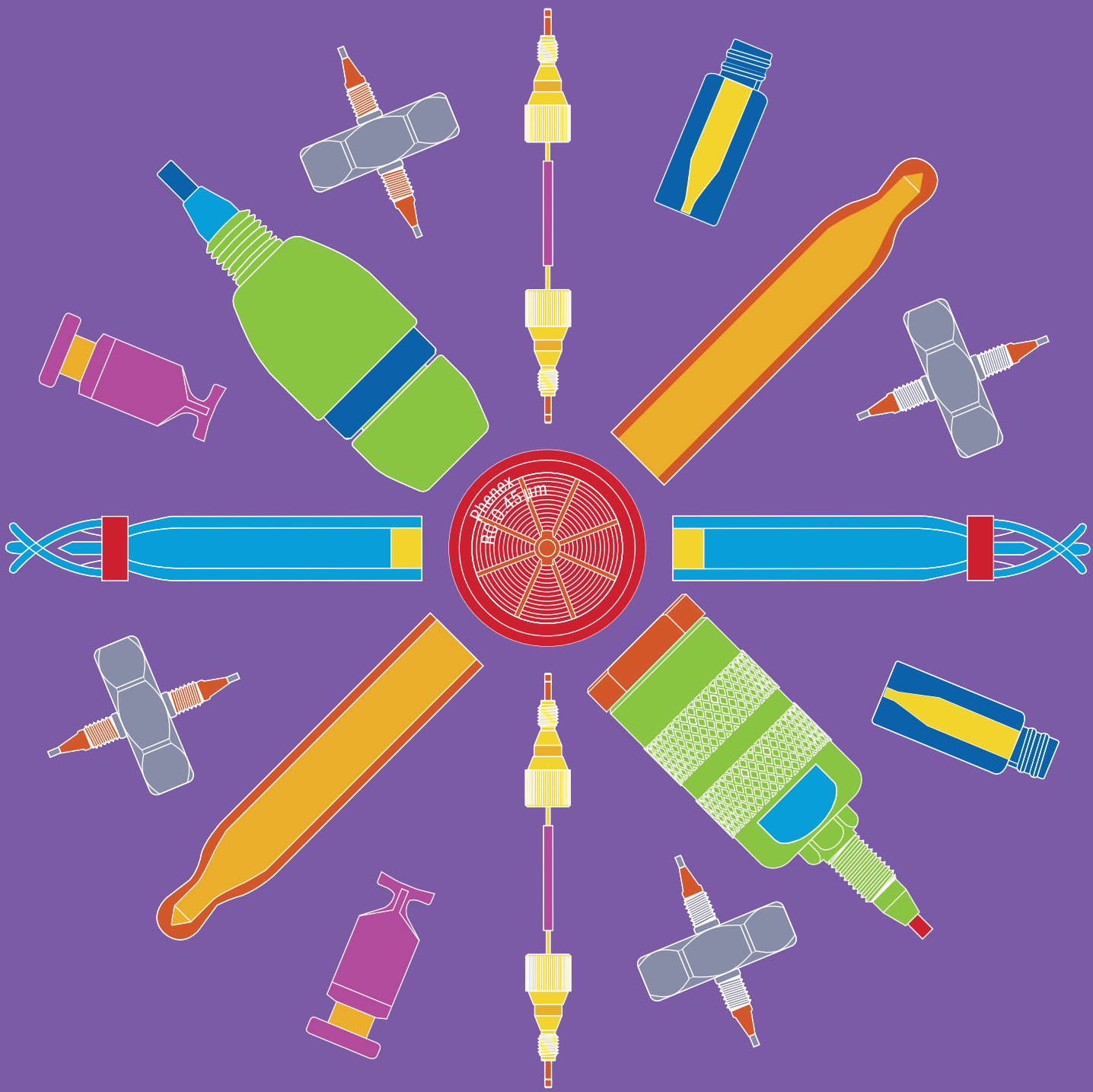
Accessories
Chromatography Product Guide
2025/26



phenomenex™

Welcome



Our Mission

Keeping scientists at the heart of our every day through unforgettable support and standout technology to build a brighter future together.

Our Promise

Our mission drives us to build sincere and meaningful relationships by working alongside scientists and connecting labs with exceptional technology, unrivaled service, and world-class technical support.

The Phenomenex team is empowered by a culture built on trust, integrity, and kindness — one that places scientists at the heart of our every day. We are inspired by the impact our customers make on the world and we will always go above and beyond to help them in our shared pursuit to create a brighter future for humanity. That is our promise.

Dr. Kaveh Kahen
President

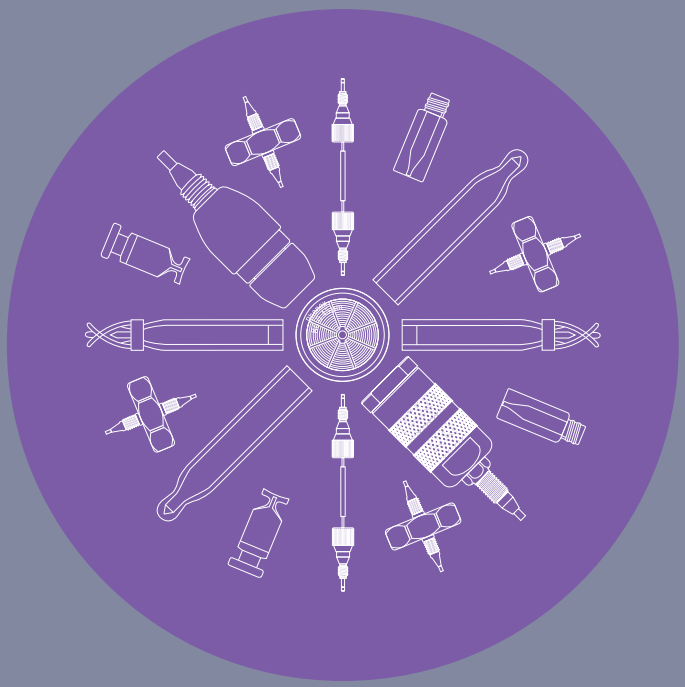


Table of Contents

GENERAL LABORATORY CONSUMABLES 4
Vials 4
Syringes 22
Phenova™ Reference Material/Standards 24

SAMPLE PREPARATION ACCESSORIES 27
Manifolds 27
Collection Plates 29

LC ACCESSORIES 30
Column Protection 30
Column Heater 30
Mobile Phase Safety Products 37
Standards 39
Fittings 41
Filtration 48
Valves 51
Tubing 56
Syringes 58

GC ACCESSORIES 60
Inlet Base Seals 60
Installation Nuts 62
Ferrules 64
O-rings 66
Septa/Septum 66
Inlet Liners 68
Unions and Splitters 76
Gas Management 77
Standards 80
Syringes 81

APPENDICES 86
Trademarks 86

Verex™ Certified Vial Products

Verex Vials for UHPLC / HPLC / GC / SFC and MS Analysis

Leading in Quality, Delivery, and Support

The most critical point of your analysis is when you put your sample in the vial. Verex certified sample vials, inserts, caps and seals are guaranteed to ensure problem-free, reproducible performance with consistent results you can trust.

All Vials, Caps, and Kits

- **Advanced manufacturing**
- **Multi-step QA/QC**
- **Cleanroom packaged**
- **Certified**

With the demand for better product reproducibility and performance in glass, septa and caps, we developed Verex HPLC / GC vial products with high quality materials to exceed industry specifications and tolerances. Verex innovative precision products provide air-tight, leak-free seals to safely transfer and store your most important samples. Through extensive testing, we've created guaranteed-fit vial products that offer compatibility with virtually any autosampler for trouble-free operation.

With tightly controlled 100 % traceable manufacturing processes, we re-defined the standards for lot traceability and certification of every Verex product to ensure a uniform product with optimum performance for any application. For those with the most sensitive applications, choose Verex-Certified PLUS or Certified MSQ products for excellent ultra-grade cleanliness. Bottom line, Verex is your sample transfer and storage solution.

Vials and inserts are made of inert, high-purity, chemically-stable borosilicate glass to exacting specifications, individually heat-treated to burn off any impurities, then packaged in a cleanroom environment. Choose from crimp, snap, and screw types or mix and match vials and caps to your application. Most vials are offered with or without a write-on marking spot or "patch". For easy selection or purchase convenience, our assembled vial kits are ready to go!

Verex caps / seals / closures are made to exacting specifications, giving a tight seal each and every time. The aluminum crimp seals, plastic screw and snap caps come with highly pure septa material and are available in pre-slit and non-slit formats. Economical press-fit and specially formulated bonded-in septa styles are both available. And our mass spec certified (MSQ) screw caps provide you with a state-of-the art solution for your most challenging, sensitive applications.

A variety of complete vial kits are available to meet the most demanding needs of chromatographers, from routine analytical to high-sensitivity work:

- **33-Expansion clear glass (USP Type 1 borosilicate, Class A), 51A amber glass**
- **Limited volume (high sample recovery) vials**
- **Silanized (deactivated) glass**
- **Polypropylene for biocompatibility**
- **Certified and special MS-certified (caps and vials)**

Three Levels

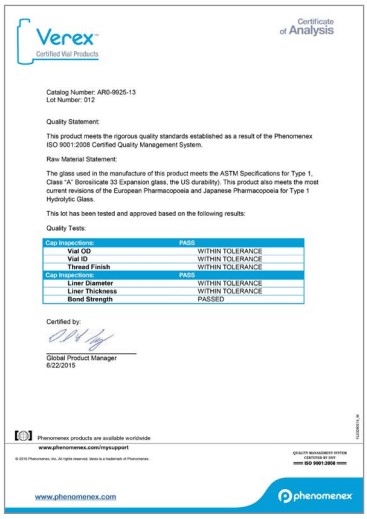
	LEVEL 1 Certified	LEVEL 2 Certified PLUS (Cert+)	LEVEL 3 Certified MSQ (Cert + MSQ) (Mass Spec Quality)
Ultra Clean Specially designed and treated for mass spectrometry (MS) applications.			✓
Low Bleed Special cap / closure processing, treating, and testing for low bleed of residual organics. For high sensitivity GC-MS and LC-MS applications.		✓	✓
Dimensionally Verified Machine vision cameras and gauges inspect critical dimensions and tolerances to produce uniform, defect-free products.	✓	✓	✓
Lot Traceable Vial and cap packs are 100 % traceable through the manufacturing process. Certificate of Conformance available by lot number upon request.	✓	✓	✓
Clean Room Packaged Ensures particulate- and contaminate-free products for clean chromatography.	✓	✓	✓
Part Number Extension	No Extension	Certificate of Conformance Included; Extension -C	Certificate of Conformance Included; Extension -M
Part Number Example	AR0-8952-13	AR0-8952-13-C	AR0-8952-13-M

Need help matching your current vials and caps to Verex? Visit:
www.phenomenex.com/VialFinder



Vials for UHPLC/HPLC/GC/SFC and MS Analysis *(cont'd)*

All Verex products are fully lot-tested and certified. The details of product specifications and testing are available at www.phenomenex.com/verex. The "Certified PLUS" rating signifies the highest quality available from Phenomenex. A Certificate of Conformance is included. Depending on the product, Certified PLUS may indicate, for example, special processing or treating and/or testing for low bleed or residual organics. Certified products offer excellent performance, especially for high sensitivity, mass spectrometry applications.


Verex
Certified Vial Products

Certificate of Analysis

Catalog Number: AR0-9625-13
Lot Number: 012

Quality Statement:

This product meets the rigorous quality standards established as a result of the Phenomenex ISO 9001:2008 Certified Quality Management System.

Raw Material Statement:

The glass used in the manufacture of this product meets the ASTM Specifications for Type 1, Class "A" Borosilicate 33 Expansion glass, the US durability). This product also meets the most current revisions of the European Pharmacopoeia and Japanese Pharmacopoeia for Type 1 Hydrolytic Glass.

This lot has been tested and approved based on the following results:

Quality Tests:

Cap Inspections:	PASS
Vial OD	WITHIN TOLERANCE
Vial ID	WITHIN TOLERANCE
Thread Finish	WITHIN TOLERANCE
Cap Inspections:	PASS
Liner Diameter	WITHIN TOLERANCE
Liner Thickness	WITHIN TOLERANCE
Bond Strength	PASSED

Certified by:

Global Product Manager
6/22/2015

Phenomenex products are available worldwide
www.phenomenex.com/mysupport

ISO 9001:2008

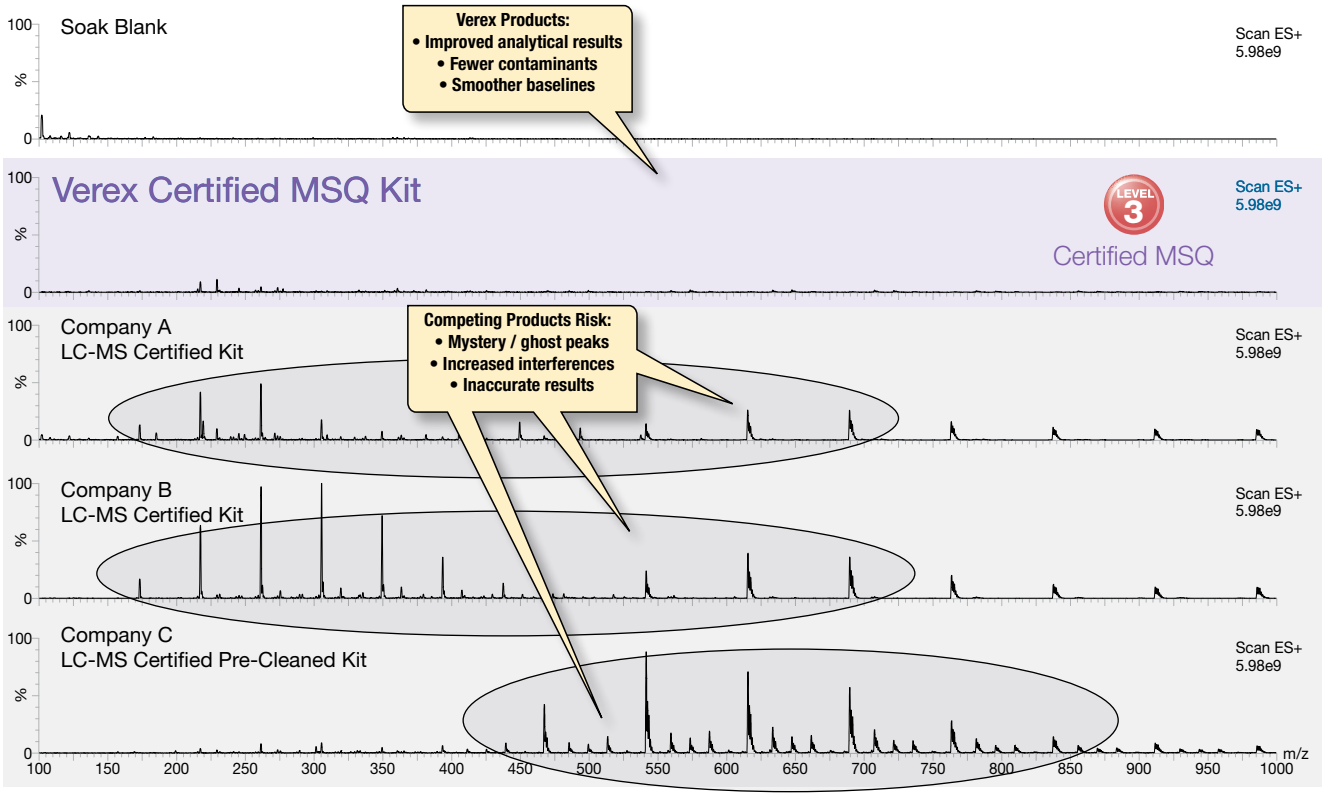
www.phenomenex.com
phenomenex

RIGHT CHOICE
Certified Plus MS Quality

From the manufacturing of our products to their timely delivery and superior customer support, we are dedicated to continually improving our processes to consistently meet or exceed your expectations.

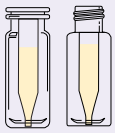
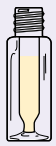
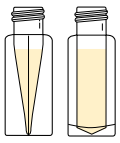
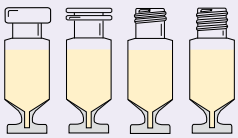
Vials, The Most Critical Part of Your Analysis!

Though they may look alike, not all vials offer equivalent performance. Variations in product quality can adversely affect your chromatography, leading to mystery peaks, loss of analytes, and irreproducible results. Begin every analysis with high quality Verex products to minimize troubleshooting delays, and costly, unnecessary rework.



Comparative separations may not be representative of all applications.

12 x 32 mm Limited Volume Specialty Vials and Kits

	Type and Description	Finish	Material	Total Volume	Residual Volume	Available as	Page Number	Part Numbers
	High-Recovery CD Vial Center-draining	9 mm Screw Thread	Glass	1.5 mL	< 20 µL	Convenience Kits (certified and regular)	37 37 36	AR0-9981-13 AR0-9982-13 AR0-9986-13-C
	Max-Recovery CD Vial Center-draining	11 mm Snap or 9 mm Screw Thread	Glass	1.5 mL	< 2 µL	Vials (regular) Convenience Kits (certified)	36 36	AR0-9987-13-C AR0-9988-13-C
	Insert Vial µVial i2V	11 mm Snap	Glass	500 µL	< 2 µL	Vials (regular)	34 34	AR0-3630-13 AR0-3631-13
	Insert Vial µVial i3 (Qsert)	11 mm Snap or 9 mm Screw Thread	Glass	300 µL	< 4 µL	Convenience Kits (certified and regular)	34 34 37 37 36	AR0-9671-13 AR0-9672-13 AR0-9973-13 AR0-9974-13 AR0-9974-13-C
	Insert Vial µVial i3 (Qsert)	11 mm Crimp or 11 mm Snap or 9 mm Screw Thread	Glass	300 µL or 475 µL	< 4 µL	Vials (regular)	34 33 37 37	AR0-3625-13 AR0-3725-13 AR0-3920-13 AR0-3921-13
	Insert Vial µVial i3 (Qsert)	10 mm Screw Thread	Glass	450 µL	< 2 µL	Vials (regular)	40 40	AR0-3020-13 AR0-3021-13
	Plastic Vial	9 mm Screw Thread	Polypropylene	1.7 mL 700 µL 300 µL	< 2 µL	Vials (certified and regular)	37	AR0-39P0-13 AR0-39P1-13 AR0-39P2-13
	Micro Vial with Tapered Base v-Vial	11 mm Crimp or 11 mm Snap or 9 mm Screw Thread or 10 mm Screw Thread	Glass	1.5 mL	< 4 µL	Vials (regular)	40 34 34 33 33 37 37	AR0-3040-13 AR0-3640-13 AR0-3641-12 * AR0-3740-13 AR0-3741-13 AR0-3940-13 AR0-3941-13

*Only available in 100/pk

9-425 neck finish represents a vial with a diameter of 9 mm across the outside of the threads and a thread style of 425.

12 x 32 mm, 11 mm Crimp-Top Vial Products

Crimp-Top Vials, 2.0 mL

- **Cleaner vials eliminate ghost peaks and contaminants**
- **Used with most autosamplers, including Agilent®, Thermo Scientific®, Waters®**
- **Larger-opening "wide-mouth" style prevents broken needles and system downtime**
- **Precision neck improves crimping**

Ordering Information

Description	1000/pk
Standard Opening	
Vial, Crimp, 2 mL Clear, No Patch	AR0-3700-13
Vial, Crimp, 2 mL Clear, w/ Patch	AR0-3710-13
Vial, Crimp, 2 mL Amber, w/ Patch	AR0-3711-13
Wide Mouth Opening	
Vial, Crimp, 2 mL Wide Mouth, Clear, No Patch	AR0-37K0-13
Vial, Crimp, 2 mL Wide Mouth, Clear, w/ Patch	AR0-37L0-13
Vial, Crimp, 2 mL Wide Mouth, Amber, No Patch	AR0-37K1-13
Vial, Crimp, 2 mL Wide Mouth, Amber, w/ Patch	AR0-37L1-13





Download FREE
Verex vials and caps poster guide at:
www.phenomenex.com/Verex

Limited Volume Specialty Crimp-Top Vials

- **Microsampling (center-draining and fused-insert vials)**

Ordering Information

Description	100/pk	1000/pk
Vial, Crimp, v-Vial Clear, No Patch*	AR0-3740-12	AR0-3740-13
Vial, Crimp, v-Vial Amber, No Patch*	—	AR0-3741-13
Vial, Crimp, µVial i3 (Qsert), Clear, w/ Patch	AR0-3725-12	AR0-3725-13
Vial, Crimp, µVial i3 (Qsert), Amber, w/ Patch	AR0-3726-12	AR0-3726-13

*51-Expansion glass.



Seals / Closures for Crimp-Top Vials

- **Excellent for volatile samples**
- **Extra clean to eliminate contamination**
- **Colored aluminum**

Ordering Information

Description	1000/pk
Seal, 11 mm Diameter, Crimp, PTFE/Silicone, silver	AR0-5780-13
Seal, 11 mm Diameter, Crimp, PTFE/Silicone/PTFE, silver	AR0-5760-13
Seal, 11 mm Diameter, Crimp, PTFE/Rubber, silver	AR0-5740-13
Seal, 11 mm Diameter, Crimp, PTFE/Rubber, blue	AR0-5742-13
Seal, 11 mm Diameter, Crimp, PTFE/Rubber, red	AR0-5741-13
Seal, 11 mm Diameter, Crimp, PTFE/Rubber, green	AR0-5743-13
Seal, 11 mm Diameter, Crimp, PTFE/Rubber, gold	AR0-574G-13
Seal, 11 mm Diameter, Crimp, PTFE, silver	AR0-5710-13



Save Money. Bulk discounts available. Timely delivery. Excellent support.

Request a Quote. Want to make sure you're getting the best pricing on vials? Visit:
www.phenomenex.com/Verex

12 x 32 mm, 11 mm Snap-Top Vials and Kits

Convenience Kits – Snap-Top Vials and Seals / Closures

- **Precision formed for autosampler fit**
- **Larger-opening "wide-mouth" style prevents broken needles and system downtime**
- **Rigorous quality testing for consistent performance**
- **Precise vial depth provides consistent sample recoveries**



Ordering Information†

Description	1000/pk
Vial Kit, Snap Cap, 2 mL Clear, w/ Patch + PTFE/Silicone	AR0-9721-13
Vial Kit, Snap Cap, 2 mL Clear + PTFE/Silicone, preSlit	AR0-9727-13

†No write-on patch unless otherwise indicated

Convenience Kits – Limited Volume Specialty Snap-Top Vials and Seals / Closures

- **Microsampling (fused-insert vials)**
- **Cleaner vials eliminate ghost peaks and contaminants**



Ordering Information

Description	100/pk	1000/pk
Vial Kit, Snap, µVial i3 (Qsert), Clear w/ Patch + PTFE/Silicone	AR0-9671-12	AR0-9671-13
Vial Kit, Snap, µVial i3 (Qsert), Clear w/ Patch + PTFE/Silicone, preSlit	—	AR0-9672-13

Snap-Top Vials*, 2.0 mL

- **Great for less volatile samples or high-throughput labs**
- **Save time, without crimping or twisting**



Ordering Information

Description	1000/pk
Vial, Snap, 2 mL Clear, No Patch	AR0-3600-13
Vial, Snap, 2 mL Clear, w/ Patch	AR0-3610-13
Vial, Snap, 2 mL Amber, w/ Patch	AR0-3611-13
Vial, Snap, 2 mL Clear, w/ Patch, Silanized	AR0-3613-13
Vial, Snap, 2 mL Amber, w/ Patch, Silanized	AR0-3614-13

*Vials can accept either snap or crimp-tops to effectively seal the vial.

Limited Volume Specialty Snap-Top Vials

- **For small volume microsamples (center-draining and fused-insert vials)**
- **One piece vial with fused-insert**



Ordering Information

Description	100/pk	1000/pk
Vial, Snap, v-Vial i2V Clear, No Patch❷	AR0-3640-12	AR0-3640-13
Vial, Snap, v-Vial i2V Amber, No Patch❷	AR0-3641-12	—
Vial, Snap, µVial i2V Clear, No Patch	AR0-3630-12	AR0-3630-13
Vial, Snap, µVial i2V Amber, No Patch	AR0-3631-12	AR0-3631-13
Vial, Snap, µVial i3 (Qsert), Clear, w/ Patch	AR0-3625-12	AR0-3625-13

❷51-Expansion glass.

Simply choose the vial closure convenience kit for your application and you'll also receive a free dispenser box!

12 x 32 mm, 11 mm Snap-Top Vials and Kits *(cont'd)*

Seals / Closures for Snap-Top Vials

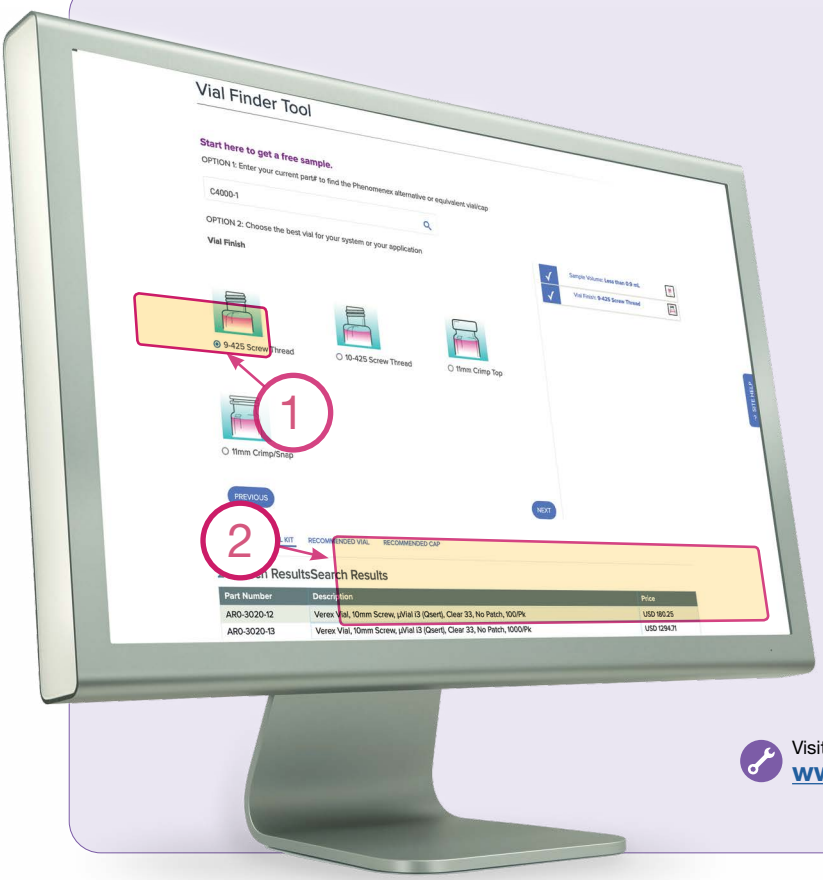
- **Specially designed for secure fit**
- **Easily snap cap onto vial and pull cap off**



Ordering Information

Description	1000/pk
No-Slit	
Seal, 11 mm Diameter, Snap, PTFE/Silicone, blue	AR0-5652-13
Seal, 11 mm Diameter, Snap, PTFE/Silicone, Cert+, blue	AR0-5652-13-C
Seal, 11 mm Diameter, Snap, PTFE/Silicone, natural	AR0-5656-13
Seal, 11 mm Diameter, Snap, PTFE/Silicone, red	AR0-5651-13
Seal, 11 mm Diameter, Snap, PTFE/Silicone, green	AR0-5653-13
Seal, 11 mm Diameter, Snap, PTFE/Rubber, natural	AR0-5646-13
Seal, 11 mm Diameter, Snap, PTFE, blue	AR0-5612-13
preSlit	
Seal, 11 mm Diameter, Snap, PTFE/Silicone preSlit, blue	AR0-5672-13
Seal, 11 mm Diameter, Snap, PTFE/Silicone preSlit, natural	AR0-5676-13
Seal, 11 mm Diameter, Snap, PTFE/Silicone preSlit, red	AR0-5671-13
Seal, 11 mm Diameter, Snap, LDPE preSlit, natural*	AR0-5690-13

*Cap made of 100 % LDPE with no PTFE or Silicone



Switch from Your Current Vials and Caps to Verex in 2 Easy Steps:

Enter your current vial or cap part number **1**

Order the recommended Verex part numnber **2**

Finding the Verex replacement to your current vials and caps is EASY.

Use our online web tool to find the guaranteed Verex product match.

Visit: www.phenomenex.com/VialFinder

12 x 32 mm, 9 mm (9-425) Screw-Top Vials and Kits

Convenience Kits – Certified PLUS (Cert+) Mass Spec Quality (MSQ) 9 mm Screw-Top Vials and Caps with Locked-Fit Septa

- **For your most demanding analysis; high sensitive detectors**
- **HPLC and LC-MS tested and certified**
- **State-of-the-art design and manufacture**

LEVEL 3



RIGHT CHOICE
Certified Plus MS Quality

Ordering Information

Description	1000/pk
Cert+ MSQ Vial Kit, 9 mm, 2 mL Clear w/ Patch + MSQ PTFE/Silicone	AR0-992A-13-M
Cert+ MSQ Vial Kit, 9 mm, 2 mL Amber w/ Patch + MSQ PTFE/Silicone	AR0-992B-13-M

Convenience Kits – Certified PLUS (Cert+) 9 mm Screw-Top Vials and Caps with Bonded-In Septa

- **Certified for cleanliness and enhanced quality**
- **Polyethylene-Starburst cap is an excellent choice for inertness**

LEVEL 2



Ordering Information

Description	1000/pk
Cert+ Vial Kit, 9 mm, 2 mL Clear w/ Patch + PTFE/Silicone cap	AR0-9921-13-C
Cert+ Vial Kit, 9 mm, 2 mL Clear w/ Patch + PE-Starburst cap	AR0-9927-13-C
Cert+ Vial Kit, 9 mm, 2 mL Amber w/ Patch + PTFE/Silicone, preSlit cap	AR0-9926-13-C

Convenience Kits – Certified PLUS (Cert+) Limited Volume Specialty 9 mm Screw-Top Vials and Caps

- **Kits for microsampling (center-draining and fused-insert vials)**
- **Lower trace contaminants for higher sensitivity work**

LEVEL 2



Ordering Information*

Description	100/pk	1000/pk
Cert+ Vial Kit, 9 mm, Maximum Recovery (CD) Clear + PTFE/Silicone cap®	AR0-9987-12-C	AR0-9987-13-C
Cert+ Vial Kit, 9 mm, Maximum Recovery (CD) Clear + PTFE/Silicone, preSlit cap®	AR0-9988-12-C	AR0-9988-13-C
Cert+ Vial Kit, 9 mm, High Recovery (CD) Amber + PE-Starburst cap⊡	—	AR0-9986-13-C
Cert+ Vial Kit, 9 mm, µVial i3(Qsert) Clear w/ Patch + PTFE/Silicone, preSlit cap®	AR0-9974-12-C	AR0-9974-13-C

*No write-on patch unless otherwise indicated
®-B = Bonded-In Septa. ⊡Cap is one piece, constructed of ultra-pure, medical-grade polyethylene.

Convenience Kits – 9 mm Screw-Top Vials and Caps with Bonded-In Septa

- **Sample volume range from 0.2 to 1.5 mL**

best seller



Ordering Information

Description	1000/pk
Vial Kit, 9 mm, 2 mL Clear + PTFE/Silicone	AR0-9901-13
Vial Kit, 9 mm, 2 mL Clear + PTFE/Silicone, preSlit	AR0-9903-13
Vial Kit, 9 mm, 2 mL Clear w/ Patch + PTFE/Silicone	AR0-9921-13
Vial Kit, 9 mm, 2 mL Clear w/ Patch + PTFE/Silicone, Silanized	AR0-9921-13-D
Vial Kit, 9 mm, 2 mL Clear w/ Patch + PTFE/Silicone, preSlit	AR0-9925-13
Vial Kit, 9 mm, 2 mL Clear w/ Patch + PTFE/Silicone, preSlit, Silanized	AR0-9925-13-D
Vial Kit, 9 mm, 2 mL Clear + PTFE/Rubber	AR0-9907-13
Vial Kit, 9 mm, 2 mL Clear w/ Patch + PTFE/Rubber, preSlit	AR0-9914-13
Vial Kit, 9 mm, 2 mL Amber w/ Patch + PTFE/Silicone	AR0-9922-13
Vial Kit, 9 mm, 2 mL Amber w/ Patch + PTFE/Silicone, Silanized	AR0-9922-13-D
Vial Kit, 9 mm, 2 mL Amber w/ Patch + PTFE/Silicone, preSlit	AR0-9926-13
Vial Kit, 9 mm, 2 mL Amber w/ Patch + PTFE/Silicone, preSlit, Silanized	AR0-9926-13-D
Vial Kit, 9 mm, 2 mL Amber w/ Patch + PTFE/Silicone/PTFE	AR0-9923-13
Vial Kit, 9 mm, 2 mL Amber w/ Patch + PTFE/Rubber	AR0-9912-13

Learn More. For additional product selection and detailed information visit:
www.phenomenex.com/Verex

12 x 32 mm, 9 mm (9-425) Screw-Top Vials and Kits *(cont'd)*

Convenience Kits – Limited Volume Specialty 9 mm Screw-Top Vials and Caps with Bonded-In Septa

- **Kits for microsampling (center-draining and fused-insert vials)**
- **CD and Qsert vials offer superior performance over vials with loose inserts**



Ordering Information*

Description	100/pk	1000/pk
Vial Kit, 9 mm, High Recovery (CD) Clear + PTFE/Silicone	AR0-9981-12	AR0-9981-13
Vial Kit, 9 mm, High Recovery (CD) Clear + PTFE/Silicone, preSlit	AR0-9982-12	AR0-9982-13
Vial Kit, 9 mm, µVial i3 (Qsert) Clear w/ Patch + PTFE/Silicone	AR0-9973-12	AR0-9973-13
Vial Kit, 9 mm, µVial i3 (Qsert) Clear w/ Patch + PTFE/Silicone, preSlit	AR0-9974-12	AR0-9974-13

*No write-on patch unless otherwise indicated.

Convenience Kits – Assembled 9 mm Screw-Top Vials and Caps with Bonded-In Septa

- **Cap and septa attached to vials**
- **Ready to use**
- **Save time and labor**



Ordering Information*

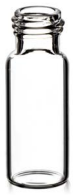
Description	1000/pk
Vial Kit, 9 mm, 2 mL Clear w/ Patch + PTFE/Silicone, preSlit	AR0-9925-13-A
Vial Kit, 9 mm, 2 mL Amber w/ Patch + PTFE/Silicone, preSlit	AR0-9926-13-A

*-A = Assembled

9 mm Screw-Top Vials, 2.0 mL

- **Used with most autosamplers, including Agilent®, Thermo Scientific®, Waters® and many others**
- **Performs as well as crimp or snap vials**
- **Offers improved cap convenience and accessibility (easy on, easy off)**

Need help matching your current vials and caps to Verex? Visit: **www.phenomenex.com/VialFinder**



Ordering Information

Description	1000/pk
Vial, 9 mm Screw, 2 mL Clear, No Patch	AR0-3900-13
Vial, 9 mm Screw, 2 mL Amber, No Patch	AR0-3901-13
Vial, 9 mm Screw, 2 mL Clear, w/ Patch	AR0-3910-13
Vial, 9 mm Screw, 2 mL Amber, w/ Patch	AR0-3911-13

Limited Volume Specialty 9 mm Screw-Top Vials

- **Microsampling Qsert and v-Vial center-draining vials**
- **Qsert fused-insert vials ensure proper seating of the cap**
- **Extremely low residual volume**
- **Polypropylene (PP) vial kits for bio- or ion chromatography, or pH-sensitive samples**



Ordering Information

Description	100/pk	1000/pk
Vial, 9 mm Screw, µVial i3 (Qsert) Clear, No Patch	AR0-3920-12	AR0-3920-13
Vial, 9 mm Screw, µVial i3 (Qsert) Amber, No Patch	AR0-3921-12	AR0-3921-13
Vial, 9 mm Screw, v-Vial Clear, No Patch*	AR0-3940-12	AR0-3940-13
Vial, 9 mm Screw, v-Vial Amber, No Patch*	AR0-3941-12	AR0-3941-13
Vial, 9 mm, Screw, PP, 1.7 mL Clear, No Patch**	AR0-39P0-12	AR0-39P0-13
Vial, 9 mm, Screw, PP, 700 µL Clear, No Patch**	AR0-39P1-12	AR0-39P1-13
Vial, 9 mm, Screw, PP, 300 µL Clear, No Patch**	AR0-39P2-12	AR0-39P2-13

*51-Expansion glass. **Vial made of Polypropylene.

12 x 32 mm, 9 mm (9-425) Screw-Top Vials and Kits *(cont'd)*

Certified PLUS (Cert+) Mass Spec Quality (MSQ) Caps for 9 mm Screw-Top Vials

- **HPLC and LC-MS tested and certified**
- **For your most demanding analysis; high sensitive detectors**
- **Locked-fit provides a positive physical septa lock into the cap**

LEVEL 3

MS Quality. Constructed of virgin polymers, free of siloxanes and trace contaminants, these caps are the cleanest available from Phenomenex.

Ordering Information

Description	1000/pk
Cert+ MSQ Cap (pre-assembled), 9 mm, w/ Locked-fit PTFE/Silicone septa, blue	AR0-8952-13-M
Cert+ MSQ Cap (pre-assembled), 9 mm, w/ Locked-fit PTFE/Silicone preSlit septa, blue	AR0-8972-13-M



Certified PLUS (Cert+) Caps for 9 mm Screw-Top Vials

- **Certified ultra-clean**
- **High-grade, preconditioned raw materials**
- **Finished product inspected and LC-MS tested**

LEVEL 2

Ordering Information

Description	1000/pk
Cert+ Cap (pre-assembled), 9 mm, w/ Bonded-in PTFE/Silicone septa, blue	AR0-8952-13-C
Cert+ Cap (pre-assembled), 9 mm, w/ Bonded-in PTFE/Silicone preSlit septa, blue	AR0-8972-13-C

*Cap is one piece, constructed of ultra-pure, medical-grade polyethylene



Bonded-In Caps for 9 mm Screw-Top Vials

- **Bonded septa caps eliminate costly liner/septa fallout**
- **Prevents rework and wasted productivity with perfect-fit septa**
- **Saves instrument downtime**

LEVEL 1

For a more economical alternative, Press-Fit Caps are available. Contact your Phenomenex technical consultant or distributor.

