UHP	3000 / 204	0-100 / 0-6.9	29587-U

Pressure Regulators (contd.)

Description	Grade	Maximum Inlet Pressure (psi / bar)	Maximum Delivery Pressure (psi / bar)	Cat. No.
CGA 350 Cylinders (for hydrogen, methane, and argon/methane)				
Two-stage	HP	3000 / 204	0-100 / 0-6.9	29561-U
Single-stage	HP	3000 / 204	0-100 / 0-6.9	29560-U
Two-stage	HP+	3000 / 204	0-100 / 0-6.9	29581-U
Single-stage	HP+	3000 / 204	0-100 / 0-6.9	29579-U
Two-stage	UHP	3000 / 204	0-100 / 0-6.9	29591-U
Single-stage	UHP	3000 / 204	0-100 / 0-6.9	29589-U
DIN 1 Cylinders (for hydrogen, methane, and argon/methane)				
Two-stage	HP	3000 / 204	0-100 / 0-6.9	29563-U
Single-stage	HP	3000 / 204	0-100 / 0-6.9	29562-U
Two-stage	HP+	3000 / 204	0-100 / 0-6.9	29583-U
Single-stage	HP+	3000 / 204	0-100 / 0-6.9	29582-U
Two-stage	UHP	3000 / 204	0-100 / 0-6.9	29593-U
Single-stage	UHP	3000 / 204	0-100 / 0-6.9	29592-U
CGA 320 Cylinders (for carbon dioxide)				
Two-stage	HP	3000 / 204	0-100 / 0-6.9	29567-U
Single-stage	HP	3000 / 204	0-100 / 0-6.9	29564-U
CGA 590 Cylinders (for compressed air)				
Two-stage	HP	3000 / 204	0-100 / 0-6.9	29569-U
Single-stage	HP	3000 / 204	0-100 / 0-6.9	29568-U
DIN 13 Cylinders (for compressed air)				
Two-stage	HP	3000 / 204	0-100 / 0-6.9	29572-U
Single-stage	HP	3000 / 204	0-100 / 0-6.9	29571-U
In-line				
Single-stage	HP	400 / 27	0-100 / 0-6.9	23882
Single-stage	UHP	400 / 27	0-100 / 0-6.9	23884

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
T196899 BBB	Bulletin	Capillary GC Inlet Liner Selection Guide
T408101 KOX	Product Information Sheet	FocusLiner Inlet Liners
T404081 HCH	Poster	Selecting The Appropriate Inlet Liner
T100741 AXR	Bulletin	Ferrules and Fittings for Packed and Capillary GC
T308184 KPP	Application Note	Hydrogen: Superior Carrier Gas to Helium
T197918 BIT	Bulletin	Selecting Purifiers for Gas Chromatography
T196898 AYW	Bulletin	Gas Management Systems for GC
T407110 JXP	Brochure	Gas Generators
T112853 AIP	Bulletin	Capillary GC Troubleshooting Guide

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 PEM and ChromGas® Hydrogen Generators

- 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



- 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)



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 PEM and ChromGas Hydrogen Generators		
H2PEM-100, 110-230 V	100 mL/min.; 90 psi	27773-U
H2PEM-165, 110-230 V	165 mL/min.; 90 psi	27620-U
H2PEM-260, 110-230 V	260 mL/min.; 90 psi	22751
H2PEM-510, 110-230 V	510 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

Supelco GC Columns

Made for Chromatographers by
Chromatographers



Supelco is dedicated to the development of leading-edge technology to meet the needs of our loyal customer base.

- Special purpose columns for many specific applications
- Columns for general purpose uses
- Each capillary column individually tested to ensure quality
- Guaranteed satisfactory performance
- Superior technical service before and after your purchase

To learn more, download our GC Column Selection Guide (T407133 KCX) at sigma-aldrich.com/gc or contact Supelco Technical Service at **800-359-3041** (USA and Canada only), **814-359-3041**, or email techservice@sial.com

To learn more, visit
sigma-aldrich.com/gc

Sigma-Aldrich® Worldwide Offices

Argentina

Free Tel: 0810 888 7446
Tel: (+54) 11 4556 1472
Fax: (+54) 11 4552 1698

Australia

Free Tel: 1800 800 097
Free Fax: 1800 800 096
Tel: (+61) 2 9841 0555
Fax: (+61) 2 9841 0500

Austria

Tel: (+43) 1 605 81 10
Fax: (+43) 1 605 81 20

Belgium

Free Tel: 0800 14747
Free Fax: 0800 14745
Tel: (+32) 3 899 13 01
Fax: (+32) 3 899 13 11

Brazil

Free Tel: 0800 701 7425
Tel: (+55) 11 3732 3100
Fax: (+55) 11 5522 9895

Canada

Free Tel: 1800 565 1400
Free Fax: 1800 265 3858
Tel: (+1) 905 829 9500
Fax: (+1) 905 829 9292