Ordering Information

Description	1000/pk
Cap (pre-assembled), 9 mm, w/ Bonded-in PTFE/Silicone septa, black	AR0-8957-13-B
Cap (pre-assembled), 9 mm, w/ Bonded-in PTFE/Silicone septa, blue	AR0-8952-13-B
Cap (pre-assembled), 9 mm, w/ Bonded-in PTFE/Silicone septa, natural	AR0-8956-13-B
Cap (pre-assembled), 9 mm, w/ Bonded-in PTFE/Silicone septa, red	AR0-8951-13-B
Cap (pre-assembled), 9 mm, w/ Bonded-in PTFE/Silicone septa, green	AR0-8953-13-B
Cap (pre-assembled), 9 mm, w/ Bonded-in PTFE/Silicone preSlit septa, black	AR0-8977-13-B
Cap (pre-assembled), 9 mm, w/ Bonded-in PTFE/Silicone preSlit septa, blue	AR0-8972-13-B
Cap (pre-assembled), 9 mm, w/ Bonded-in PTFE/Silicone preSlit septa, grey	AR0-8976-13-B
Cap (one-piece), 9 mm PP, molded, natural*	AR0-39P9-13
Cap 9 mm Solid Top, Unlined (no Septa), Polypropylene, black	AR0-89C7-13

*Cap is one piece, constructed of ultra-pure, medical-grade polyethylene



Inserts for 9 mm Screw-Top Vials

- **For limited volume sampling in 2 mL sample vials**
- **Virtually no adsorption or pH effects**

Ordering Information[Δ]

Description	500/pk	1000/pk
Insert, 6 mm Diameter, Flat Bottom, 450 µL	AR0-4610-52	—
Insert, 6 mm Diameter, Flat Bottom, 450 µL, Silanized	AR0-4615-52	—
Insert, 6 mm Diameter, Conical Bottom, 350 µL	—	AR0-4620-13
Insert, 6 mm Diameter, Conical Bottom, w/ bottom spring, 300 µL	—	AR0-4621-13
Insert, 6 mm Diameter, Conical Bottom, w/ bottom spring, 300 µL, Silanized	—	AR0-4623-13

[Δ]Approximate useable volume indicated in µL



12 x 32 mm, 8 mm (8-425) Screw-Top Vials

8 mm Screw-Top Vials, 2.0 mL

- **Standard-neck vials for Agilent® and Shimadzu® autosamplers**
- **33-Expansion clear glass (USP Type 1 borosilicate, Class A), 51A amber glass**



Ordering Information

Description	1000/pk
Vial, 8 mm Screw, 2 mL Clear, No Patch	AR0-3800-13
Vial, 8 mm Screw, 2 mL Clear, w/ Patch	AR0-3810-13
Vial, 8 mm Screw, 2 mL Amber, No Patch	AR0-3801-13
Vial, 8 mm Screw, 2 mL Amber, w/ Patch	AR0-3811-13

Caps / Closures for 8 mm Screw-Top Vials

- **Prevent rework and wasted productivity with perfect fit bonded-in septa**
- **Fewer trace contaminants for higher sensitivity work**



Ordering Information

Description	1000/pk
Cap (pre-assembled), 8-425, w/ Bonded-in PTFE/Silicone septa, black*	AR0-8857-13-B
Cap (pre-assembled), 8-425, w/ Bonded-in PTFE/Silicone preSlit septa, black*	AR0-8877-13-B
Cap (pre-assembled), 8-425, w/ PTFE/Silicone septa, black**	AR0-8857-13
Cap (pre-assembled), 8-425, w/ PTFE/Silicone preSlit septa, black**	AR0-8877-13
Cap (pre-assembled), 8-425, w/ PTFE/Silicone septa, w/ flange, yellow	AR0-8834-13
Cap (pre-assembled), 8-425, w/ PTFE/Silicone/PTFE septa, black**	AR0-8867-13

*-B = Bonded-in Septa
**Press-Fit-Septa

Septa for 8 mm Screw Caps

- **Preconditioned and tested**
- **For caps / closures without septa**

Need help matching your current vials and caps to Verex? Visit: **www.phenomenex.com/VialFinder**

Ordering Information

Description	1000/pk
Septa, 8 mm Diameter, PTFE/Silicone 0.060 in	AR0-6853-13

Inserts for 8 mm Screw-Top Vials

- **For limited volume sampling**
- **Transforms full capacity vials to micro sample vials**



Ordering Information[Δ]

Description	500/pk	1000/pk
Insert, 5 mm Diameter, Flat Bottom, 200 µL	AR0-4510-52	AR0-4510-13
Insert, 5 mm Diameter, Conical Bottom, 100 µL	—	AR0-4520-13
Insert, 5 mm Diameter, Conical Bottom, w/ bottom spring, 175 µL	—	AR0-4521-13

[Δ]Approximate useable volume indicated in µL

12 x 32 mm, 10 mm (10-425) Screw-Top Vials and Kits

Convenience Kits
10 mm Screw-Top Vials and Caps with Bonded-In Septa

- **Available in assembled ready to use kits**
- **Offered with silanization**



Ordering Information

Description	100/pk	1000/pk
Vial Kit, 10 mm, 2 mL Clear, No Patch + PTFE/Silicone, preSlit	—	AR0-9003-13
Vial Kit, 10 mm, 2 mL Clear, w/ Patch + PTFE/Silicone*	—	AR0-9021-13-A
Vial Kit, 10 mm, 2 mL Amber, w/ Patch + PTFE/Silicone*	—	AR0-9022-13-A

*-A = Assembled

10 mm Screw-Top Vials, 2.0 mL

- **Easy-to-fill wide-neck vials**



Ordering Information

Description	1000/pk
Vial, 10 mm Screw, 2 mL Clear, No Patch	AR0-3000-13
Vial, 10 mm Screw, 2 mL Clear, w/ Patch	AR0-3010-13
Vial, 10 mm Screw, 2 mL Amber, w/ Patch	AR0-3011-13

Limited Volume Specialty 10 mm Screw-Top Vials

- **Microsampling Qsert and center-draining vial**
- **Extremely low residual volume**



Ordering Information

Description	100/pk	1000/pk
Vial, 10 mm Screw, µVial i3 (Qsert) Clear, No Patch	AR0-3020-12	AR0-3020-13
Vial, 10 mm Screw, µVial i3 (Qsert) Amber, No Patch	AR0-3021-12	AR0-3021-13
Vial, 10 mm Screw, v-Vial, Clear, No Patch	AR0-3040-12	AR0-3040-13

Caps / Closures
for 10 mm Screw-Top Vials

- **High quality preconditioned septa**
- **Bonded-in or press-fit**
- **Prevent rework and wasted productivity with perfect fit bonded-in septa**



Ordering Information

Description	1000/pk
Cap (pre-assembled), 10-425, w/ Bonded-in PTFE/Silicone septa, black*	AR0-8057-13-B
Cap (pre-assembled), 10-425, w/ Bonded-in PTFE/Silicone preSlit septa, black*	AR0-8077-13-B
Cap (pre-assembled), 10-425, w/ PTFE/Silicone septa, black**	AR0-8057-13
Cap (pre-assembled), 10-425, w/ PTFE/Silicone preSlit septa, black**	AR0-8077-13

*-B = Bonded-in Septa
**Press-fit Septa

Inserts
for 10 mm Screw-Top Vials

- **For limited volume sampling**



Ordering Information[Δ]

Description	500/pk	1000/pk
Insert, 6 mm Diameter, Flat Bottom, 450 µL	AR0-4610-52	—
Insert, 6 mm Diameter, Flat Bottom, 450 µL, Silanized	AR0-4615-52	—
Insert, 6 mm Diameter, Conical Bottom, 350 µL	—	AR0-4620-13
Insert, 6 mm Diameter, Conical Bottom, w/ bottom spring, 300 µL	—	AR0-4621-13
Insert, 6 mm Diameter, Conical Bottom w/ bottom spring, 300 µL, Silanized	—	AR0-4623-13

[Δ]Approximate useable volume indicated in µL

15 x 45 mm, 13 mm (13-425) Screw-Top Vials and Kits

Convenience Kits – 13 mm Screw-Top Vials and Caps

- **Original Waters® 4 mL WISP™ autosampler vial**
- **General purpose sample / standard storage vial**



Ordering Information

Description	1000/pk
Vial Kit, 4 mL Clear w/ Patch + screw caps 13-425, PTFE/Silicone*$^{\Delta}$	AR0-9321-13-A

*-A = Assembled. $^{\Delta}$= Bonded-In Septa

13 mm Screw-Top Vials, 4.0 mL



Ordering Information

Description	1000/pk
Vial, 4 mL Screw Clear, No Patch	AR0-3300-13
Vial, 4 mL Screw Clear, w/ Patch	AR0-3310-13
Vial, 4 mL Screw Amber, No Patch	AR0-3301-13

Limited Volume Specialty 13 mm Screw-Top Vials

- **Center-draining bottom for low-volume samples**



Ordering Information

Description	100/pk	1000/pk
Vial, 4 mL Screw High Recovery (CD) Clear, No Patch	—	AR0-3370-13

Caps / Closures for 13 mm Screw Top Vials

- **High quality, pre-conditioned septa**
- **Available with bonded-in septa**



Ordering Information

Description	1000/pk
Cap (pre-assembled), 13-425, w/ Bonded-in PTFE/Silicone septa, black*	AR0-8357-13-B
Cap (pre-assembled), 13-425, w/ PTFE/Silicone septa, black$^{\Delta\,\Delta}$	AR0-8357-13

*-B = Bonded-in Septa. $^{\Delta\,\Delta}$ = Press-fit

Shell Vials

- **Original 1 mL and 4 mL shell vials for Waters® 96- and 48-position autosampler trays**
- **Kits include high-quality borosilicate glass vials with convenient push-in polyethylene cap**



Convenience Kits – Shell Vials, 1.0 and 4.0 mL

Ordering Information

Description	1000/pk
Shell Vial Kit, 8 x 40 mm, 1 mL Flat Bottom, Clear® + PE Cap	AR0-3110-13

® 51-Expansion glass.

Convenience Kits – Certified PLUS (Cert+) Shell Vials, 1.0 mL

Ordering Information

Description	200/pk
Cert+ Shell Vial Kit, 8 x 40 mm, 1 mL Flat Bottom, Clear + PE Cap	AR0-3110-22-C
Cert+ Shell Vial Kit, 8 x 40 mm, 1 mL Flat Bottom, Amber + PE Cap	AR0-3111-22-C

Headspace Vials

Screw- and Crimp-Top Headspace Vials



- **10 and 20 mL screw- or crimp-top, with round or flat bottom**
- **Uniform glass thickness ensures even heating**
- **Lot traceable**

Ordering Information

Description	1000/pk
Crimp-Top	
Headspace Vial, 22 x 38 mm, 6 mL Beveled Edge, Flat Bottom, Clear, No Patch	AR0-32F0-13
Headspace Vial, 22 x 38 mm, 6 mL Beveled Edge, Round Bottom, Clear, No Patch	AR0-32G0-13
Headspace Vial, 23 x 46 mm, 10 mL Beveled Edge, Flat Bottom, Clear, No Patch	AR0-3220-13
Headspace Vial, 23 x 46 mm, 10 mL Square Rim, Flat Bottom, Clear, No Patch	AR0-32A0-13
Headspace Vial, 23 x 46 mm, 10 mL Beveled Edge, Round Bottom, Clear, No Patch	AR0-3230-13
Headspace Vial, 23 x 75 mm, 20 mL Beveled Edge, Flat Bottom, Clear, No Patch	AR0-3260-13
Headspace Vial, 23 x 75 mm, 20 mL Square Rim, Flat Bottom, Clear, No Patch	AR0-3290-13
Headspace Vial, 23 x 75 mm, 20 mL Beveled Edge, Round Bottom, Clear, No Patch	AR0-3270-13
Screw-Top	
Headspace Vial, 23 x 46 mm, 10 mL 18 mm Screw, Round Bottom, Clear, No Patch	AR0-32H0-13
Headspace Vial, 23 x 46 mm, 10 mL 18 mm Screw, Round Bottom, Amber, No Patch	AR0-32H1-13
Headspace Vial, 23 x 75 mm, 20 mL 18 mm Screw, Round Bottom, Clear, No Patch	AR0-3280-13
Headspace Vial, 23 x 75 mm, 20 mL 18 mm Screw, Round Bottom, Amber, No Patch	AR0-3281-13

Autosampler Compatibility
Flat Bottom: HP / Agilent, Carlo Erba, Shimadzu
Round Bottom: PerkinElmer, Tekmar, LEAP Technologies, Varian

Headspace Screw- and Crimp-Top Seals / Closures

- **Variety of styles for any application**
- **Magnetic and pressure-release caps available**



Ordering Information

Description	1000/pk
Crimp-Top	
Seal, 20 mm Diameter, PTFE/Gray Butyl Rubber, magnetic cap	AR0-52C5-13
Seal, 20 mm Diameter, PTFE/Butyl Rubber Pharmafix Molded Septum, silver	AR0-52D0-13
Seal, 20 mm Diameter, PTFE/Butyl Rubber Pressure Release, Pharmafix Molded Septum, silver	AR0-52B0-13
Seal, 20 mm Diameter, PTFE/Silicone, magnetic cap	AR0-5255-13
Seal, 20 mm Diameter, PTFE/Silicone, silver	AR0-5250-13
Seal, 20 mm Diameter, PTFE/Silicone Pressure Release, silver	AR0-5220-13
Screw-Top	
Screw Cap, 18 mm, Magnetic, Silver, PTFE/Butyl Rubber septa (red/grey)	AR0-814M-13
Screw Cap, 18 mm, Magnetic, Silver, PTFE/Silicone septa (red/white)	AR0-815M-13
Screw Cap, 18 mm, Magnetic, Silver, PTFE/Silicone septa (blue/white)	AR0-81AM-13
Screw Cap, 18 mm, Magnetic, Silver, PTFE/Silicone septa (white/translucent blue)	AR0-81BM-13

VOA / ASE Assembled Vial Kits and Storage Vial Kits

- **Convenience and assembled kits include vials with matching seals / closures**
- **Clear or amber, with open top or closed caps**
- **PTFE (Teflon®) faced 0.125 in. silicone septa or PTFE with foam urethane backing**
- **Lot numbered for traceability**



Ordering Information

Description	100/pk	1000/pk
Storage Vial Kits		
Vial Kit, Storage, 20 mL Screw, Clear w/ Caps 24-400 white PTFE/Foam Urethane liner, closed top	AR0-9559-12	AR0-9559-13
Vial Kit, Storage, 20 mL Screw, Amber w/ Caps 24-400 white PTFE/Foam Urethane liner, closed top	AR0-9551-12	AR0-9551-13
Vial Kit, Storage, 40 mL Screw, Clear w/ Caps 24-400 white PTFE/Foam Urethane, closed top	AR0-9542-12	—
VOA/ASE Vial Kits		
Vial Kit, VOA/ASE, 40 mL Screw, Clear w/Caps 24-400 white PTFE/Silicone, open top	AR0-9540-12	AR0-9540-13
Vial Kit, VOA/ASE, 40 mL Screw, Clear w/Caps 24-400 white PTFE/Silicone, (assembled), open top	AR0-9540-12-A	—
Vial Kit, VOA/ASE, 40 mL Screw, Amber w/ Caps 24-400 white PTFE/Silicone, open top	AR0-9541-12	—
Vial Kit, VOA/ASE, 20 mL Screw, Clear w/ Caps 24-400 white PTFE/Silicone (assembled)*, open top	AR0-9531-12-E	—

* EPA certified Class 100 vials, caps, and septa are assembled, without processing.
ASE = Dionex Accelerated Solvent Extractor for pestcide analysis.

VOA / ASE Vials and Caps (Separate)

Ordering Information

Description	200/pk
Vials	
Vial, VOA/ASE, 40 mL Screw, Clear, 24-400 Threads (No Cap)	AR0-35V0-22
Description	**1000/pk**
Caps	
Cap (pre-assembled), Screw (24-414), w/ Bonded-in PTFE/Silicone septa, white	AR0-8557-13-B

Learn More. For additional product selection and detailed information visit:
www.phenomenex.com/Verex

Protect your HPLC/UHPLC and GC columns and equipment with Phenex Syringe Filters

Filtering your sample helps prevent column and frit blockage, undue wear on detectors, pumps, valves, injector seals, and abnormally high operating pressures. Non-filtered samples can also lead to non-reproducible results and significant instrument downtime.

www.phenomenex.com/SFfinder



Verex - EU Vial Products

Offered by Phenomenex in Europe only.

Leading in Quality, Delivery, and Support

From start to finish, Verex-EU vial and cap products are manufactured to provide high quality, state-of-the-art solutions for your most challenging, sensitive applications.

Certified

The highest quality materials combine with tightly controlled manufacturing processes to produce uniform, trouble-free products you can rely on.

100 % Defect-Free

No product is placed in inventory without passing cleanliness and performance testing for consistent results.

Clear and Amber Glass

Verex-EU vials use 51A-Expansion glass (USP Type 1 borosilicate, Class B) for both clear and amber glass vials.

Learn More. For additional product selection and detailed information visit:
www.phenomenex.com/Verex

12 x 32 mm, 11 mm Crimp-Top Vials and Seals



Ordering Information

Description	100/pk
Verex-EU Vial, Crimp, 2 mL Clear, w/ Patch	AR1-3710-12
Verex-EU Vial, Crimp, 2 mL Amber, w/ Patch	AR1-3711-12

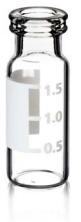
Seals / Closures for Crimp-Top Vials



Ordering Information

Description	100/pk
Seal, 11 mm Diameter, Crimp, PTFE/Silicone, silver	AR0-5780-12
Seal, 11 mm Diameter, Crimp, PTFE/Silicone/PTFE, silver	AR0-5760-12
Seal, 11 mm Diameter, Crimp, PTFE/Rubber, silver	AR1-5740-12
Seal, 11 mm Diameter, Crimp, PTFE/Rubber, blue	AR1-5742-12
Seal, 11 mm Diameter, Crimp, PTFE/Rubber, red	AR1-5741-12
Seal, 11 mm Diameter, Crimp, PTFE/Rubber, green	AR0-5743-12

12 x 32 mm, 11 mm Snap-Top Vials and Caps



Ordering Information

Description	100/pk
Verex-EU Vial, Snap, 2 mL Clear, w/ Patch	AR1-3610-12
Verex-EU Vial, Snap, 2 mL Amber, w/ Patch	AR1-3611-12

Seals / Closures for Snap-Top Vials



Ordering Information

Description	100/pk
Seal, 11 mm Diameter, Snap, PTFE/Silicone, blue	AR1-5652-12
Seal, 11 mm Diameter, Snap, PTFE/Silicone, natural	AR1-5656-12
Seal, 11 mm Diameter, Snap, PTFE/Silicone preSlit, blue	AR1-5672-12
Seal, 11 mm Diameter, Snap, PTFE/Silicone preSlit, natural	AR0-5676-12
Seal, 11 mm Diameter, Snap, PTFE/Rubber, natural	AR0-5646-12

12 x 32 mm, 13 mm (13-425) Screw-Top Vials and Caps



Ordering Information

Description	100/pk
Verex-EU Vial, 4 mL Screw Clear, w/ Patch	AR1-3310-12

Caps / Closures for 13 mm Screw Top Vials



Ordering Information

Description	100/pk
Cap (pre-assembled), 13-425, w/ Bonded-in PTFE/Silicone septa, black ⊡	AR0-8357-12-B
Cap (pre-assembled), 13-425, w/ PTFE/Silicone septa, black ⊡⊡	AR0-8357-12

⊡-B = Bonded-in Septa. ⊡⊡ Press-Fit Septa

Verex - EU Vial Products *(cont'd)*

Offered by Phenomenex in Europe only.

MS Quality. Constructed of virgin polymers, free of siloxanes and trace contaminants, these caps are the cleanest available from Phenomenex.

12 x 32 mm, 9 mm (9-425) Screw-Top Vials and Caps

Ordering Information

Description	100/pk
Verex-EU Vial, 9 mm Screw, 2 mL Clear, w/ Patch	AR1-3910-12
Verex-EU Vial, 9 mm Screw, 2 mL Amber, w/ Patch	AR1-3911-12



Caps for 9 mm Screw-Top Vials

Ordering Information

Description	100/pk
Certified PLUS (Cert+) Mass Spec Quality (MSQ) Caps for 9-425 Screw-Top Vials	
Cert+ MSQ Cap (pre-assembled), 9 mm, w/ Locked-fit PTFE/Silicone septa, blue	AR0-8952-12-M
Cert+ MSQ Cap (pre-assembled), 9 mm, w/ Locked-fit PTFE/Silicone preSlit septa, blue	AR0-8972-12-M
Certified PLUS (Cert+) Caps for 9-425 Screw-Top Vials	
Cert+ Cap (pre-assembled), 9 mm, w/ Bonded-in PTFE/Silicone septa, blue	AR0-8952-12-C
Cert+ Cap (pre-assembled), 9 mm, w/ Bonded-in PTFE/Silicone preSlit septa, blue	AR0-8972-12-C
Cert+ Cap (one-piece), 9 mm PE w/ Starburst preSlit, natural*	AR0-89P6-12-C
Bonded-In Caps for 9-425 Screw-Top Vials	
Cap (pre-assembled), 9 mm, w/ Bonded-in PTFE/Silicone septa, black	AR0-8957-12-B
Cap (pre-assembled), 9 mm, w/ Bonded-in PTFE/Silicone septa, blue	AR1-8952-12-B
Cap (pre-assembled), 9 mm, w/ Bonded-in PTFE/Silicone septa, natural	AR1-8956-12-B
Cap (pre-assembled), 9 mm, w/ Bonded-in PTFE/Silicone septa, red	AR1-8951-12-B
Cap (pre-assembled), 9 mm, w/ Bonded-in PTFE/Silicone preSlit septa, black	AR0-8977-12-B
Cap (pre-assembled), 9 mm, w/ Bonded-in PTFE/Silicone preSlit septa, blue	AR0-8972-12-B



* Cap is one piece, constructed of ultra-pure, medical-grade polyethylene

12 x 32 mm, 8 mm (8-425) Screw-Top Vials and Caps

Ordering Information

Description	100/pk
Verex-EU Vial, 8 mm Screw, 2 mL Clear, w/ Patch	AR1-3810-12
Verex-EU Vial, 8 mm Screw, 2 mL Amber, w/ Patch	AR1-3811-12



Caps / Closures for 8 mm Screw-Top Vials

Ordering Information

Description	100/pk
Cap (pre-assembled), 8-425, w/ Bonded-in PTFE/Silicone septa, black ⊡	AR0-8857-12-B
Cap (pre-assembled), 8-425, w/ Bonded-in PTFE/Silicone preSlit septa, black ⊡	AR0-8877-12-B
Cap (pre-assembled), 8-425, w/ PTFE/Silicone septa, black ⊡⊡	AR0-8857-12
Cap (pre-assembled), 8-425, w/ PTFE/Silicone preSlit septa, black ⊡⊡	AR0-8877-12
Cap (pre-assembled), 8-425, w/ PTFE/Silicone/PTFE septa, black ⊡⊡	AR0-8867-12



⊡-B = Bonded-in Septa. ⊡⊡ Press-Fit Septa

Need help matching your current vials and caps to Verex? Visit: **www.phenomenex.com/VialFinder**

Septa for 8 mm Screw Caps

Ordering Information

Description	100/pk
Septa, 8 mm Diameter, PTFE/Silicone 0.060 in.	AR0-6853-12

Verex - EU Vial Products *(cont'd)*

Verex™ Certified Vial Products

Offered by Phenomenex in Europe only.

12 x 32 mm, 10 mm (10-425) Screw-Top Vials and Caps

Ordering Information

Description	100/pk
Verex-EU Vial, 10 mm Screw, 2 mL Clear, w/ Patch	AR1-3010-12
Verex-EU Vial, 10 mm Screw, 2 mL Amber, w/ Patch	AR1-3011-12



Caps/ Closures for 10 mm Screw-Top Vials

Ordering Information

Description	100/pk
Cap (pre-assembled), 10-425, w/ Bonded-in PTFE/Silicone septa, black ⊡	AR0-8057-12-B
Cap (pre-assembled), 10-425, w/ Bonded-in PTFE/Silicone preSlit septa, black ⊡	AR0-8077-12-B
Cap (pre-assembled), 10-425, w/ PTFE/Silicone septa, black ⊡⊡	AR0-8057-12
Cap (pre-assembled), 10-425, w/ PTFE/Silicone preSlit septa, black ⊡⊡	AR0-8077-12

⊡-B = Bonded-in Septa. ⊡⊡ Press-Fit Septa



Headspace Vials and Caps

Ordering Information

Description	100/pk
Verex-EU Headspace Vial, 23 x 46 mm, 10 mL Beveled Edge, Flat Bottom, Clear, No Patch	AR1-3220-12
Verex-EU Headspace Vial, 23 x 46 mm, 10 mL Beveled Edge, Round Bottom, Clear, No Patch	AR1-3230-12
Verex-EU Headspace Vial, 23 x 75 mm, 20 mL Beveled Edge, Flat Bottom, Clear, No Patch	AR1-3260-12
Verex-EU Headspace Vial, 23 x 75 mm, 20 mL Beveled Edge, Round Bottom, Clear, No Patch	AR1-3270-12



Headspace Crimp-Top Seals / Closures

Ordering Information

Description	100/pk
Seal, 20 mm Diameter, PTFE/Gray Butyl Rubber, magnetic cap	AR0-52C5-12
Seal, 20 mm Diameter, PTFE/Gray Butyl Rubber, Pressure Release, silver	AR0-52A0-12
Seal, 20 mm Diameter, PTFE/Butyl Rubber Pharmafix Molded Septum, silver	AR0-52D0-12
Seal, 20 mm Diameter, PTFE/Butyl Rubber Pressure Release, Pharmafix Molded Septum, silver	AR0-52B0-12
Seal, 20 mm Diameter, PTFE/Silicone, magnetic cap	AR0-5255-12
Seal, 20 mm Diameter, PTFE/Silicone, silver	AR1-5250-12
Seal, 20 mm Diameter, PTFE/Silicone Pressure Release, silver	AR0-5220-12



VOA Vials and Caps

Ordering Information

Description	100/pk
Verex-EU Vial 40 mL Clear 24-414 Screw 28 x 95 mm	AR1-35V0-12
Verex-EU Vial 60 mL Clear 24-414 Screw 28 x 140 mm	AR1-35A0-12
Verex-EU Vial 60 mL Amber 24-414 Screw 28 x 140 mm	AR1-35A1-12



VOA Vial Caps

Ordering Information

Description	100/pk
Verex Cap (pre-assembled), 24-414, w/ Bonded-in PTFE/Silicone septa, white	AR0-8557-12-B



Follow our Science Unfiltered Blog!

Visit **www.phenomenex.blog** for trending science news, industry updates, and technical tips for the lab

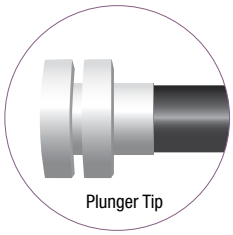


General Use Syringes

General Use Syringes for:

- **Pipetting**
- **Diluting**
- **Delivering**

Gastight syringes have a polymer tipped plunger, often PTFE, which essentially wipes the interior of the syringe barrels. This reduces the risk of deposition on the barrel which may cause cross-contamination or plunger seizing


Plunger Tip



Hamilton® 1700 Series Gastight® Syringes, Needle Point Style 2 *(Beveled)*

Ordering Information

Hamilton Syringe

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
10	RN	26s	2 in./51 mm	2	1701	80030	24558	ea	ASO-1898
25	RN	22s	2 in./51 mm	2	1702	80230	24560	ea	ASO-1899
50	RN	22s	2 in./51 mm	2	1705	80930	24562	ea	ASO-1900
100	RN	22s	2 in./51 mm	2	1710	81030	24564	ea	ASO-1901
250	RN	22s	2 in./51 mm	2	1725	81130		ea	ASO-1902
500	RN	22s	2 in./51 mm	2	1750	81230		ea	ASO-1903



Hamilton 1700 Series Gastight Syringes, Needle Point Style 3 *(Blunt)*

Ordering Information

Hamilton Syringe

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
10	RN	22s	2 in./51 mm	3	1701	80065		ea	ASO-4380
25	RN	22s	2 in./51 mm	3	1702	80265	24560	ea	ASO-4381
50	RN	22s	2 in./51 mm	3	1705	80965	24562	ea	ASO-4382
100	RN	22s	2 in./51 mm	3	1710	81065	24564	ea	ASO-4383
250	RN	22s	2 in./51 mm	3	1725	81165	24568	ea	ASO-4384
500	RN	22s	2 in./51 mm	3	1750	81265	24572	ea	ASO-4385

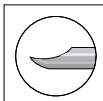
Hamilton 1000 Series Gastight Syringes

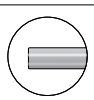


Ordering Information

Hamilton Syringe

Volume (mL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
1	TLL	–	–	w/o slots	1001	81320	24578	ea	ASO-1907
2.5	TLL	–	–	w/o slots	1002	81420	24584	ea	ASO-1908
5	TLL	–	–	w/o slots	1005	81520	20178	ea	ASO-1909
10	TLL	–	–	w/o slots	1010	81620	20179	ea	ASO-1910
–	TLL	22	2 in./51 mm	2	KF722	90122		6/pk	ASO-1915
–	TLL	16	2 in./51 mm	2	KF716	90116		6/pk	ASO-1916


Needle point #2 (22 ° bevel) is used for GC and most applications that require the puncturing of a septum.


Needle point style #3 (90 °) is appropriate for HPLC applications.

*Similar to but not always an exact equivalent to the original manufacturer's product.

General Use Syringes *(cont'd)*

SGE® Syringes, Gas Tight Luer Lock

Ordering Information

SGE Syringe

Volume (mL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Unit	Part No.
1	F	-	-	-	1 mL GT	008025	ea	AS0-0120
5	R	-	-	-	5 mL GT	008760	ea	AS0-0121
10	R	-	-	-	10 mL GT	008960	ea	AS0-0122

SGE Replacement Needles, Removable, for Gas Tight Luer Lock Syringes

Ordering Information

SGE Replacement Needles

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
-	R	23	1.97 in./50 mm	BV	NLL-5/23	039802	24763	5/pk	AS0-2016
-	R	23	1.97 in./50 mm	H	NLL-5/23H	039803		2/pk	AS0-2017

*Similar to but not always an exact equivalent to the original manufacturer's product.



All-Plastic Disposable Syringes

- **Use for all syringe filter applications**
- **Luer-lock outlet makes connection easy**
- **Capacities ranging from 3 to 20 mL**
- **Made of ultra-clean, high-purity plastics**

Ordering Information

All-Plastic Disposable Syringes

Part No.	Description	Capacity (mL)*	Unit
AS0-8408	Plastic Disposable Syringes, Luer-lock	3	100/pk
AS0-8409	Plastic Disposable Syringes, Luer-lock	5	100/pk
AS0-8410	Plastic Disposable Syringes, Luer-lock	10	100/pk
AS0-8411	Plastic Disposable Syringes, Luer-lock	20	100/pk

*Choose larger volume syringe to reduce force on syringe filter membrane. 10 mL syringe is recommended.

Recommended Plastic Syringes for use with Phenex Syringe Filters

Part No. AS0-8410:
10 mL Plastic Disposable Syringes, Luer-Lock 100/pk
Part No. AS0-8411:
20 mL Plastic Disposable Syringes, Luer-Lock 100/pk

Pressure Forces Generated from Plastic Syringes:

20 mL can generate 2.0 bar
10 mL can generate 3.4 bar
5 mL can generate 5.2 bar
3 mL can generate 6.9 bar

Phenex™ Syringe Filters

- **Increase column lifetime and save money!**
- **Ensure more accurate, consistent results**
- **Eliminate damaging microparticlates**

Ordering Information[1]

Part No.	Pore Size (µm)	Phenex Membrane
4 mm Diameter (500/pk)		
AF0-3103-52	0.45	RC
AF0-3102-52	0.45	PTFE[6]
AF3-3107-52	0.45	NY
AF0-3203-52	0.20	RC
AF0-3202-52	0.20	PTFE[6]
AF3-3207-52	0.20	NY
15 mm Diameter (500/pk)		
AF0-2103-52	0.45	RC
AF0-2102-52	0.45	PTFE[6]
AF0-2107-52	0.45	NY
AF0-2203-52	0.20	RC
AF0-2202-52	0.20	PTFE[6]
AF0-2207-52	0.20	NY
17 mm Diameter (500/pk)		
AF6-5106-52	0.45	PVDF
25–28 mm Diameter (500/pk)		
AF0-8103-52 [5]	0.45	RC
AF0-8108-52 [7]	0.45	PES[3]
AF0-1102-52	0.45	PTFE[6]
AF0-1107-52	0.45	NY
AF0-8B09-52 [7]	0.45	GF/CA[2,3,4]
AF0-8203-52 [5]	0.20	RC
AF0-8208-52 [7]	0.20	PES[3]
AF0-1202-52	0.20	PTFE[6]
AF0-1207-52	0.20	NY
AF0-8A09-52 [7]	0.20	GF/CA[2,3,4,7]
AF0-8515-52 [7]	1.20	GF[2,3]
30 mm Diameter (500/pk)		
AF6-6106-52	0.45	PVDF

Housing is made of medical-grade polypropylene (PP), unless otherwise indicated.
Above syringe filters are non-sterile.

1. Additional membrane types available.
2. Glass fiber filters are 28 mm diameter and made of borosilicate. They will remove 90% of all particles >1.2 µm.
3. Housing material is methacrylate butadiene styrene (MBS) polymerisate. Also known as Cyrolite®.
4. Cellulose acetate is surfactant-free.
5. 26 mm diameter.
6. Hydrophobic membrane. Can be made hydrophilic by pre-wetting with IPA.
7. 28 mm diameter.

Certified Reference Materials for Organic Environmental Analysis

Calibration, Internal, and Surrogate Standards

ISO 17043 Accredited Proficiency Testing and Quality Control Standards

PFAS CRM	Description	Part Number	Feature and Benefit
	Calibration Standard EPA 533	AL0-101838	Phenova™ PFAS CRMs are technical grade standards with branched and linear isomers and analytes listed as acids to make calculations easier.
	Calibration Standards EPA 537.1	AL0-101839	
	Calibration Standard EPA 537.1 / 533	AL0-101840	
	Calibration Standard EPA 1633	AL0-101852	
	Calibration Standard EU PFAS Drinking Water	AL0-101854	
	Calibration Standard EU PFAS Food	AL0-101853	
PT Standards and Quality Control Mixes			
	Proficiency Testing - WP EPA 1633 PFAS	PT-PFAS-WP	ISO 17043 accredited proficiency testing and quality control standards for PFAS analysis.
	Proficiency Testing - SOIL/HW EPA 1633 PFAS	PT-PFAS-SOIL	
	Proficiency Testing - WP EPA 537.1 / 533	PT-PFAS-WS	
	Quality Control WP EPA 1633 PFAS	QC-PFAS-WP	
	Quality Control - SOIL/HW EPA 1633 PFAS	QC-PFAS-SOIL	
	Quality Control -WP EPA 537.1 / 533	QC-PFAS-WS	
	Rapid Return - WP EPA 1633 PFAS	RR-PFAS-WP	
	Rapid Return - WP EPA 537.1 / 533 PFAS	RR-PFAS-WS	

Mix customization available
For questions contact info@phenova.com

See complete portfolio of QC standards here.

Book your Proficiency Testing Study here.

Certified Reference Standards
(cont'd)

phenova™ Certified Analytical Standards

Ordering Information

Part No.	Description
Polychlorinated Biphenyls (PCBs)	
AL0-101263	2,4,5,6-Tetrachloro-m-xylene 200 µg/mL in Acetone
AL0-101273	Aroclor 1016/1260 Standard 100 µg/mL in Hexane
AL0-101274	Decachlorobiphenyl Standard 200 µg/mL in Acetone
AL0-101275	Aroclor 1016 Standard 100 µg/mL in Hexane
AL0-101276	Aroclor 1221 Standard 100 µg/mL in Hexane
AL0-101277	Aroclor 1232 Standard 100 µg/mL in Hexane
AL0-101278	Aroclor 1242 Standard 100 µg/mL in Hexane
AL0-101279	Aroclor 1248 Standard 100 µg/mL in Hexane
AL0-101280	Aroclor 1254 Standard 100 µg/mL in Hexane
AL0-101281	Aroclor 1260 Standard 100 µg/mL in Hexane
AL0-101282	Aroclor 1262 Standard 100 µg/mL in Hexane
AL0-101283	Aroclor 1268 Standard 100 µg/mL in Hexane
AL0-101455	Aroclor 1016/1260 1000 µg/mL in Hexane
AL0-101456	Aroclor 1016 1000 µg/mL in Hexane
AL0-101457	Aroclor 1221 1000 µg/mL in Hexane
AL0-101458	Aroclor 1232 1000 µg/mL in Hexane
AL0-101459	Aroclor 1242 1000 µg/mL in Hexane
AL0-101460	Aroclor 1248 1000 µg/mL in Hexane
AL0-101461	Aroclor 1254 1000 µg/mL in Hexane
AL0-101462	Aroclor 1260 1000 µg/mL in Hexane
AL0-101463	Aroclor 1262 1000 µg/mL in Hexane
AL0-101464	Aroclor 1268 1000 µg/mL in Hexane
AL0-101466	Aroclor 1016/1260 1000 µg/mL in Isooctane
AL0-101467	Aroclor 1016 1000 µg/mL in Isooctane
AL0-101468	Aroclor 1221 1000 µg/mL in Isooctane
AL0-101469	Aroclor 1232 1000 µg/mL in Isooctane
AL0-101470	Aroclor 1242 1000 µg/mL in Isooctane
AL0-101471	Aroclor 1248 1000 µg/mL in Isooctane
AL0-101472	Aroclor 1254 1000 µg/mL in Isooctane
AL0-101473	Aroclor 1260 1000 µg/mL in Isooctane
AL0-101474	Aroclor 1262 1000 µg/mL in Isooctane
AL0-101475	Aroclor 1268 1000 µg/mL in Isooctane
AL0-101702	2,4,5,6-Tetrachloro-m-xylene 200 µg/mL in Acetone; 5mL
AL0-101703	Decachlorobiphenyl (BZ #209) 200 µg/mL in Acetone; 5mL
Pesticides/Herbicides	
AL0-101253	8081 Chlorinated Pesticides 1000 µg/mL Hexane/Toluene
AL0-101254	Chlorinated Pesticides Std 2000 µg/mL Hexane/Toluene
AL0-101255	8141 OP Pesticides 200 µg/mL Hexane/Acetone 90:10
AL0-101256	8270 OP Pesticides Mix 2000 µg/mL Methylene Chloride
AL0-101257	Pesticide Surrogate Mix 200 µg/mL in Acetone
AL0-101258	Toxaphene 2000 µg/mL in Methanol
AL0-101260	Technical Chlordane 1000 µg/mL in Methanol
AL0-101261	2,4-Dichlorophenylacetic Acid 1000 µg/mL in Acetone
AL0-101266	Triazine Herbicides Mix 200 µg/mL in Acetone
AL0-101288	Chlorinated Acid Herbicides 100 µg/mL in Acetonitrile
AL0-101289	MCPP & MCPA 20000 µg/mL in Acetonitrile
AL0-101452	Pesticide Surrogate Mix, 5 mL 200 ug/mL in Acetone
AL0-101515	508.1 Performance Check Mix 0.02-0.5 ug/ml in Ethyl Acetat
AL0-101530	531.1 Carbamates Mix 100 µg/mL in Methanol
AL0-101541	8141 OP Pesticides Mix 2 200 µg/mL each in Hex/Ace 9:1
AL0-101566	Technical Chlordane Standard 1000 µg/mL in Hexane
AL0-101625	525.3 Pesticides Standard 1000 µg/mL in Methanol
AL0-101647	4,4'-DDT/Endrin Mix 200 µg/mL in Hexane
AL0-101657	505 Organohalide Pesticide Mix 200 µg/mL in Methanol
AL0-101658	525.2 Organonitrogen Pesticide 500 µg/mL in Acetone
AL0-101665	Toxaphene Standard 1000 µg/mL in Hexane
AL0-101668	Free Acids Herbicides Mix 200 µg/mL in Methanol
AL0-101669	Methyl Ester Herbicide Mix # 1 200 µg/mL in Hexane
AL0-101670	Methyl Ester Herbicide Mix # 2 200 µg/mL in Hexane/MTBE
AL0-101671	Dalapon Methyl Ester 2000 µg/mL in Hexane
AL0-101672	DCAA Methyl Ester 200 µg/mL in Hexane
AL0-101675	MCPA/MCPP Methyl Ester Mix 20000 µg/mL in Hexane
AL0-101682	Pesticides Matrix Spike Mix 50-100 µg/mL in Methanol
AL0-101704	BDMC 100 µg/mL in Methanol
AL0-101705	Tributylphosphate 1000 µg/mL in Acetone
AL0-101723	529 IS Mix 1000 µg/mL in Ethyl Acetate
AL0-101724	529 Surrogate Fortification Mi 100 µg/mL in Methanol
AL0-101775	632 Carbamates/Urea Mix 1000 µg/mL in Acetonitrile
AL0-101776	8151 Herbicides Mix 100- 10000 µg/mL in Methanol

Part No.	Description
Pesticides/Herbicides (cont'd)	
AL0-101781	4,4'-DDT Solution 100 µg/mL in Isooctane
AL0-101782	Endrin Solution 100 µg/mL in Methanol
AL0-101784	Triphenylphosphate Solution 5000 µg/mL in MTBE
AL0-101785	o,p Chlorinated Pesticides 250 µg/mL in Isooctane
AL0-101786	DCPA Diacid Mix 100 µg/mL in Methanol
AL0-101792	100 ppm Tech Chlordane Mix 100 µg/mL in Hexane
AL0-101793	50 ppm Endothall Mix 50 µg/mL in Methanol
AL0-101812	UCMR 5 525.3 Pesticides Mix 1000 µg/mL in Methanol
AL0-101813	UCMR 5 527 Pesticides Mix 1000 µg/mL in Methanol
AL0-101814	UCMR 5 531.2 Herbs Mix 1000 µg/mL in Methanol
AL0-101815	UCMR 5 538 Pesticide Mix 1000 µg/mL in Methanol
AL0-101831	538 Internal Standard 1000 µg/mL in Methanol
AL0-101834	556 Internal Standard 10000 µg/mL in Hexane
AL0-101835	556 Surrogate Mix 10000 µg/mL in Acetonitrile
AL0-101424	Dinoseb 1000 µg/mL in Methanol
AL0-101644	Glyphosate Standard 1000 µg/mL in Water
AL0-101645	Diquat/Paraquat Mix 1000 µg/mL in Water
AL0-101646	Endothal Standard 1000 µg/mL in Acetone
Semi-volatiles	
AL0-101233	PAH Plus Methylnaphthalenes 2000 µg/mL Methylene Chloride
AL0-101234	8270 Phenols Standard 2000 µg/mL Methylene Chloride
AL0-101235	Appendix IX Mix 1 2000 µg/mL Methylene Chloride
AL0-101236	PAH Standard 2000 µg/mL Methylene Chloride
AL0-101238	SV Internal Standard Mix 4000 µg/mL Methylene Chloride
AL0-101239	SV B/N Surrogate Mix 2000 µg/mL Methylene Chloride
AL0-101240	SV B/N Surrogate Mix 5000 µg/mL Methylene Chloride
AL0-101241	SV Acids Surrogate Mix 2000 µg/mL in Methanol
AL0-101242	SV Acids Surrogate Mix 5000 µg/mL in Methanol
AL0-101243	8270 Benzidines Standard 2000 µg/mL Methylene Chloride
AL0-101244	Benzidines Standard 2000 µg/mL Methylene Chloride
AL0-101245	N-Nitrosodiphenylamine 1000 µg/mL Methylene Chloride
AL0-101246	Benzoic Acid 2000 µg/mL Methylene Chloride
AL0-101251	SV BNA Surrogate Mix 2000 µg/mL Methylene Chloride
AL0-101252	SV BNA Surrogate Mix 4000 µg/mL Methylene Chloride
AL0-101291	GC/MS Tuning Mix 1000 µg/mL in Methylene Chloride
AL0-101305	1,2-Dichlorobenzene-d4 2000 µg/mL in P&T Methanol
AL0-101401	Phenanthrene-d10 2000 µg/mL in MeCl2
AL0-101404	p-Terphenyl-d14 1000 µg/mL in MeCl2
AL0-101443	Anline 1000 µg/mL Methylene Chloride
AL0-101444	8270 Calibration Standard 1000 µg/mL MeCL2/MeOH
AL0-101447	SV Acids Surrogate Mix; 5 mL 10,000 µg/mL in Methanol
AL0-101448	SV Acids Surrogate Mix; 10 mL 10,000 µg/mL in Methanol
AL0-101450	SV B/N Surrogate Mix; 5 mL 5000 µg/mL Methylene Chloride
AL0-101451	SV B/N Surrogate Mix; 10 mL 5000 µg/mL Methylene Chloride
AL0-101454	Decafluorotriphenylphosphine 2500 µg/mL Methylene Chloride
AL0-101491	Appendix IX Mix 3 1000 µg/mL in Methylene Chlor
AL0-101492	8270 Matrix Spike Mix; 5 mL 200 µg/mL Methanol/Methylene Chloride
AL0-101493	Acid Matrix Spike Mix 2000 µg/mL in Methanol
AL0-101494	Acid Matrix Spike Mix 10000 µg/mL in Methanol
AL0-101495	Acid Matrix Spike Mix; 5 mL 10,000 µg/mL in Methanol
AL0-101496	8310 PAH Standard 500 µg/mL in Acn/Tol (92:8)
AL0-101497	8310 QC Check Standard 5-100 µg/mL in Acetonitrile
AL0-101498	8310 Surrogate Standard 1000 µg/mL in Acetonitrile
AL0-101500	604 Phenols Standard 2000 µg/mL in Methanol
AL0-101501	605 Benzidines Standard 2000 µg/mL in Methanol
AL0-101505	610 PAH Mix 2 100 - 2000 µg/mL in MeCl2
AL0-101509	625 Calibration Standard 1000 µg/mL in MeCL2/MEOH (98:2
AL0-101524	525.2 GC-MS Performance Check 1000 µg/mL in Acetone
AL0-101525	EPA 525.2 Semivolatile Mix 1000 µg/mL in Acetone
AL0-101526	525.2 Internal Standard 1000 µg/mL in Acetone
AL0-101527	525.2 Surrogate Standard 1000 µg/mL in Acetone
AL0-101532	1,2,3-Trichloropropane 1000 µg/mL in MTBE
AL0-101533	2,3-Dibromopropionic acid 1000 µg/mL in MTBE
AL0-101534	Haloacetic Acid Standad 1000 µg/mL in MTBE
AL0-101535	552 Haloacetic Acid Standard 1000 µg/mL in MTBE
AL0-101536	3-Methylcholanthrene 2000 µg/mL in MeCl2
AL0-101538	B/N Matrix Spike Mix 1000 µg/mL in Methanol
AL0-101539	B/N Matrix Spike Mix 5000 µg/mL in Methanol
AL0-101540	B/N Matrix Spike Mix; 5 mL 5,000 µg/mL in Methanol

Certified Reference Standards

(cont'd)

Part No.	Description
Semi-volatiles (cont'd)	
AL0-101548	BN Extractables Standard 500 µg/mL in MeCL2
AL0-101551	100 µg/mL Caffeine Standard 100 µg/mL in Methanol
AL0-101552	300 µg/mL Caffeine Standard 300 µg/mL in Methanol
AL0-101553	500 µg/mL Caffeine Standard 500 µg/mL in Methanol
AL0-101554	1000 µg/mL Caffeine Standard 1000 µg/mL in Methanol
AL0-101556	p-Terphenyl 10000 µg/mL in MeCl2
AL0-101561	Benzo(a)pyrene-d12 Standard 1000 µg/mL in MeCl2
AL0-101567	B/N Surrogate Mix 2 2000 µg/mL in MeCl2
AL0-101568	Acids Surrogate Mix 2 2000 µg/mL in Methanol
AL0-101569	B/N Surrogate Mix 2 5000 µg/mL in MeCl2
AL0-101570	Acids Surrogate Mix 2 5000 µg/mL in Methanol
AL0-101618	SV Internal Standard Mix; 5 mL 4000 µg/mL in Methylene Chloride
AL0-101626	EPA 530 Standard 1000 µg/mL in Methanol
AL0-101627	EPA 530 Surrogate Mix 1000 µg/mL in Methanol
AL0-101628	EPA 530 IS Mix 1000 µg/mL in Methanol
AL0-101637	Fluoranthene-d10 2000 µg/mL in MeCl2
AL0-101638	2-Methylnaphthalene-d10 2000 µg/mL in MeCl2
AL0-101639	PAH SIM Surogate Mix 2000 µg/mL in MeCl2
AL0-101652	TCLP BNA Mix 2000 µg/mL in MeCl2
AL0-101655	1,4-Dioxane Standard 2000 µg/mL in MeCl2
AL0-101659	612 Chlorinated Hydrocarbons 2000 µg/mL in Isooctane
AL0-101662	Acenaphthene-d10 2000 µg/mL in MeCl2
AL0-101673	2,4-Dinitrophenol 1000 µg/mL in Methanol
AL0-101674	Acids Surrogate Mix 2, 5mL 7500 µg/mL in Methanol
AL0-101676	PAH Supplement Mix 1000 µg/mL in MeCl2
AL0-101712	Diphenylamine 5000 µg/mL in Methanol
AL0-101720	Nitroglycerin Standard 1000 µg/mL in Acetonitrile
AL0-101721	PETN Standard 1000 µg/mL in Acetonitrile
AL0-101722	Tetryl Standard 1000 µg/mL in Acetonitrile
AL0-101726	8330 IS Mix 1000 µg/mL in Acetonitrile
AL0-101743	Perylene-d12 1000 µg/mL in MeCl2
AL0-101755	1,4-Dioxane 1000 µg/mL in MeCl2
AL0-101759	Nitroglycerin Standard 1000 µg/mL in Methanol
AL0-101760	PETN Standard 1000 µg/mL in Methanol
AL0-101761	8330B Nitroaromatic& Nitramine
AL0-101787	521 Surrogate Standard 1000 µg/mL in MeCl2
AL0-101788	521 Internal Standard 1000 µg/mL in MeCl2
AL0-101789	521 Nitrosamines Mix 1000 µg/mL in MeCl2
AL0-101816	UCMR 5 542 Pharmaceuticals Mix 1000 µg/mL in Methanol
AL0-101817	UCMR 5 551.1 Mix 1000 µg/mL in MeOH/Acetone
AL0-101819	UCMR 5 558 Mix 1000 µg/mL in MeOH
AL0-101820	UCMR 5 559 Phenols Mix 1000 µg/mL in MeOH
AL0-101830	525/527 Surrogate Mix 1000 µg/mL in Acetone
AL0-101832	542 Internal Standard 250-1000 µg/mL in Methanol
AL0-101833	542 Surrogate Mix 1000 µg/mL in Methanol
AL0-101836	559 Surrogate Mix 100 µg/mL in Methanol
AL0-101838	533 PFAS Calibration Standard 2 µg/mL in P&T Methanol
AL0-101839	537 PFAS Calibration Standard 2 µg/mL in P&T Methanol
AL0-101840	533/537 PFAS Calibration Standard
AL0-101650	Methapyrilene Standard 1000 µg/mL in MeCl2
Volatile Organic Analysis (VOA)	
AL0-101200	502.2 Calibration Standard 2000 µg/mL in P&T Methanol
AL0-101201	502.2 Calibration Standard 200 µg/mL in P&T Methanol
AL0-101202	8260 Appendix IX Additions Mix
AL0-101203	BTEX Standard 2000 µg/mL in P&T Methanol
AL0-101204	BTEX plus MTBE Standard 2000 µg/mL in P&T Methanol
AL0-101205	BTEX plus MTBE Standard 200 µg/mL in P&T Methanol
AL0-101206	VOA Gases Standard 2000 µg/mL in P&T Methanol
AL0-101207	VOA Gases Standard 200 µg/mL in P&T Methanol
AL0-101208	California Oxygenates Standard
AL0-101209	501 Trihalomethanes Standard 2000 µg/mL in P&T Methanol
AL0-101210	501 Trihalomethanes Standard 200 µg/mL in P&T Methanol
AL0-101211	Ketones Standard 2000 µg/mL in P&T MeOH/H2O (90:10)
AL0-101212	Ketones Standard 5000 µg/mL P&T MeOH/H2O (90:10)
AL0-101213	8260 Internal Standard Mix 1 2500 µg/mL in P&T Methanol
AL0-101214	8260 Surrogate Standard 1 2500 µg/mL in P&T Methanol
AL0-101215	8260 Internal Standard Mix 2 2500 µg/mL in P&T Methanol
AL0-101216	8260 Surrogate Standard Mix 2 2500 µg/mL in P&T Methanol
AL0-101217	524 Internal Standard Mix 1 2000 µg/mL in P&T Methanol

Part No.	Description
Volatile Organic Analysis (VOA) (cont'd)	
AL0-101218	524 Surrogate Standard Mix 2 2000 µg/mL in P&T Methanol
AL0-101219	504.1 Calibration Standard 200 µg/mL in P&T Methanol
AL0-101220	524 Surrogate Standard Mix 1 2000 µg/mL in P&T Methanol
AL0-101221	502.2 Internal Standard Mix 1000 µg/mL in P&T Methanol
AL0-101222	Acrolein/Acrylonitrile 1000 µg/mL in P&T Methanol
AL0-101223	Acrolein 1000 µg/mL in P&T Methanol
AL0-101224	Acrolein 5000 µg/mL in Water
AL0-101225	1-Chloro-2-fluorobenzene 1000 µg/mL in P&T Methanol
AL0-101226	4-Bromofluorobenzene 1000 µg/mL in P&T Methanol
AL0-101227	2-Chloroethyl vinyl ether 2000 µg/mL in P&T Methanol
AL0-101228	Vinyl acetate 2000 µg/mL in Water
AL0-101229	Fluorobenzene 2000 µg/mL in P&T Methanol
AL0-101230	1-Chloro-4-fluorobenzene 2000 µg/mL in P&T Methanol
AL0-101231	4-Bromofluorobenzene 2000 µg/mL in P&T Methanol
AL0-101353	Naphthalene-d8 2000 µg/mL in MeCl2
AL0-101362	Toluene-d8 2000 µg/mL in P&T Methanol
AL0-101445	8260 Internal Standard Mix 1; 5 mL 2500 µg/mL in P&T Methanol
AL0-101446	8260 Surrogate Standard Mix 1; 5 mL 2500 µg/mL in P&T Methanol
AL0-101465	504.1 Calibration Standard 2000 µg/mL in P&T Methanol
AL0-101476	2-Methylnaphthalene 2000 µg/mL in P&T Methanol
AL0-101478	8010A Calibration Mix 1 2000 µg/mL in P&T Methanol
AL0-101479	8010A Calibration Mix 2 2000 µg/mL in P&T Methanol
AL0-101480	8020A Calibration Standard 2000 µg/mL in P&T Methanol
AL0-101481	8021 Surrogate Standard 1500 µg/mL in P&T Methanol
AL0-101486	8240/8260 Performance Check 2000 µg/mL in P&T Methanol
AL0-101487	8260B Calibration Standard 2000 µg/mL in P&T Methanol
AL0-101488	8260 Matrix Spike Mix 2500 µg/mL in P&T Methanol
AL0-101489	tert-Amyl ethyl ether 2000 µg/mL in P&T Methanol
AL0-101490	a, a, a-Trifluorotoluene 2000 µg/mL in P&T Methanol
AL0-101499	602 Purgable Aromatics 2000 µg/mL in P&T Methanol
AL0-101506	624 Internal Standard 1500 µg/mL in P&T Methanol
AL0-101507	624 Calibration Standard 2000 µg/mL in P&T Methanol
AL0-101508	624 Surrogate Standard 2000 µg/mL in P&T Methanol
AL0-101519	524 IS/Surrogate Mix 2000 µg/mL in P&T Methanol
AL0-101542	8260 IS/Surrogate Mix, 5 mL 5000 µg/mL in P&T Methanol
AL0-101549	HAP Standard 10000 µg/mL in Water
AL0-101550	Methanol Standard 10000 µg/mL in Water
AL0-101555	1,4-Dioxane-d8 2000 µg/mL in P&T Methanol
AL0-101564	1,4-Dioxane Standard 10000 µg/mL in P&T Methanol
AL0-101571	Glycols Standard 50000 µg/mL in Water
AL0-101573	Methanol Standard 2000 µg/mL in Water
AL0-101592	Ethanol 40000 µg/mL in P&T Methanol
AL0-101593	Isopropanol 20000 µg/mL in P&T Methanol
AL0-101613	Perfluorotributylamine; 1 mL Neat
AL0-101614	Perfluorotributylamine; 5 mL Neat
AL0-101617	Chloroprene 2000 µg/mL in P&T Methanol
AL0-101629	EPA 541 Standard 1000 µg/mL in P&T Methanol
AL0-101630	EPA 541 IS Mix 1000 µg/mL in P&T Methanol
AL0-101633	1% Ethanol Standard 10,000 µg/mL in Water
AL0-101651	TCLP Volatiles Mix 1000 µg/mL in P&T Methanol
AL0-101660	EPA 524.2 Rev 4 Ketones Mix 2000 µg/mL in P&T MeOH/H20
AL0-101661	EPA 524 Rev 4 Additions Mix 2000 µg/mL in P&T MeOH
AL0-101663	SOM01.1 Non-Ketone DMC Mix 500 µg/mL in Methanol-OD
AL0-101664	SOM01.1 Ketone DMC Mix 500 µg/mL in MeOH-OD/H2O
AL0-101701	Ethanol 2000 µg/mL in P&T Methanol
AL0-101711	Tetrahydrofuran-d8 2000 µg/mL in P&T Methanol
AL0-101713	601 Purgable Halocarbons Mix 2000 µg/mL in P&T Methanol
AL0-101716	VOA Surrogate Mix 1000 µg/mL in P&T Methanol
AL0-101757	1,2,3-Trichloropropane-d5 IS M
AL0-101758	8260 Acetates Standard 2000 µg/mL in P&T Methanol
AL0-101794	OLC 3.2 VOA Calibration Mix 1000- 2000 µg/mL in P&T MeOH
AL0-101818	UCMR 5 556.1 Aldehydes Mix 1000 µg/mL in MeOH/H2O

Accreditations

ISO 17034
Competence of reference material producers. *A2LA Cert No. 2427.02*

ISO/IEC 17025:2005
Competence of testing and calibration laboratories. *A2LA Cert No. 2427.03*

ISO/IEC 17043:2010
Conformity assessment. Proficiency testing. *A2LA Cert No. 2427.01*

TNI EL-V3-2016
Environmental proficiency testing providers. *A2LA Cert No. 2427.01*

Sample Preparation Accessories

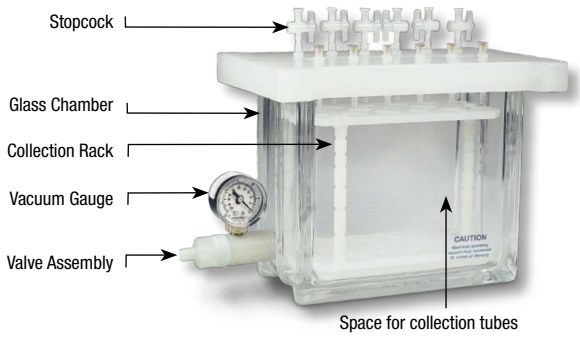
Vacuum Manifolds

SPE Tube Vacuum Manifold

- **Process up to 12 or 24 samples at one time**
- **Process up to 10 large volume samples at one time**
- **Female Luer inlets fit all male Luer tipped SPE tubes and cartridges**

Ordering Information

Part No.	Description	Unit
24 – Position Vacuum Manifold*		
VM24	SPE 24-Position Vacuum Manifold Set, complete assembly	ea
24 – Position Vacuum Manifold Replacement Parts		
A82404	SPE Gasket	ea
VM24-J	SPE Collection Rack	ea
A82411	SPE 24-Position Vacuum Waste Container, polypropylene	ea
A81213	SPE Luer Stopcocks	12/pk
12 – Position Vacuum Manifold*		
VM12	SPE 12-Position Vacuum Manifold Set, complete assembly	ea
12 – Position Vacuum Manifold Replacement Parts		
A80106	SPE Gasket	ea
A81216	SPE Collection Rack Assembly, including plates, legs and clips	ea
A81215	SPE 12-Position Vacuum Waste Container, polypropylene	ea
A81213	SPE Luer Stopcocks	12/pk
A81217	Legs for 12-Position Cover	4/pk



- Fits 13 mm and 16 mm test tubes up to 125 mm in height.
- A flow rate of 1 – 3 drops per second (1 – 3 mL /min) is recommended during the loading and elution steps for typical small volume samples (< 5 mL). At these critical steps the analytes are chemically interacting with the sorbent.
- Large volume samples (> 100 mL) in large cartridges (>1 gram) may be processed at flow rates between 5 – 10 mL/minute.
- Conditioning and Wash steps are generally not flow critical.
- Individual stopcocks are typically not needed when using the Strata-X family of sorbents. They are very forgiving of improper flow rates and are truly resistant to deconditioning effects caused by excessive drying during the method.
- Reversed phase methods are more forgiving of fast flow rates than ion-exchange or normal phase.

Compatible with:

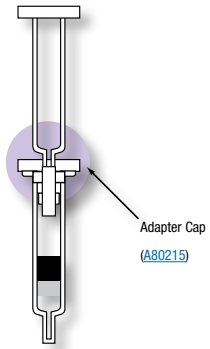
Phree™ Phospholipid Solutions · Beta-Gone™ β-Glucuronidase Removal Products · Novum™ Simplified Liquid Extraction · Clarity™ Biosolutions

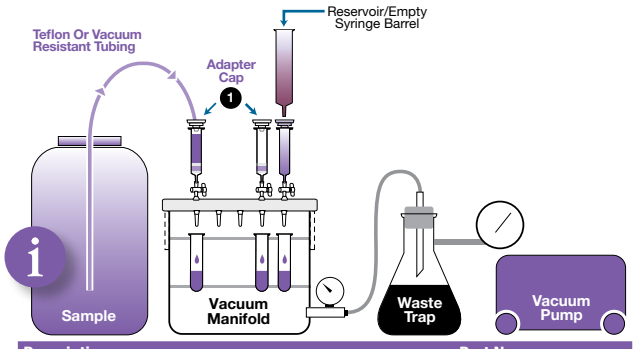
Strata™ Solid Phase Extraction · Strata X Polymeric SPE · Strata XPro A Rapid Solid Phase Extraction Solution

Processing Large Sample Volumes

Have Large Sample Volume but Need a Small Bed Mass?

Use an adapter cap to attach another SPE tube, which can be used to increase the reservoir size for washing or eluting solvents.





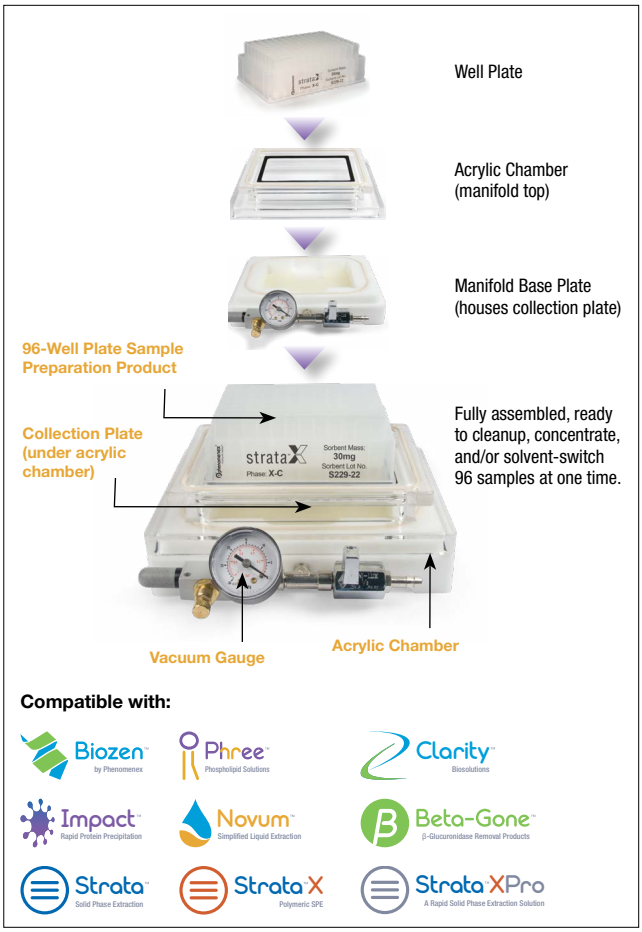
Description	Part No.
1 Adapter Cap	A80215

* Manifolds include: Vacuum-tight glass chamber, vacuum gauge assembly, polypropylene lid with gasket, male and female luers and yellow end plugs, stopcock valves, collection rack assemblies, polypropylene needles, lid support legs. Waste container included with 12-position manifold.

Sample Preparation Accessories *(cont'd)*

96-Well Plate Vacuum Manifold

- **Includes vacuum valve attachment and two collection plate spacer inserts**
- **Made of durable acrylic**
- **Designed to accommodate 96-well plates, collection plates, protein precipitation plates, and filtration plates**



Compatible with:

Biozen™ by Phenomenex · Phree™ Phospholipid Solutions · Clarity™ Biosolutions
Impact™ Rapid Protein Precipitation · Novum™ Simplified Liquid Extraction · Beta-Gone™ β-Glucuronidase Removal Products
Strata™ Solid Phase Extraction · Strata X Polymeric SPE · Strata XPro A Rapid Solid Phase Extraction Solution

Ordering Information

96-Well Plate Manifold**		
Part No.	**Description**	**Unit**
AH0-8950	96-Well Plate Manifold, Universal w/vacuum gauge	ea
Replacement Parts		
Part No.	**Description**	**Unit**
AH0-7285	96-Well Plate Manifold Replacement Gasket, Flat (to fit between acrylic chamber and 96-well plate), black	ea
AH0-7198	96-Well Plate Manifold Replacement Gasket, Profile, (to fit between acrylic chamber and manifold base), white	ea
AH0-8637	Reservoir, Single Well, High Profile, 96 Bottom Troughs	25/pk

**Manifold, compatible with 2 mL Impact plate, Novum SLE 96-well plate, Phree Phospholipid Removal plate, Strata, and Strata-X 96-well plate formats.

Collection plate spacers accommodate various collection plate heights.

Vacuum Manifold Accessoriesfor Tube and 96-Well Plates



Ordering Information

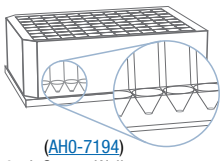
General Vacuum Manifold Accessories		
Part No.	**Description**	**Unit**
A80215	Adapter Caps for 1, 3 and 6 mL SPE tubes, polyethylene, with Luer tip	12/pk
A80100	SPE Manifold Needles, polypropylene	12/pk
A80102	SPE Manifold Needles, stainless steel	12/pk
A80104	Female Luer Fittings	12/pk
A80105	Male Luer Fittings	12/pk
A01003	Vacuum Gauge and Valve Assembly	ea
A80111	Retaining Clips	12/pk
A80117	Plugs/ Dust Caps	12/pk
A81213	Stopcocks	12/pk

Sample Preparation Accessories *(cont'd)*

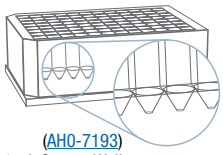
Collection Plates

- **Available in conical V- and round-bottom formats**
- **Made of chemically inert polypropylene**
- **Available in 350 µL, 1 and 2 mL volumes**

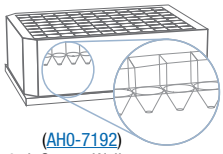
Conical V- and round-bottom for maximized sample delivery



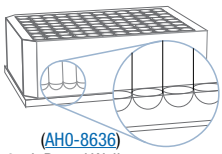
(AH0-7194)
2 mL Square Well



(AH0-7193)
1 mL Square Well



(AH0-7192)
350 µL Square Well



(AH0-8636)
2 mL Round Well

Ordering Information

Collection Plates*		
Part No.	**Description**	**Unit**
AH0-7192	350 µL/well 96-Square Well Conical V-bottom Collection Plate	50/pk
AH0-7193	1 mL/well 96-Square Well Conical V-bottom Collection Plate	50/pk
AH0-7194	2 mL/well 96-Square Well Conical V-bottom Collection Plate	50/pk
AH0-8636	2 mL/well 96-Round Well Round Bottom, 8 mm Collection Plate	50/pk
AH0-9332	1.2 mL/well 96-Round Well Round Bottom Collection Plate	50/pk
AH0-9333	0.5 mL/well 96-Round Well V-Bottom, 7 mm Collection Plate, Sterile	50/pk
AH0-9341	0.5 mL/well 96-Round Well Conical Bottom, 7 mm Collection Plate	50/pk
AH1-7028-LB	2 mL/well 96-Round Well Round Bottom, 8 mm, PP Low Bind	50/pk

Filtration Plate

- **Available in 0.7 µm membrane porosity**
- **Inert surface eliminates non-specific binding for maximized results**
- **Cost effective solution to meet all filtration goals**

Ordering Information

Filtration Plates		
Part No.	**Description**	**Unit/Box**
AF0-8300	0.7 µm Glass Fiber 96-Well Filtration Plate	2

Sealing Mats and Tape

- **Fits all Phenomenex 96-well plates, square-well collection plates, round-well collection plates, protein precipitation plates, and filtration plates**
- **Pierceable and Pre-Slit available**



Ordering Information

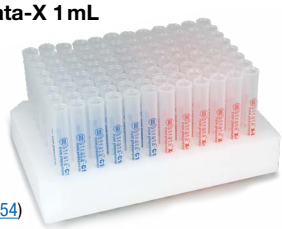
Sealing Mats*		
Part No.	**Description**	**Unit**
AH0-8597	Sealing Mats, Pierceable, 96-Square Well, Silicone	50/pk
AH0-8598	Sealing Mats, Pre-Slit, 96-Square Well, Silicone	50/pk
AH0-8631	Sealing Mats, Pierceable, 96-Round Well 7 mm, Silicone	50/pk
AH0-8632	Sealing Mats, Pre-Slit, 96-Round Well 7 mm, Silicone	50/pk
AH0-8633**	Sealing Mats, Pierceable, 96-Round Well 8 mm, Silicone	50/pk
AH0-8634**	Sealing Mats, Pre-Slit, 96-Round Well 8 mm, Silicone	50/pk
AH0-8199	Sealing Mats, Pierceable, 96 Square Well, Santoprene™	100/pk
AH0-7195	Sealing Mats, Pierceable, 96-Square Well, Ethylene Vinyl Acetate (EVA)	50/pk
AH0-7362	Sealing Tape Pad	10/pk

*Square well sealing mats compatible with 2 mL Impact plates, Novum SLE 96-well plate, Phree Phospholipid Removal plate, Strata and Strata-X 96-well plates, and 96 square well collection plates.

**8 mm round-well sealing mats compatible with 2 mL round-well 8 mm collection plates (AH0-8636)

96-Well Tab-less Tube Holders

- **Easily process partial plates**
- **Arrange multiple SPE sorbents in one plate**
- **Easily replace a single SPE tube**
- **Compatible with Strata™ and Strata-X 1 mL tab-less SPE tubes**



(AH0-9054)

Ordering Information

96-Well Tab-less Tube Holders		
Part No.	**Description**	**Unit**
AH0-9054	96-Well 1 mL Tab-less Tube Holder for use with the 96-Well plate vacuum manifold (AH0-8950)	ea
AH0-9055	96-Well 1 mL Tab-less Tube Holder for use with positive pressure manifolds	ea

HPLC Column Protection

The Most Important Thing You Can Do… Use Guard Columns

Phenomenex recommends the use of SecurityGuard™ to protect all your valuable HPLC/UHPLC/SFC/PREP columns from chemical contaminants and damaging microparticulates.

Analytical	SemiPrep
For analytical separations the SecurityGuard innovative design provides a universal fit to virtually any HPLC column endfitting. Learn more about this unique cartridge system and the many benefits SecurityGuard gives you.	 10 mm ID Guard Holder P/N AJ0-9281
SecurityGuard ULTRA  All core-shell and / or < 3 µm particle columns (< 20000 psi / 1378 bar) Holder P/N AJ0-9000	
SecurityGuard Standard  All non core-shell and / or ≥ 3 µm particle columns (5000 psi / 345 bar) Holder P/N KJ0-4282	Use with 9 to 16 mm ID Columns Cartridge size: 10 x 10 mm ID

PREPARATIVE		
HPLC	**SFC**	
 21.2 mm ID **HPLC** Holder P/N AJ0-8223	 21.2 mm ID **SFC** Holder P/N AJ0-8617	 Use with 18 to 29 mm ID Columns Cartridge size: 15 x 21.2 mm ID
 30 mm ID **HPLC** Holder P/N AJ0-8277	 30 mm ID **SFC** Holder P/N AJ0-8618	 Use with 30 to 49 mm ID Columns Cartridge size: 15 x 30.0 mm ID

Single-Column Heater 25 °C to 90 °C

ThermaSphere™ TS-130

Maintains the temperature of your HPLC column (and guard, if any) at a precise degree set by user, thus improving reproducibility and chromatographic results.

Essential for improving virtually all types (modes) of HPLC separations.

- **Improves reproducibility and chromatographic results**
- **Improves baseline and overall detector performance**
- **Reduces analyte identification errors**
- **Improves peak efficiency and analyte quantitation (especially at low levels)**
- **Improves the ruggedness of separations (within-lab and lab-to-lab)**



Column heater showing front control/display panel

Specifications

Column Size Accommodated:	Fits up to one 30 cm length column, or 25 cm column with guard column. Multiple inlet and outlet slots allow the shortest length of tubing to be used with any length column.
Temperature Range:	From 25 to 90 °C in 0.1 °C increments.
Temperature Stability:	±0.1 °C Calibration two-point, electronic, factory set.
Accuracy:	0.5 °C over the entire range.
Power:	12 volt DC universal power supply takes voltage inputs from 95 to 265 VAC, 50/60 Hz. CE approved.
Over-temperature Alarm:	Audible with automatic heater shutoff if column temperature exceeds 10 °C of target temperature.
Auto-Off Timer:	Count down timer with audible alarm turns off heater, settable to 30 days in days, hours, minutes and seconds.
Injection Counter:	Trigger on external switch closure.

Ordering Information

ThermaSphere TS-130 Column Heater	
Part No.	**Description**
EH0-7057	ThermaSphere TS-130 HPLC Column Heater 25-90 °C, 95 to 265 VAC, 50/60 Hz

1. The ThermaSphere TS-130 is warranted for one year parts and labor. Each unit is individually calibrated and comes with a Certificate of Performance. No adjustment or re-calibration is ever necessary. CE approved system, UL and CSA approved power supplies.
2. Please specify Line Cord if other than North America (Australia, Germany, Italy and U.K. are available)

SecurityGuard Standard

SecurityGuard™ Column Protection

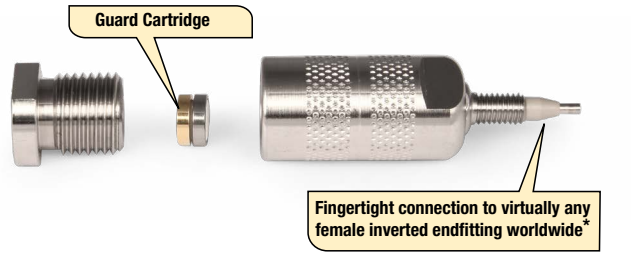
Column Protection for UHPLC, HPLC, SFC to PREP

Your Results and Your Column are Too Important Not to Protect

2014 Laboratory Equipment Readers' Choice WINNER

- **Protect HPLC and UHPLC columns and extend lifetime**
- **Virtually no change in chromatography**
- **Available in analytical, semi-prep, and preparative sizes**
- **Simple to use**

Did you know a common cause of high backpressure, split peaks, broad peaks, baseline noise, baseline drift and loss of resolution is contaminants? The fact is all mobile phases contain some chemical contaminants or microparticulates, from the sample, solvent, or wear on the polymeric seals of the pump or injector. These contaminants can clog frits, irreversibly bind to columns, degrade performance, and even damage the flow cell. An easy solution, SecurityGuard is a universal column protection system designed to effectively (and inexpensively), protect your valuable columns, from the damaging effects of chemical contaminants, without altering your chromatographic results.

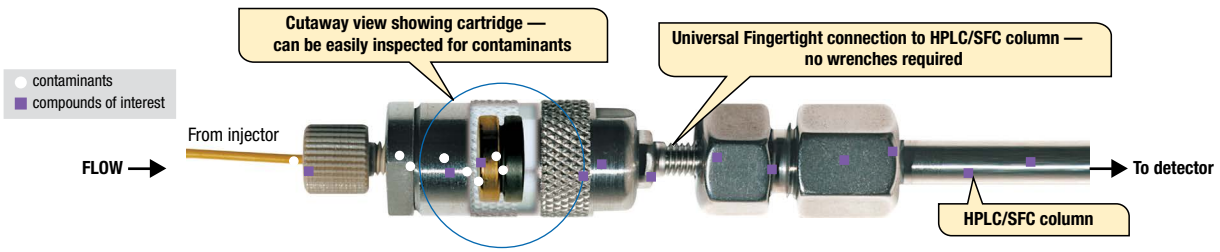


See SecurityGuard Standard in action video:
www.phenomenex.com/SecurityGuardInstallation

A Universal Guard Cartridge System

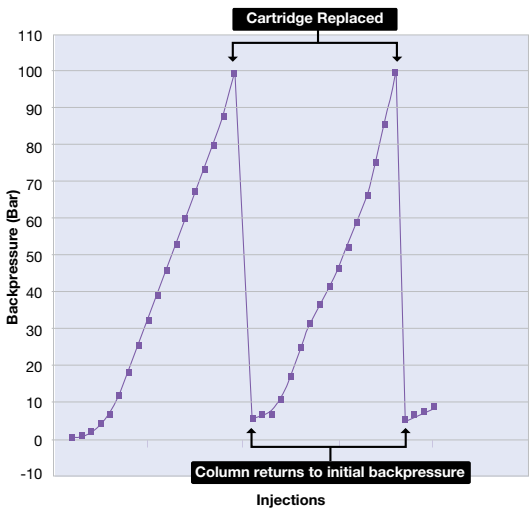
How SecurityGuard Standard Works*

The SecurityGuard Standard analytical cartridge holder (patented) directly finger-tightens into virtually any manufacturer's non core-shell and ≥ 3 µm particle columns. Contaminants are retained by an inexpensive, 4 mm, disposable cartridge instead of fouling your expensive analytical column.



Increases HPLC Column Lifetime, Guaranteed!

Simply replace SecurityGuard cartridges instead of your expensive HPLC/SFC columns. In this graph, once the expired SecurityGuard Standard cartridge was replaced, the pressure immediately dropped and the column performance was restored allowing for extended column use.



Accelerated lifetime test using endogenous biomolecule matrix on a reversed phase C18 column, 5 µm, 50 x 4.6 mm with SecurityGuard Standard C18 cartridges. Backpressure values represent additional backpressure contributed by SecurityGuard.

The SecurityGuard Standard holder and cartridges are pressure rated to 5000 psi (345 bar).
For all core-shell and / or < 3 µm particle columns, and all applications at higher pressures, use SecurityGuard ULTRA, see page 36. For available Semi-Preparative and PREP sizes, see pages 33-34. For preparative SFC applications, use holder AJ0-8617 for 15 x 21.2 mm cartridges or AJ0-8618 for 15 x 30 mm cartridges. For Kinetex and Aeris Core-Shell SecurityGuard SemiPrep and PREP cartridges, see page 35.

*Feature applies to traditional analytical-sized guard system only, and does not apply to SemiPrep or PREP guard cartridges.

SecurityGuard Standard *(cont'd)*

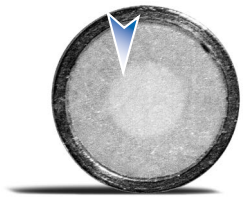
SecurityGuard™ Column Protection

"See Your Dirt" Feature

The "see your dirt" feature lets you know exactly when it's time to replace your cartridge.

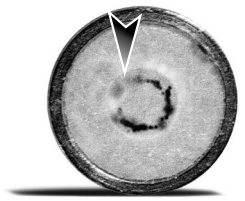
Visually inspect the surface of the cartridge's packing material any time, without disturbing the packing bed. Now you can easily monitor visual contaminant build-up, and change your guard cartridge before it's too late!

If your contaminants are colorless, replace the cartridge as often as needed to maintain chromatographic performance.



CLEAN

If it looks clean, the cartridge may be reinserted for further use.



DIRTY

If either discoloration or particle build-up is observed, it's time to replace the cartridge.

"The SecurityGuard is easy to use and cartridge replacement is simple."
F. Shakir, Sheffield Pharmaceuticals

"We didn't see any change in retention time or difference in the peaks. The SecurityGuard has increased the life of the column."
B. Dietz, ADM

The opinions stated herein are solely those of the individual and not necessarily those of any company or organization.

UHPLC / HPLC / SFC / PREP
Guard Finder

Having a difficult time finding the best column protection device for your specific UHPLC, HPLC, SFC or Prep column?

- Guard Finder matches over 57,000 column part numbers
- Interactive selection tool finds the appropriate column guard in seconds
- Quickly find column protection for any column from any of the top column manufacturers
- Search by brand, part number, technique, or column phase

Try it today at:
www.phenomenex.com/GuardIT

Analytical HPLC/SFC Holder Kit and Replacement Accessories

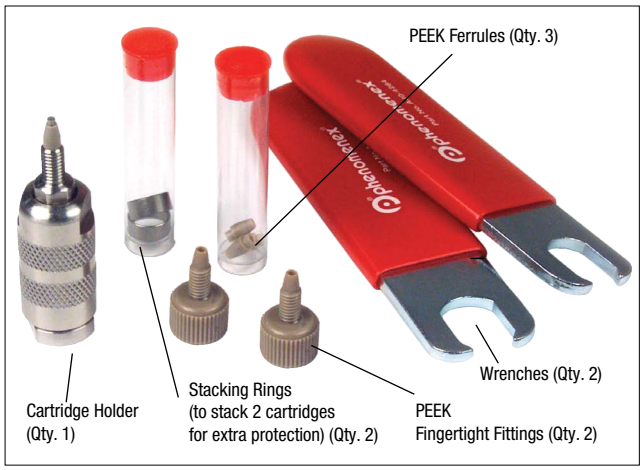
For 2.0 and 3.0 mm ID cartridges, use with 2.0 to 8.0 mm ID columns

Ordering Information

Analytical Kit	
Part No.	**Description**
KJ0-4282	SecurityGuard Standard Kit* (includes holder)

Replacement Parts and Accessories		
Part No.	**Description**	**Unit**
AJ0-4283	PEEK Ferrules	3/pk
AJ0-4285	Stacking Rings	2/pk
AQ0-1389	PEEK Fingertight Fittings	10/pk
AJ0-4284	SecurityGuard Wrenches	2/pk

***Kit KJ0-4282 Includes:**



SecurityGuard PREP

SecurityGuard PREP™
Preparative LC Column Protection

Semi-Preparative HPLC/SFC Holder

For 10.0 mm ID cartridges, use with 9 to 16 mm ID columns

Ordering Information

SecurityGuard SemiPrep Guard Cartridge Holder		
Part No.	**Description**	**Unit**
AJ0-9281	Holder for 10.0 mm ID cartridges	ea

Accessories		
Part No.	**Description**	**Unit**
Nut and Ferrule		
AQ0-3018	10-32 Threaded Male Nut and Ferrule Set for 1/16 in. OD capillary tubing	ea
Sure-Lok™ Fingertight Fittings		
AQ0-1388	PEEK Sure-Lok Male Nut	ea
AQ0-1389	PEEK Sure-Lok Male Nut	10/pk
Sure-Lok Couplers		
AQ0-1392	PEEK Sure-Lok Coupler	ea
AQ0-1393	PEEK Sure-Lok Coupler	10/pk
Column Sealing Plugs		
AQ0-0217	Column Sealing Plug, 10-32 Thread size	10/pk
SemiPrep Guard Holder Wrench		
AQ0-8904	Wrench, Open End, 1/2 x 9/16 in.	ea

For Semi-Preparative and Preparative Cartridges, see pages 34-35.

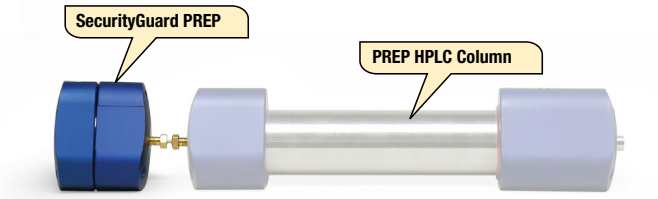


Holder



Cartridge
(10 x 10 mm ID)





Preparative HPLC/SFC Holder *(Two Sizes)*

For 21.2 mm ID cartridges, use with 18 to 29 mm ID columns

Ordering Information

SecurityGuard Prep Guard Cartridge Holders		
Part No.	**Description**	**Unit**
AJ0-8223	HPLC Holder Kit for 21.2 mm ID cartridges, includes column coupler	ea
AJ0-8617	SFC Holder Kit for 21.2 mm ID cartridges, includes column coupler	ea

For 30.0 mm ID cartridges, use with 30 to 49 mm ID columns

Ordering Information

SecurityGuard Prep Guard Cartridge Holder		
Part No.	**Description**	**Unit**
AJ0-8277	HPLC Holder Kit for 30.0 mm ID cartridges, includes column coupler	ea
AJ0-8618	SFC Holder Kit for 30.0 mm ID cartridges, includes column coupler	ea

Replacement Parts and Accessories		
Part No.	**Description**	**Unit**
AQ0-8376	PREP Coupler, SS Tube, Nuts, and Ferrules, 10-32 Threads, 1/16 in. OD x 0.030 in. ID	ea
AQ0-8222	PREP Replacement O-Rings, Kalrez® For 15 x 21.2 mm SG HPLC Holder, Size 2-021	2/pk
AQ0-8318	PREP Replacement O-Rings, Kalrez® For 15 x 30 mm SG HPLC Holder, Size 2-025	2/pk
AQ0-8500	PREP Replacement O-Rings, Teflon® For 15 x 21.2 mm SG SFC Holder, Size 2-021	2/pk
AQ0-8501	PREP Replacement O-Rings, Teflon® For 15 x 30 mm SG SFC Holder, Size 2-025	2/pk
AT0-0465	Capillary S.S. Tubing, 0.020 in. ID x 0.062 in. (1/16 in.) OD x 10 cm length	5/pk
AT0-0466	Capillary S.S. Tubing, 0.020 in. ID x 0.062 in. (1/16 in.) OD x 20 cm length	5/pk
AQ0-8903	Wrench, Open End, 1/4 x 5/16 in.	ea

Holders		Cartridges
PREP	SFC	
		
21.2 mm ID HPLC Holder	21.2 mm ID SFC Holder	Cartridge (15 x 21.2 mm ID)
		
30 mm ID HPLC Holder	30 mm ID SFC Holder	Cartridge (15 x 30.0 mm ID)

O-Rings		Coupler
		
Kalrez O-Rings	Teflon O-Rings	PREP Coupler

SecurityGuard™ Column Protection

Cartridges and Holders

Step 1: Choose column ID

Step 2: Match column phase

Choose your HPLC Column Internal Diameter, ID (mm):

2.0 - 3.0	3.2 - 8.0	9.0 - 16.0	18.0 - 29.0	30.0 - 49.0
Analytical		SemiPrep	PREP HPLC or SFC	
Use Cartridges (mm):				
4.0 x 2.0	4.0 x 3.0	10 x 10.0	15 x 21.2	15 x 30.0



Ordering Information

Material	Description	pH Stability					
Cartridges for General Purpose/Pharmaceutical			/10pk	/10pk	/3pk	ea	ea
C18	(ODS, Octadecyl)	1.5 - 10	AJ0-4286	AJ0-4287	AJ0-7221	AJ0-7839	AJ0-8301
C12	(Dodecyl)	1.5 - 10	AJ0-6073	AJ0-6074	AJ0-7275	AJ0-7842	AJ0-8304
C8	(MOS, Octyl)	1.5 - 10	AJ0-4289	AJ0-4290	AJ0-7222	AJ0-7840	AJ0-8302
C5	(Pentyl)	1.5 - 10	AJ0-4292	AJ0-4293	AJ0-7372	—	—
C1	(TMS)	2 - 9	—	AJ0-4299	—	—	—
Silica	—	—	AJ0-4347	AJ0-4348	AJ0-7223	AJ0-7229	AJ0-8312
HILIC	(HILIC)	1.5 - 8	AJ0-8328	AJ0-8329	AJ0-8902	—	—
NH_2	(Amino, Aminopropyl)	1.5 - 11	AJ0-4301	AJ0-4302	AJ0-7364	AJ0-8162	AJ0-8309
CN	(Cyano, Cyanopropyl)	2 - 7.5	AJ0-4304	AJ0-4305	AJ0-7313	AJ0-8220	AJ0-8311
Phenyl	(Phenylhexyl)	1.5 - 10	AJ0-4350	AJ0-4351	AJ0-7314	AJ0-7841	AJ0-8303
PFP(2)	(Pentafluorophenyl)	1.5 - 8	AJ0-8326	AJ0-8327	AJ0-8376	AJ0-8377	AJ0-8378
SCX	(SA, Strong Cation Exchanger)	2.5 - 7.5	AJ0-4307	AJ0-4308	—	AJ0-8595	AJ0-8596
SAX	(SB, Strong Anion Exchanger)	2.5 - 7.5	—	AJ0-4311	—	—	—
RP-1	(Reversed Phase - Polymer)	0 - 14	—	AJ0-5809	AJ0-7368	AJ0-8358	—
Polar-RP	(Ether-linked Phenyl)	1.5 - 7	AJ0-6075	AJ0-6076	AJ0-7276	AJ0-7845	—
Fusion-RP	(C18 Polar Embedded)	1.5 - 10	AJ0-7556	AJ0-7557	AJ0-7558	AJ0-7844	—
AQ C18	(Polar Endcapped C18)	1.5 - 7.5	AJ0-7510	AJ0-7511	AJ0-7512	AJ0-7843	AJ0-8305
Gemini™ NX-C18	(C18 Twin-NX™ Technology)	1 - 12	AJ0-8367	AJ0-8368	AJ0-8369	AJ0-8370	AJ0-8371
Gemini C18	(C18 Twin™ Technology)	1 - 12	AJ0-7596	AJ0-7597	AJ0-7598	AJ0-7846	AJ0-8308
Gemini C6-Phenyl	(C6-Phenyl Twin Technology)	1 - 12	AJ0-7914	AJ0-7915	AJ0-9156	AJ0-9157	AJ0-9158
Luna™ Omega Polar C18	(Polar Functional C18)	1.5 - 10	AJ0-7600	AJ0-7601	AJ0-9519	AJ0-7603	AJ0-7604
Luna Omega PS C18	(Mixed-Mode C18)	1.5 - 10	AJ0-7605	AJ0-7606	AJ0-9520	AJ0-7608	AJ0-7609
Cartridges for Chiral			/10pk	/10pk	/3pk	ea	ea
For use with chiral columns, such as Lux™ Cellulose-1, -2, -3, -4, i-Cellulose-5, i-Amylose-1, -3, & Amylose-1, (Phenomenex); CHIRALCEL® OD-H®, OJ-H®& CHIRALPAK® AD®-H, IA®, IC®, IG® (DAICEL Corporation)							
Lux i-Amylose-1	Amylose tris (3, 5-dimethyl-phenylcarbamate)	2 - 9	—	AJ0-8641	AJ0-8642	AJ0-8643	AJ0-8644
Lux i-Amylose-3	Amylose tris (3-chloro-5-methylphenylcarbamate)	2 - 9	AJ0-8651	AJ0-8650	AJ0-8652	AJ0-8653	AJ0-8654
Lux i-Cellulose-5	Cellulose tris (3, 5-dichloro-phenylcarbamate)	2 - 9	AJ0-8631	AJ0-8632	AJ0-8633	AJ0-8634	—
Lux Cellulose-1	Cellulose tris (3, 5-dimethyl-phenylcarbamate)	2 - 9	AJ0-8402	AJ0-8403	AJ0-8404	AJ0-8405	AJ0-8406
Lux Cellulose-2	Cellulose tris (3-chloro-4-methylphenylcarbamate)	2 - 9	AJ0-8398	AJ0-8366	AJ0-8399	AJ0-8400	—
Lux Cellulose-3	Cellulose tris (4-methylbenzoate)	2 - 9	AJ0-8621	AJ0-8622	AJ0-8623	AJ0-8624	AJ0-8625
Lux Cellulose-4	Cellulose tris (4-chloro-3-methylphenylcarbamate)	2 - 9	AJ0-8626	AJ0-8627	AJ0-8628	AJ0-8629	AJ0-8630
Lux Amylose-1	Amylose tris (3, 5-dimethyl-phenylcarbamate)	2 - 9	AJ0-9337	AJ0-9336	AJ0-9344	AJ0-9338	AJ0-9339
Lux AMP	—	1 - 11.5	AJ0-8475	AJ0-8476	—	—	—
HPLC Guard Cartridge Holders (one-time purchase only)			/kit		/holder	/kit	/kit
Reusable Holder			KJ0-4282		AJ0-9281	AJ0-8223	AJ0-8277
SFC Guard Cartridge Holders			/kit		/holder	/kit	/kit
Reusable Holder			KJ0-4282		AJ0-9281	AJ0-8617	AJ0-8618









*For all core-shell and/or < 3µm particle columns use 2.1 to 4.6mm ID SecurityGuard ULTRA Holder and Cartridges, see page 36.