Chile

Tel: (+56) 2 495 7395
Fax: (+56) 2 495 7396

China

Free Tel: 800 819 3336
Tel: (+86) 21 6141 5566
Fax: (+86) 21 6141 5567

Czech Republic

Tel: (+420) 246 003 200
Fax: (+420) 246 003 291

Denmark

Tel: (+45) 43 56 59 00
Fax: (+45) 43 56 59 05

Finland

Tel: (+358) 9 350 9250
Fax: (+358) 9 350 9255

France

Free Tel: 0800 211 408
Free Fax: 0800 031 052
Tel: (+33) 474 82 28 88
Fax: (+33) 474 95 68 08

Germany

Free Tel: 0800 51 55 000
Free Fax: 0800 64 90 000
Tel: (+49) 89 6513 0
Fax: (+49) 89 6513 1160

Hungary

Ingyenes telefonszám: 06 80 355 355
Ingyenes fax szám: 06 80 344 344
Tel: (+36) 1 235 9063
Fax: (+36) 1 269 6470

India

Telephone

Bangalore: (+91) 80 6621 9400
New Delhi: (+91) 11 4358 8000
Mumbai: (+91) 22 2570 2364
Hyderabad: (+91) 40 4015 5488
Kolkata: (+91) 33 4013 8003

Fax

Bangalore: (+91) 80 6621 9550
New Delhi: (+91) 11 4358 8001
Mumbai: (+91) 22 4087 2364
Hyderabad: (+91) 40 4015 5488
Kolkata: (+91) 33 4013 8000

Ireland

Free Tel: 1800 200 888
Free Fax: 1800 600 222
Tel: (+353) 402 20370
Fax: (+353) 402 20375

Israel

Free Tel: 1 800 70 2222
Tel: (+972) 8 948 4100
Fax: (+972) 8 948 4200

Italy

Free Tel: 800 827 018
Tel: (+39) 02 3341 7310
Fax: (+39) 02 3801 0737

Japan

Tel: (+81) 3 5796 7300
Fax: (+81) 3 5796 7315

Korea

Free Tel: (+82) 80 023 7111
Free Fax: (+82) 80 023 8111
Tel: (+82) 31 329 9000
Fax: (+82) 31 329 9090

Malaysia

Tel: (+60) 3 5635 3321
Fax: (+60) 3 5635 4116

Mexico

Free Tel: 01 800 007 5300
Free Fax: 01 800 712 9920
Tel: (+52) 722 276 1600
Fax: (+52) 722 276 1601

The Netherlands

Free Tel: 0800 022 9088
Free Fax: 0800 022 9089
Tel: (+31) 78 620 5411
Fax: (+31) 78 620 5421

New Zealand

Free Tel: 0800 936 666
Free Fax: 0800 937 777
Tel: (+61) 2 9841 0555
Fax: (+61) 2 9841 0500

Norway

Tel: (+47) 23 17 60 00
Fax: (+47) 23 17 60 10

Poland

Tel: (+48) 61 829 01 00
Fax: (+48) 61 829 01 20

Portugal

Free Tel: 800 202 180
Free Fax: 800 202 178
Tel: (+351) 21 924 2555
Fax: (+351) 21 924 2610

Russia

Tel: (+7) 495 621 5828
Fax: (+7) 495 621 6037

Singapore

Tel: (+65) 6779 1200
Fax: (+65) 6779 1822

Slovakia

Tel: (+421) 255 571 562
Fax: (+421) 255 571 564

South Africa

Free Tel: 0800 1100 75
Free Fax: 0800 1100 79
Tel: (+27) 11 979 1188
Fax: (+27) 11 979 1119

Spain

Free Tel: 900 101 376
Free Fax: 900 102 028
Tel: (+34) 91 661 99 77
Fax: (+34) 91 661 96 42

Sweden

Tel: (+46) 8 742 4200
Fax: (+46) 8 742 4243

Switzerland

Free Tel: 0800 80 00 80
Free Fax: 0800 80 00 81
Tel: (+41) 81 755 2828
Fax: (+41) 81 755 2815

United Kingdom

Free Tel: 0800 717 181
Free Fax: 0800 378 785
Tel: (+44) 1747 833 000
Fax: (+44) 1747 833 313

United States

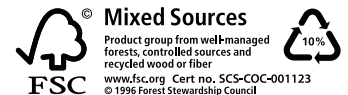
Toll-Free: 800 325 3010
Toll-Free Fax: 800 325 5052
Tel: (+1) 314 771 5765
Fax: (+1) 314 771 5757

Vietnam

Tel: (+84) 3516 2810
Fax: (+84) 6258 4238

Internet

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World Headquarters
3050 Spruce St.
St. Louis, MO 63103
(314) 771-5765
sigma-aldrich.com

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