SecurityGuard *(cont'd)*

SecurityGuard™ Column Protection

Cartridges and Holders

Step 1: Choose column ID

Step 2: Match column phase

Choose your HPLC Column Internal Diameter, ID (mm):

2.0 - 3.0	3.2 - 8.0	9.0 - 16.0	18.0 - 29.0	30.0 - 49.0
Analytical	Analytical	SemiPrep	PREP HPLC or SFC	PREP HPLC or SFC
Use Cartridges (mm):				
4.0 x 2.0	4.0 x 3.0	10 x 10.0	15 x 21.2	15 x 30.0

Ordering Information *(continued)*

Material	Description	pH Stability					
Cartridges for Core-Shell Media			—	—	/3pk	ea	ea
For core-shell media columns, such as Kinetex™ and Aeris™ (Phenomenex).							
EV0 C18	(ODS, Octadecyl)	1 - 12	*	*	AJ0-9306	AJ0-9304	AJ0-9305
C18	(ODS, Octadecyl)	1.5 - 8.5	*	*	AJ0-9278	AJ0-9145	AJ0-9204
C8	(MOS, Octyl)	1.5 - 8.5	*	*	—	AJ0-9205	—
PFP	(Pentafluorophenyl)	1.5 - 8.5	*	*	—	AJ0-9146	—
F5	(Pentafluorophenylpropyl)	1.5 - 8.5	*	*	AJ0-9323	AJ0-9324	—
Phenyl-Hexyl	(Phenylhexyl)	1.5 - 9	*	*	—	AJ0-9147	AJ0-9216
Biphenyl	(Biphenyl)	1.5 - 8.5	*	*	AJ0-9280	AJ0-9272	—
HILIC	(HILIC)	2 - 7.5	*	*	—	AJ0-9277	—
C18-Peptide	(ODS, Octadecyl)	1.5 - 9	*	*	AJ0-9317	AJ0-9318	—
Cartridges for Protein and Polypeptide Reversed Phase			/10pk	/10pk	/3pk	ea	ea
For use with silica columns for separation of proteins & peptides, such as Jupiter™ (Phenomenex) and other widepore or 300 Å brands.							
Widepore C18	(ODS, Octadecyl)	1.5 - 10	AJ0-4320	AJ0-4321	AJ0-7224	AJ0-7230	AJ0-8313
Widepore C5	(Pentyl)	1.5 - 10	AJ0-4326	AJ0-4327	AJ0-7371	—	—
Widepore C4	(Butyl)	1.5 - 10	AJ0-4329	AJ0-4330	AJ0-7225	AJ0-7231	AJ0-8314
For use with columns like Biozen™ (Phenomenex).							
Peptide PS-C18 3 µm	(Positive Functional C18)	1.5 - 8.5	AJ0-7605	AJ0-7606	—	—	—
Ion-Exchange	(Weak Cation Exchanger)	2 - 12	AJ0-9401	AJ0-9400	—	—	—
Cartridges for Synthetic DNA / RNA Analysis			/10pk	/10pk	/3pk	ea	ea
For use with columns like Clarity™ (Phenomenex).							
Oligo-RP™	(C18 Twin Technology)	1 - 12	AJ0-8134	AJ0-8135	AJ0-8136	AJ0-8210	—
Oligo-XT	(ODS, Octadecyl)	1 - 12	*	*	AJ0-9516	AJ0-9517	AJ0-9518
Cartridges for Silica GFC (Gel Filtration Chromatography)			—	/10pk	—	ea	—
(Aqueous SEC) For use with silica GFC columns, such as Yarra™ and BioSep™ (Phenomenex); ZORBAX™ GF-Series (Agilent); Bio-Sil® (Bio-Rad®).							
GFC-2000	—	2 - 7.5	—	AJ0-4487	—	AJ0-8588	—
GFC-3000	—	2 - 7.5	—	AJ0-4488	—	AJ0-8589	—
GFC-4000	—	2 - 7.5	—	AJ0-4489	—	AJ0-8590	—
Cartridges for Polymer GPC (Gel Permeation Chromatography)			—	/3pk	—	—	—
(Organic GPC) For use with polymer GPC columns, such as Phenogel™ (Phenomenex); PLgel™ (Agilent®); SDV® (PSS); Styragel® (Waters®); GPC Series (Shodex®); TSKgel® (Tosoh Bioscience®)							
GPC***	—	0 - 14	—	AJ0-9292	—	—	—
Cartridges for Carbohydrate/Organic Acid			—	/10pk	—	—	—
For organic acid and carbohydrate analysis, such as Rezex™ (Phenomenex); Aminex® (Bio-Rad); Sugar-Pak™ (Waters).							
Carbo-H^+	—	1 - 8	—	AJ0-4490	—	—	—
Carbo-Ag^{+**}	—	Neutral	—	AJ0-4491	—	—	—
Carbo-Pb^{+2}	—	Neutral	—	AJ0-4492	—	—	—
Carbo-Ca^{+2}	—	Neutral	—	AJ0-4493	—	—	—
HPLC Guard Cartridge Holders (one-time purchase only)			/kit		/holder	/kit	/kit
Reusable Holder			KJ0-4282		AJ0-9281	AJ0-8223	AJ0-8277
							
SFC Guard Cartridge Holders			/kit		/holder	/kit	/kit
Reusable Holder			KJ0-4282		AJ0-9281	AJ0-8617	AJ0-8618

*For all core-shell and/or < 3 µm particle columns use 2.1 to 4.6 mm ID SecurityGuard ULTRA Holder and Cartridges, see page 36.

**For use with saccharide and oligosaccharide columns in Ag^+ form.

***Not compatible with HFIP solvent.

SecurityGuard ULTRA

SecurityGuard ULTRA
UHPLC Column Protection

UHPLC Column Protection

- **Extends HPLC, core-shell, and < 3 µm particle column lifetime**
- **Virtually no change in chromatography**
- **Pressure rated to 20000 psi (1378 bar)**
- **Simple to use**

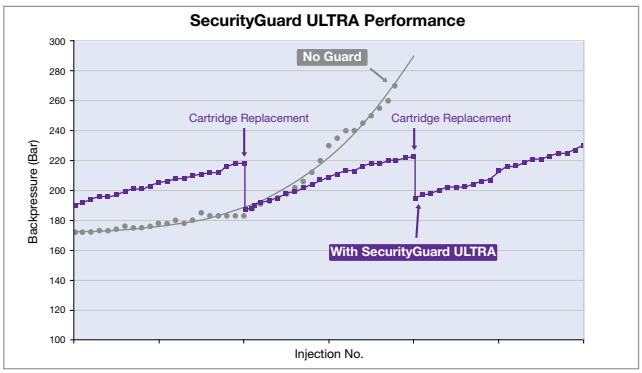
Universal Fit

Use SecurityGuard ULTRA with virtually all UHPLC columns 2.1 to 4.6 mm ID. The extremely low dead volume of this unique product minimizes sample peak dispersion. It will efficiently remove microparticulates and chemical contaminants from the flow stream without contributing to system backpressure or dead volume (<0.3 µL).

Increases Column Lifetime, Guaranteed!

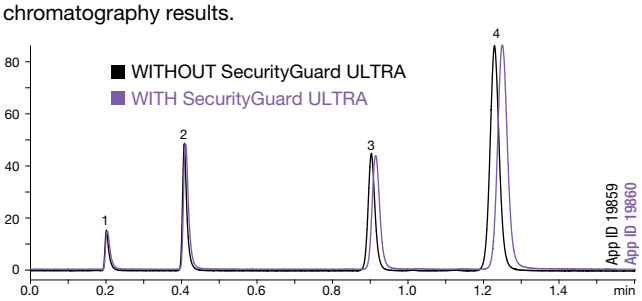
When contaminates and particulates build up at the head of your column or on the guard cartridge, system backpressures can increase dramatically. By simply replacing the SecurityGuard ULTRA cartridge, instead of your column, you are able to regain normal operating conditions and reclaim original column performance.

Accelerated lifetime test using endogenous biological matrix on Kinetex 2.6 µm C18 50 x 4.6 mm ID column



Protects with No Loss of Column Performance!

SecurityGuard ULTRA's unique design minimizes sample peak dispersion to maintain column performance without altering your chromatography results.



Conditions for both columns:

Column: Kinetex 1.7 µm XB-C18
Dimensions: 50 x 2.1 mm
Guard Cartridge: SecurityGuard ULTRA C18 (ODS) 2.1 mm ID Part No.: AJ0-8768
Mobile Phase: Acetonitrile / Water (50:50)
Flow Rate: 0.5 mL/min
Detection: UV @ 254 nm
Sample: 1. Uracil 2. Acetophenone 3. Toluene 4. Naphthalene

See SecurityGuard ULTRA in action:
www.phenomenex.com/SecurityGuardULTRA

2014 Laboratory Equipment Readers' Choice WINNER

2012 R&D 100 Award Recipient
50th ANNIVERSARY



SecurityGuard ULTRA Cartridges

Ordering Information

Material	Description	pH Stability	Column ID (mm) 2.1 /3pk	3.0 /3pk	4.6 /3pk
Cartridges for General Purpose/ Pharmaceutical					
EVO C18	(ODS, Octadecyl)	1.0 – 12.0	AJ0-9298	AJ0-9297	AJ0-9296
C18	(ODS, Octadecyl)	1.5 – 8.5*	AJ0-8782	AJ0-8775	AJ0-8768
C8	(MOS, Octyl)	1.5 – 8.5*	AJ0-8784	AJ0-8777	AJ0-8770
PFP	(Pentafluorophenyl)	1.5 – 8.5*	AJ0-8787	AJ0-8780	AJ0-8773
F5	(Pentafluorophenyl)	1.5 – 8.5*	AJ0-9322	AJ0-9321	AJ0-9320
Biphenyl	(Biphenyl)	1.5 – 8.5*	AJ0-9209	AJ0-9208	AJ0-9207
Phenyl	(Phenylhexyl)	1.5 – 8.5*	AJ0-8788	AJ0-8781	AJ0-8774
HILIC	(HILIC)	2.0 – 7.5	AJ0-8786	AJ0-8779	AJ0-8772
Polar C18	(Polar Functional C18)	1.5 – 8.5*	AJ0-9532	AJ0-9531	AJ0-9530
Cartridges for General Purpose/Pharmaceutical (Fully Porous Columns)					
For fully porous columns like Luna™ Omega (Phenomenex)					
C18	(ODS, Octadecyl)	1.5 – 8.5*	AJ0-9502	AJ0-9501	AJ0-9500
Polar C18	(Polar Functional C18)	1.5 – 8.5*	AJ0-9505	—	—
PS C18	(Positive Functional C18)	1.5 – 8.5*	AJ0-9508	—	—
Cartridges for Protein and Peptide Reversed Phase					
For use with columns like Aeris™ (Phenomenex)					
Widepore C18	(ODS, Octadecyl)	1.5 – 8.5*	AJ0-8783	—	AJ0-8769
Widepore C8	(MOS, Octyl)	1.5 – 8.5*	AJ0-8785	—	AJ0-8771
Widepore C4	(Butyl)	1.5 – 8.5*	AJ0-8899	—	AJ0-8901
Peptide C18	(ODS, Octadecyl)	1.5 – 8.5*	AJ0-8948	—	AJ0-8946
For use with columns like Biozen™ (Phenomenex)					
Glycan	(Amide Polyol)	2.0 – 7.5	AJ0-9800	—	—
Peptide PS-C18 1.6 µm	(Positive Functional C18)	1.5 – 8.5*	AJ0-9803	—	—
Peptide XB-C18	(ODS, Octadecyl)	1.5 – 9.0**	AJ0-9806	—	AJ0-9808
WidePore C4	(Butyl)	1.5 – 9.0**	AJ0-9816	—	AJ0-9818
Intact XB-C18	(MOS, Octyl)	1.5 – 9.0**	AJ0-9812	—	AJ0-9814
Oligo	(ODS, Octadecyl)	1.0 – 12.0	AJ0-9820	—	AJ0-9822
SEC-2	(Diol)	1.5 – 8.5	—	—	AJ0-9850
SEC-3	(Diol)	1.5 – 8.5	—	—	AJ0-9851
Cartridges for Synthetic DNA / RNA Analysis					
For use with columns like Clarity™ (Phenomenex)					
Oligo-MS C18	(ODS, Octadecyl)	1.5 – 8.5*	AJ0-9068	—	—
Oligo-XT	(ODS, Octadecyl)	1.0 – 12.0	AJ0-9515	—	AJ0-9514
Cartridges for Silica GFC (Gel Filtration Chromatography)					
(Aqueous SEC) For use with silica GFC columns such as Yarra™ (Phenomenex)					
X150	—	1.5 – 8.5	—	—	AJ0-9512
X300	—	1.5 – 8.5	—	—	AJ0-9513

*pH stable 1.5–8.5 under gradient conditions. pH stable 1.5–10 under isocratic conditions.
**pH range is 1.5–9 under gradient conditions. pH range is 1.5–10 under isocratic conditions.
AJ0-9000 is the universal holder designed for use with 2.1 mm, 3.0 mm and 4.6 mm ID cartridges.


Holder


Holder with cartridge, assembled

SecurityGuard ULTRA Cartridge Holder

Ordering Information

Part No.	Description	Unit
AJ0-9000	SecurityGuard ULTRA Cartridge Holder	ea

Initial SecurityGuard ULTRA installation and cartridge replacement, requires 3 wrenches, which must be purchased separately: one ⅜ in. wrench (AQ0-8959; fits Kinetex, Aeris, and Oligo-MS column end-fittings), and two 5⁄16 in. wrenches (AQ0-8903; fits ULTRA cartridge and holder). See page 33. Installation instructions are included in the packaging or chat with our technical team for help at www.phenomenex.com/chat.

SecurityCap™
LC Solvent Safety Products

Increase Lab Safety with HPLC/UHPLC Solvent Protection SecurityCAPs

The SecurityCAP mobile phase and solvent waste safety caps inhibit dangerous vapors and gases from leaving HPLC/UHPLC solvent reservoirs. Over time, these chemicals can have a negative impact on the health of all employees and visitors in the lab. When lab safety and dependable results are a priority, you need SecurityCAPs!

Mobile Phase Safety Filter and Cap



- **Increases Health and Worker Safety**
  Solvent vapors and gasses are restricted to their containers
- **Protects HPLC/UHPLC Results**
  Eliminates dust and other air contaminants from testing results
- **Confidence During Quality and Safety Audits**
  Eliminate aluminum foil or Parafilm® covering solvent bottles

The SecurityCAP mobile phase safety filters have an integrated one-way valve and filter membrane that captures dust, particulates, and other airborne contaminants. This prevents unwanted items from entering the solvent container which can cause irreproducible HPLC/UHPLC results, solvent contamination, bacterial growth and ghost peaks, all of which could negatively impact both your chromatography and HPLC/UHPLC system.

HPLC/UHPLC Solvent Top/Cap Comparison

SecurityCAP offers several advantages over insufficient non-sealed tops/caps which can lead to both hazardous lab conditions and poor chromatography results. When it comes to lab safety, saving money on expensive solvents and ensuring solvent protection, there is no comparison to SecurityCAP.

	Open Top	Aluminum foil wrapped bottle top	Cap with two 10 mm holes in the plastic	SecurityCAP™
				
Protects staff and visitors from volatile organic compounds released into lab	No	No	No	Yes
Ensures confidence during quality and safety audits	No	No	No	Yes
Protects solvents from both atmospheric particulates and contaminants	No	No	No	Yes
Saves money by preventing solvent evaporation	No	No	No	Yes
Prevents chemical spills/ splashes	No	No	No	Yes
Time monitor device for protection	No	No	No	Yes
100 % Sealable	No	No	No	Yes
Easy to use	Yes	No	Yes	Yes
Improves lab safety	No	No	No	Yes

Waste Exhaust Filter and Cap



- **Safer Laboratory Work Environment**
  Harmful chemical vapors are safely collected and air quality is protected
- **Large Capacity Waste Safety Filter**
  High surface area (560 m²/g) multi-compound adsorbent
- **Easy to Use**
  No more twisting tubes during bottle exchange

SecurityCAP solvent waste caps and exhaust filters ensure lab air quality. Feel confident that volatile vapors from solvent waste containers are being captured safely, beyond fume cupboards or hoods.

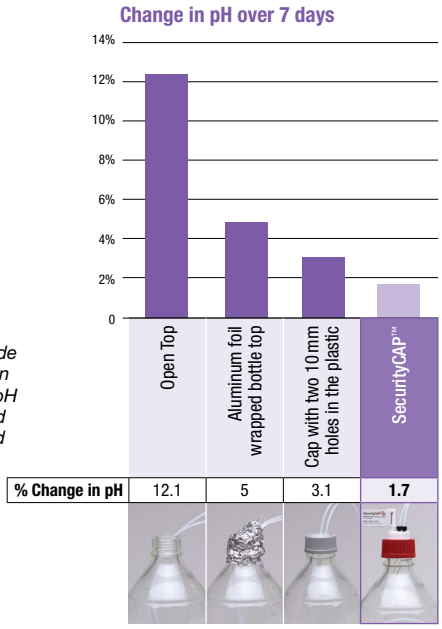
Prevent Unwanted Changes in Mobile Phase pH

As every chromatographer knows, the pH of the mobile phase can have dramatic effects on selectivity, capacity factor (retention factor), peak shape, resolution, and reproducibility of your HPLC/UHPLC analysis. Because slight variations in pH can have a dramatic impact on the separation, careful mobile phase preparation and protection are essential. When compared to other mobile phase solvent tops, SecurityCAP offers the solution to ensure the mobile phase pH will stay constant during use. This ensures reliable solvent conditions for results you can trust!

Download complete technical note at:
www.phenomenex.com/SecurityCAP



A 1L solution of 4 mM ammonim bicarbonate buffer at pH 11 was made for each bottle and left in a hood for 7 days. The pH was checked before and after the experiment and the percent difference was calculated.



Lab Safety *(cont'd)*

SecurityCap™
LC Solvent Safety Products





Mobile Phase (Eluent) Safety Starter Kits

Ordering Information

SecurityCAP™ Mobile Phase Starter Kits		
Part No.	**Description**	**Unit**
AC2-1245	2-port GL45 Cap and 6-month Safety Filter	ea
AC2-4245	2-port GL45 Caps (x4) and 6-month Safety Filter (x4)	ea
AC2-4240	2-port Merck S40 Caps (x4) and 6-month Safety Filter (x4)	ea
AC2-1345	3-port GL45 Cap and 6-month Safety Filter	ea
AC2-4345	3-port GL45 Caps (x4) and 6-month Safety Filter (x4)	ea
AC2-1445	4-port GL45 Cap and 6-month Safety Filter	ea
AC2-4445	4-port GL45 Cap (x1) and 2-port Cap (3x) and 6-month Safety Filter (x4)	ea
AC2-1545	5-port GL45 Cap and 6-month Safety Filter	ea
AC2-1561	5-port S60/S61 Cap and 6-month Safety Filter	ea

Waste Safety Starter Kits

Ordering Information

SecurityCAP Waste Starter Kits		
Part No.		**Unit**
AC1-1245	2-port GL/DIN45 Cap and 6-month Exhaust Filter and Barbed connector	ea
AC1-1545	5-port GL/DIN45 Cap and 6-month Exhaust Filter	ea
AC1-1551	5-port DIN51 Cap and 6-month Exhaust Filter	ea
AC1-1553	5-port B53 Cap and 6-month Exhaust Filter	ea
AC1-1561	5-port S61 Cap and 6-month Exhaust Filter	ea

Mobile Phase Safety Filter



Waste Safety Filters





Replacement Filters

Ordering Information

SecurityCAP Mobile Phase Safety Filter		
Part No.	**Description**	**Unit**
AC2-0161	6-month Capacity, ¼ in.-28 Threads	ea
AC2-0961	6-month Capacity, ¼ in.-28 Threads	10/pk

SecurityCAP Waste Safety Filters		
Part No.	**Description**	**Unit**
AC1-0161	6-month Exhaust Filter for SecurityCAP, ¼ in.-28 Threads	ea
AC1-0361	6-month Exhaust Filter for SecurityCAP, ¼ in.-28 Threads	3/pk
AC1-0162	6-month Exhaust Filter for Wide-port Caps, GL14 Threads	ea
AC1-0362	6-month Exhaust Filter for Wide-port Caps, GL14 Threads	3/pk

Fittings and Accessories

Ordering Information

SecurityCAP Fittings		
Part No.	**Description**	**Unit**
AC3-1101	for 1/16 in. or 2.0 mm OD Tubing, ¼ in.-28 Threads, blue	ea
AC3-1201	for 2.3-2.6 mm OD Tubing, ¼ in.-28 Threads, white	ea
AC3-2101	for ⅛ in. OD Tubing, ¼ in.-28 Threads, black	ea

SecurityCAP Connectors		
Part No.	**Description**	**Unit**
AC3-1001	Barbed connector, for 5-8 mm ID Tubing (PTFE), white	ea
AC3-1301	Y-connector for 6-8 mm ID Tubing, white	ea

SecurityCAP Adapter		
Part No.	**Description**	**Unit**
AC2-1138	Cap Thread Adapter, PTFE, GPI/GL 38 Female to GL45 Male	ea
AC3-1111	Waste Adapter for Male ¼ in. NPT-port (PTFE)	ea

SecurityCAP Sealing Plug		
Part No.	**Description**	**Unit**
AC3-2001	¼ in.-28 Threads, white	ea

PTFE = polytetrafluoroethylene (Teflon®)

SecurityCAP Waste Safety Filter Compatibility Table

Supplier	Phenomenex SecurityCAP Filters	
	ea	3/pk
S.C.A.T.® SafetyWasteCaps	AC1-0162	AC1-0362
AIT® Smart Healthy Caps	AC1-0162	AC1-0362
Agilent® InfinityLab Stay Safe Caps	AC1-0162	AC1-0362
VICI Jour® Waste Caps	AC1-0161	AC1-0361
Canary-Safe™ Safety Caps	AC1-0162	AC1-0362
DURAN® DG Safety Caps	AC1-0162	AC1-0362
VapLock™ Safety Caps (with AC3-1111)	AC1-0161	AC1-0361

Disclaimer
The 6 month SecurityCAP filter lifetime is a general guideline based on running a single instrument for 8 hours a day at 1mL/min. SecurityCAP filters may need to be changed more or less frequently based on the system usage.

Standards

HPLC Column Check Standards

We recommend using check standards to verify performance of all new columns and periodically over their lifetime. Standards are grouped by column type (e.g. normal phase standard for Si, -NH_2, -Diol, -NO_2, alumina and PAC).



App ID 14744

Reversed Phase 1
(For C1, C18, CN and Phenyl)

Part No.: ALO-3034

Unit quantity: 2 mL
Contains: Uracil; Benzamide; Benzophenone; Biphenyl (refer to product insert for specific details)
Diluent: Acetonitrile

Test Conditions
Mobile Phase: Acetonitrile/Water (percentages depend on phase)
Flow Rate: 1.0 mL/min
Injection Volume: 1.0 µL for 3 and 5 µm particles*
1.5 µL for 10 µm particles
Detection: UV @ 254 nm

* For Onyx C8, Ultracarb C8, ODS(20), ODS(30) inject 1.5 µL for all column sizes.

App ID 14754

Reversed Phase 2
(For Prodigy C8, ODS(2), ODS(3); Luna C5, C8, C18, PFP(2), Phenyl-Hexyl; Jupiter C4, C5, C18; Jupiter Proteo; Columbus C8, C18; Aqua; PhenoSphere-NEXT C8, C18; Synergi; Gemini C18, C6-Phenyl; Gemini NX-C18; Clarity Oligo-RP; Oligo-MS; Kinetex C8, C18, XB-C18, PFP, Phenyl-Hexyl; 4.6 mm ID Aeris WIDEPORE XB-C18, XB-C8, C4; Aeris PEPTIDE XB-C18; Biozen Peptide PS-C18, XB-C18; Biozen Oligo)

Part No.: ALO-3045

Unit quantity: 2 mL
Contains: Uracil; Acetophenone; Toluene; Naphthalene
Diluent: Acetonitrile / Water (75:25)

Test Conditions
For Jupiter C18, all Luna (except CN), Aqua, Synergi, Gemini, Prodigy, and Clarity Oligo-RP
Mobile Phase: Acetonitrile/Water (65:35)*
Flow Rate: 1.0 mL/min; 0.75 mL/min for 3 µm particles
Injection Volume: 1.0 µL
Detection: UV @ 254 nm

Test Conditions
For Jupiter C4 and C5 columns
Mobile Phase: Acetonitrile/Water (50:50)
Flow Rate: 1.0 mL/min
Injection Volume: 1.0 µL
Detection: UV @ 254 nm

* Columns with dimensions of 50 x 2.0 mm, 30 x 2.0 or 1.0 mm, the mobile phase ratio should be 50:50. Some 50 x 2.0 mm columns use 65:35. For other columns not listed above, see test chromatogram enclosed with column purchased.

App ID 15640

Onyx Monolithic Reversed Phase
(For Onyx C8, C18, and HD-C18)

Part No.: ALO-7836

Unit quantity: 2 mL
Contains: Thiourea 10 µg/mL; Progesterone 100 µg/mL; Anthracene 10 µg/mL
Diluent: Acetonitrile/Water (60:40)

Test Conditions
Mobile Phase: Acetonitrile/Water (60:40)
Flow Rate: 2.0 mL/min*
Injection Volume: 1.0 µL
Detection: UV @ 254 nm
Storage Conditions: Refrigerate @ 4 °C

* For a 50 x 4.6 mm column

App ID 19812

Aeris™ Narrow ID
(For 2.1 mm ID Aeris WIDEPORE XB-C18, XB-C8, C4)
(For Biozen WidePore C4; Biozen Intact XB-C8)

Part No.: ALO-8931

Unit quantity: 2 mL
Contains: Uracil; Acetophenone; Toluene; Naphthalene; Acenaphthalene (2.5 mg/mL)
Diluent: Acetonitrile/Water (50:50)

Test Conditions
Mobile Phase: Acetonitrile/Water (55:45)
Flow Rate: 0.25 mL/min*
Injection Volume: 0.1 µL
Detection: UV @ 254 nm

* For a 150 x 4.6 mm column

App ID 14743

Normal Phase
(For Si, NH_2, NO_2, Diol, Alumina, PAC ,and Luna CN)

Part No.: ALO-3033

Unit quantity: 2 mL
Contains: Meta-xylene; Nitrobenzene
Diluent: Hexane/Acetonitrile (99:1)

Test Conditions
Mobile Phase: Hexane/Acetonitrile (99:1)
Flow Rate: 1.0 mL/min
Injection Volume: 1.0 µL
Detection: UV @ 254 nm

App ID 16399

HILIC Phase
(For Luna HILIC; Kinetex HILIC; Biozen Glycan)

Part No.: ALO-8317

Unit quantity: 2 mL
Contains: Toluene; Uracil; Cytosine
Diluent: Acetonitrile (containing toluene) / Water, no buffer (85:15)

Test Conditions
Mobile Phase: Acetonitrile/100 mM Ammonium Formate, pH 3.2 (90:10)
Flow Rate: 1.0 mL/min*
Injection Volume: 1.0 µL
Detection: UV @ 254 nm

* For a 150 x 4.6 mm column

App ID 14760

PolymerX™ RP-1

Part No.: ALO-7260

Unit quantity: 2 mL
Contains: Cytosine 13 mg/mL; Uracil 13 mg/mL; Uridine 33 mg/mL
Diluent: Water

Test Conditions
Mobile Phase: 0.05 M Citric Acid, pH 4.2
Flow Rate: 0.75 mL/min*
Temperature: Ambient
Injection Volume: 5 µL
Detection: UV @ 254 nm
Storage Conditions: Refrigerate @ 4 °C

* For a 5 µm 250 x 4.6 mm column

Flow rates and Injection volumes are for 250 x 4.6 mm size columns, unless otherwise noted.

App ID 14752

Aqueous SEC 1
(For BioSep-SEC-S)

Part No.: ALO-3042

Unit quantity: Dry; Reconstituted to 2 mL
Contains: Bovine thyroglobulin; Human gamma globulin (contains IgA and IgG); Ovalbumin; Myoglobin; Uridine (reconstitute with 1 mL of 100 mM Sodium Phosphate pH 6.8)
Diluent: 100 mM Sodium phosphate, pH 6.8
Storage: Add 0.1 % NaN_3 to the solution and refrigerate

Test Conditions
Mobile Phase: 100 mM Sodium phosphate, pH 6.8
Flow Rate: 1.0 mL/min for a 300 x 7.8 mm column
Injection Volume: 10 µL
Detection: UV @ 280 nm

App ID 14753

Aqueous SEC 2
(For PolySep GFC-P and other aqueous-soluble analysis columns)

Part No.: ALO-3043

Unit quantity: 2 mL
Contains: Ethylene Glycol
Diluent: Water

Test Conditions
Mobile Phase: Water
Flow Rate: 0.8 mL/min
Injection Volume: 15 µL
Detection: RI

App ID 19807

Aqueous SEC 3
(For Biozen dSEC-2, Biozen SEC, and Yarra SEC columns)

Part No.: ALO-9253

Unit quantity: 2 mL Analyte
Contains: Bovine Thyroglobulin (2.5 mg/mL); BSA (2.5 mg/mL) Myoglobin (1 mg/mL) *(reconstitute 1 mL of 1X PBS Buffer)*
Diluent: 100 mM Sodium phosphate buffer, pH 6.8
Storage: Add 0.025 % NaN_3 to the solution and refrigerate

Test Conditions
Mobile Phase: 100 mM Phosphate buffer, pH 6.8, 0.05 % NaN_3
Flow Rate: 0.35 mL/min
Injection Volume: 1.4 µL
Detection: UV @ 280 nm
Storage Conditions: Refrigerate at 4 °C
Sample Components: 2. Bovine Serum Albumin (66.5 kDa) 4. Thyroglobulin (670 kDa) 6. Equine Myoglobin (17 kDa)

Note
1. After reconstituting the protein mix, filter solution with regenerated cellulose 0.2 µm syringe filter before use.

2. Flow rate and injection volume are recommended for use with 300 x 4.6 mm ID columns. Some adjustments may not exactly match your specific column, refer to the production test chromatograms received with your column for exact chromatographic profile.

Standards *(cont'd)*

HPLC Column Check Standards

App ID 14756

Chiral Test Mix 2
(Applicable to the following Chirex columns)

Part No.: AL0-3047

Chirex Phase	Phase Description	Bond Type
3010	(S)-Valine and DNAn	Covalent
3011	(S)-Leucine and DNAn	Covalent
3012	(R)-Phenylglycine and DNAn (DNAn = 3,5-Dinitroaniline	Covalent

Unit quantity: 2 mL
Contains: N-dansyl-DL-valine (cyclohexylammonium salt); CAS[84540-67-0]
Diluent: 10 mM ammonium acetate in methanol

Test Conditions
Mobile Phase: 10 mM ammonium acetate in methanol
Flow Rate: 1.0 mL/min
Injection Volume: 1.0 µL
Detection: UV @ 254 nm

App ID 14758

Chiral Test Mix 4
(Applicable to the following Chirex columns)

Part No.: AL0-3049

Chirex Phase	Phase Description	Bond Type
3126	N,S-dioctyl-(D)-Penicillamine	Ionic

Unit quantity: 2 mL
Contains: DL-Aspartic Acid CAS [617-45-8]
Diluent: 2 mM Copper sulfate pentahydrate in water/Isopropanol (95:5)

Test Conditions
Mobile Phase: 2 mM Copper sulfate pentahydrate in water/Isopropanol (95:5)
Flow Rate: 1.0 mL/min
Injection Volume: 1.0 µL
Detection: UV @ 254 nm

App ID 17476

Chiral Test Mix 5
(Applicable to the following Lux columns)

Part No.: AL0-8412

Phase	Description
Lux Cellulose-1	Cellulose Tris (3,5-Dimethyl-phenylcarbamate)
Lux Cellulose-2	Cellulose Tris (3-Chloro-4-methylphenylcarbamate)
Lux Cellulose-3	Cellulose Tris (4-Methyl-benzoate)
Lux Cellulose-4	Cellulose Tris (4-Chloro-3-methylphenylcarbamate)

Unit quantity: 2 mL
Contains: trans-Stilbene oxide, 0.5 mg/mL, CAS [1439-07-2]
Diluent: Hexane/Isopropanol (90:10)

Test Conditions
Mobile Phase: Hexane/Isopropanol (90:10)
Flow Rate: 0.5 mL/min
Injection Volume: 2.0 µL
Detection: UV @ 220 nm

App ID 14745

Carbohydrate Mix 1
(For Rezex RNM, RAM & other carbohydrate analysis columns)

Part No.: AL0-3035

Unit quantity: 2 mL
Contains: Maltotriose Hydrate; Maltose; Ribitol
Diluent: Water

Test Conditions
Mobile Phase: Water
Flow Rate: 0.4 mL/min for a 300 x 7.8 mm column
Temperature: 85 °C
Injection Volume: 5.0 µL
Detection: RI

App ID 14746

Carbohydrate Mix 2
(For Rezex RPM & other carbohydrate analysis columns)

Part No.: AL0-3036

Unit quantity: 2 mL
Contains: Melezitose; Glucose; Fructose; Ribitol
Diluent: Water

Test Conditions
Mobile Phase: Water
Flow Rate: 0.6 mL/min for a 300 x 7.8 mm column
Temperature: 85 °C
Injection Volume: 5.0 µL
Detection: RI

App ID 14747

Carbohydrate Mix 3
(For Rezex RCM, RCU & other carbohydrate analysis columns)

Part No.: AL0-3037

Unit quantity: 2 mL
Contains: Melezitose; Maltose; Glucose; Mannose; Fructose; Ribitol
Diluent: Water

Test Conditions
Mobile Phase: Water
Flow Rate: 0.6 mL/min for a 300 x 7.8 mm column
Temperature: 85 °C
Injection Volume: 1.0 µL
Detection: RI

App ID 14748

Oligosaccharide Standard
(For Rezex RSO, RNO & other oligosaccharide analysis columns)

Part No.: AL0-3038

Unit quantity: 2 mL
Contains: Light corn syrup
Diluent: Water

Test Conditions
Mobile Phase: Water
Flow Rate: 0.3 mL/min for a 200 x 10 mm column
Temperature: 85 °C
Injection Volume: 5.0 µL
Detection: RI

App ID 14749

Organic Acid Standard
(For Rezex ROA & other organic acid analysis)

Part No.: AL0-3039

Unit quantity: 2 mL
Contains: Oxalic acid; Citric acid; Tartaric acid; Succinic acid; Formic acid; Acetic acid
Diluent: 5 mM Sulfuric Acid

Test Conditions*
Mobile Phase: 0.005N H_2SO_4
Flow Rate: 0.5 mL/min
Temperature: 85 °C
Injection Volume: 5.0 µL
Detection: UV @ 210 nm

* For a 300 x 7.8 mm column

App ID 14750

Cation-Exchange
(For SCX, SA, CM)

Part No.: AL0-3040

Unit quantity: 2 mL
Contains: Uracil; Cytosine
Diluent: Water

Test Conditions
Mobile Phase: 0.15 M $(NH_4)_2HPO_4$, pH 6.0
Flow Rate: 1.0 mL/min
Injection Volume: 1.0 µL
Detection: UV @ 254 nm

App ID 14751

Anion-Exchange
(For SAX, SB, DEAE, PEI)

Part No.: AL0-3041

Unit quantity: 2 mL
Contains: Uridine, UMP (refer to product insert for specific details)
Diluent: Water

Test Conditions
Mobile Phase: 0.15 M $(NH_4)_2HPO_4$, pH 6.0
Flow Rate: 0.6 mL/min
Injection Volume: 1.0 µL
Detection: UV @ 254 nm

Flow rates and Injection volumes are for 250 x 4.6 mm size columns, unless otherwise noted.

For GC Column Performance Check Standards, see page 80.

SecurityLINK UHPLC Fittings

SecurityLink™
UHPLC Connections in a Click

SecurityLINK
UHPLC Connections in a Click

The SecurityLINK UHPLC fingertight fitting system simplifies your system and column connections and provides consistent performance with torque limiting technology that prevents column damaging overtightening.

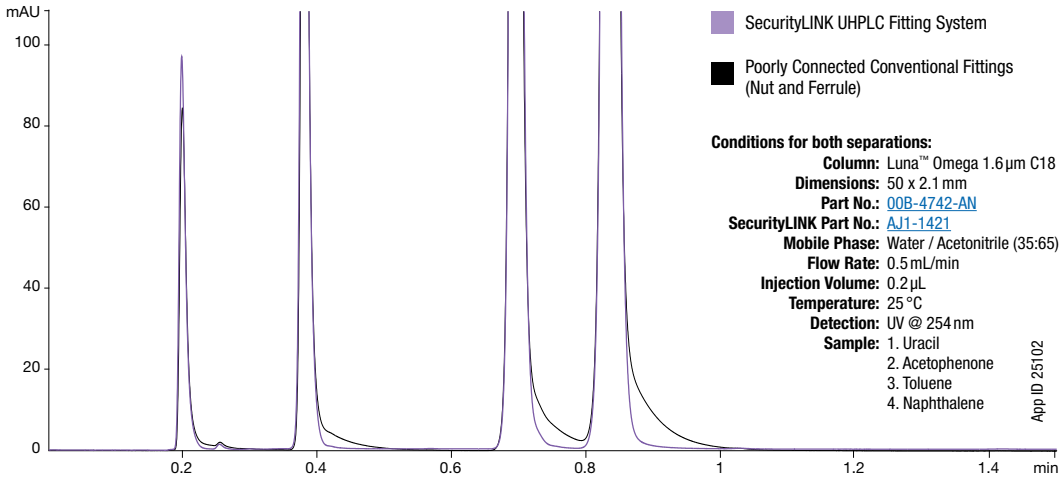


SecurityLINK UHPLC Fittings

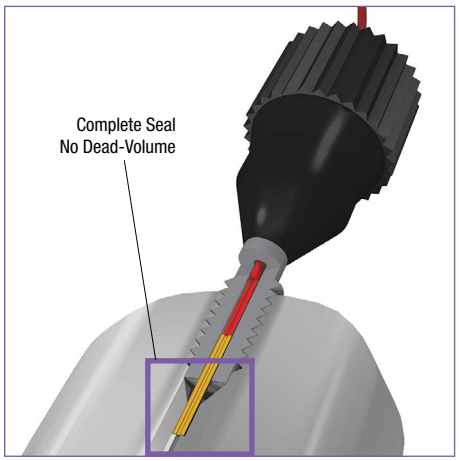
- **No tools required for quick and easy installation**
- **Fitting self-adjusts at column inlet to ensure zero dead-volume for better chromatographic results**
- **Torque limiting technology prevents system and column port damage**
- **UHPLC and HPLC compatibility: pressure rated to 19000 psi (1310 bar)**

SecurityLINK vs. Poorly Connected Conventional Fittings

Poorly connected fittings are often the causes of carryover, band broadening, and peak tailing. SecurityLINK offers zero dead-volume connections every time.

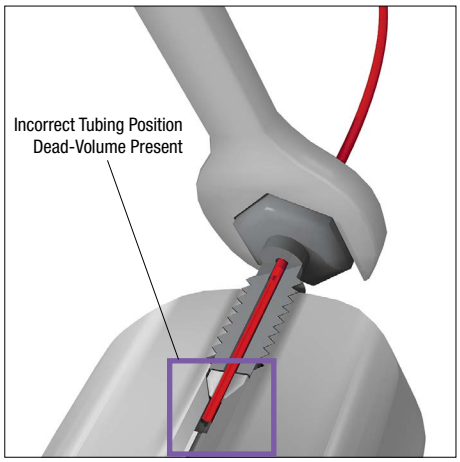


SecurityLINK UHPLC Fitting System



VS.

Poorly Connected Conventional Fittings (Nut and Ferrule)



SecurityLINK UHPLC Fittings
(cont'd)

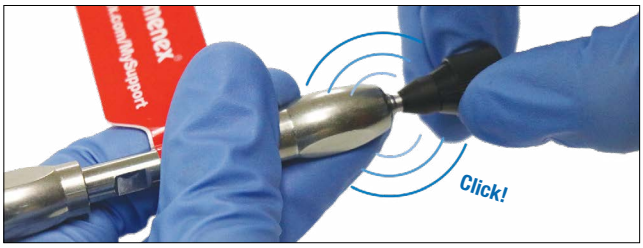
SecurityLink™ UHPLC Connections in a Click

Installation Instructions

1. Insert SecurityLINK UHPLC fitting into column port



2. Fingertighten until first "CLICK" feedback is received. Connection Complete!



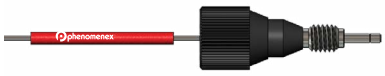
Ordering Information

PEEKsil™



PEEKsil Double-Sided 10-32 Fittings for 1/16 in. Ports		
Part No.	ID (µm)	Length (mm)
AJ1-2111	25	100
AJ1-2121	25	150
AJ1-2141	25	250
AJ1-2151	25	300
AJ1-2171	25	500
AJ1-2191	25	750
AJ1-21A1	25	1000
AJ1-2211	50	100
AJ1-2221	50	150
AJ1-2231	50	200
AJ1-2241	50	250
AJ1-2251	50	300
AJ1-2271	50	500
AJ1-2291	50	750
AJ1-22A1	50	1000
AJ1-2321	75	150
AJ1-2341	75	250
AJ1-2371	75	500
AJ1-23A1	75	1000
AJ1-2411	100	100
AJ1-2421	100	150
AJ1-2441	100	250
AJ1-2471	100	500
AJ1-24A1	100	1000

PEEKsil



PEEKsil Single-Sided Fittings 1/32 in. OD PEEKsil Tubing with One 10-32 Fitting for 1/16 in. Ports, and One Side with No Fitting		
Part No.	ID (µm)	Length (mm)
AJ1-2124	25	150
AJ1-2174	25	500
AJ1-2194	25	750
AJ1-21A4	25	1000
AJ1-21B1	25	1500
AJ1-2224	50	150
AJ1-2274	50	500
AJ1-2294	50	750
AJ1-22A4	50	1000

SecurityLINK tubing material includes a sleeve that provides: ID, length and part number information.

The "CLICK" Feedback indicates the SecurityLINK Connection is Secure! This Prevents Overtightening & Saves Your Column.

PEEK-Lined Stainless Steel



PEEK-Lined Stainless Steel Double-Sided 10-32 Fittings for 1/16 in. Ports		
Part No.	ID (µm)	Length (mm)
AJ1-3121	25	150
AJ1-3141	25	250
AJ1-3161	25	350
AJ1-3171	25	500
AJ1-3181	25	600
AJ1-3221	50	150
AJ1-3241	50	250
AJ1-3261	50	350
AJ1-3271	50	500
AJ1-3281	50	600
AJ1-3321	75	150
AJ1-3341	75	250
AJ1-3361	75	350
AJ1-3371	75	500
AJ1-3381	75	600
AJ1-3421	100	150
AJ1-3441	100	250
AJ1-3461	100	350
AJ1-3471	100	500
AJ1-3481	100	600

Stainless Steel



Stainless Steel Double-Sided 10-32 Fittings for 1/16 in. Ports		
Part No.	ID (µm)	Length (mm)
AJ1-14A1	100	1000
AJ1-1411	100	100
AJ1-1414*	100	100
AJ1-1421	100	150
AJ1-1441	100	250
AJ1-1461	100	350
AJ1-1471	100	500
AJ1-1481	100	600
AJ1-15A1	125	1000
AJ1-1521	125	150
AJ1-1541	125	250
AJ1-1561	125	350
AJ1-1571	125	500
AJ1-1581	125	600
AJ1-1611	254	100
AJ1-1621	254	150
AJ1-1641	254	250
AJ1-1661	254	350
AJ1-1671	254	500
AJ1-1681	254	600

*Single-Sided.

Phenomenex Column / Tubing ID Recommendation Chart

	Nano	Microbore		Analytical			Semi-Prep	
Column ID	0.05 - 0.1 mm (50 µm - 100 µm)	0.3 - 0.5 mm (300 µm - 500 µm)	1 mm	2.1 mm	3 mm	4.6 mm	7.8 mm	9.0 - 16.0 mm
Tubing ID	25 µm	50 µm	50 µm - 75 µm	100 µm	100 µm	100 µm	120 µm	254 µm

Fittings

¼ in.-28 to 10-32 Standard Adapter

- **Make connections between different pieces of liquid handling equipment**
- **Simple to use fingertight design**
- **Made of sturdy and inert PEEK**
- **Pressure rated to 1500 psi (103 bar)**



Ordering Information

Standard Adapter		
Part No.	**Description**	**Unit**
AQ0-3351	¼ in.-28 to 10-32 Standard Adapter, PEEK	ea

Ultra-High Performance LC/HPLC Stainless Steel Zero Dead-Volume Union

- **Pressure rated to 28000 psi (1930 bar)**
- **For 1/16 in. OD tubing, with 10-32 threading**
- **0.010 in. thru hole, 20 nL swept volume**
- **Includes 2 fittings (nuts and ferrules)**



Ordering Information

Zero Dead-Volume Union (Stainless Steel)		
Part No.	**Description**	**Unit**
AQ0-8507	Zero Dead-Volume Union, SS, with Fittings, 10-32, for 1/16 in. Tubing, 28000 psi (1930 bar)	ea

Reducing Adapters

Two reducing adapters for 50 mm ID Prep columns allow smaller 1/16 in. ID system tubing to be used with the larger 1/8 in. ID column inlet end fittings, forming a positive leak-free seal with zero dead volume. The smaller line from your system goes directly into the adapter and the sample goes directly into the column, without the short pieces of connecting tubing required if a reducing union was used instead. Once the fitting is installed, only one wrench is required to remove and reinstall it. Each end of the column requires a fitting.

AQ0-9222
Reducing Adapter for 50 mm ID Axia™ Preparative HPLC/SFC Hardware



AQ0-7555
Reducing Adapter for 50 mm ID Traditional (Non-Axia) HPLC/SFC Hardware



Ordering Information

Reducing Adapters		
Part No.	**Description**	**Unit**
Complete Assembly		
AQ0-9222	Reducing Adapter, 1/8 in. to 1/16 in. for 50 mm ID Axia Preparative HPLC/SFC Hardware, 1.0 mm (0.040 in.) ID thru-hole	2/pk
AQ0-7555	Reducing Adapter, 1/8 in. to 1/16 in. for 50 mm ID Traditional (Non-Axia) HPLC/SFC Hardware	2/pk
Replacement Parts		
AQ0-3018	10-32 Threaded Male Nut and Ferrule Set for 1/16 in. OD capillary tubing	ea

PEEK Zero Dead-Volume Union

- **Chemically inert and fully biocompatible**
- **Zero dead-volume connection, 0.010 in. thru-hole**
- **Wrench/fingertight fittings**
- **Pressure rated to 5000 psi (345 bar)**



Ordering Information

PEEK Zero Dead-Volume Union		
Part No.	**Description**	**Unit**
AQ0-1674	PEEK Zero Dead-Volume Union, 0.010 in. thru-hole, with 2 fingertight fittings	ea

Maximum Temperature Ratings (°C)

Material	Tubing	Fitting
PEEK	100	150
Delrin®	N/A	60
Teflon® (PTFE)	80	80
Polyethylene (UHMW)	N/A	50
Polypropylene	N/A	40
KEL-F®	N/A	80
Tefzel®	80	80

Fittings *(cont'd)*

Ultra-High Performance LC Fittings

UHPLC / HPLC Sure-Lok™ High Pressure PEEK Male Nut Fittings

- **Pressure rated to 12000 psi (827 bar)**
- **Stable up to temperatures of 200 °C**

Made of a proprietary PEEK blend, these ultra-high performance polymeric fittings are compatible for most UHPLC/HPLC applications, and best for ion- and bio-chromatography. High pressure nuts have a knurled surface designed to provide sufficient sealing force on the ferrule without wrenches. For 1/16 in. diameter tubing, there are two design types. The convenient one-piece design is pressure rated on S.S. tubing to 12000 psi (827 bar) and stable up to temperatures of 200 °C. The second type is engineered as a 3-piece unit, with a ferrule and stainless steel gripping ring, that will provide leak-free connections up to 19000 psi (1310 bar), on S.S. tubing. Upper pressure limits of these fittings when used with polymeric tubing (such as PEEK) depends on the pressure rating of the tubing. Phenomenex PEEK tubing is rated to 7000 psi (482 bar). For higher pressure-rated fittings use the stainless steel nut and ferrule set (AQ0-8506).

AQ0-8503
Pressure rated up to 12000 psi (827 bar)



AQ0-8504
shown with AQ0-8505
Pressure rated to 19000 psi (1310 bar)



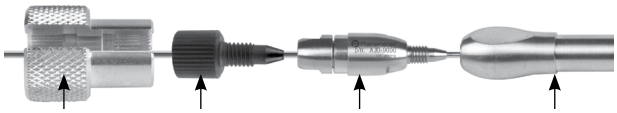
Ordering Information

Sure-Lok High Pressure PEEK Nuts		
Part No.	**Description**	**Unit**
AQ0-8502	Sure-Lok High Pressure PEEK 1-Pc Nut, 10-32, for 1/16 in. Tubing, 12000 psi (827 bar)	2/pk
AQ0-8503	Sure-Lok High Pressure PEEK 1-Pc Nut, 10-32, for 1/16 in. Tubing, 12000 psi (827 bar)**	10/pk
AQ0-8504	Sure-Lok High Pressure PEEK Nut, 10-32, for 1/16 in. Tubing, 19000 psi (1310 bar) *,**,†	10/pk
AQ0-8505	Sure-Lok PEEK Ferrule Assembly (2-pc), for High Pressure 2-Pc Nut (AQ0-8504)	10/pk

* Ferrule assembly (AQ0-8505) must be ordered separately.
** Sure-Lok fitting tightening tool is required for AQ0-8503 and AQ0-8504
† Recommended for PEEKsil™ tubing applications.

Sure-Lok™ Fitting Tightening Tool

Use this handy tool to tighten any standard, short- or long-style knurl-headed (high pressure) male nut like the ones above. The tool can also be used with many of the low-pressure nuts commonly used in the lab.



AQ0-8530
Sure-Lok Fitting Tightening Tool

AQ0-8502 or AQ0-8503
Sure-Lok HIGH Pressure PEEK 1-pc Fitting
(12000 psi/827 bar)

AJ0-9000
SecurityGuard™ ULTRA Holder with Guard Cartridge for UHPLC
(Cartridge sold separately)

HPLC/ UHPLC Column

Ordering Information

Sure-Lok Fitting Tightening Tool		
Part No.	**Description**	**Unit**
AQ0-8530	Sure-Lok Fitting Tightening Tool, Aluminum	ea

Ultra-High Performance LC/HPLC Stainless Steel Nut and Ferrule Set

For the ultra-high pressure connections use this specially-designed 10-32 stainless steel nut and ferrule set. The metal ferrule cuts a ring near the end of the tube to swage the fitting to the tube, and will provide a maximum operational limit of 28000 psi (1930 bar).



Ordering Information

Nut and Ferrule Set (Stainless Steel)		
Part No.	**Description**	**Unit**
AQ0-8521	Nut and Ferrule Set, SS, 10-32, for 1/16 in. Tubing, 28000 psi (1930 bar)	2/pk
AQ0-8506	Nut and Ferrule Set, SS, 10-32, for 1/16 in. Tubing, 28000 psi (1930 bar)	10/pk

Important: To achieve the maximum pressure rating, 45 lbs of torque is required.

PEEKLok™ Fitting Connections

PEEKLok is designed specifically for PEEKsil™ tubing, delivering better chromatography when connecting columns, valves, and LC modules.

- **Holds to 22000 psi (>1500 bar) - Ultra High Pressure Liquid Chromatography (UHPLC) fitting**
- **For use with 1/16 in. OD and 1/32 in. OD PEEKsil tubing**
- **10-32, 6-32, and 6-40 fitting options**

AQ0-7600
(2 x fittings, 6 x ferrules and 1 x wrench)



AQ0-7602
(2 x fittings, 6 x ferrules and 1 x tightening tool)



Ordering Information

PEEKLok Fittings		
Part No.	**Description**	**Unit**
AQ0-7600	PEEKLok fittings with 10-32 thread for 1/32 in. OD tubing with low profile hex head (2 x fittings, 6 x ferrules and 1 x wrench)	ea
AQ0-7601	PEEKLok fittings with 10-32 thread for 1/16 in. OD tubing with low profile hex head (2 x fittings, 6 x ferrules and 1 x wrench)	ea
AQ0-7602	PEEKLok fittings with 6-40 thread for 1/32 in. OD tubing (2 x fittings, 6 x ferrules and 1 x tightening tool)	ea
AQ0-7603	PEEKLok fittings with 6-32 thread for 1/32 in. OD tubing (2 x fittings, 6 x ferrules and 1 x tightening tool)	ea

For UHPLC system connections, see SecurityLINK™ UHPLC fingertight fitting system on pages 41-42.

For more about SecurityGuard ULTRA Guard Cartridge System for UHPLC, see page 36.

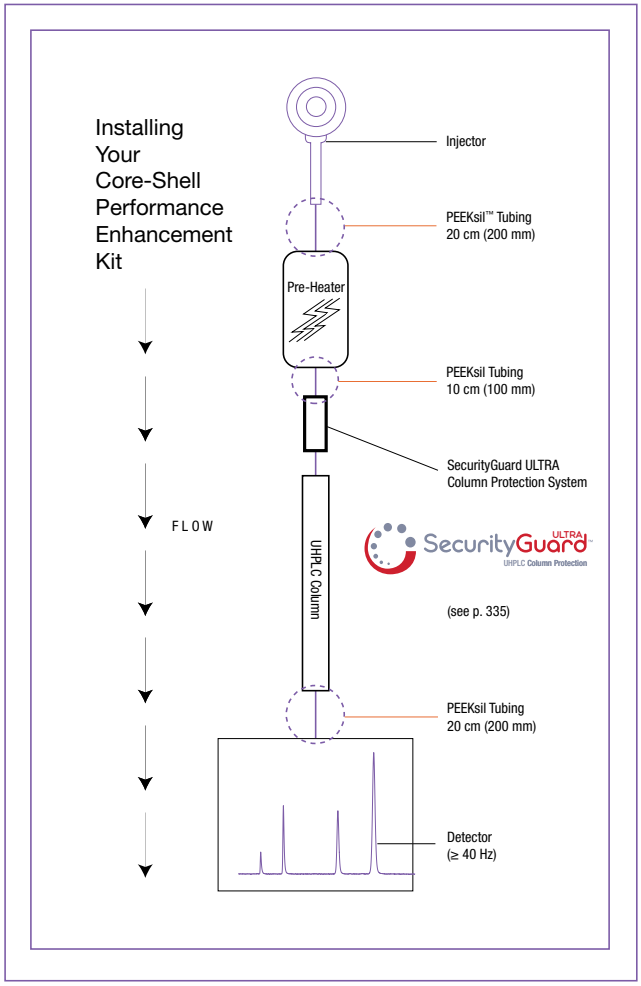
Fittings *(cont'd)*

Core-Shell Performance Enhancement Kit

- **Optimize UHPLC system connections – for both routine and critical applications**
- **Increase method efficiency, resolution, and detection**
- **Minimize dead volume between injector and detector**
- **Improve results for sensitive and demanding applications**

The connections made throughout the system are critical to maximizing the benefit from your UHPLC setup. The fittings and tubing used in this kit are carefully chosen to minimize dead volume and reduce band broadening. Combined with a core-shell column and the SecurityGuard™ ULTRA column protection system, the kit will provide reliable connections and quality performance every time.





Ordering Information

Core-Shell Performance Enhancement Kit		
Part No.	**Description**	**Unit**
AQ0-8892	Core-Shell Performance Enhancement Kit, Includes: PEEKsil™ Tubing, Fittings and Tool*	ea
***Kit AQ0-8892 includes the following components:**		**Kit Quantity**
	PEEKsil Tubing 0.100 mm ID x 1/16 in. OD x 20 cm L, Red	2/pk
	PEEKsil Tubing 0.100 mm ID x 1/16 in. OD x 10 cm L, Red	ea
	Sure-Lok™ High Pressure PEEK 1-Pc Nut, 10-32, for 1/16 in. Tubing	10/pk
	Sure-Lok Fitting Tightening Tool, Aluminum	ea
Accessories and Replacement Parts		
Part No.	**Description**	**Unit**
AT0-8896	PEEKsil Tubing 0.100 mm ID x 1/16 in. OD x 20 cm L, Red	5/pk
AT0-8897	PEEKsil Tubing 0.100 mm ID x 1/16 in. OD x 10 cm L, Red	5/pk
AQ0-8503	Sure-Lok High Pressure PEEK 1-Pc Nut, 10-32, for 1/16 in. Tubing	10/pk
AQ0-8530	Sure-Lok Fitting Tightening Tool, Aluminum	ea

For more information on part nos. AT0-8896, AT0-8897, AQ0-8503, and AQ0-8530 see page 50.

For more information on SecurityGuard ULTRA Guard Cartridge System for UHPLC, see page 36.

Fittings *(cont'd)*

Sure-Lok™ Fingertight Male Nut Fittings

- **Fingertight to 5000 psi (345 bar)**
- **Compatible with all 10-32 HPLC fittings**
- **Polymer construction compatible with nearly all HPLC and GPC solvents**



Sure-Lok Fingertight Male Nut (PEEK)

Ordering Information

Sure-Lok Fingertight Male Nuts		
Part No.	**Description**	**Unit**
AQ0-1388	PEEK Sure-Lok Fingertight Male Nut	ea
AQ0-1389	PEEK Sure-Lok Fingertight Male Nut	10/pk

Nut and Ferrule Plugs

- **Wrench tight to 10000 psi (690 bar)**



Nut and Ferrule

Ordering Information

Nut and Ferrule		
Part No.	**Description**	**Unit**
AQ0-3018	10-32 Threaded Male Nut and Ferrule Set for 1/16 in. OD capillary tubing	ea

Column Sealing Plugs

- **Seal column for storage**
- **10-32 threads fit most columns**



Ordering Information

Column Sealing Plugs		
Part No.	**Description**	**Unit**
AQ0-0217	Column Sealing Plug, 10-32 thread size	10/pk

Analytical Column Couplers

Sure-Lok Coupler

- **Universal and reusable**
- **Solvent resistant material**
- **Low dead-volume connection**
- **Compatible with all 10-32 internal-threaded fittings**

Applications:

- Filter to column
- Column to column
- Precolumn to column
- Column to detector



Sure-Lok Coupler (PEEK)

Sure-Lok Couplers contain two Sure-Lok male nuts at either end of a 5 cm long 1/16 in. tubing. The PEEK biocompatible coupler has all parts composed of PEEK, including the 0.010 in. ID tubing. Fingertight to 5000 psi (345 bar).

Ordering Information

Sure-Lok Couplers		
Part No.	**Description**	**Unit**
AQ0-1392	PEEK Sure-Lok Coupler, 0.010 in. ID	ea
AQ0-1393	PEEK Sure-Lok Coupler, 0.010 in. ID	10/pk

Column Coupler

Don't let resolution be a limiting factor!

- **Couple several columns together**
- **Maintain separation efficiency**
- **No influence on backpressure**



Ordering Information

Column Coupler		
Part No.	**Description**	**Unit**
AQ0-7654	Onyx Column Coupler, PEEK, 0.020 in. ID	ea

PREP Column Coupler



Ordering Information

PREP Column Coupler		
Part No.	**Description**	**Unit**
AQ0-8376	PREP Coupler, Stainless Steel Tube, Nuts, and Ferrules 10-32 Threads, 1/16 in. OD x 0.030 in. ID	ea

Fittings *(cont'd)*

10-32 PEEK Mixing Tee

- **Use with 1/16 in. OD polymeric or metal tubing**
- **Mixing tee for pre- or post-column derivatization**
- **Simple-to-use fingertight design**
- **Pressure rated to 4000 psi (276 bar)**



Ordering Information

PEEK Mixing Tee		
Part No.	**Description**	**Unit**
AQ0-2002	PEEK Tee, 0.020 in. thru-hole*	ea

*Fittings not included, use PEEK Sure-Lok fingertights part no. AQ0-1389, see p. 422

¼ in.-28 Flangeless Fittings

- **For use with 1/16 in. or 1/8 in. polymeric tubing**
- **Easy 2-piece design**
- **Replaces Cheminert® and Omnifit® fittings**
- **Pressure rated to 1400 psi (97 bar)**



Ordering Information

Flangeless Fittings		
Part No.	**Description**	**Unit**
AQ0-2949	Flangeless Nut and Ferrule for 1/16 in. tubing, ¼ in.-28 threads, red Delrin	10/pk
AQ0-2950	Flangeless Nut and Ferrule for 1/8 in. tubing, ¼ in.-28 threads, green Delrin	10/pk

Backpressure Regulators

- **Adjustable with preset pressure ratings**
- **Consistent backpressure at various flow rates**
- **Flow-through, low-volume design (146 mL)**



Ordering Information

Backpressure Regulators		
Part No.	**Description**	**Unit**
AQ0-0222	40 psi Backpressure Regulator	ea
AQ0-0223	75 psi Backpressure Regulator	ea
AQ0-0224	100 psi Backpressure Regulator	ea

SecurityLINK HPLC/UHPLC Fingertight Fittings

- **No Tools**
  Easy installation
- **Zero Dead-Volume**
  Fitting self-adjusts at column inlet
- **Torque Limiting**
  Prevents system and column damage
- **UHPLC/HPLC Compatibility**
  Pressure rated to 19000 psi

SecurityLink™
UHPLC Connections in a Click

Try it Today at:
www.phenomenex.com/SecurityLINK

Filtration Mobile Phase Inlet Filters

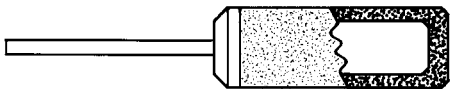
Inlet Filters

Stainless Steel

- **Protects pumps and check valves**
- **Easy to replace**
- **Low cost**

HPLC solvent inlet filters are used at the low pressure inlet side of the pump to help protect the check valves, injector and column from damaging particulate contamination. Solvent filters are constructed of Hastelloy Steel and are available for 1/16 in. ID and 1/8 in. ID tubing. Due to the large surface area of the cylindrical frit, virtually no backpressure or cavitation is developed. The filter is easily cleaned by backflushing or sonicating.





Pump Inlet Filter

Ordering Information

Solvent Inlet Filters - Stainless Steel		
Part No.	**Description**	**Unit**
AF0-0356	Solvent Inlet Filter, 2 µm, for 1/16 in. ID tubing	ea
AF0-0359	Solvent Inlet Filter, 2 µm, for 1/8 in. ID tubing	ea

Important: Depending on the mobile phase, we recommend that you change your inlet filter every one to six months.

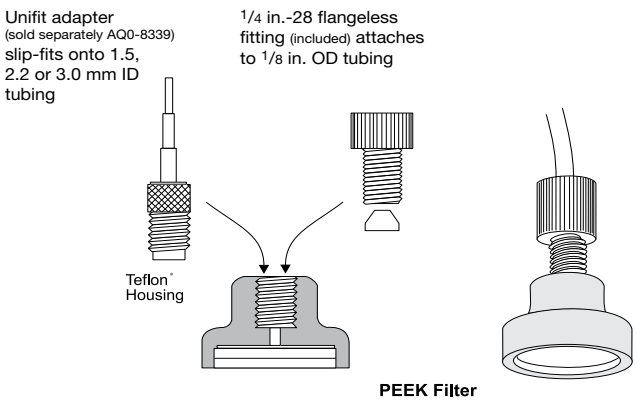
Metal-Free/Biocompatible

- **Biocompatible**
- **Flat bottom design uses all available mobile phase**
- **High surface area for long filter life**

The Solvent Saver™ Inlet Filter Unit utilizes a flat filter element that sits parallel to the bottom of the HPLC reservoir. The design allows the filter to draw all but the last 2 % of the mobile phase from the reservoir without drawing air into the system.

The Solvent Saver Inlet Filter is manufactured by pressing a PEEK filter element into an inert Teflon® housing. The top of the housing has female 1/4 in.-28 threads to accept 1/8 or 1/16 in. OD tubing via PEEK flangeless fittings and Tefzel® ferrule (sold separately) or direct connect various size tubing using the Unifit adapter (sold separately). The Unifit adapter slip-fits onto 1.5, 2.2 or 3.0 mm ID tubing. This filter is excellent for sensitive biochromatography and ion chromatography applications where metal surfaces may corrode or interact with samples.





PEEK Filter

Ordering Information

Solvent Saver Inlet Filter - Metal-Free		
Part No.	**Description**	**Unit**
AH0-1562	Solvent Saver Inlet Filter with 10 µm PEEK filter with Flangeless fitting for 1/8 in. OD tubing	ea
AQ0-8339	Solvent Saver Unifit Adapter, Tri-Step Tubing Connector, PEEK	ea
AQ0-2949	Flangeless Nut and Ferrule for 1/16 in. OD tubing, 1/4 in.-28 threads, red Delrin	10/pk
AQ0-2950	Flangeless Nut and Ferrule for 1/8 in. OD tubing, 1/4 in.-28 threads, green Delrin	10/pk

In-Line Filters

Stainless Steel (Analytical)

- **Removes particulates from flow path**
- **Minimizes sample peak dispersion**



In-line Filters are available to protect expensive HPLC columns from damaging microparticulates. Using one of these filters between the injection valve and the column is recommended for all HPLC systems. The 3 mm diameter filter element is recommended for use with conventional 4.6 mm diameter columns. Column In-line Filters are supplied with two 6 cm L x 0.007 in. ID connecting tubes. Pressure rating is 5000 psi (345 bar).

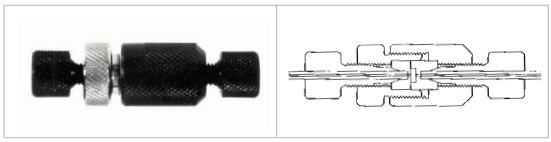
Ordering Information

Stainless Steel In-Line Filters (Analytical)		
Part No.	Description	Unit
AF0-0377	In-line Filter with 0.5 µm Porosity x 3 mm dia. filter	ea
AF0-0378	Replacement Filter Disks: 0.5 µm x 3 mm	5/pk

Metal-Free/Biocompatible (Analytical)

- **Biocompatible**
- **Virtually no band broadening or peak distortion**
- **Easy fingertight connection**

This in-line filter assembly removes fine particles from the solvent stream without adding band broadening or peak distortion to your separation. Microparticulates down to 0.5 µm are effectively removed before they have a chance to plug your column and degrade your separation. The Polyglas™ frit with fluoropolymer frit assembly design is fully biocompatible and easily installed using fingertight connections. Pressure-rated to 5000 psi (345 bar).



Ordering Information

Metal-Free/Biocompatible In-Line Filter (Analytical)		
Part No.	Description	Unit
AF0-1736	In-line Filter, 0.5 µm Frit	ea

For UHPLC system connections, see SecurityLINK™ UHPLC fingertight fitting system on pages 41-42.

For SecurityGuard™, the universal guard cartridge system, see pages 31-35.

KrudKatcher™

- **Universal fit to virtually all manufacturers' analytical columns**
- **Saves expensive columns and equipment from damaging microparticulates**
- **Convenient, disposable in-line filter**

There are two types of KrudKatchers depending on system backpressure and dead volume demands: the KrudKatcher Classic and the KrudKatcher Ultra.

Whereas conventional in-line filters typically cost much more and often require replacement parts and tools, the KrudKatcher is a simple, low-cost unit that is easily replaced and discarded when the backpressure indicates clogging or excessive particle build up. The universal connection is compatible with all standard 1/16 in. 10-32 internal threaded end-fittings used in columns, guard columns, injector valves, and other LC equipment.

The KrudKatcher Classic:



- Pressure-rated to **5000 psi (345 bar)**
- Hand-tightened connection

The KrudKatcher Classic houses an integrated 316 stainless steel depth filter that efficiently removes microparticulates from the flow stream with minimal contributions to system dead volume (2 µL). The 2.0 µm filter has a PEEK filter body and the 0.5 µm has a stainless steel filter body.

Ordering Information

KrudKatcher Classic Disposable In-Line Filter (Analytical)		
Part No.	Description	Unit
AF0-5728	KrudKatcher Disposable Pre-Column Filter, 0.5 µm	10/pk
AF0-5727	KrudKatcher Disposable Pre-Column Filter, 2.0 µm	10/pk

The KrudKatcher Ultra:



- Fits virtually all UHPLC / HPLC columns 1.0 to 4.6 mm ID
- Pressure rated to **20000 psi (1375 bar)**
- Extremely low dead volume minimizes sample peak dispersion

The KrudKatcher Ultra filter body houses an integrated 2.0 µm 316 stainless steel depth filter that efficiently removes microparticulates from the flow stream without contributing to system backpressure or dead volume (<0.2 µL).

Ordering Information

KrudKatcher Ultra In-Line Filter (Analytical)		
Part No.	Description	Unit
AF0-8497	HPLC KrudKatcher Ultra Column In-Line Filter, 2.0 µm Depth Filter x 0.004 in. ID	3/pk

KrudKatcher Ultra requires 5/16 in. wrench. Wrench not provided. See page 33.

Filtration In-Line Filters and Column Couplers *(cont'd)*

In-Line Filters

Metal-Free/Biocompatible (SemiPrep)

- **For columns 8 to 18 mm ID**
- **Effective pre-column filtration**
- **Replaceable filter element**



Phenomenex's Biocompatible SemiPrep in-line filter holder with replaceable filter element (2 µm PEEK frit) will help protect your column investment by safely removing particulate matter and insoluble material from the mobile phase and sample matrix. The filter consists of a stainless steel body, two PEEK end-fittings, and a separate PEEK frit . When you need to replace the filter, simply unscrew the assembly, remove the frit and replace it. This filter unit can be placed in the flow path before or after the column with little or no effect on peak shape. Pressure rated to 6000 psi (414 bar).

Ordering Information

Metal-Free/Biocompatible In-Line Filter (SemiPrep)		
Part No.	Description	Unit
AF0-8420	HPLC SemiPrep Column In-Line Filter 2.0 µm Porosity x 10 mm dia. filter, Biocompatible	ea
AF0-8428	Replacement In-Line Filter Disk, PEEK, 2.0 µm Porosity x 10 mm dia.	5/pk

Stainless Steel (PREP)

- **Economical protection for preparative HPLC columns and injectors**
- **For columns 19 to 30 mm ID**
- **Replaceable filter element**

Preparative columns and the HPLC systems on which they are used are costly and must be protected against fouling. Phenomenex's PREP In-line Filter holder with replaceable filter element (2 µm stainless steel frit) will help protect your investment by safely removing particulate matter and insoluble material from the mobile phase and sample matrix. The filter unit can be placed in the flow path before or after the column with little or no effect on peak shape. This versatile filter can also protect check valves, injectors and detectors. Pressure rated to 8000 psi (551 bar).



Ordering Information

Stainless Steel In-Line Filters (PREP)		
Part No.	Description	Unit
AF0-7866	HPLC PREP Column In-line Filter, S.S., 2.0 µm Porosity x 21.2 mm dia.	ea
AF0-7867	Replacement In-Line Filter Disks, S.S., 2.0 µm Porosity x 21.2 mm dia.	5/pk
AQ0-7877	PREP Replacement O-Rings, 1 in. OD x ⅞ in. ID x 1⁄16 in. CS, Fluorocarbon	2/pk
AT0-0465	Capillary S.S. Tubing, 0.020 in. ID x 0.062 in. (1⁄16 in.) OD x 10 cm L	5/pk
AT0-0466	Capillary S.S. Tubing, 0.020 in. ID x 0.062 in. (1⁄16 in.) OD x 20 cm L	5/pk

Analytical Column Couplers

Sure-Lok™ Coupler

- **Universal and reusable**
- **Solvent resistant material**
- **Low dead-volume connection**
- **Compatible with all 10-32 internal-threaded fittings**

Applications:

- Filter to column
- Column to column
- Precolumn to column
- Column to detector



Sure-Lok Coupler (PEEK)

Sure-Lok Couplers contain two Sure-Lok male nuts at either end of a 5 cm long 1⁄16 in. tubing. The PEEK biocompatible coupler has all parts composed of PEEK, including the 0.010 in. ID tubing. Finger-tight to 5000 psi (345 bar).

Ordering Information

Sure-Lok Couplers (Analytical to SemiPrep)		
Part No.	Description	Unit
AQ0-1392	PEEK Sure-Lok Coupler	ea
AQ0-1393	PEEK Sure-Lok Coupler	10/pk

PREP Column Coupler



Ordering Information

PREP Column Coupler		
Part No.	Description	Unit
AQ0-8376	PREP Coupler, Stainless Steel Tube, Nuts, and Ferrules 10-32 Threads, 1⁄16 in. OD x 0.030 in. ID	ea

For SecurityGuard™, the universal guard cartridge system, see pages 31-35.

Solvent Reservoir and Reagent Bottles

- **Popular 1- and 2- liter sizes, equipped with a 3-way valve cap**
- **Low-leaching (low alkali), borosilicate glass**
- **Chemically inert, internal PTFE seal**



These wide-mouth GL45 mobile phase reservoirs come in 1- and 2-liter sizes. The reservoirs have easy-to-read volumetric markings to indicate the amount of solvent remaining. The versatile 3-way valve cap supplied with each reservoir provides a totally-inert PTFE (Teflon) seal against the solvents inside.

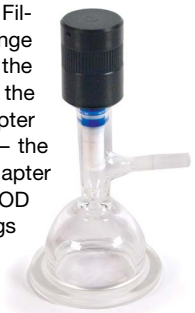
Ordering Information

Reservoir and Valve Cap Assembly*			
Part No.	Mfr. No.	Description	Unit
AH0-4142	3200	HPLC Reservoir, 1000 mL clear glass, GL45 wide-mouth, includes 3-way Valve Cap	ea
AH0-4143	3203	HPLC Reservoir, 2000 mL clear glass, GL45 wide-mouth, includes 3-way Valve Cap	ea

* Fittings not included. See page 48 AQ0-2950

Solvent Pickup Adapter

This glass adapter enables direct pickup of mobile phase solvent for filtration using the Phenomenex FilterSys™ (see previous page). Safe in-line filtration with the pickup adapter replaces the tedious and dangerous pour-and-wait funnel filtration method. Eliminate the possibilities of spilling solvents and breathing toxic vapors. Replacing the funnel adapter on the FilterSys unit, the 47 mm pickup adapter with flange holds the membrane filter in place on top of the fritted support base, which in turn is held by the aluminum clamp (not included). The pickup adapter draws solvent directly from the reagent bottle — the safest way to transfer and filter solvents. The adapter includes a 4 mm PTFE (Teflon) valve with ¼ in. OD outlet, PTFE 90° elbow with compression fittings for ¼ in. OD tubing, and 3 feet of ¼ in. OD PTFE tubing.



Ordering Information

Solvent Pickup Adapter		
Part No.	Description	Unit
AH0-2947	Mobile Phase Pickup Adapter, 47 mm	ea

All-Glass Vacuum Mobile Phase Filtration System

FilterSys™

- **Prevents pump and system component damage**
- **Rapid filtration of buffers, organics and corrosive liquids**
- **Removes damaging microparticulates and bacterial contaminants**
- **HPLC and GC solvent and sample filtration**



WARNING: The apparatus should be used with a water aspiration line, not a true vacuum line, unless secured behind an appropriate safety shield.

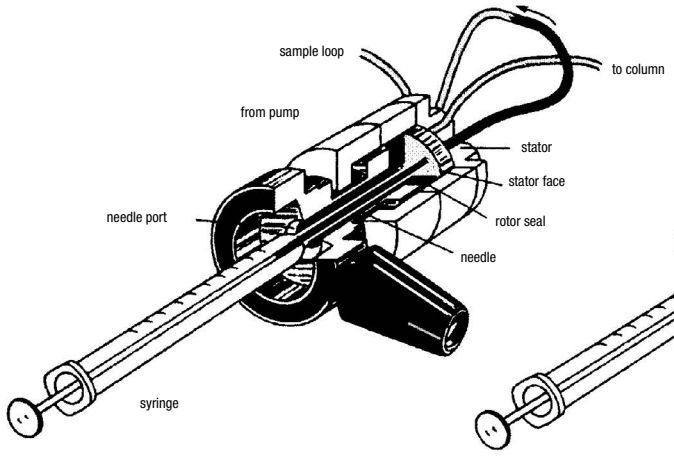
Ordering Information

Mobile Phase Filtration System		
Part No.	Description	Unit
Complete Assembly		
AH0-1566	FilterSys, 47 mm, 300 mL funnel with 1 L vacuum flask	ea
AH0-3314	FilterSys, 47 mm, 500 mL funnel with 2 L vacuum flask	ea
AH0-3315	FilterSys, 47 mm, 1000 mL funnel with 4 L vacuum flask	ea
Component Parts		
AH0-1567	Fritted support base, 47 mm, 40/35 taper	ea
AH0-1568	Funnel, graduated, 300 mL, 47 mm	ea
AH0-3323	Funnel, graduated, 500 mL, 47 mm	ea
AH0-3324	Funnel, graduated, 1000 mL, 47 mm	ea
AH0-1569	1 liter filter flask, 40/35 taper	ea
AH0-3321	2 liter filter flask, 40/35 taper	ea
AH0-3322	4 liter filter flask, 40/35 taper	ea
AH0-1570	Aluminum clamp, 47 mm	ea
Filter Membranes		
AF0-0503	Nylon, 0.2 µm, 47 mm	100/pk
AF0-0504	Nylon, 0.45 µm, 47 mm	100/pk
AF0-0514	PTFE, 0.5 µm, 47 mm	100/pk

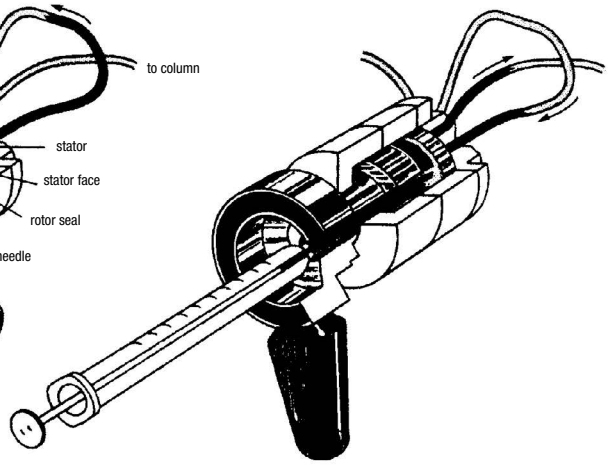
Sample Injector

Rheodyne® 7725

- **Sample loading by syringe through built-in needle port**
- **Continuous flow during switching (no interrupt)**
- **A front-end pressure screw for easy seal adjustment**
- **Wide port angles for improved access to fittings**
- **Pressure rated to 7000 psi (490 kg/cm²)**
- **5 µL to 5 mL removable sample loops**



LEFT: In LOAD, mobile phase flows from the pump to the column via a rotor seal groove (not shown). Meanwhile sample is dispensed into the loop, displacing atmospheric-pressure mobile phase out a vent line (not shown).



RIGHT: In INJECT, sample is displaced from the loop to the column by mobile phase from the pump. The needle port is automatically isolated from pressure.

Ordering Information

Part No.	Mfr. No.	Description
7725 Sample Injectors		
AV0-2346	7725	Sample Injector[1]
AV0-2347	7725i	Sample Injector, with Position Sensing Switch[1]
Sample Loops for 7725 Valves Only		
AV0-2349	7755-020	5 µL Sample Loop
AV0-2350	7755-021	10 µL Sample Loop
AV0-2351	7755-022	20 µL Sample Loop
AV0-2352	7755-023	50 µL Sample Loop
AV0-2353	7755-024	100 µL Sample Loop
AV0-2354	7755-025	200 µL Sample Loop
AV0-2355	7755-026	500 µL Sample Loop
AV0-2356	7755-027	1 mL Sample Loop
AV0-2357	7755-028	2 mL Sample Loop
AV0-2358	7755-029	5 mL Sample Loop
Spare Replacement Parts for Model 7725 Injector		
AV0-3500	7725-999	Complete RheBuild® Kit for valves 7725, 7725i, 7726 (see p. 430 for description)
AV0-0169	7125-047	Vespel Rotor Seal
AV0-2416	7125-079	Tefzel Rotor Seal
AV0-2362	7725-026	Stator Face Assembly
AV0-0171	7125-054	Needle Port Cleaner
AV0-0180	7215	#22-Gauge Needle
AV0-2365	6000-263	Nut 10pk
AV0-2366	6000-264	Long Nut 10pk
AV0-2368	6000-110	Ferrule 5pk

[1]The 7725 and 7725i have a 20 µL stainless steel loop installed. They are supplied with instructions, fittings for all ports, needle port cleaner, two vent tubes, two hex wrenches, mounting screws, and a #22-gauge needle with Luer hub. Maximum operating temperature is 80 °C.

Valves *(cont'd)*

Sample Injector

Rheodyne Injector Model 9725 Totally Metal-Free (PEEK)

- **Inert flow passages of Tefzel®, PEEK, and alumina-ceramic (pH range 0 to 14)**
- **Not affected by buffers, acids, bases or halide salts**
- **Complete fill 5 µL to 5 mL sample loops using excess sample**
- **Partial-fill 0.1 µL to 5 mL with zero sample waste**
- **Valve will operate to 5000 psi (344 bar)**
- **Loops will operate to 5000 psi (344 bar) depending on ID and solvent**
- **Use with 1 to 2 mm ID micro, 3 to 6 mm analytical or milligram-scale prep columns**



Ordering Information

PEEK Sample Injectors		
Part No.	**Mfr. No.**	**Description**
AV0-1074	9725	PEEK Sample Injector
AV0-4642	9725i	PEEK Sample Injector, with Position Sensing Switch
AV0-1086	9125-076	Suction Needle Adapter
AV0-3433	9725-999	Complete RheBuild® Kit for valves 9725, 9725i (see p. 430 for description)

Although PEEK material is highly resistant to most chemicals, PEEK is not recommended for applications requiring high concentrations of THF (Tetrahydrofuran), methylene chloride, nitric acid or sulfuric acid.

Sample Injector

Rheodyne 8125 Low-Dispersion

- **For microbore and analytical HPLC columns**
- **Accurately inject as little as 0.1 µL of sample**
- **Improve peak resolution**

Ordering Information

Low-Dispersion Sample Injector		
Part No.	**Mfr. No.**	**Description**
AV0-0181	8125	Low-Dispersion Sample Injector
AV0-3431	8125-999	Complete RheBuild® Kit for valve 8125 (see p. 430 for description)

Sample Injectors

Rheodyne® 3725i Preparative

- **For preparative HPLC columns, 1 to 10 cm ID**



Ordering Information

Preparative Sample Injectors		
Part No.	**Mfr. No.**	**Description**
AV0-2054	3725i	PEEK Preparative Sample Injector, with Position Sensing Switch
AV0-2056	3725i-038	Stainless Steel Preparative Sample Injector, with Position Sensing Switch
AV0-3432	3725-999	Complete RheBuild® Kit for valves 3725, 2715i, 3725-038, 3725i-038 (see p. 430 for description)

Switching Valve/Injector

Rheodyne Valve Model 7000

- **Permits column switching and selection in various configurations**
- **Enables sample clean-up and trace sample enrichment**
- **Enables column programming and backflushing**
- **Enables dual-column selection**
- **Field-changeable switching patterns**



Ordering Information

Switching Valves		
Part No.	**Mfr. No.**	**Description**
AV0-2376	7000	Switching Valve/Injector
AV0-2378	7010	Sample Injection Valve
AV0-3430	7010-999	Complete RheBuild® Kit for valves 7010, 7000 (see p. 430 for description)
AV0-1092	9010	PEEK Switching Valve/Injector
AV0-2381	9013	PEEK Needle Port

Valves *(cont'd)*

Sample Injector Loops and Fittings

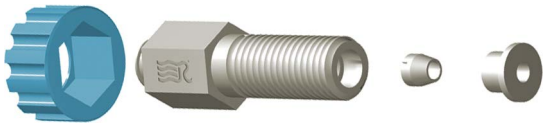
Stainless steel external loops are supplied with unattached fittings so the tube can be completely bottomed in the injector port before the ferrule is swaged on. RheFlex PEEK loops do not require this precaution, because the ferrule can slide and reposition itself along the tube when the fitting is reinserted into a port.



Ordering Information

Part No.	Mfr. No.	Description	Unit
Sample Injector Loops			
Stainless Steel Loops for 7125 and 7010 Valves			
AV0-2390	7020	5 µL, 0.007 in. ID	ea
AV0-2391	7021	10 µL, 0.012 in. ID	ea
AV0-2392	7022	20 µL, 0.020 in. ID	ea
AV0-2393	7023	50 µL, 0.020 in. ID	ea
AV0-2394	7024	100 µL, 0.020 in. ID	ea
AV0-2396	7026	500 µL, 0.030 in. ID	ea
AV0-2397	7027	1 mL, 0.030 in. ID	ea
AV0-2398	7028	2 mL, 0.040 in. ID	ea
AV0-2399	7029	5 mL, 0.040 in. ID	ea
Loops for 8125 Low Dispersion Injector (Stainless Steel)			
AV0-2937	8020	5 µL, 0.008 in. ID	ea
AV0-2938	8021	10 µL, 0.008 in. ID	ea
AV0-2939	8022	20 µL, 0.010 in. ID	ea
PEEK (for all valves)			
AV0-1076	9055-020	5 µL, 0.007 in. ID	ea
AV0-1077	9055-021	10 µL, 0.010 in. ID	ea
AV0-1078	9055-022	20 µL, 0.010 in. ID	ea
AV0-1079	9055-023	50 µL, 0.020 in. ID	ea
AV0-1080	9055-024	100 µL, 0.020 in. ID	ea
AV0-1081	9055-025	200 µL, 0.020 in. ID	ea
AV0-1082	9055-026	500 µL, 0.030 in. ID	ea
AV0-1083	9055-027	1 mL, 0.030 in. ID	ea
AV0-1084	9055-028	2 mL, 0.030 in. ID	ea
AV0-1085	9055-029	5 mL, 0.030 in. ID	ea

1. Loops for the 7725 Valve are listed with the valve on p. 000. Note: Loops designed for 7125, 7010 and 8125 valves are not interchangable with the wide-ange ports of 7725 valves.
2. Loops not listed for other valves are available. Call your Phenomenex Technical Consultant.



Knob Nut Ferrule Assembly

Ordering Information

Part No.	Mfr. No.	Description	Unit
RheFlex Fittings			
AV0-2383	6000-054	RheFlex Std. Fitting Set (5 nuts and 5 ferrules)	ea
AV0-2384	6000-055	RheFlex Short Fitting Set (5 nuts and 5 ferrules)	ea
AV0-2386	6000-051	RheFlex Ferrules (5 ferrules)	ea

RheBuild® Kits

Each kit contains all the parts necessary to refurbish the corresponding valve. For front-loading injection valves, the kit includes: rotor seal, stator face assembly, isolation seal, needle guide, needle port cleaner, 2 hex keys and repair instructions. Type 70's Switching Valves and Model 7010 Injector Valve do not include Stator Face Assemblies. Refer to the specific valve on the previous pages for ordering information.



Valves *(cont'd)*

Rheodyne® Fitting Wrench

Slotted Wrench for Rheodyne Valves

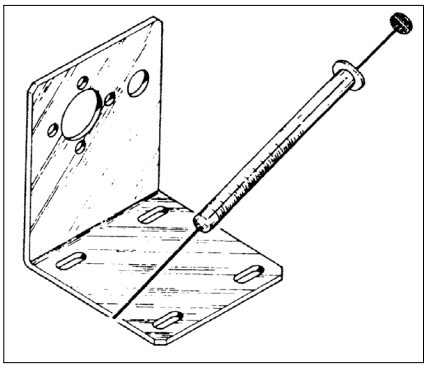
- **Fits around tubing to tighten any ¼ or 5⁄16 in. nut**
- **Access hard-to-reach areas**
- **Saves time and effort**



Ordering Information

Real Rheodyne Fitting Wrench			
Part No.	**Mfr. No.**	**Description**	**Unit**
AV0-4219	6810	The Real Rheodyne Fitting Wrench	ea

Syringe and Injector Accessories



The #22-gauge needle (Mfr. No. 7215) has a Kel-F® luer hub that fits any luer tip syringe.

Model 7160 and 7160-010 mounting bracket (shown) accommodate all Rheodyne high pressure injectors and valves.

Ordering Information

Syringe and Injector Accessories			
Part No.	**Mfr. No.**	**Description**	**Unit**
AV0-0180	7215	#22-Gauge Needle with CTFE Luer Hub	ea
AV0-0170	7125-008	Needle Guide	ea
AV0-0171	7125-054	Needle Port Cleaner	ea
AV0-2426	7160	Mounting Panel	ea

Valve Stators



Ordering Information

Valve Stators			
Part No.	**Mfr. No.**	**Description**	**Unit**
AV0-0172	7125-067	Stator Face Assembly for Valve Model 7125	ea
AV0-4719	7725-010	Stator for Valve Models 7725, 7725i	ea
AV0-0175	7010-040	Stator for Valve Models 7000, 7010, 7125, 7030, 7040	ea
AV0-2422	8125-098	Stator for Valve Model 8125	ea
AV0-2423	9125-043	Peek Stator & Support Ring for 9010/9125	ea

Rotor Seals



Ordering Information

Rotor Seals			
Part No.	**Mfr. No.**	**Description**	**Unit**
Vespel® (pH Range 0 to 10)			
AV0-2412	7010-039	Rotor Seal for Valve Models 7000, 7010, 7040	ea
AV0-0169	7125-047	Rotor Seal for Valve Models 7125, 7725, 7725i	ea
AV0-2414	8125-038	Rotor Seal for Valve Model 8125	ea
Tefzel® (pH Range 0 to 14)			
AV0-2415	7010-071	Rotor Seal for Valve Models 7000, 7010, 7040	ea
AV0-2416	7125-079	Rotor Seal for Valve Models 7125, 7725, 7725i	ea
AV0-2417	8125-097	Rotor Seal for Valve Model 8125	ea
AV0-2418	9010-051	Rotor Seal for Valve Model 9010	ea
AV0-2419	9125-082	Rotor Seal for Valve Models 9725 and 9125	ea

Additional Rheodyne valves and accessories not listed are available.

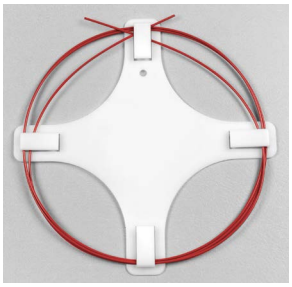
Tubing

Capillary PEEK HPLC Tubing

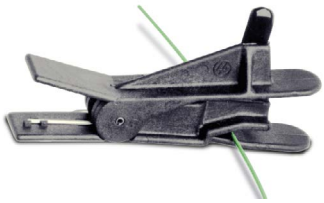
- **Chemically inert and biocompatible**
- **Pressure rated to 7000 psi (482 bar)**
- **Easily bendable and cuttable**

PEEK HPLC tubing is an excellent alternative to stainless steel tubing for most HPLC applications. PEEK (polyetheretherketone) is chemically inert to virtually all HPLC solvents (only 100 % methylene chloride, THF, concentrated nitric acid or concentrated sulfuric acid will affect PEEK), and is 100 % biocompatible. PEEK tubing can be used with stainless steel nuts and ferrules or polymeric fittings such as the Phenomenex fingertight Sure-Lok™ fittings (see p. 422).

This PEEK HPLC tubing is pressure tested to 7000 psi and rated at 5000 psi for continuous use (for standard 0.010 in. ID tubing). PEEK withstands extremely high temperatures and is rated for continuous use up to 100 °C. PEEK tubing is color coded for easy identification. All colors are permanent and there is no leaching.



Standard PEEK



Polymer Tubing Cutter

Ordering Information

Straight PEEK Tubing					
Part No.	Length (feet)	OD (inch)	ID (inch)	Color	Unit
AT0-1107	5	1/16	0.010	blue	ea
AT0-1260	5	1/16	0.007	yellow	ea
AT0-1259	5	1/16	0.005	red	ea

Part No.	Description	Unit
PEEK Tubing Kit		
AT0-1964	PEEK Tubing Kit, includes one each of: AT0-1259 (5 ft. x 1/16 in. x 0.005 in.) AT0-1260 (5 ft. x 1/16 in. x 0.007 in.) AT0-1107 (5 ft. x 1/16 in. x 0.010 in.) AT0-1265 (5 ft. x 1/8 in. x 0.080 in.) AT0-1110 (Polymer Tubing Cutter)	ea
Polymer Tubing Cutter		
AT0-1110	Polymer Tubing Cutter	ea

PEEKsil is compatible with most organic solvents. Effective pH range from 0 to 10.

For more information on Part Nos. AQ0-8503 and AQ0-8530, see page 44.

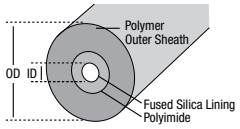
See also our Core-Shell Performance Enhancement Kit on page 45.

For UHPLC system connections, see SecurityLINK™ UHPLC fingertight fitting system on pages 41-42.

PEEKsil™ Tubing for UHPLC / HPLC

- **Minimizes extra-column effects and band broadening**
- **Exceptionally smooth inner surfaces**

PEEKsil is polymer-sheathed fused silica tubing. The PEEK portion is mechanically strong and has ideal sealing characteristics when used with conventional metal or PEEK ferrule systems. Capable of withstanding high pressures up to 10000 psi (689 bar), the exceptionally smooth inner surfaces are free of the imperfections common in steel tubing, which lessens the possibility of path blockages, ultimately providing lower band broadening. The precision-cut, ultra-square and smooth tube ends enable optimal low volume connections to be made, which will improve overall chromatographic performance. For higher efficiencies and improved resolution, PEEKsil tubing is recommended to help optimize your UHPLC system. For critical UHPLC connections a convenient fittings and tubing kit Part No.: AQ0-8892 is available (see p. 421).



PEEKsil tubing showing the precision ground and square cut end enabling a zero dead volume connection.

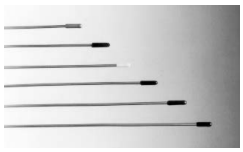


Ordering Information

PEEKsil Tubing for UHPLC/HPLC		
Part No.	Description	Unit
AT0-8896	PEEKsil Tubing 0.100 mm ID x 1/16 in. OD x 20 cm L, Red	5/pk
AT0-8897	PEEKsil Tubing 0.100 mm ID x 1/16 in. OD x 10 cm L, Red	5/pk
Related Accessory Items		
AQ0-8503	Sure-Lok High Pressure PEEK 1-Pc Nut, 10-32, for 1/16 in. Tubing	10/pk
AQ0-8530	Sure-Lok Fitting Tightening Tool, Aluminum	ea

Capillary Stainless Steel Tubing

- **Passivated and solvent rinsed**
- **Precut and polished ends**



Ordering Information

Capillary Stainless Steel Tubing		
Part No.	Length	Unit
0.005 in. ID x 0.062 in. (1/16 in.) OD		
AT0-2996	5 cm	5/pk
AT0-2997	10 cm	5/pk
AT0-2998	20 cm	5/pk
0.010 in. ID x 0.062 in. (1/16 in.) OD		
AT0-0456	5 cm	5/pk
AT0-0457	10 cm	5/pk
AT0-0458	20 cm	5/pk
AT0-0460	50 cm	2/pk
AT0-0461	1 m	2/pk
0.020 in. ID x 0.062 in. (1/16 in.) OD		
AT0-0465	10 cm	5/pk
AT0-0466	20 cm	5/pk
AT0-0469	1 m	2/pk

Tubing *(cont'd)*

Teflon® (PTFE) Tubing

- **Resistant to virtually all corrosive chemicals and organic solvents**
- **Pressure rated to 500 psi (35 kg/cm²)**



Ordering Information

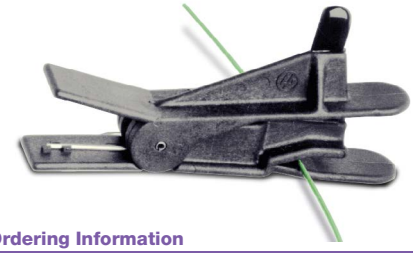
Teflon Tubing				
Part No.	OD (inch)	ID (inch)	Wall Thickness (inch)	Length (feet)
AT0-8609	¼	⅛ (0.125)	0.060	5
AT0-8610	¼	⅛ (0.125)	0.060	10

Tubing Cutters

Terry Tools are compact tubing cutters for either 1/16 or ⅛ in. OD glass-lined tubing or stainless steel tubing. The specially-hardened cutting wheels make clean, right-angle cuts with minimal burring or chipping of the tubing. Zero dead-volume connections, essential in most GC and MS and all HPLC plumbing applications, can be easily achieved.



Terry Tool
Stainless Steel Tubing Cutter



The Polymer Tubing Cutter makes clean, square cuts on both 1/16 and ⅛ in. OD polymeric tubing, especially PEEK tubing

Ordering Information

Tubing Cutters		
Part No.	Description	Unit
AQ0-1305	1/16 in. Terry-Tool tubing cutter	ea
AQ0-1306	⅛ in. Terry-Tool tubing cutter	ea
AQ0-1307	Replacement cutting wheels for both AQ0-1305 and AQ0-1306	3/pk
AT0-1110	Polymer Tubing Cutter	ea

HPLC Syringes

for Rheodyne®, Altex and Valco® (VISF-2) Injectors





Ordering Information

Hamilton Syringe

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
5	RN	22s	2 in./51 mm	3	65	87943		ea	AS0-3353
10	N	22s	2 in./51 mm	3	701	80365	21250	ea	AS0-0022
25	N	22s	2 in./51 mm	3	702	80465	21251	ea	AS0-0023
50	N	22s	2 in./51 mm	3	705	80565	21252	ea	AS0-0024
100	N	22s	2 in./51 mm	3	710	80665	21253	ea	AS0-0025
250	N	22	2 in./51 mm	3	725	80765	21254	ea	AS0-0026
500	N	22	2 in./51 mm	3	750	80865		ea	AS0-0027

for Waters® U6K Injector, Removable Needle





Ordering Information

Hamilton Syringe

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
10	RN	25s	1.97 in./50 mm	3	801	84815	21255	ea	AS0-0028
25	RN	25s	1.97 in./50 mm	3	802	84816	21256	ea	AS0-0029
50	RN	25s	1.97 in./50 mm	3	805	84817	21257	ea	AS0-0030
100	RN	25s	1.97 in./50 mm	3	810	84818	21258	ea	AS0-0031

Hamilton® 10 mL Gastight® Priming Syringe, for Waters HPLC Pumps (Models 6000, 6000A, 501, 510, 610 and 610E)



Ordering Information

Hamilton Syringe

Volume (mL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
10	W	–	–	–	1010	81610	21265	ea	AS0-1906

Replacement Needles

Point Style #2 (Beveled Tip)





Ordering Information

Hamilton Replacement Needles

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
2.5-100	RN	26	2 in./51 mm	2	RN NDL	7758-04		6/pk	AS0-1904
25-100	RN	26	2 in./51 mm	2	RN NDL	7758-02	24939	6/pk	AS0-4392
25-100	RN	22s	2 in./51 mm	2	RN NDL	7758-03	24940	6/pk	AS0-4393
0.250-10 mL	RN	22s	2 in./51 mm	2	RN NDL	7779-03	24944	6/pk	AS0-4398

Point Style #3 (Blunt Tip)





Ordering Information

Hamilton Replacement Needles

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
2.5-100	RN	22s	2 in./51 mm	3	RN NDL	7770-01	24941	6/pk	AS0-4394
0.250-10 mL	RN	22	2 in./51 mm	3	RN NDL	7780-04	24945	6/pk	AS0-4397
0.250-10 mL	RN	22s	2 in./51 mm	3	RN NDL	7780-03		6/pk	AS0-4400

Needle point #2 (22 ° bevel) is used for GC and most applications that require the puncturing of a septum.

Needle point style #3 (90 °) is appropriate for HPLC applications.



Removable Needle (RN, R)



Cemented Needle (N, F)

*Similar to but not always an exact equivalent to the original manufacturer's product.

HPLC Syringes

Replacement Needles *(cont'd)*

for Rheodyne®, Valco® HPLC Injectors, 2 in. Fixed Needles

Ordering Information

SGE® Syringe

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
10	F	22	2 in./51 mm	LD	10F-LC	002301	24860	ea	ASO-0142
25	F	22	2 in./51 mm	LD	25F-LC	003300	24861	ea	ASO-0143
50	F	22	2 in./51 mm	LD	50F-LC	004300	24862	ea	ASO-0144
100	F	22	2 in./51 mm	LD	100F-LC	005300	24863	ea	ASO-0145
250	F	22	2 in./51 mm	LD	250F-LC	006300	24864	ea	ASO-0146
500	F	22	2 in./51 mm	LD	500F-LC	007300	24865	ea	ASO-0147

for Rheodyne, Valco HPLC Injectors, 2 in. Removable Needles

Ordering Information

SGE Syringe

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
10	R	22	2 in./51 mm	LD	10R-GT-LC-SS	002313	24866	ea	ASO-4370
25	R	22	2 in./51 mm	LD	25R-GT-LC-SS	003312	24867	ea	ASO-4371
100	R	22	2 in./51 mm	LD	100R-GT-LC-SS	005312	24869	ea	ASO-4373
500	R	22	2 in./51 mm	LD	500R-GT-LC-SS	007312	24871	ea	ASO-4375

for PerkinElmer®, Fixed Needles

Ordering Information

SGE Syringe

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Unit	Part No.
5	F	23	2.76 in./70 mm	Cone	-	001957	ea	ASO-7636

for CTC/LEAP, Fixed Needles

Ordering Information

SGE Syringe

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Unit	Part No.
10	F	23	1.97 in./50 mm	Cone	-	002981	ea	ASO-7638





Removable Needle (RN, R)



Cemented Needle (N, F)

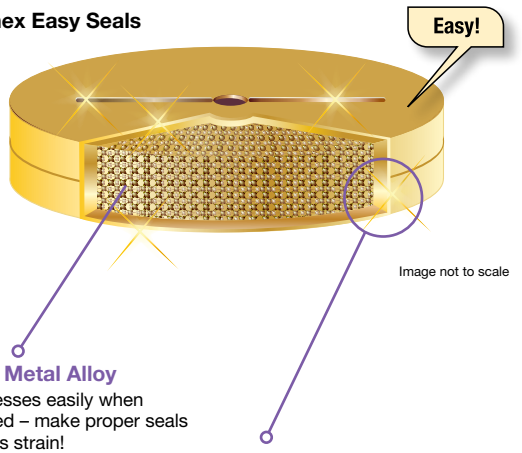
*Similar to but not always an exact equivalent to the original manufacturer's product.

GC Accessories

Inlet Base Seals

Easy Seals™ Compatible with Agilent® GC Systems

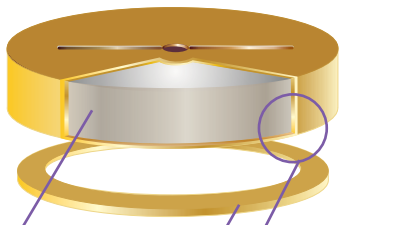
Phenomenex Easy Seals



Softer Metal Alloy
Compresses easily when tightened – make proper seals with less strain!

2x Gold Plating
16 µm of gold plating is used to deactivate each Easy Seal, improving inertness and eliminating the need for a spacing washer without compromising performance!

Traditional Gold Plated Seals



Hard Stainless Steel
Requires greater force to compress tightly – difficult to seal properly

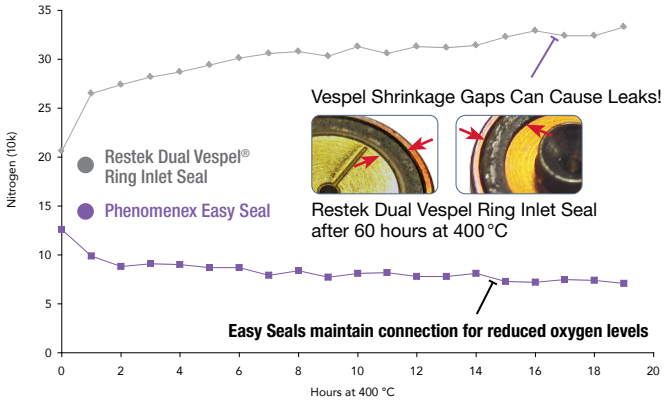
Thinner Gold Plating
Half the gold plating (8 µm) and less inert

Washer Required
Extra hassle and cost from additional small parts needed to install

The Oxygen Test: 20 Hours at 400 ˚C

Easy Seals are designed to create leak-tight connections that reduce the amount of oxygen entering the GC system, even up to 400 ˚C! Our testing showed that the Easy Seal maintained a good connection while the Restek® Dual Vespel® Ring Inlet Seal showed increasing levels of oxygen in the system — increased potential for contamination!

Test Conditions: Both inlet base seals were new and unused prior to testing. Seals were installed in an Agilent 6890 Series instrument with a 5973 MS with a Zebron ZB-5ms GC column (15 meter x 0.25 mm x 0.25 µm). An initial air and water check was performed upon installation to ensure there was no error in installation. The inlet temperature was set to 400 °C and counts of oxygen were measured over time.



Ordering Information

Easy Seals Inlet Base Seals				2/pk	10/pk
Description	Injection Type	Groove Style	Inlet Hole Diameter (mm)	Part No.	Part No.
Easy Seals Gold Inlet Seal	Splitless	Single	0.8	AG0-8619	AG0-8620



GC Accessories

Inlet Base Seals *(cont'd)*

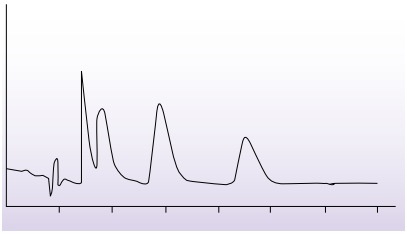
Standard Inlet Base Seals & Washers

- **Prevent leaks and reduce oxygen damage**
- **Trap non-volatile residues, septum fragments, and other contaminants**
- **Gold plated Easy Seals™ provide the best performance, inertness, and ease of use**

An inert flow path through the entire GC system is critical to achieving the best results for your analysis – and that includes the seal at the base of the inlet! Leaks can allow air into the system and cause oxygen contamination, leading to:

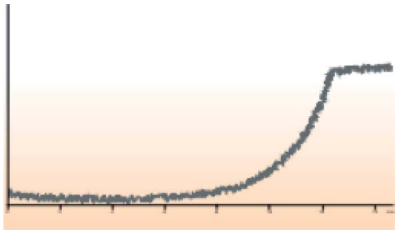
Difficult Quantitation

Stationary phase damage can distort peak shape



Low Sensitivity

Excessive bleed can lower signal-to-noise



Expensive Column Replacement

Oxygen damage is irreversible and can only be fixed by replacing your column



Ordering Information

Standard Inlet Base Seals						2/pk		10/pk
Description		Injection Type	Groove Style	Inlet Hole Diameter (mm)	Similar to Mfr No.*	Part No.	Similar to Mfr No.*	Part No.
Standard Gold Inlet Seal		Splitless	Single	0.8	18740-20885	AG0-7518	18740-20885	AG0-7519
		Splitless	Single	1.2	21305	AG0-8581	21306	AG0-8582
		Split	Cross	0.8	5182-9652	AG0-7520	5182-9652	AG0-7521
		Split	Cross	1.2	21009	AG0-8583	21010	AG0-8584
Standard Stainless Steel Inlet Seal		Splitless	Single	0.8	18740-20880	AG0-8393	18740-20880	AG0-8394
		Split	Cross	0.8	—	AG0-8395	—	AG0-8396

Ordering Information

Standard Inlet Base Seal Replacement Washers			12/pk
Description		Similar to Mfr No.*	Part No.
Standard Gold Inlet Seal Washer		—	AG0-8397
Stainless Steel Inlet Seal Washer		5061-5869	AG0-7522

Due to different replacement frequencies, inlet seal washers are sold separately from inlet base seals.

*Similar to but not always an exact equivalent to the original manufacturer's product.

For Sealing O-Rings, see page 66.

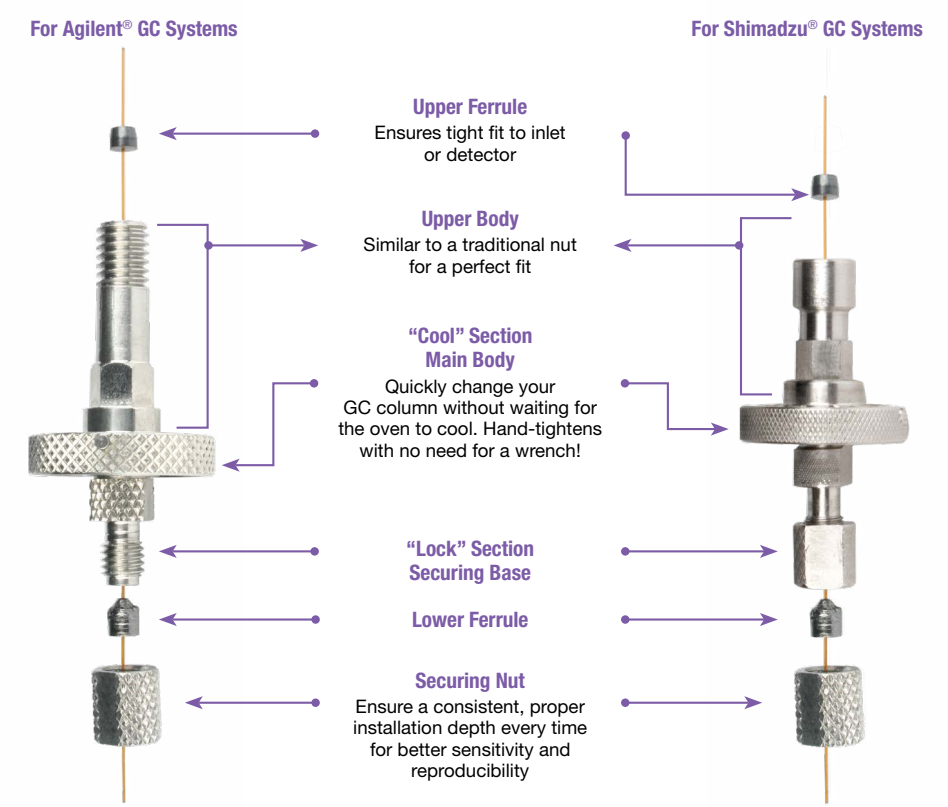
GC Accessories

Installation Nuts

Cool-Lock™ Nut

U.S. Patent No. 8, 062, 516

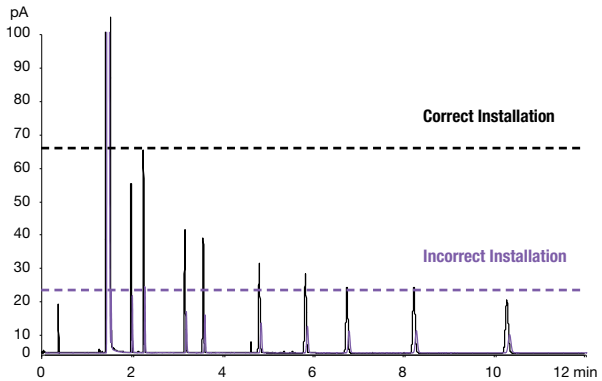
Fast GC Column Installation Without the Burn



Consistent, Accurate Installation Every Time

The red trace below is installed at 2 mm, rather than the manufacturer's recommended 6 mm past the column on the injector side of the system. Correct installation noticeably increases sensitivity for all peaks; Cool-Lock Nut allows for locking of the proper insertion depth every time to improve run-to-run response reproducibility.

Correct Installation = 165 % Better Signal



Conditions for both chromatograms:

Column: Zebron™ ZB-WAX
Dimensions: 30 meter x 0.25 mm x 0.25 µm
Part No.: 7HG-G007-11
Injection: Split 1:100 @ 250 °C, 1.4 µL
Carrier Gas: Helium @ 40 cm/sec (constant flow)
Oven Program: 140 °C for 10 minutes
Detector: FID @ 250 °C
Sample:
1. 2-Octanone
2. Tetradecane
3. 1-Octanol
4. Methyl decanoate
5. Methyl undecanoate
6. 1-Decanol
7. Methyl dodecanoate
8. 2,6-Dimethylaniline
9. 2,6-Dimethylphenol

GC Accessories

Installation Nuts *(cont'd)*

Cool-Lock™ Nut Selection Guide

Agilent® Systems			
1 **Decide On The Style of Cool-Lock Nut Needed**		**2** **Determine How Many Cool-Lock Nuts Needed Per System**	
Short Style (AG0-8319) Recommended for use with standard short style ferrules.	**Long Style (AG0-8320)** Recommend for use with standard long style ferrules.	**Detector** MS	**Number of Nuts** 1
Also, use for both the inlet and detector configurations on Agilent 6890, 5890, and 7890 GC systems		FID, ECD, Other	2

Ordering Information

Cool-Lock Installation Nuts and Gauges

Description		Fits Model No.	For Use With Ferrule Style	Part No.	Unit
For Agilent Systems					
Cool-Lock Installation Nut		5850, 5890, 6850, 6890, 7890	Short (1.65 mm)	AG0-8319	ea
			Long (2.4 mm)	AG0-8320	ea
Cool-Lock Installation Gauge		5850, 5890, 6850, 6890, 7890	—	AG0-8349	ea

Ordering Information

Standard Installation Nut

Description		Similar to Mfr No.*	For Use With Ferrule Style	Part No.	Unit
For GC-MS Systems					
Brass Installation Nut, Nickel Plated		—	—	AG0-9076	5/pk
For Other Systems					
Agilent Installation Nut, Standard (1/16 in. Hex Stainless Steel)		5181-8830	Short (1.65 mm)	AG0-5152	2/pk
Agilent Installation Nut, Deep Well (1/16 in. Hex Stainless Steel)		5020-8292	Long (2.4 mm)	AG0-5153	2/pk

* Similar to but not always an exact equivalent to the original manufacturer's product.

For Ferrule Selection Guide for Cool-Lock Nuts, see next page.



Caution: For safety, please use common sense when handling metal surfaces within the GC oven, including the Cool-Lock Nut. The Cool-Lock Nut is designed to track the GC oven temperature as close as possible, therefore, when you cool down your GC oven, the Cool-Lock Nut will follow suit because it is related to oven temperature with the fan on. So if the oven is hot enough to cause severe burns, the Cool-Lock Nut will also be hot enough to cause severe burns. If the GC oven fan has turned off and the injection port temperature is still hot, the Cool-Lock Nut will begin to heat up causing it to be too hot to touch with the bare hand. For any questions regarding use of the Cool-Lock Nut, please contact your local Phenomenex representative.

GC Accessories

Ferrules

Ferrule Selection Guide by Material

Material	Advantage	Disadvantage	Recommended for
100 % Graphite	• Easy to use • Tight, stable seal • Rated to 450 °C	• Porous to oxygen • Not for MS or other oxygen sensitive detectors • Easily deformed • Potential to contaminate system	• General use • FID and NPD • High temperature analysis • Cool on-column
85/15 % Vespel®/Graphite	• Durable for long lifetime • Not porous to oxygen • Rated to 350 °C	• Non-reusable • Need to re-tighten frequently • Flows at high temperatures	• Good for MS or other oxygen sensitive detectors • Most leak free
60/40 % Vespel/Graphite	• Easier to use than 85/15 • Not porous to oxygen • Rated to 400 °C	• Non-reusable • Easier to deform than 85/15	• Good for MS or other oxygen sensitive detectors • Best balance between tight seal and ease of use
SilTite™	• No need to re-tighten • Reliable seal • No contamination • Rated > 450 °C	• Easily deforms	• High temperature MS analysis

Ferrule Selection Guide by Length

Length	Advantage	Disadvantage	Recommended for
Short	• Robust seal	• Not recommended for MS detector connection	• Standard detectors and inlet
Long	• Good nut and interface design	• Not recommended for inlet connection	• MS detector connection

Ferrule Selection Guide for Cool-Lock™ Nuts

		Agilent Systems				Shimadzu Systems	
		Long Style Nut		Short Style Nut			
Column ID (mm)	Ferrule ID (mm)	Top Ferrule	Bottom Ferrule	Top Ferrule	Bottom Ferrule	Top Ferrule	Bottom Ferrule
0.10-0.25	0.4	AG0-4698	AG0-4698	AG0-8929	AG0-4698	AG0-8881	AG0-4698
0.28-0.35	0.5	AG0-4701	AG0-4701	AG0-7513	AG0-4701	AG0-8881	AG0-4701
0.45-0.53	0.8	AG0-4704	AG0-4704	AG0-8676	AG0-4704	AG0-8882	AG0-4704

Ferrule ordering information on next page.

All ferrules are $^{1}/_{16}$ in. (except SilTite™)
Preconditioned for lower bleed.

All Vespel containing ferrules should be pre-shrunk in an oven at 250 °C for at least 4 hours prior to use.

GC Accessories

Ferrules *(cont'd)*

Ordering Information

	Composition	GC Column ID (mm)	Ferrule ID (mm)	Similar to Mfr. No.*	Preconditioned	Part No.	Unit
Short		0.10-0.25	0.4	500-2114	N	AG0-8929	10/pk
	**100% Graphite**	0.28-0.35	0.5	072635 5080-8853	Y	AG0-7513	10/pk
		0.45-0.53	0.8	072636 500-2118	Y	AG0-8676	10/pk
	85% Vespel® / 15% Graphite	0.10-0.25	0.4	5181-3323	N	AG0-7318	10/pk
				5181-3322	Y	AG0-7321	10/pk
		0.28-0.35	0.5	5062-3514	N	AG0-7319	10/pk
				5062-3513	Y	AG0-7322	10/pk
		0.40-0.53	0.8	5062-3512	N	AG0-7320	10/pk
				5062-3511	Y	AG0-7323	10/pk
Long		0.10-0.25	0.4	20200	N	AG0-4698	10/pk
				20227		AG0-4699	50/pk
	**100% Graphite**	0.28-0.35	0.5	72635	N	AG0-4701	10/pk
						AG0-4702	50/pk
		0.45-0.53	0.8	82636	N	AG0-4704	10/pk
						AG0-4705	50/pk
	85% Vespel / 15% Graphite	0.10-0.25	0.4	072663 5062-3508	Y	AG0-8677	10/pk
		0.28-0.35	0.5	072654 5062-3506	Y	AG0-8678	10/pk
		0.45-0.53	0.8	072655 5062-3538	Y	AG0-8679	10/pk
	60% Vespel / 40% Graphite	0.10-0.25	0.4	20211	Y	AG0-4707	10/pk
				20229		AG0-4708	50/pk
		0.28-0.35	0.5	20212	Y	AG0-4710	10/pk
				20231		AG0-4711	50/pk
		0.45-0.53	0.8	20213	Y	AG0-4713	10/pk
				20230		AG0-4714	50/pk
Two Hole		0.10-0.25	0.4	072662 5062-3580	Y	AG0-8680	10/pk
	**85% Vespel / 15% Graphite**	0.28-0.35	0.5	212222 5062-3581	N	AG0-8681 **	10/pk
		0.45-0.53	0.8	072674	Y	AG0-8682 **	10/pk
SilTite		0.10-0.25	0.4	073220	Y	AG0-8762	10/pk
	**SilTite™**	0.28-0.35	0.5	073221	Y	AG0-8757	10/pk
		0.45-0.53	0.8	073222	Y	AG0-8758	10/pk
Metal Encapsulated		0.10-0.25	0.4	221-32126-05	Y	AG0-8881	10/pk
	**100% Graphite** for Shimadzu GCs	0.25-0.35	0.5	221-32126-05	Y	AG0-8881	10/pk
		0.45-0.53	0.8	221-32126-08	Y	AG0-8882	10/pk

* Similar to but not always an exact equivalent to the original manufacturer's product.
Note: SilTite ferrules are to be used with SilTite nuts. Please contact your Phenomenex technical consultant or distributor for the appropriate nut and ferrule part numbers for your GC system.

All ferrules are $^{1}/_{16}$ in. (except SilTite™) and ** ferrules are ⅛ in. Preconditioned ferrules provide lower bleed.

All Vespel containing ferrules should be pre-shrunk in an oven at 250 °C for at least 4 hours prior to use.

GC Accessories

O-Rings

Ordering Information

O-Rings

Fits Liners for Manufacturer		Description	Similar to Mfr. No.*	Part No.	Unit
Agilent®		Viton® Fluorocarbon, rated to < 300 °C Graphite, rated to 450 °C	5180-4182 5180-4168	AG0-7326 AG0-7327	10/pk 10/pk
PerkinElmer®		Viton for 6.2 mm OD inlet liners	N9302783	AG0-8674	10/pk
Shimadzu® (Model 2010)		Viton	036-11203-84	AG0-8675	10/pk

* Similar to but not always an exact equivalent to the original manufacturer's product.

Septa

Advanced silicone formulations reduce coring, enhance durability and re-sealing capabilities, and increase septum lifetime. Septa with GuideRight™ holes guide the needle during injection, for longer lifetime and less bent needles.

Septa Sizes by GC Instrument

Manufacturer	Instrument Model	Septa Diameter 9.5 mm (3/8 in.)	11 mm (7/16 in.)	Septa Plug
Agilent® (HP)	5850, 5880A, 5890, 6850, 6890, 7890		•	
	5700 series, 5880	•		
Antek®	All	•		
Thermo Scientific®	Finnigan 9600	•		
GOW-MAC®	All	•		
HNU	Portable GC	•		
PerkinElmer®	Sigma series, 900, 990, 8000, AutoSystem, Clarus 500		•	
Shimadzu®	All			•
SRI	All			•
Tracor	550, 560	•		
Varian®	1040, 1041, 1060, 1061	•		
	1075,1077,1078,1079		•	
	3700 / Vista, Capillary Injectors		•	
	Packed Column Injectors	•		
	SPI		•	

Ordering Information

Septa

Type	Description		Diameter (mm)	Diameter (in.)	Includes GuideRight Hole	Part No.	Unit
Silicone Rubber Septa	PhenoRed™ -400 	• Our most popular choice for low-bleed septa, rated to 400 °C • Designed and conditioned for high sensitivity • Durometer rating of 50 with typical injection life of 150 punctures	9.5	3/8	✓	AG0-7916	50/pk
			9.5	3/8		AG0-4690	50/pk
			9.5	3/8		AG0-4691	100/pk
			11	7/16	✓	AG0-7917	50/pk
			11	7/16		AG0-4696	50/pk
			11	7/16		AG0-4697	100/pk
	PhenoGreen™ -400	• Long-life, high temperature septa for use up to 400 °C	9.5	3/8		AG0-8572	50/pk
			11	7/16	✓	AG0-7875	50/pk
			11	7/16		AG0-8573	50/pk
	PhenoBlue™ -300	• Low-bleed septum heat stable to 350 °C • Durometer rating of 50 - 60 for easy puncture up to 100 injections at 300 °C	9.5	3/8		AG0-4688	50/pk
			9.5	3/8		AG0-4689	100/pk
			11	7/16		AG0-4694	50/pk
			11	7/16		AG0-4695	100/pk
	PhenoGrey™ -250	• General purpose silicone rubber septum rated to 250 °C • Durometer rating of 40 - 45 for easy puncture up to 100 injections	9.5	3/8		AG0-4686	50/pk
			11	7/16		AG0-4692	50/pk
			11	7/16		AG0-4693	100/pk
Injector Septa Plugs	BTO® Silicone Septa Plug 	• Fits Shimadzu (9A, 14, 15A, 17A, 2010) and SRI injectors • Rated to 400 °C				AG0-7517	50/pk

For additional parts and accessories contact Phenomenex or visit:
www.phenomenex.com/GC

GC Accessories

Merlin Microseal™ Septum

- **Improves chromatographic performance and quantitative results by reducing bleed and ghost peaks**
- **Improves reliability and performance during extended automated runs**
- **Thousands of injections before seal replacement**
- **Save time changing septa, instrument downtime and troubleshooting**

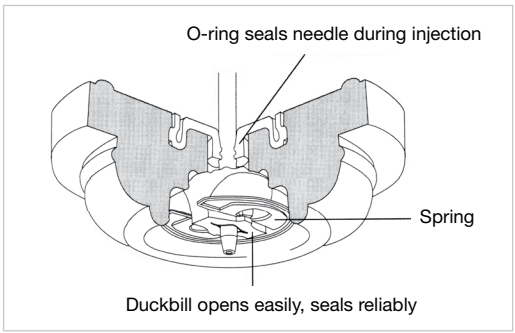


The Merlin Microseal Septum is a long-life replacement for the standard septum on the capillary inlet or the purged-packed inlet of Agilent GC systems.

The Microseal is a patented inlet assembly that provides two distinct sealing mechanisms. The first is a double O-ring seal around the syringe that ensures gas leak integrity during time of injection. There is no traditional septum to core or flake, which can cause bleeding and ghost peaks, and less force is required for the user to make a manual injection. The second seal is a spring-assisted duckbill that reliably maintains a high-pressure seal within the injection port at all times.

Since the syringe does not pierce any septum material, seal lifetime is significantly extended – Microseals are typically used for up to one year or more under normal conditions before septum replacement. Many laboratories experience lifetimes of 5,000 to 10,000 injections or more. This means you save tremendously in time changing septa, instrument downtime and troubleshooting. Chromatographic performance will also improve due to less bleed and fewer ghost peaks, improving quantitation and data reliability.

Instrument Compatibility: The Merlin Microseal systems can be used manually with all Agilent 5800, 6800, and 7890 series GCs. However, for autosampler use it is compatible with only the 7673A and 7673B units. Other inlets or autosampler systems from Agilent or other manufacturers are not compatible.



(1) Complete High Pressure Kits include the nut and one or two Microseal septa. All High Pressure Kits are rated for inlet pressures up to 100 psi. For long-term operation (>6 months) with the Microseal septum use the following injection port limits: (a) Agilent 6890, 5890 Series II - 325 °C; (b) Agilent 5890A - 300 °C. Higher temperatures will result in shorter lifetimes.

(2) The Merlin Microseal Septum should only be used with a blunt-tipped, 0.63 mm diameter (0.025 in., 23 gauge) syringe needle (typically used with the Agilent 7673 autosampler). Sharp-pointed or sharp-edged needles should not be used as they may slice or pierce the seals.

Ordering Information

Part No.	Description	Unit
Merlin Microseal Septum		
AG0-5985	Merlin Microseal High Pressure Septum Standard Kit, includes nut and 2 septa	ea
AG0-5986	Merlin Microseal High Pressure Septum Starter Kit, includes nut and 1 septum	ea
Replacement Parts		
AG0-5987	Merlin Microseal High Pressure Septum	ea

Syringes for Use With the Merlin Microseal

Ordering Information

Part No.	Mfr. No.	Agilent P/N	Description*	Capacity (µL)	Unit
For Agilent 7673 Autosamplers					
AS0-4386	87987	9301-0892	75ASN (23s/1.71in./HP)	5	ea
AS0-4387	80387	9301-0713	701ASN (23s/1.71in./HP)	10	ea
AS0-4388	80390	9301-0725	701ASN (23s/1.71in./HP)	10	6/pk

NOTE: Replacement needles are available in packs of three.

* Values in parentheses denote the following: (gauge/length/point style). “s” after gauge denotes smaller/reduced internal needle diameter.

Contact Phenomenex or your local Phenomenex distributor for additional GC products and applications.

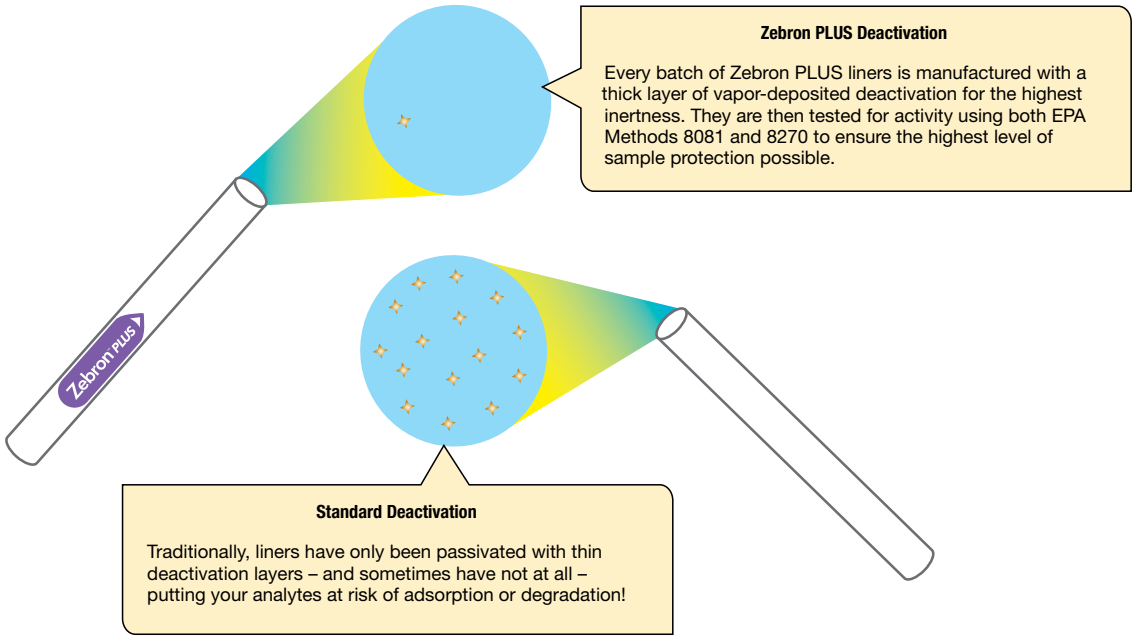
Zebron™ GC Inlet Liners

Inlet Liners

Protect Your Samples with Zebron PLUS GC Inlet Liners

Zebron PLUS GC inlet liners undergo a unique deactivation process, resulting in a remarkably inert pathway that prevents sample adsorption and degradation for active compounds.

See the Difference: Zebron PLUS vs. Traditional Deactivation



Enhance Your Analysis

Analysis of dirty samples, samples with wide boiling points, or samples with wide molecular weights can be enhanced by choosing a Zebron PLUS liner with quartz wool. Liners packed with wool can prevent non-volatile compounds from entering the column and also improve sample vaporization for a more robust, reproducible analysis.

Why Use Pre-Packed Liners?

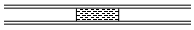
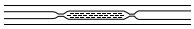
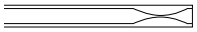
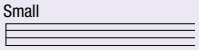
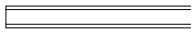
Though the upfront cost of self-packing your liner may seem attractive, the time and headaches caused by resulting tailing or irreproducible peaks can be sizeable! Self-packed wool fibers commonly break during installation and any existing deactivation on the liner can also be scratched or damaged. Pre-packed Zebron PLUS liners undergo the deactivation process with the quartz wool already in place, which ensures that any active sites that form during packing are not exposed.

Have questions or need help with your GC analysis? Chat with our chromatography experts www.phenomenex.com/chat

Zebron™ GC Inlet Liners

Inlet Liners *(cont'd)*

Liner Geometry Selection Guide

Liner Style*	Function	Advantages	Disadvantages	Recommended For
Straight				
	Low surface area for less activity	• Simple to use • Least expensive • Low activity	• Possible inlet discrimination • More frequent gold seal maintenance from exposure to sample contamination • Possible inconsistency if sample injection bypasses split ratio	Volatiles
Glass Wool				
In the middle 	Traps non-volatiles; mixes sample; vaporizes sample above the column	• Reduces gold seal/column contamination and maintenance • More reproducible results • Can help focus analytes • Extends column life	• Higher surface area that can become active • Glass wool can become dislodged	Dirty samples, volatiles, high initial oven temperatures
At the bottom 	Traps non-volatiles; mixes sample; vaporizes sample above the column	• Reduces gold seal/column contamination and maintenance • More reproducible results • Can provide higher responses than wool in middle	• Higher surface area that can become active • Glass wool can become dislodged	Dirty samples
At the top / Z-Liner™ 	Keeps glass wool in place; wipes syringe needle clean	• Reduces gold seal/column contamination and maintenance • More reproducible results • Can help focus analytes • Extends column life	• Higher surface area that can become active	Pressure pulsed injections, dirty samples, volatiles, high initial oven temperatures
Taper / Gooseneck				
At the top 	Limits the expansion of the solvent to the inlet	• Allows for larger injection volumes • Decrease backflash	• Higher risk of needle breakage • Increased cost • Cannot self-pack with glass wool	Water injections
At the bottom 	Directs flow onto column; low surface area	• Reduces gold seal/column contamination and maintenance • Improved sensitivity • Lower activity	• Increased cost	Pesticides (without wool), semi-volatiles (with wool)
Direct Connect 	Connects directly to column to aid transfer of analytes	• Better sensitivity for splitless injections • Decreases inlet discrimination	• Only used for splitless injections • Increased cost • One-time use	Trace analysis, splitless injections, separation from solvent peak (with top hole), aqueous samples (with bottom hole)
Internal Diameter (ID)				
Small 	Small internal volume and surface area; restricts sample diffusion	• Better peak shape of gaseous samples • Less activity for small injections of active compounds	• Very small internal volume is easy to overload with normal injection volumes	Headspace, purge and trap, or gas injections; active samples with low expansion solvents
Outer Diameter (OD) / Splitless				
Large OD / Splitless 	Fits tightly inside the inlet and limits sample contact with inlet components	• Better sensitivity for long splitless hold times	• Not very amenable for changing to large split ratios	Splitless injections of active compounds
Cup Liner 	Cup traps non-volatiles but has lower surface area than wool; vaporizes sample above the column	• Good sample mixing • Reduces gold seal/column contamination and maintenance • More reproducible results • Improves results for active compounds • Provides receptacle for multiple injections	• Increased cost • Higher surface area than straight liner can result in increased activity for very active compounds	Multiple or large volume injections, active samples, dirty samples

*Examples given are only one possible option. Other available options may be better suited for your analysis.

What's a Z-Liner?

Zebron PLUS Liners with a Z-Liner geometry contain optimally-placed deactivated quartz wool, which is held in place by two tapered sections of glass inside the liner. This ensures that the wool remains in the correct position for injection, wipes the needle tip completely clean, and properly volatilizes the sample.

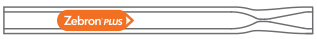
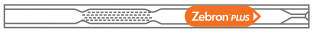
GC Accessories

Zebron™ GC Inlet Liners

Liners Compatible with Agilent® GC Systems

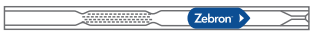
Ordering Information

Zebron™ PLUS Liners

Description	Application	Inlet Style	Dimensions ID x L (mm)	Deactivation	Part No.	Unit
For 5890, 6890 and 7890 Models						
Direct Connect 	Trace analysis, Splitless injections	S/SL	4 x 78.5	PLUS Inert	AG2-0A50-01 AG2-0A50-05 AG2-0A50-25	ea 5/pk 25/pk
Single Taper 	Pesticides	S/SL	4 x 78.5	PLUS Inert	AG2-0A10-01 AG2-0A10-05 AG2-0A10-25	ea 5/pk 25/pk
Single Taper Z-Liner™ 	Semi-volatiles, Dirty samples	S/SL	4 x 78.5	PLUS Inert	AG2-0A13-01 AG2-0A13-05 AG2-0A13-25	ea 5/pk 25/pk
Single Taper with Wool 	Semi-volatiles	S/SL	4 x 78.5	PLUS Inert	AG2-0A11-01 AG2-0A11-05 AG2-0A11-25	ea 5/pk 25/pk
Straight 	Volatiles	S/SL	4 x 78.5	PLUS Inert	AG2-0A00-01 AG2-0A00-05 AG2-0A00-25	ea 5/pk 25/pk
Straight Z-Liner 	Dirty samples, Volatiles, High initial oven temperatures	S/SL	4 x 78.5	PLUS Inert	AG2-0A03-01 AG2-0A03-05 AG2-0A03-25	ea 5/pk 25/pk
Straight Single Baffle 	Semi-volatiles, Pesticides	S/SL	1.8 x 71	PLUS Inert	AG2-1F06-05 AG2-1F06-25	5/pk 25/pk

Ordering Information

Zebron Essentials Liners

Description	Application	Inlet Style	Dimensions ID x L (mm)	Deactivation	Part No.	Unit
For 5890, 6890 and 7890 Models						
Direct Connect 	Trace analysis, Splitless injections	S/SL	4 x 78.5	Standard	AG1-0A50-01 AG1-0A50-05 AG1-0A50-25	ea 5/pk 25/pk
Single Taper 	Pesticides	S/SL	4 x 78.5	Standard	AG1-0A10-01 AG1-0A10-05 AG1-0A10-25	ea 5/pk 25/pk
Single Taper Z-Liner 	Semi-volatiles, Dirty samples	S/SL	4 x 78.5	Standard	AG1-0A13-01 AG1-0A13-05 AG1-0A13-25	ea 5/pk 25/pk
Single Taper with Wool 	Semi-volatiles	S/SL	4 x 78.5	Standard	AG1-0A11-01 AG1-0A11-05 AG1-0A11-25	ea 5/pk 25/pk
Straight 	Volatiles	S/SL	4 x 78.5	Standard	AG1-0A00-01 AG1-0A00-05 AG1-0A00-25	ea 5/pk 25/pk
Straight Z-Liner 	Dirty samples, Volatiles, High initial oven temperatures	S/SL	4 x 78.5	Standard	AG1-0A03-01 AG1-0A03-05 AG1-0A03-25	ea 5/pk 25/pk
Straight Single Baffle 	Semi-volatiles, Pesticides	S/SL	1.8 x 71	Standard	AG1-1F06-01 AG1-1F06-05 AG1-1F06-25	ea 5/pk 25/pk

Inlet Styles Key

- **S/SL:** Split/Splitless
- **PTV:** Programmed-Temperature Vaporization
- **PSS:** Programmed-Temperature Split/Splitless
- **SPI:** Single Point Injection

Zebron Essential Liners

Zebron Essential liners undergo a vapor deposited deactivation process resulting in a thin film liner that is ideal for routine analysis.

Zebron PLUS Liners

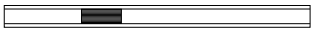
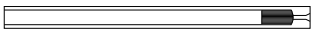
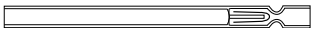
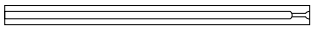
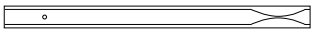
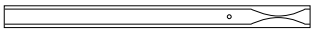
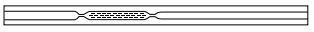
Optimized for trace and active compound analysis, Zebron PLUS GC liners undergo a unique chemical deactivation treatment resulting in a remarkably inert GC inlet liner.

GC Accessories

Liners Compatible with Agilent® GC Systems *(cont'd)*

Ordering Information

GC Liners

Description	Application	Inlet Style	Dimensions ID x L (mm)	Deactivation	Part No.	Unit
For 5890, 6890, and 7890 Models						
Straight with Wool 	Large injection, Trace analysis	S/SL	4 x 78.5	Standard	AG0-4655 AG0-4656	5/pk 25/pk
Single Taper with Wool 	Large injection, Trace analysis	S/SL	4 x 78.5	Standard	AG0-4657 AG0-4658	5/pk 25/pk
Cup 	High and low MW compounds, Large volume injections	S/SL	4 x 78.5	Not Deactivated	AG0-4647 AG0-4648	5/pk 25/pk
Cup with Wool 	Large volume injection of dirty samples	S/SL	4 x 78.5	Not Deactivated	AG0-7853	5/pk
Straight 	Large injection, Trace analysis	S/SL	2 x 78.5	Not Deactivated	AG0-4649 AG0-4650	5/pk 25/pk
Straight 	Large injection, Trace analysis	S/SL	4 x 78.5	Standard	AG0-4651 AG0-4652	5/pk 25/pk
Single Taper 	Small injection, Trace analysis	S/SL	2 x 78.5	Standard	AG0-4653	5/pk
Direct 	Injection < 1 µL, Purge and Trap/Headspace	S/SL	1.5 x 78.5	Standard	AG0-4659	5/pk
Recessed Gooseneck with Wool 	Large injection of dirty samples	S/SL	4 x 78.5	Standard	AG0-4661 AG0-4662	5/pk 25/pk
Direct Single Taper with Top Hole 	Trace analysis of active compounds	S/SL	4 x 78.5	Standard	AG0-7850	5/pk
Direct Single Taper with Bottom Hole 	Trace analysis of active compounds	S/SL	4 x 78.5	Standard	AG0-7851	5/pk
Single Taper with Wool 	General use, Dirty samples	S/SL	4 x 78.5	Standard	AG0-8172	5/pk
Double Taper 	Large injection, Trace analysis of active compounds	S/SL	4 x 78.5	Standard	AG0-8173	5/pk
Double Gooseneck with Bottom Hole 	Trace analysis of active compounds	S/SL	4 x 78.5	Standard	AG0-8430	5/pk
Straight with Wool 	Large injection Trace analysis,	S/SL	4 x 78.5	Standard	AG0-8653 AG0-8654	5/pk 25/pk
Straight with Stabilized Wool 	Small injection, Trace analysis of dirty samples	S/SL	2.3 x 78.5	Standard	AG0-8379	5/pk

Inlet Styles Key

- **S/SL:** Split/Splitless
- **PTV:** Programmed-Temperature Vaporization
- **PSS:** Programmed-Temperature Split/Splitless
- **SPI:** Single Point Injection

Find Your Liner Online!

Easily search by part numbers, applications, injection mode, or system manufacturer for quick selection **in under 1 minute!**

www.phenomenex.com/FindLiner



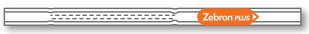
GC Accessories

Zebron™ GC Inlet Liners

Liners Compatible with PerkinElmer® GC Systems

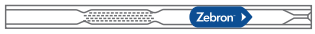
Ordering Information

Zebron™ PLUS Liners

Description	Application	Inlet Style	Dimensions ID x L (mm)	Deactivation	Part No.	Unit
For AutoSystem™, AutoSystem XL, Clarus 500, and Clarus 600 Models						
Single Taper 	Pesticides	S/SL	4 x 92	PLUS Inert	AG2-2A10-01 AG2-2A10-05 AG2-2A10-25	ea 5/pk 25/pk
Single Taper Z-Liner™ 	Semi-volatiles, Dirty samples	S/SL	4 x 92	PLUS Inert	AG2-2A13-01 AG2-2A13-05 AG2-2A13-25	ea 5/pk 25/pk
Straight 	Volatiles	S/SL	4 x 92	PLUS Inert	AG2-2A00-01 AG2-2A00-05 AG2-2A00-25	ea 5/pk 25/pk
Straight Z-Liner 	Volatiles, Dirty samples	PSS	2 x 86.2	PLUS Inert	AG2-2E03-01 AG2-2E03-05 AG2-2E03-25	ea 5/pk 25/pk
Straight Z-Liner 	High initial oven temperatures	S/SL	4 x 92	PLUS Inert	AG2-2A03-01 AG2-2A03-05 AG2-2A03-25	ea 5/pk 25/pk

Ordering Information

Zebron Essentials Liners

Description	Application	Inlet Style	Dimensions ID x L (mm)	Deactivation	Part No.	Unit
For AutoSystem, AutoSystem XL, Clarus 500, and Clarus 600 Models						
Single Taper 	Pesticides	S/SL	4 x 92	Standard	AG1-2A10-01 AG1-2A10-05 AG1-2A10-25	ea 5/pk 25/pk
Single Taper Z-Liner 	Semi-volatiles, Dirty samples	S/SL	4 x 92	Standard	AG1-2A13-01 AG1-2A13-05 AG1-2A13-25	ea 5/pk 25/pk
Straight 	Volatiles	S/SL	4 x 92	Standard	AG1-2A00-01 AG1-2A00-05 AG1-2A00-25	ea 5/pk 25/pk
Straight Z-Liner 	Volatiles, Dirty samples	PSS	2 x 86.2	Standard	AG1-2E03-01 AG1-2E03-05 AG1-2E03-25	ea 5/pk 25/pk
Straight Z-Liner 	High initial oven temperatures	S/SL	4 x 92	Standard	AG1-2A03-01 AG1-2A03-05 AG1-2A03-25	ea 5/pk 25/pk

Ordering Information

GC Liners

Description	Application	Inlet Style	Dimensions ID x L (mm)	Deactivation	Part No.	Unit
For AutoSystem, AutoSystem XL, Clarus 500, and Clarus 600 Models						
Straight 	General use, Trace samples	S/SL	4 x 92	Not Deactivated	AG0-4665	5/pk
Sintered Glass 	Large injection, Trace analysis	PSS	2 x 86.2	Standard	AG0-8658	5/pk

Inlet Styles Key

- **S/SL:** Split/Splitless
- **PTV:** Programmed-Temperature Vaporization
- **PSS:** Programmed-Temperature Split/Splitless
- **SPI:** Single Point Injection

GC Accessories

Zebron™ GC Inlet Liners

Liners Compatible with Shimadzu® GC Systems

Ordering Information

Zebron™ PLUS Liners

Description	Application	Inlet Style	Dimensions ID x L (mm)	Deactivation	Part No.	Unit
For 17A, 2014 and 2025 Models						
Single Taper Z-Liner™ 	Pesticides	S/SL	3.4 x 95	PLUS Inert	AG2-3B13-01 AG2-3B13-05 AG2-3B13-25	ea 5/pk 25/pk
Straight Z-Liner 	Volatiles, Dirty samples, High initial oven temperatures	S/SL	3.4 x 95	PLUS Inert	AG2-3B03-01 AG2-3B03-05 AG2-3B03-25	ea 5/pk 25/pk
For 2010 Models						
Single Taper 	Volatiles, Dirty samples, High initial oven temperatures	S/SL	3.4 x 95	PLUS Inert	AG2-4B10-01 AG2-4B10-05 AG2-4B10-25	ea 5/pk 25/pk
Single Taper Z-Liner 	Pesticides	S/SL	3.4 x 95	PLUS Inert	AG2-4B13-01 AG2-4B13-05 AG2-4B13-25	ea 5/pk 25/pk
Straight 	Volatiles	S/SL	3.4 x 95	PLUS Inert	AG2-4B00-01 AG2-4B00-05 AG2-4B00-25	ea 5/pk 25/pk
Straight Z-Liner 	Volatiles, Dirty samples , High initial oven temperatures	S/SL	3.4 x 95	PLUS Inert	AG2-4B03-01 AG2-4B03-05 AG2-4B03-25	ea 5/pk 25/pk

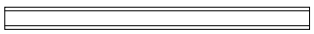
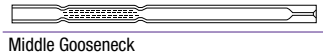
Ordering Information

Zebron Essentials Liners

Description	Application	Inlet Style	Dimensions ID x L (mm)	Deactivation	Part No.	Unit
For 17A, 2014, and 2025 Models						
Single Taper Z-Liner 	Pesticides	S/SL	3.4 x 95	Standard	AG1-3B13-01 AG1-3B13-05 AG1-3B13-25	ea 5/pk 25/pk
Straight Z-Liner 	Volatiles, Dirty samples, High initial oven temperatures	S/SL	3.4 x 95	Standard	AG1-3B03-01 AG1-3B03-05 AG1-3B03-25	ea 5/pk 25/pk
For 2010 Models						
Single Taper 	Volatiles, Dirty samples, High initial oven temperatures	S/SL	3.4 x 95	Standard	AG1-4B10-01 AG1-4B10-05 AG1-4B10-25	ea 5/pk 25/pk
Single Taper Z-Liner 	Pesticides	S/SL	3.4 x 95	Standard	AG1-4B13-01 AG1-4B13-05 AG1-4B13-25	ea 5/pk 25/pk
Straight 	Volatiles	S/SL	3.4 x 95	Standard	AG1-4B00-01 AG1-4B00-05 AG1-4B00-25	ea 5/pk 25/pk
Straight Z-Liner 	Volatiles, Dirty samples, High initial oven temperatures	S/SL	3.4 x 95	Standard	AG1-4B03-01 AG1-4B03-05 AG1-4B03-25	ea 5/pk 25/pk

Ordering Information

GC Liners

Description	Application	Inlet Style	Dimensions ID x L (mm)	Deactivation	Part No.	Unit
For 17A, 2014, and 2025 Models						
Straight 	Small injection, Trace analysis	S/SL	2.6 x 95	Standard	AG0-4667	5/pk
For 14A Models						
Straight 	Trace analysis	WBC	3.4 x 139	Standard	AG0-4669	5/pk
Single Taper FocusLiner™ 	General use, Dirty samples	S/SL	3.4 x 99	Standard	AG0-4682	5/pk
Middle Gooseneck 	General use, Dirty samples	S/SL	3.4 x 95	Standard	AG0-8661	5/pk
Recessed Gooseneck with Wool 	General use, Dirty samples	S/SL	3.4 x 95	Standard	AG0-8663	5/pk

Inlet Styles Key

S/SL: Split/Splitless
PTV: Programmed-Temperature Vaporization
PSS: Programmed-Temperature Split/Splitless
SPI: Single Point Injection

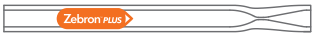
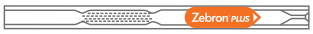
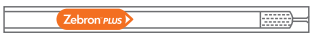
GC Accessories

Zebron™ GC Inlet Liners

Liners Compatible with Thermo Scientific® GC Systems

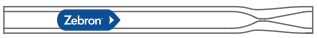
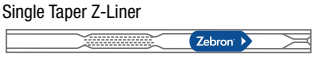
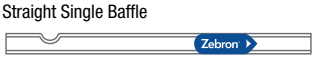
Ordering Information

Zebron™ PLUS Liners

Description	Application	Inlet Style	Dimensions ID x L (mm)	Deactivation	Part No.	Unit
For 5890, 6890 and 7890 Models						
Direct Connect 	Trace analysis, Splitless injections	S/SL	4 x 78.5	PLUS Inert	AG2-0A50-01 AG2-0A50-05 AG2-0A50-25	ea 5/pk 25/pk
Single Taper 	Pesticides	S/SL	4 x 78.5	PLUS Inert	AG2-0A10-01 AG2-0A10-05 AG2-0A10-25	ea 5/pk 25/pk
Single Taper Z-Liner™ 	Semi-volatiles, Dirty samples	S/SL	4 x 78.5	PLUS Inert	AG2-0A13-01 AG2-0A13-05 AG2-0A13-25	ea 5/pk 25/pk
Single Taper with Wool 	Semi-volatiles	S/SL	4 x 78.5	PLUS Inert	AG2-0A11-01 AG2-0A11-05 AG2-0A11-25	ea 5/pk 25/pk
Straight 	Volatiles	S/SL	4 x 78.5	PLUS Inert	AG2-0A00-01 AG2-0A00-05 AG2-0A00-25	ea 5/pk 25/pk
Straight Z-Liner 	Dirty samples, Volatiles, High initial oven temperatures	S/SL	4 x 78.5	PLUS Inert	AG2-0A03-01 AG2-0A03-05 AG2-0A03-25	ea 5/pk 25/pk
Straight Single Baffle 	Semi-volatiles, Pesticides	PTV	1.8 x 71	PLUS Inert	AG2-1F06-01 AG2-1F06-05 AG2-1F06-25	ea 5/pk 25/pk

Ordering Information

Zebron Essentials Liners

Description	Application	Inlet Style	Dimensions ID x L (mm)	Deactivation	Part No.	Unit
For 5890, 6890 and 7890 Models						
Direct Connect 	Trace analysis, Splitless injections	S/SL	4 x 78.5	Standard	AG1-0A50-01 AG1-0A50-05 AG1-0A50-25	ea 5/pk 25/pk
Single Taper 	Pesticides	S/SL	4 x 78.5	Standard	AG1-0A10-01 AG1-0A10-05 AG1-0A10-25	ea 5/pk 25/pk
Single Taper Z-Liner 	Semi-volatiles, Dirty samples	S/SL	4 x 78.5	Standard	AG1-0A13-01 AG1-0A13-05 AG1-0A13-25	ea 5/pk 25/pk
Single Taper with Wool 	Semi-volatiles	S/SL	4 x 78.5	Standard	AG1-0A11-01 AG1-0A11-05 AG1-0A11-25	ea 5/pk 25/pk
Straight 	Volatiles	S/SL	4 x 78.5	Standard	AG1-0A00-01 AG1-0A00-05 AG1-0A00-25	ea 5/pk 25/pk
Straight Z-Liner 	Dirty samples, Volatiles, High initial oven temperatures	S/SL	4 x 78.5	Standard	AG1-0A03-01 AG1-0A03-05 AG1-0A03-25	ea 5/pk 25/pk
Straight Single Baffle 	Semi-volatiles, Pesticides	PTV	1.8 x 71	Standard	AG1-1F06-01 AG1-1F06-05 AG1-1F06-25	ea 5/pk 25/pk

Inlet Styles Key

S/SL: Split/Splitless
PTV: Programmed-Temperature Vaporization
PSS: Programmed-Temperature Split/Splitless
SPI: Single Point Injection

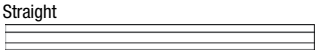
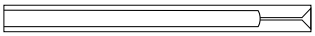
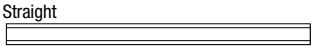
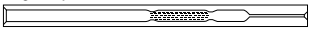
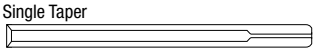
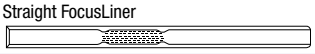
Liners Compatible with Thermo Scientific GC Systems *(cont'd)*

GC Accessories

Liners Compatible with Thermo Scientific® GC Systems *(cont'd)*

Ordering Information

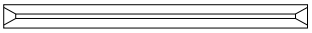
GC Liners

Description	Application	Inlet Style	Dimensions ID x L (mm)	Deactivation	Part No.	Unit
For TRACE 8000 and FOCUS Models						
Double Taper FocusLiner™ 	Trace analysis of dirty samples	S/SL	5 x 105	Standard	AG0-4679 AG0-7863	5/pk 25/pk
Straight 	General use	S/SL	3 x 105	Standard	AG0-4645	5/pk
Single Taper 	Trace analysis	S/SL	5 x 105	Standard	AG0-7852	5/pk
Straight 	General use	S/SL	5 x 105	Standard	AG0-8669	5/pk
Single Taper FocusLiner 	General use, Dirty samples	S/SL	5 x 105	Standard	AG0-8671	5/pk
Single Taper 	Small injection, Trace analysis	S/SL	3 x 105	Standard	AG0-8672	5/pk
Straight FocusLiner 	General use, Dirty samples	S/SL	5 x 105	Standard	AG0-8673	5/pk

Liners Compatible with Bruker/Varian®GC Systems

Ordering Information

GC Liners

Description	Application	Inlet Style	Dimensions ID x L (mm)	Deactivation	Part No.	Unit
For 1093 / 1094 Models						
Straight 	Large injection, Trace analysis	S/SL	4 x 75	Standard	AG0-4673	5/pk
For 1078 / 1079 Models						
Straight 	Trace analysis	S/SL	0.5 x 54	Standard	AG0-8665	5/pk
Single Taper FocusLiner™ 	General use or Dirty samples	S/SL	3.4 x 54	Standard	AG0-8666	5/pk
Single Taper 	Small injection, Trace analysis	S/SL	2 x 54	Standard	AG0-8668	5/pk
For 1075 / 1077 Models						
Straight 	For 0.25 and 0.32 mm ID Column	SPI	0.5 x 54	Standard	AG0-4675	5/pk
Straight 	For 0.53 mm ID Column	SPI	0.8 x 54	Standard	AG0-4677	5/pk

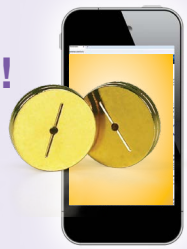
Inlet Styles Key

S/SL: Split/Splitless
PTV: Programmed-Temperature Vaporization
PSS: Programmed-Temperature Split/Splitless
SPI: Single Point Injection

Inlet Consumables Are Available Online!

Need inlet seals, septa, or syringes? Explore hundreds of available parts online at:

www.phenomenex.com/InletGC



GC Accessories

Column Unions, Mini-Unions, and Splitters

Selection Guide

Use the Union or Mini-Union for:	Use the Y-Connector (splitter) for:
• Connecting a guard column to an analytical column • Connecting columns of different selectivities • Connecting transfer lines to, e.g., mass spec • Repairing a broken column	• Splitting a sample onto two columns (perform confirmational analysis in a single injection) • Splitting the column eluent to two detectors

Mini-Unions

- **High-precision unions for connecting capillary GC columns of same or dissimilar sizes**
- **Inert and precise glass-lined bore**
- **Low dead volume**



Graphite/Vespel® Ferrule Mini-Unions

- **15% Graphite / 85% Vespel ferrules, Rated to 350 °C**
- **Includes 1 mini-union, 2 nuts, and 5 ferrules**

Ordering Information

Graphite/Vespel Ferrule Mini-Unions

Column 1 ID (mm)	Column 2 ID (mm)	Ferrule ID (mm)	Similar to Mfr. No.*	Part No.	Unit
0.10-0.25	0.10-0.53	0.4	103431	AG0-5160	ea
0.28-0.35	0.32-0.53	0.5	103432	AG0-5161	ea
0.45-0.53	0.45-0.53	0.8	103433	AG0-5162	ea

Replacement Ferrules

Column ID (mm)	Ferrule ID (mm)	Similar to Mfr. No.*	Part No.	Unit
0.10-0.25	0.4	072696	AG0-7033	10/pk
0.28-0.35	0.5	072697	AG0-7034	10/pk
0.45-0.53	0.8	072698	AG0-7035	10/pk

SilTite™ Mini-Unions

- **Supplied with SilTite ferrules – no more leaks and no need to re-tighten after installation**
- **Recommended for high temperature analysis. Stable above 450 °C.**

Ordering Information

SilTite Mini-Unions

Column 1 ID (mm)	Column 2 ID (mm)	Ferrule ID (mm)	Similar to Mfr. No.*	Part No.	Unit
0.10-0.25	0.10-0.53	0.4	073550	AG0-8763	ea
0.28-0.35	0.32-0.53	0.5	073551	AG0-8764	ea
0.45-0.53	0.45-0.53	0.8	073554	AG0-8825	ea

Replacement Ferrules

Column ID (mm)	Ferrule ID (mm)	Similar to Mfr. No.*	Part No.	Unit
0.10-0.25	0.4	073470	AG0-8759	10/pk
0.28-0.35	0.5	073471	AG0-8760	10/pk
0.45-0.53	0.8	073473	AG0-8824	10/pk

* Similar to but not always an exact equivalent to the original manufacturer's product.

Press-Fit Unions and Splitters

- **Connect fused silica capillary tubing of the same or different diameter, from 0.10 to 0.53 mm ID**
- **Patented laser-formed linear taper**
- **Provides leak-free seal without tools, glue, or fittings**
- **Stays sealed even at high temperatures and pressures**
- **Laser-cut smooth ends prevent column damage during insertion**



Ordering Information

Capillary Unions and Splitters

Part No.	Description	Unit
AG0-4716	Universal Capillary Column Union, Fused Quartz	5/pk
AG0-4717	GC Column Y-Splitter, Borosilicate for 0.10 to 0.32 mm ID columns	ea
AG0-9193	GC Column Y-Splitter, Borosilicate for 0.53 mm ID columns	ea

Polyimide Resins



- **Permanently connects unions and splitters to capillary tubing**
- **Prevents connections from dislodging due to vibration or shock**

Ordering Information

Polyimide Resins

Part No.	Description	Unit
AG0-5722	Polyimide Resin, 350 °C, 0.5 mL	ea
AG0-8514	High Temperature, 400 °C, Polymide Resin, 0.5 mL	ea

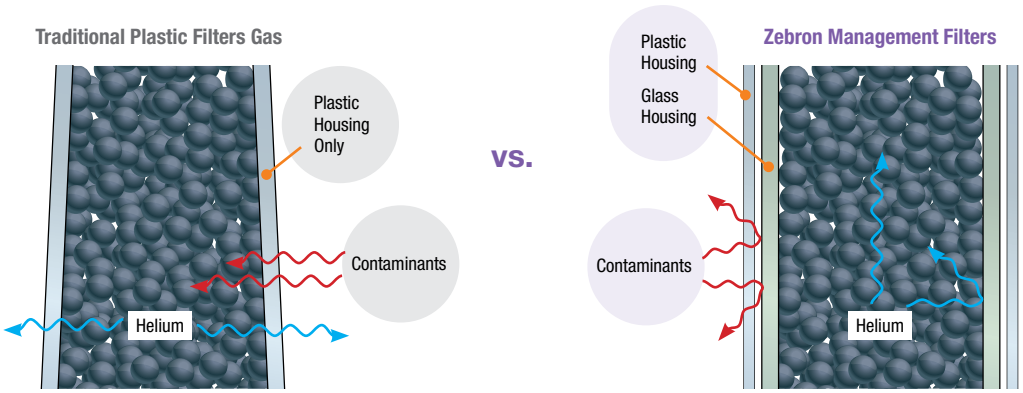
GC Accessories

Zebron™ Gas Management

Zebron™ Gas Management

Upgrade Your Gas Filter System!

Improved design with a dual wall housing (plastic outside and glass inside).
Glass prevents diffusion, ensuring a leak and contaminant free system.



Plug-in GC and LC-MS Gas Filters

- Easy to use
- Dual filter housing prevents diffusion and increases safety
- Incredible high capacity
- Ensures high gas purity (99.9999% pure)
- 4 filter types



Universal
Oxygen
Moisture
Hydrocarbon

Click-on GC Gas Traps

- Easy to use, Click-on GC Gas Traps
- Serves multiple GC instruments at once
- Incredible high capacity
- Ensures high gas purity (99.9999% pure)
- 5 trap types



Universal
Oxygen
Moisture
Hydrocarbon
Carbon Dioxide

Protect Your LC-MS using Zebron LC-MS Gas Filters

- Removes water, organic compounds, and other foreign material from LC-MS nebulizer gas
- Dual filter: Moisture and Hydrocarbon
- To be used in combination with a high flow 2-position connecting unit (Part No.: AG6-2204) and Particle Filter (Part No.: AG6-2205)



Moisture
Hydrocarbon



Save Time and Money!

Zebron Electronic Indicator

Easily know when to replace the Gas Filter and Trap by using the NEW Zebron Electronic Indicator.

GC Accessories

Zebron Gas Management *(cont'd)*

Ordering Information

Zebron Gas Management Filters

Part No.	Description	Unit
AG6-1010	Gas Filter Oxygen	ea
AG6-1020	Gas Filter Moisture	ea
AG6-1030	Gas Filter Hydrocarbon	ea
AG6-1040	Gas Filter Universal	ea
AG6-1070	Gas Filter Universal (Helium specific)	ea
AG6-1050	Gas Filter Hydrocarbon/moisture for LC-MS	2/pk
AG6-1060	Ring nut for Gas Filter	ea



Ordering Information

Zebron Gas Management Traps

Part No.	Description	Unit
AG6-3110	Click-On Oxygen Trap	ea
AG6-3120	Click-On Moisture Trap	ea
AG6-3130	Click-On Hydrocarbon Trap	ea
AG6-3140	Click-On Universal Trap	ea
AG6-3150	Click-On Carbon Dioxide Trap	ea



Ordering Information

Zebron Connecting Units

Part No.	Description	Unit
AG6-2101	1-position Connecting Unit ¼ in. Brass	ea
AG6-2102	2-position Connecting Unit ¼ in. Brass	ea
AG6-2103	4-position Connecting Unit ¼ in. Brass	ea
AG6-2201	1-position Connecting Unit ⅛ in. Brass	ea
AG6-2202	2-position Connecting Unit ⅛ in. Brass	ea
AG6-2203	4-position Connecting Unit ⅛ in. Brass	ea
AG6-2204	High flow 2-position connecting unit for LC-MS	ea
AG6-2205	Particle Filter for LC-MS	ea
AG6-2206	O-ring replacement for gas filter baseplate	20/pk
AG6-2301	1-position Connecting Unit ¼ in. Stainless Steel	ea
AG6-2302	2-position Connecting Unit ¼ in. Stainless Steel	ea
AG6-2303	4-position Connecting Unit ¼ in. Stainless Steel	ea
AG6-2304	1-position Connecting Unit ⅛ in. Stainless Steel	ea
AG6-2305	2-position Connecting Unit ⅛ in. Stainless Steel	ea
AG6-2306	4-position Connecting Unit ⅛ in. Stainless Steel	ea



AG6-2206



AG6-2205



AG6-2203



AG6-2204



AG6-2202



AG6-2201

GC Accessories

Zebron Base Electronic Indicator and Other Accessories

Ordering Information

Zebron Base Electronic Indicator and Other Accessories		
Part No.	**Description**	**Unit**
AG6-3160	⅛ in. Brass Click-On Connector Set	2/pk
AG6-3170	¼ in. Brass Click-On Connector Set	2/pk
AG6-4150	⅛ in. Stainless Steel Click-On Connector Set	2/pk
AG6-4160	¼ in. Stainless Steel Click-On Connector Set	2/pk
AG6-3180	Wall-mounting Clamp Set for Gas Traps	2/pk
AG6-3190	O-ring replacement set for Gas Trap	20/pk
AG6-4110	Electronic Indicator for Gas Trap	ea
AG6-4120	Electronic Indicator for Gas Filter	ea
AG6-4130	Electronic Indicator for LC-MS Filter	ea


Electronic Indicator


Wall-mounting Clamp Set


O-ring


Brass Click-On Connector

First time ordering Zebron Click-On Gas Traps?

Be sure to order the brass or stainless steel connector with your first trap.


AG6-3160 (⅛ in. Brass)

AG6-4150 (⅛ in. Stainless Steel)


AG6-3170 (¼ in. Brass)

AG6-4160 (¼ in. Stainless Steel)

Tools and Maintenance

Ordering Information

Tools and Maintenance				
Description			**Part No.**	**Unit**
Ceramic Scoring Wafers	• High-quality ceramic cutting tool for fused silica columns		AG0-4718	2/pk

Replace. Reorder. Relax.

Explore the new product and get the support you need

www.phenomenex.com/GasManagement

Zebron™ Gas Management

GC Accessories

Zebron™ Gas Management

Test the Performance of GC Columns

- **Convenient way to check column performance**
- **Essential tool for GC troubleshooting**
- **Affordable and easy to use**
- **Suitable for Phenomenex Zebron™ and equivalent brands**
- **Sealed in 2 mL glass ampules–prevent evaporation and increase shelf life**
- **All test mixes supplied with Certificate of Analysis**

App ID 15840

Zebron ZB-1 *PLUS*™

Part No.: AG0-7805

500 µg/mL each in acetone:

1. Decane
2. 2-Ethylhexanoic Acid
3. 4-Chlorophenol
4. Naphthalene
5. Tridecane
6. 1-Undecanol
7. Dicyclohexylamine
8. Pentadecane

App ID 5160, App ID 10714

Zebron ZB-1, ZB-5, ZB-1HT, and ZB-5HT

Part No.: AG0-5155

250 µg/mL each in hexane:

1. Undecane
2. 4-Chlorophenol
3. Tridecane
4. 1-Undecanol
5. Dicyclohexylamine
6. Pentadecane

App ID 14836

Guardian™ Integrated Guard / ZB-5

Part No.: AG0-7549

250 µg/mL each in acetone:

1. Decane
2. 2-Ethylhexanoic Acid
3. 1,6-Hexanediol
4. 4-Chlorophenol
5. Tridecane
6. 1-Methylnaphthalene
7. 1-Undecanol
8. Tetradecane
9. Dicyclohexylamine

App ID 16439

Zebron ZB-5 *PLUS*™

Part No.: AG0-8362

250 µg/mL each in acetone:

1. Decane
2. Methyl Caprylate
3. 1,6-Hexanediol
4. 4-Chlorophenol
5. Tridecane
6. 1,8-Octanediol
7. Dihexylamine
8. 1-Undecanol
9. Dicyclohexylamine
10. Pentadecane

App ID 14973

Zebron ZB-5ms, ZB-SemiVolatiles, ZB-XLB, and ZB-XLB-HT

Part No.: AG0-7578

250 µg/mL each in acetone:

1. Decane
2. 2-Ethylhexanoic Acid
3. 1,6-Hexanediol
4. 4-Chlorophenol
5. Tridecane
6. 1-Methylnaphthalene
7. 1-Undecanol
8. Tetradecane
9. Dicyclohexylamine
10. Pentadecane

App ID 5162, App ID 5161

Zebron ZB-35, ZB-35HT, ZB-1701, and ZB-1701P

Part No.: AG0-5156

250 µg/mL each in hexane:

1. Undecane
2. 2,4-Dimethylphenol
3. 2,6-Dimethylaniline
4. Tetradecane
5. 1-Undecanol
6. 1-Methylnaphthalene
7. Hexadecane

Test mix components are shown in order of elution.

App ID 5163

Zebron ZB-50

Part No.: AG0-5157

250 µg/mL each in hexane:

1. Undecane
2. Tridecane
3. 2,4-Dimethylphenol
4. 2,6-Dimethylaniline
5. 1-Undecanol
6. 1-Methylnaphthalene
7. Hexadecane



App ID 24917

Zebron ZB-624 *PLUS*™

Part No.: AG0-9203

250 µg/mL each in hexane:

1. Dodecane
2. 2,4-Dimethylphenol
3. 2,6-Dimethylaniline
4. Tridecane
5. 1-Methylnaphthalene
6. 1-Undecanol
7. Pentadecane

App ID 5165

Zebron ZB-624

Part No.: AG0-5159

1000 µg/mL each in methanol:

1. 1,2-Dichloropropane
2. Octane
3. Tetrachloroethylene
4. Chlorobenzene
5. Nonane

App ID 16214

Zebron ZB-WAX *PLUS*™

Part No.: AG0-7869

250 µg/mL each in hexane:

1. 2-Octanone
2. Tetradecane
3. Pentadecane
4. 1-Octanol
5. Hexadecane
6. Methyl decanoate
7. Heptadecane
8. Methyl undecanoate
9. 1-Decanol
10. Octadecane
11. Methyl dodecanoate
12. 2,6-Dimethylaniline
13. Nonadecane
14. 2,6-Dimethylphenol

App ID 14326, App ID 5164

Zebron ZB-WAX and ZB-FFAP

Part No.: AG0-5158

250 µg/mL each in hexane:

1. 2-Octanone
2. Tetradecane
3. 1-Octanol
4. Methyl decanoate
5. Methyl undecanoate
6. 1-Decanol
7. Methyl dodecanoate
8. 2,6-Dimethylaniline
9. 2,6-Dimethylphenol

App ID 18461

Zebron ZB-Drug-1

Part No.: AG0-8431

250 µg/mL each in acetone:

1. Dodecane
2. Tridecane
3. 4-Chlorophenol
4. Tetradecane
5. 1-Undecanol
6. 1-Methylnaphthalene
7. Dicyclohexylamine
8. Hexadecane

App ID 19305

Zebron ZB-1XT SimDist

Part No.: AG0-8645

1000 µg/mL each in hexane:

1. Undecane
2. Dodecane
3. Tridecane
4. 1-Undecanol
5. Dicyclohexylamine
6. Pentadecane

App ID 5158

Grob Test Mixture

Part No.: AG0-5154

400 µg/mL each in methylene chloride:

1. 2,3-Butanediol
2. Decane
3. Undecane
4. 1-Octanol
5. 1-Nonanal
6. 2-Ethylhexanoic acid
7. 2,6-Dimethylphenol
8. 2,6-Dimethylaniline
9. Methyl decanoate
10. Methyl undecanoate
11. Dicyclohexylamine
12. Methyl dodecanoate

GC Syringes

Technical Information

Needle Gauge Dimensions

Gauge	OD		ID	
26	0.018 in.	0.46 mm	0.0102 in.	0.26 mm
26s	0.019 in.	0.47 mm	0.0050 in.	0.13 mm
25	0.021 in.	0.51 mm	0.0102 in.	0.26 mm
23s	0.025 in.	0.64 mm	0.0060 in.	0.15 mm
23	0.025 in.	0.64 mm	0.0132 in.	0.34 mm
22s	0.028 in.	0.72 mm	0.0060 in.	0.15 mm
22	0.028 in.	0.72 mm	0.0162 in.	0.41 mm



Needle Point Styles

Style	Description	Advantage
	AS/Cone	Exclusively for Agilent® autosamplers
	2, BV (Beveled tip)	Optimal septum piercing for reduced septum coring
	3, LD (Blunt tip)	General sample pipetting and HPLC injectors
	5 (Conical with side hole)	Side hole for sample filling and dispensing, headspace
	H (Dome with side hole)	Side hole for sample filling and dispensing. Dome tip minimizes septum coring.

Needle / Needle Connection Styles

Style	Description	Manufacturer	Advantage
ASN	Autosampler Needle	Hamilton®	For use with autosamplers
ASRN	Autosampler Removable Needle	Hamilton	For use with autosamplers
RN	Removable Needle	Hamilton	Allows freedom to change needle style or replace broken needles
N	Cemented Needle	Hamilton	Low dead volume, for low-volume syringes
KH	Knurled Hub	Hamilton	Able to handle pressure up to 6000 psig
LTN	Luer Tip Cemented Needle	Hamilton	Fixed needle with Luer Tip, for mid-volume syringes
TLL	PTFE (Teflon®) Luer Lock	Hamilton	Luer Lock with locking hub for use with syringe filters
F	Fixed Needle	SGE®	Economical and more reproducible
R	Removable Needle	SGE	Allows freedom to change needle style or replace broken needles
FLL	Fixed Luer Lock	SGE	Allows use with syringe filters
LL	Luer Lock	SGE	Allows use with syringe filters



GC Autosampler Syringes

for Agilent® GC 7673, 7683, 7693, and 6850 Autosampler Systems

Ordering Information

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*		Unit	Part No.
Hamilton Syringes										
Microliter Syringes										
5	ASN	23s	1.71 in.	Agilent	75	87987	9301-0892	20168	ea	ASO-4386
5	ASN	23s	1.71 in.	Agilent	75	87990	20170		6/pk	ASO-7641
5	ASN	26s	1.71 in.	Agilent	75	87989	21230		6/pk	ASO-8683
5	ASN	23s-26s	1.71 in.	Agilent	75	87993	24593		ea	ASO-8380
10	ASRN	23s	1.71 in.	Agilent	701	80357	24795		ea	ASO-8836
10	ASN	23s	1.71 in.	Agilent	701	80387	9301-0713	20167	ea	ASO-4387
10	ASN	23s	1.71 in.	Agilent	701	80390	9301-0725	20169	6/pk	ASO-4388
10	ASN	26s	1.71 in.	Agilent	701	80389	24599		6/pk	ASO-4389
10	ASN	23s-26s	1.71 in.	Agilent	701	80393	24596		ea	ASO-8684
10	ASN	23s-26s	1.71 in.	Agilent	701	80391	24600		6/pk	ASO-8685
Teflon Tip Gastight® Syringes										
10	ASN	23s-26s	1.71 in.	Agilent	1701	80079	n/a		ea	ASO-8837
10	ASN	23s	1.71 in.	Agilent	1701	80080	n/a		ea	ASO-9079

*Similar to but not always an exact equivalent to the original manufacturer's product.

GC Syringes

GC Autosampler Syringes *(cont'd)*

for Agilent® GC 7673, 7683, 7693, and 6850 Autosampler Systems *(cont'd)*

SGE® Syringes

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*		Unit	Part No.
Microliter Syringes										
5	F	23	42 mm	Cone	SK-5F-HP-0.63	001814	24783		6/pk	AS0-8687
5	F	26	42 mm	Cone	SK-5F-HP-0.47	001804	24782		6/pk	AS0-8688
5	F	23s-26s	42 mm	Cone	SK-5F-HP-0.63/0.47	001822	21214		6/pk	AS0-8689
5	F	23-26	42 mm	Cone	5F-HP-0.63*0.47	001821	5181-1273	21210	ea	AS0-5208
10	F	26	42 mm	Cone	SK-10F-HP-47	002804	24786		6/pk	AS0-7637
10	R	23	42 mm	Cone	10RHP-0.63	002815	24795		ea	AS0-8690
10	F	23	42 mm	Cone	10F-HP-0.63	002810	24785		ea	AS0-8691
10	F	26	42 mm	Cone	SK-10F-HP-0.47	002804	24786		6/pk	AS0-7637
10	F	23	42 mm	Cone	SK-10F-HP-0.63	002814	24787		6/pk	AS0-8692
10	F	23s-26s	42 mm	Cone	10F-HP-0.63/0.47	002821	21212		ea	AS0-8693
10	F	23s-26s	42 mm	Cone	SK-10F-HP-0.63/0.47	002822	21215		6/pk	AS0-8694
Teflon® Tip Gastight® Syringes										
10	F	23	42 mm	Cone	HF-HP-GT-0.63	002812	24789		ea	AS0-8695
10	F	23-26	42 mm	Cone	10F-HP-GT-0.63/0.47	002826	5181-1267		ea	AS0-5209
10	F	23-26	42 mm	Cone	SK10F-HP-FT-0.63/0.47	002827	5181-3361		6/pk	AS0-5210

for PerkinElmer® AutoSystem™ and Clarus® 500 GC Systems

Ordering Information

SGE Syringes

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
Microliter Syringes									
0.5	R	23	70 mm	Cone	0.5BR-PE-0.63	000478	24811	ea	AS0-8697
5	F	23	70 mm	Cone	5F-PE-0.63	001954	24813	ea	AS0-8698

for Varian® 8000 Series GC Systems

Ordering Information

SGE Syringes

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
Microliter Syringes									
10	R	25	53 mm	Side Hole	10R-VA8X-II	002924	24852	ea	AS0-8699
10	F	26	50 mm	Cone	10F-C/F-5/0.47C	002980	24922	ea	AS0-8700
10	F	26	50 mm	Bevel	10F-VA8400-5/0.47	002950	21202	ea	AS0-8701

for Shimadzu® AOC 9GC Systems

Ordering Information

Hamilton Syringes

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
Microliter Syringes									
5	RN	26s	2 in. /51 mm	2	75RN	87930	24617	ea	AS0-8702
5	N	26s	2 in. /51 mm	2	75N	87900	24938	ea	AS0-4390
10	RN	26s	2 in. /51 mm	2	701RN	80330	24530	ea	AS0-0100

Ordering Information

SGE Syringes

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
Microliter Syringes									
10	R	23	42 mm	Cone	10R-S-0.63	002898	24845	ea	AS0-8703

*Similar to but not always an exact equivalent to the original manufacturer's product.

GC Syringes

GC Autosampler Syringes *(cont'd)*

for Thermo Scientific® GC Systems

Ordering Information

SGE® Syringes

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
Microliter Syringes									
10	F	26	80 mm	Cone	10F-C/F-8/0.47C	002992	24924	ea	ASO-8704
10	R	26	80 mm	Cone	10R-C/F-8/0-0.47C	002993	24934	ea	ASO-8705

for CTC/LEAP GC Systems

Ordering Information

Hamilton® Syringes

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
Microliter Syringes									
1.2	N	26	2 in./51 mm	Cone	7701.2N	203185	22755	ea	ASO-8706

Ordering Information

SGE Syringes

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
Microliter Syringes									
10	F	23	50 mm	Cone	10F-C/F-5/0.63	002981	24923	ea	ASO-7638
10	R	23	50 mm	Cone	10R-C/F-5/0.63	002984	24932	ea	ASO-8709
10	F	26	50 mm	Cone	10F-C/F-5/0.47C	002980	24922	ea	ASO-8700
10	F	26	50 mm	Cone	SK10F-C/F-5/0.47C	002986	24925	6/pk	ASO-8711
10	R	26	50 mm	Cone	10R-C/F-5/0.47C	002982	24930	ea	ASO-8712

GC Manual Syringes

*Similar to but not always an exact equivalent to the original manufacturer's product.

Ordering Information

Hamilton Syringes

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
Microvolume Syringes									
5	N	26s	2 in./51 mm	2	75N	87900	24938	ea	ASO-4390
5	RN	26s	2 in./51 mm	2	75RN	87930	24617	ea	ASO-8702
10	N	26s	2 in./51 mm	2	701N	80300	20174	ea	ASO-0077
10	N	26s	2 in./51 mm	2	701N	80366	20175	6/pk	ASO-0016
10	RN	26s	2 in./51 mm	2	701RN	80330	24530	ea	ASO-0100
25	N	22s	2 in./51 mm	2	702N	80400	24531	ea	ASO-0078
10	N	26s	2 in./51 mm	5	701NPT5	80339	24967	ea	ASO-0094
Positive Displacement Syringes									
0.5	KH	25	2.75 in./70 mm	2	7000.5	86259	24545	ea	ASO-8715
1.0	KH	22	2.75 in./70 mm	2	7101	86211	24549	ea	ASO-8716
1.0	KH	25s	2.75 in./70 mm	2	7001	80135	24547	ea	ASO-1918
1.0	KH	25s	2.75 in./70 mm	3	7001	80100	24548	ea	ASO-8717
2.0	KH	25	2.75 in./70 mm	2	7002	88411	24551	ea	ASO-8718
5.0	KH	24	2.75 in./70 mm	2	7105	88011	24555	ea	ASO-8719
Teflon Tip Gastight Syringes									
10	N	26s	2 in./51 mm	2	1701	80000	24557	ea	ASO-4391
10	RN	26s	2 in./51 mm	2	1701	80030	24558	ea	ASO-1898
25	N	22s	2 in./51 mm	2	1702	80200	24559	ea	ASO-8720
25	RN	22s	2 in./51 mm	2	1702	80230	24560	ea	ASO-1899
50	N	22s	2 in./51 mm	2	1705	80900	24561	ea	ASO-0061
50	RN	22s	2 in./51 mm	2	1705	80930	24562	ea	ASO-1900
100	N	22s	2 in./51 mm	2	1710	81000	24563	ea	ASO-0062
100	RN	22s	2 in./51 mm	2	1710	81030	24564	ea	ASO-1901
250	N	22s	2 in./51 mm	2	1725	81100	24567	ea	ASO-0063

GC Syringes

GC Manual Syringes *(cont'd)*

Ordering Information

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
Hamilton® Syringes (continued)									
Teflon® Tip Gastight® Syringes (continued)									
250	RN	22s	2 in./51 mm	2	1725	81130	24568	ea	AS0-1902
500	LTN	22	2 in./51 mm	2	1750	81217	24571	ea	AS0-0064
500	RN	22	2 in./51 mm	2	1750	81230	24572	ea	AS0-1903
1 mL	LTN	22	2 in./51 mm	2	1001	81317	24575	ea	AS0-0065
1 mL	RN	22	2 in./51 mm	2	1001	81330	24576	ea	AS0-8721
1 mL	TLL	–	–	w/o slots	1001	81320	24578	ea	AS0-1907
2.5 mL	TLL	–	–	w/o slots	1002	81420	24584	ea	AS0-1908
2.5 mL	RN	22	2 in./51 mm	2	1002	81430	24582	ea	AS0-8722
2.5 mL	N	22	2 in./51 mm	2	1002	81417	24581	ea	AS0-8723
10 mL	TLL	–	–	w/o slots	1010	81620	20179	ea	AS0-1910

Ordering Information

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
SGE® Syringes									
Microvolume Syringes									
5	F	26	50 mm	2	5F	001000	24700	ea	AS0-8725
5	R	26	50 mm	2	5R	001050	24701	ea	AS0-8726
10	F	26	50 mm	2	10F	002000	24702	ea	AS0-8727
10	F	26	50 mm	2	SK-10F	002030	24715	6/pk	AS0-8728
10	R	26	50 mm	2	10R	002050	24703	ea	AS0-8729
Positive Displacement Syringes									
1.0	R	23	70 mm	2	1BR-7BV	000506	24775	ea	AS0-8738
1.0	R	26	70 mm	Cone	1BR-7/0.47	000570	24776	ea	AS0-8739
Teflon Tip Gastight Syringes									
10	F	26	50 mm	2	10F-GT	002200	24725	ea	AS0-8741
25	F	25	50 mm	2	25F-GT	003200	24727	ea	AS0-8743
50	F	25	50 mm	2	50F-GT	004200	24729	ea	AS0-8744
50	R	25	50 mm	2	50R-GT	004250	24730	ea	AS0-8745
100	F	25	50 mm	2	100F-GT	005200	24734	ea	AS0-8746
100	R	25	50 mm	2	100R-GT	005250	24735	ea	AS0-8747
250	F	25	50 mm	2	250F-GT	006200	24738	ea	AS0-8748
250	R	25	50 mm	2	250R-GT	006250	24739	ea	AS0-8749
500	F	25	50 mm	2	500F-GT	007200	24742	ea	AS0-8750
1 mL	RN	23	50 mm	Bevel	1MDR-GT	008100	24750	ea	AS0-8845
1 mL	LL	–	–	–	1MDF-LL-GT	008025	24752	ea	AS0-0120
2.5 mL	R	23	50 mm	Bevel	MDR-GT	008500	–	ea	AS0-8752
5 mL	LL	–	–	–	5MDR-LL-GT	008760	24757	ea	AS0-0121
10 mL	LL	–	–	–	10MDR-LL-GT	008960	24759	ea	AS0-0122

*Similar to but not always an exact equivalent to the original manufacturer's product.

GC Syringes

VICI® Series A-2 Gas Syringes

- **Push-button valve and smaller volumes**
- **Pressure-Lok® design offers gas-tight injections**
- **Inject without carrier backflushing to sharpen peaks and improve separations**
- **Leak-tight to 250 psi - liquids and gases**
- **No plunger "blow out" at elevated pressures**

The A-2 features a push-button valve, which allows sample storage up to 250 psi in syringes as small as 25 µL. This is useful with small liquid samples containing low-boiling components that would be lost through evaporation using ordinary syringes.

The positive rear stop (in 100 µL and larger sizes) prevents plunger blowout at elevated pressures, protecting against sample loss or operator injury. Like the Series A gas syringe, the A-2 has all the standard Pressure-Lok features such as a PTFE plunger tip, PTFE-sealed needle and ultra-smooth bore. Replacement components are available for easy repair.



Ordering Information

VICI Precision Sampling Syringes				
Part No.	**Mfr. No.**	**Description**	**Capacity (µL)**	**Unit**
AS0-4739	050023	Series A-2 Syringe	25	ea
AS0-4740	050024	Series A-2 Syringe	50	ea
AS0-4741	050025	Series A-2 Syringe	100	ea
AS0-4742	050031	Series A-2 Syringe	250	ea
AS0-4743	050032	Series A-2 Syringe	500	ea
AS0-4744	050033	Series A-2 Syringe	1000 (1 mL)	ea
AS0-4745	050034	Series A-2 Syringe	2000 (2 mL)	ea
AS0-4746	050035	Series A-2 Syringe	5000 (5 mL)	ea

Notes: (1) All other VICI Precision Sampling products not listed are available.
(2) Removable needle: 0.028 in. x 0.005 in. x 2.00 in., bevel, open end on 25, 50 and 100 µL (p/n 943050, 3/pk); 0.029 in. x 0.012 in. x 2.00 in., bevel, open end on all others (p/n 943051, 3/pk).

Phenex™ Syringe Filters

- **Increase column lifetime and save money!**
- **Ensure more accurate, consistent results**
- **Eliminate damaging microparticlates**



Particulates can damage expensive equipment, valves, columns and pumps. They can also lead to erratic analytical results. Pre-filtering samples prior to analysis is critical in preventing column and frit blockage, undue wear on valve seals, and abnormally high operating pressures.

Sample or Mobile Phase Volume (mL)	Filter Membrane (diameter, mm)	Format
≤ 2	4	Syringe filter
2 to 10	15	Syringe filter
10 to 100	25-28	Syringe filter
> 100	47	Membrane disk
> 1000	90	Membrane disk

Ordering Information[1]

Part No.	Pore Size (µm)	Phenex Membrane
4 mm Diameter (500/pk)		
AF0-3103-52	0.45	RC
AF0-3102-52	0.45	PTFE[6]
AF3-3107-52	0.45	NY
AF0-3203-52	0.20	RC
AF0-3202-52	0.20	PTFE[6]
AF3-3207-52	0.20	NY
15 mm Diameter (500/pk)		
AF0-2103-52	0.45	RC
AF0-2102-52	0.45	PTFE[6]
AF0-2107-52	0.45	NY
AF0-2203-52	0.20	RC
AF0-2202-52	0.20	PTFE[6]
AF0-2207-52	0.20	NY
17 mm Diameter (500/pk)		
AF6-5106-52	0.45	PVDF
25–28 mm Diameter (500/pk)		
AF0-8103-52 [5]	0.45	RC
AF0-8108-52 [7]	0.45	PES[3]
AF0-1102-52	0.45	PTFE[6]
AF0-1107-52	0.45	NY
AF0-8B09-52 [7]	0.45	GF/CA[2,3,4]
AF0-8203-52 [5]	0.20	RC
AF0-8208-52 [7]	0.20	PES[3]
AF0-1202-52	0.20	PTFE[6]
AF0-1207-52	0.20	NY
AF0-8A09-52 [7]	0.20	GF/CA[2,3,4,7]
AF0-8515-52 [7]	1.20	GF[2,3]
30 mm Diameter (500/pk)		
AF6-6106-52	0.45	PVDF

Housing is made of medical-grade polypropylene (PP), unless otherwise indicated.
Above syringe filters are non-sterile.

1. Additional membrane types available.
2. Glass fiber filters are 28 mm diameter and made of borosilicate. They will remove 90 % of all particles >1.2 µm.
3. Housing material is methacrylate butadiene styrene (MBS) polymerisate. Also known as Cyrolite®.
4. Cellulose acetate is surfactant-free.
5. 26 mm diameter.
6. Hydrophobic membrane. Can be made hydrophilic by pre-wetting with IPA.
7. 28 mm diameter.

Trademarks

1*PLUS*™ ..... Phenomenex, Inc.
5*PLUS*™ ..... Phenomenex, Inc.
5MS*PLUS*™ ..... Phenomenex, Inc.
624*PLUS*™ ..... Phenomenex, Inc.
Acclaim™ ..... Thermo Fisher Scientific
ACE® .... Advanced Chromatography Technologies (ACT) Limited
ACQUITY® ..... Waters Technologies Corporation
AD® ..... DAICEL Corporation
AD-H® ..... DAICEL Corporation
AD-RH® ..... DAICEL Corporation
Aeris™ ..... Phenomenex, Inc.
AIT® ..... AIT France
Agilent® ..... Agilent Technologies, Inc.
Agilent Technologies® ..... Agilent Technologies, Inc.
Alliance® ..... Waters Technologies Corporation
Aminex® ..... Bio-Rad Laboratories, Inc.
Antek® ..... Petroleum Analyzer Company, L.P.
API 3200™ ..... AB SCIEX Pte. Ltd.
API 4000™ ..... AB SCIEX Pte. Ltd.
API 5000™ ..... AB SCIEX Pte. Ltd.
API 5500™ ..... AB SCIEX Pte. Ltd.
AQUA™ ..... Phenomenex, Inc.
Arylene Matrix Technology™ (AMT) ..... Phenomenex, Inc.
Asahipak® ..... Showa Denko, K.K.
Ascentis® ..... Merck KGaA, Darmstadt, Germany
Atlantis® ..... Waters Technologies Corporation
AutoSystem™ ..... PerkinElmer, Inc.
Axia™ ..... Phenomenex, Inc.
AY® ..... DAICEL Corporation
AY-H® ..... DAICEL Corporation
Baygon® ..... S.C. Johnson & Son, Inc.
BEH™ ..... Waters Technologies Corporation
BE-HAPPY™ ..... Phenomenex, Inc.
BEH Technology™ ..... Waters Technologies Corporation
β-Gone™ ..... Phenomenex, Inc.
Bio-Rad® ..... Bio-Rad Laboratories, Inc.
BioSep™ ..... Phenomenex, Inc.
Bio-Sil® ..... Bio-Rad Laboratories, Inc.
BioSuite™ ..... Waters Technologies Corporation
Biotage® ..... Biotage AB Corp.
BioTi™ ..... Phenomenex, Inc.
Biozen™ ..... Phenomenex, Inc.
Bondapak®/µBondapak® ..... Waters Technologies Corporation
Bondclone™ ..... Phenomenex, Inc.
BTO® ..... Chromatography Research Supplies, Inc.
Canary-Safe™ ..... Analytical Sales and Services, Inc.
Capcell Pak® ..... Shiseido Co., Ltd.
Ceramospher® ..... Shiseido Co., Ltd.
Chem Elut® ..... Agilent Technologies, Inc.
Cheminert® ..... Valco Instruments Co., Inc.
CHIRALCEL® ..... DAICEL Corporation
CHIRALPAK® ..... DAICEL Corporation
Chirex™ ..... Chirex, Inc.
Chromolith® ..... Merck KGaA, Darmstadt, Germany
Claricep™ ..... Bonna-Agela Technologies Inc.
Clarity™ ..... Phenomenex, Inc.
Clarus® ..... PerkinElmer, Inc.
Columbus™ ..... Phenomenex, Inc.
Cool-Lock™ ..... Phenomenex, Inc.
Cosmosil™ ..... Nacalai Tesque
Curosil™ ..... Phenomenex, Inc.
Cyrolite® ..... Evonik Cyro LLC.
DB® ..... Agilent Technologies, Inc.
Delrin® ..... Dupont Polymers, Inc.
Develosil® ..... Nomura Chemical Co.
Dionex® ..... Dionex Corporation
Discovery® ..... Merck KGaA, Darmstadt, Germany
Duran® ..... DWK Life Sciences GmbH
Dynabeads™ ..... Thermo Fisher Scientific Inc.
Easy Seals™ ..... Phenomenex, Inc.
Engineered Self Cross-linking™(ESC) ..... Phenomenex, Inc.
Enviro-Inert™ ..... Phenomenex, Inc.
EnviroSep™ ..... Phenomenex, Inc.
Equity® ..... Merck KGaA, Darmstadt, Germany
ESC™ ..... Phenomenex, Inc.
EXCEL™ ..... Advanced Chromatography Technologies LTD
ExionLC™ ..... AB SCIEX Pte. Ltd.
FabRICATOR® ..... Genovis, Inc.
FilterSys™ ..... Phenomenex, Inc.
Florisil® ..... U.S.Silica Co.
FOCUS™ ..... Thermo Fisher Scientific Inc.
FocusLiner™ ..... SGE
Fused-Core® ..... Advanced Materials Technology, Inc.
Gastight® ..... Hamilton Co.
Gemini™ ..... Phenomenex, Inc.
Giga™ ..... Phenomenex, Inc.
Glass Infusion™ ..... Phenomenex, Inc.
GL Sciences® ..... GL Sciences Inc.
GOW-MAC® ..... GOW-MAC Instrument Co.
GuardFinder™ ..... Phenomenex, Inc.
Guardian™ ..... Phenomenex, Inc.
GuideRight™ ..... Phenomenex, Inc.
HALO® ..... Advanced Materials Technology, Inc.
Hamilton® ..... Hamilton Company
HSPgel™ ..... Waters Technologies Corporation
Hypercarb® ..... Thermo Hypersil-Keystone LLC
HyperClone™ ..... Phenomenex, Inc.
HyperSep™ ..... Thermo Fisher Scientific, Inc.
Hypersil® ..... Thermo Hypersil-Keystone LLC
Hypersil GOLD® ..... Thermo Hypersil-Keystone LLC
IA® ..... DAICEL Corporation
IB-Sil™ ..... Phenomenex, Inc.
IC® ..... DAICEL Corporation
IG® ..... DAICEL Corporation
Impact™ ..... Phenomenex, Inc.
Inertsil® ..... GL Sciences, Inc.
Inferno™ ..... Phenomenex, Inc.
IonPac® ..... Dionex Corporation
ISOLUTE® ..... Biotage AB Corp.
JASCO® ..... JASCO Corporation
Jordi Resolve™ ..... Jordi Labs
Jupiter™ ..... Phenomenex, Inc.
Kalrez® ..... Dupont Polymers, Inc.
KEL-F® ..... 3M Company
Kinetex™ ..... Phenomenex, Inc.
Kromasil® ..... AkzoNobel
KrudKatcher™ ..... Phenomenex, Inc.
LiChrosorb® ..... Merck KGaA, Darmstadt, Germany
LiChrospher® ..... Merck KGaA, Darmstadt, Germany
Luer-LOK® ..... Becton, Dickinson and Co.
Luna™ ..... Phenomenex, Inc.
Lux™ ..... Phenomenex, Inc.
MercuryMS™ ..... Phenomenex, Inc.
MICROLITER™ ..... Hamilton Co.
Microseal™ ..... Merlin Instrument Co.
MicroTight® ..... IDEX Health & Science LLC
MidBore™ ..... Phenomenex, Inc.
Milli-Q® ..... Merck KGaA, Darmstadt, Germany
MultiPROBE® ..... PerkinElmer, Inc.
MultiResidue™ ..... Phenomenex, Inc.
MXT® ..... Restek Corp.
nanoEase™ ..... Waters Technologies Corporation
NerdLife™ ..... Phenomenex, Inc.
Nexera® ..... Shimadzu Corporation
NEXT™ ..... Phenomenex, Inc.
Novum™ ..... Phenomenex, Inc.
NUCLEOSIL® ..... Macherey-Nagel
Oasis® ..... Waters Technologies Corporation
OBD™ ..... Waters Technologies Corporation
OD® ..... DAICEL Corporation
OD-H® ..... DAICEL Corporation
OD-RH® ..... DAICEL Corporation
OJ® ..... DAICEL Corporation
OJ-H® ..... DAICEL Corporation
OJ-RH® ..... DAICEL Corporation
Oligo-MS™ ..... Phenomenex, Inc.
Oligo-RP™ ..... Phenomenex, Inc.
Oligo-WAX™ ..... Phenomenex, Inc.
Omegawax® ..... Merck KGaA, Darmstadt, Germany
Omnifit® ..... Bio-Chem Fluidics, Ltd.
Onyx™ ..... Phenomenex, Inc.
Orbitrap™ ..... Thermo Fisher Scientific
OTX™ ..... Phenomenex, Inc.
OV® ..... Ohio Valley Specialty Company
OxiClear™ ..... LabClear
OZ-H® ..... DAICEL Corporation
Parafilm® ..... Bemis Co., Inc
PEEKLok™ ..... Trajan Scientific Australia Pty Ltd.
PEEKsil™ ..... Trajan Scientific Australia Pty Ltd.
PepMap™ ..... Thermo Fisher Scientific
PerkinElmer® ..... PerkinElmer, Inc.
Petrocol® ..... Merck KGaA, Darmstadt, Germany
Phenex™ ..... Phenomenex, Inc.
Phenogel™ ..... Phenomenex, Inc.
PhenoBlue™ ..... Phenomenex, Inc.
PhenoGreen™ ..... Phenomenex, Inc.
PhenoGrey™ ..... Phenomenex, Inc.
PhenoLogix™ ..... Phenomenex, Inc.
PhenoRed™ ..... Phenomenex, Inc.
PhenoSphere™ ..... Phenomenex, Inc.
Phenova™ ..... Phenova, Inc.
Phree™ ..... Phenomenex, Inc.
PLgel™ ..... Agilent Technologies, Inc.
PLRP-S™ ..... Agilent Technologies, Inc.
POLEFIN® ..... PSS Polymer Standards Service GmbH
PolymerX™ ..... Phenomenex, Inc.
PolySep™ ..... Phenomenex, Inc.
POLYWAX® ..... Baker Hughes Inc.
Porasil™/µPorasil™ ..... Waters Technologies Corporation
Presston™ ..... Phenomenex, Inc.
Pressure-Lok® ..... Valco Instruments Co., Inc.
PrimeSphere™ ..... Phenomenex, Inc.
Prodigy™ ..... Phenomenex, Inc.

Trademarks *(cont'd)*

Trademarks *(cont'd)*

Prominence® ..... Shimadzu Corporation
Protein-Pak™ ..... Waters Technologies Corporation
PRP® ..... Hamilton Co.
PT Manage™ ..... Phenova, Inc.
Pursuit® ..... Agilent Technologies, Inc.
Q Exactive™ ..... Thermo Fisher Scientific
QSP™ ..... Phenomenex, Inc.
QTRAP® ..... AB SCIEX Pte. Ltd.
RCX™ ..... Hamilton Co.
Restek® ..... Restek Corp.
Rezex™ ..... Phenomenex, Inc.
RheBuild® ..... IDEX Health & Science LLC
RheFlex® ..... IDEX Health & Science LLC
Rheodyne® ..... IDEX Health & Science LLC
roQ™ ..... Phenomenex, Inc.
RP-Desalting™ ..... Phenomenex, Inc.
Rt® ..... Restek Corp.
Rtx® ..... Restek Corp.
Rx® ..... Agilent Technologies, Inc.
Rxi® ..... Restek Corp.
Santoprene™ ..... Exxon Mobil Corporation
S.C.A.T.® ..... S.C.A.T. Europe GmbH
SCIEX® ..... AB SCIEX Pte. Ltd.
SDV® ..... PSS Polymer Standards Service GmbH
SecurityCAP™ ..... Phenomenex, Inc.
SecurityGuard™ ..... Phenomenex, Inc.
SecurityLINK™ ..... Phenomenex, Inc.
Selectosil™ ..... Phenomenex, Inc.
Sepra™ ..... Phenomenex, Inc.
Septa BTO® ..... Chromatography Research Supplies, Inc.
SeQuant® ..... Merck KGaA, Darmstadt, Germany
SGE® ..... Trajan Scientific Australia Pty Ltd.
Shimadzu® ..... Shimadzu Corporation
Shiseido® ..... Shiseido Company, Ltd.
Shodex® ..... Showa Denko K.K.
Sigma-Aldrich® ..... Merck KGaA, Darmstadt, Germany
SilTite® ..... Trajan Scientific Australia Pty Ltd.
SLB® ..... Merck KGaA, Darmstadt, Germany
SolGel-1ms™ ..... Trajan Scientific Australia Pty Ltd.
SolGel-WAX™ ..... Trajan Scientific Australia Pty Ltd.
Solvent Saver™ ..... Phenomenex, Inc.
Solvent Shielding Technology™ ..... Phenomenex, Inc.
SOURCE™ ..... GE Healthcare
SP® ..... Merck KGaA, Darmstadt, Germany
SPB® ..... Merck KGaA, Darmstadt, Germany
SphereClone™ ..... Phenomenex, Inc.
Spherex™ ..... Phenomenex, Inc.
Spherisorb® ..... Waters Technologies Corporation
SRT® ..... Sepax Technologies, Inc.
StableBond® ..... Agilent Technologies, Inc.
Stabilwax® ..... Restek Corp.
Strata™ ..... Phenomenex, Inc.
Stx® ..... Restek Corp.
Styragel®/μStyragel™ ..... Waters Technologies Corporation
Sugar-Pak™ ..... Waters Technologies Corporation
Sumichiral OA™ ..... Sumika Chemical Analysis Service, Ltd.
SunFire® ..... Waters Technologies Corporation
Supelco® ..... Merck KGaA, Darmstadt, Germany
SUPELCOGEL™ ..... Merck KGaA, Darmstadt, Germany
SUPELCOSIL™ ..... Merck KGaA, Darmstadt, Germany
SUPELCOWAX® ..... Merck KGaA, Darmstadt, Germany
Superspher® ..... Merck KGaA, Darmstadt, Germany
Sure-Fit™ ..... Isolation Technologies
Sure-Lok™ ..... Phenomenex, Inc.
Swagelok® ..... Swagelok Co.
Symmetry® ..... Waters Technologies Corporation
SymmetryShield™ ..... Waters Technologies Corporation
Synergi™ ..... Phenomenex, Inc.
Tall-Boy™ ..... Phenomenex, Inc.
Teflon® ..... The Chemours Company FC, LLC.
Tefzel® ..... The Chemours Company FC, LLC.
ThermaSphere™ ..... Phenomenex, Inc.
Thermo Scientific® ..... Thermo Fisher Scientific Inc.
Tosoh Bioscience® ..... Tosoh Corporation
TRACE™ ..... Thermo Fisher Scientific Inc.
Triophilic™ ..... Phenomenex, Inc.
TSKgel® ..... Tosoh Corporation
TWIN-NX™ ..... Phenomenex, Inc.
TWIN™ Technology ..... Phenomenex, Inc.
Two-In-One Technology™ ..... Phenomenex, Inc.
Ultracarb™ ..... Phenomenex, Inc.
Ultrastyragel™ ..... Waters Technologies Corporation
Ultremex™ ..... Phenomenex, Inc.
Ultron® ..... Shinwa Chemical Industries
UPLC® ..... Waters Technologies Corporation
Valco® ..... VICI Valco Instruments Co., Inc.
VapLock™ ..... Western Fluids, LLC.
Vanquish™ ..... Thermo Fisher Scientific
Varian® ..... Varian Medical Systems Technologies, Inc.
Verex™ ..... Phenomenex, Inc.
Vespel® ..... Dupont Polymers, Inc.
VICI® ..... Valco Instruments Co., Inc.
VICI Jour® ..... Valco Instruments Co., L.P.
Viton® ..... The Chemours Company FC, LLC.
Vydac® ..... W.R. Grace & Co.-Conn.
Waters® ..... Waters Technologies Corporation
WAXPLUS™ ..... Phenomenex, Inc.
WISP™ ..... Waters Technologies Corporation
XBridge® ..... Waters Technologies Corporation
XTerra® ..... Waters Technologies Corporation
XTI® ..... Restek Corp.
Yarra™ ..... Phenomenex, Inc.
Zebron™ ..... Phenomenex, Inc.
Z-Guard™ ..... Phenomenex, Inc.
ZIC® ..... Merck KGaA, Darmstadt, Germany
Z-Liner™ ..... Phenomenex, Inc.
ZORBAX® ..... Agilent Technologies, Inc.

Terms and Conditions of Sale

phenomenex™

www.phenomenex.com/TermsAndConditions

FOR RESEARCH USE ONLY. Not for use in clinical diagnostic procedures.

"Why isn't my column working?"

"What sample prep method should I start with?"

"Who can help me ID this peak?!"

"How can I optimize my resolution?"

chat now
Quotes, Methods, Tips...We're here to help



Help is on the way! LiveChat our technical experts 24/7

www.phenomenex.com/chat

Find additional assistance with your questions visit www.phenomenex.com/support

Purchasing and Product/ Method Support

- Place an Order
- Request a Quote
- Request a FREE Method Development Consultation
- Get Product or Service Information

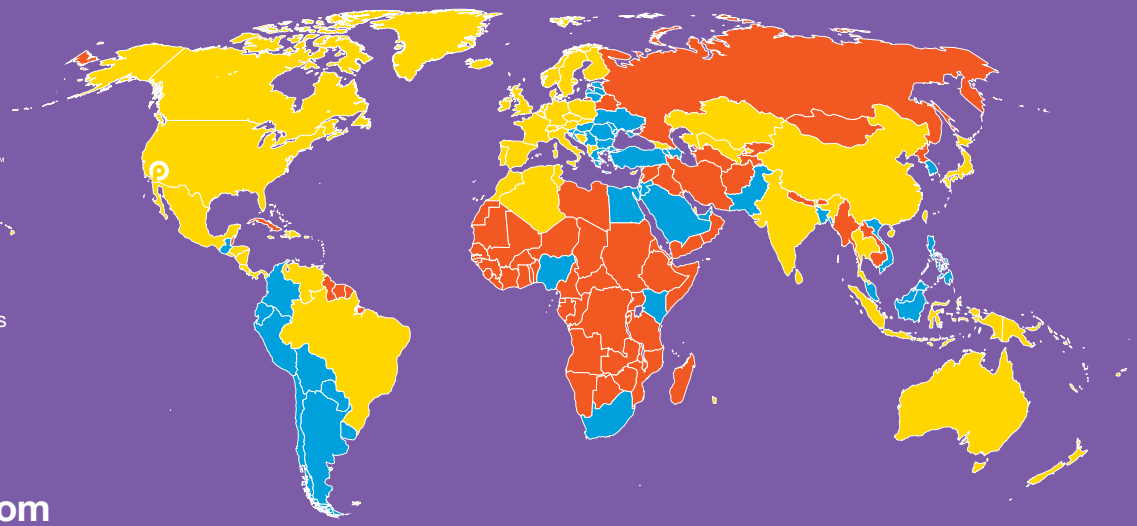
Technical Troubleshooting Support

- Technical Questions
- Troubleshooting Help
- Chat for immediate Assistance

Other Support Inquiries

- Support for Existing Order
- Support for Accounting Issue
- Report a Website Issue
- Removed from Mailing List

phenomenex™



www.phenomenex.com

Phenomenex products are available worldwide. For the distributor in your country/region, contact Phenomenex USA, International Department at **international@phenomenex.com**

Albania
Algeria
Argentina
Armenia
Australia
Austria
Azerbaijan
The Bahamas
Bangladesh
Bahrain
Barbados
Belgium
Bolivia
Bosnia and Herzegovina
Brazil
Bulgaria
Canada
Chile
China
Colombia
Costa Rica
Croatia
Cyprus
Czech Republic
Denmark
Dominican Republic
Ecuador
Egypt
El Salvador
Estonia
Fiji
Finland
France
French Polynesia
Georgia
Germany
Greece
Guatemala
Honduras
Hong Kong
Hungary
Iceland
India
Indonesia
Ireland
Israel
Italy
Jamaica
Japan
Jordan
Kazakhstan
Kenya
Kuwait
Latvia
Lebanon
Lithuania
Luxembourg
Macedonia
Malaysia
Malta
Mauritius
Mexico
Montenegro
Morocco
The Netherlands
New Zealand
Nicaragua
Nigeria
Norway
Oman
Pakistan
Panama
Papua New Guinea
Paraguay
Peru
Philippines
Poland
Portugal
Puerto Rico
Qatar
Reunion
Romania
Saudi Arabia
Serbia
Singapore
Slovakia
Slovenia
South Africa
South Korea
Spain
Sri Lanka
Sweden
Switzerland
Taiwan
Thailand
Tunisia
Turkey
Turkmenistan
Uganda
Ukraine
United Arab Emirates
United Kingdom
Uruguay
USA
Uzbekistan
Venezuela
Vietnam
Yemen

QUALITY SYSTEM CERTIFICATION
DNV·GL
ISO 9001:2015

Australia
23-27 Chaplin Drive
Lane Cove NSW 2066, Australia
t: +61 (0)2-9428-6444
f: +61 (0)2-9428-6445
auinfo@phenomenex.com

Austria
Zeppelinstr. 5
63741 Aschaffenburg, Germany
t: +49 (0)6021-58830-0
f: +49 (0)6021-58830-11
anfrage@phenomenex.com

Belgium
Pelmolenlaan 15
3447 GW Woerden
The Netherlands
t: +32 (0)2 503 4015 (French)
t: +32 (0)2 511 8666 (Dutch)
beinfo@phenomenex.com

Canada
411 Madrid Ave.
Torrance, CA
90501-1430, USA
t: +1 (800) 543-3681
f: +1 (310) 328-7768
www.phenomenex.com/support

China
No. 179, Southern Street,
West TEDA, Tianjin, 300462,
China
t: +86 400-606-8099
t: +86 (0)22 2532-1032
f: +86 (0)22 2532-1033
cninfo@phenomenex.com

Czech Republic
c/o Beckman Coulter Česká Republika
s.r.o. V Parku 2316/12,
148 00 Praha 11 – Chodov
t: +420 272 017 077
f: +420 274 021 210
cz-info@phenomenex.com

Denmark
Åkandevej 21
DK-2700 Broenshoej, Denmark
t: +45 4824 8048
nordicinfo@phenomenex.com

Finland
Åkandevej 21
DK-2700 Broenshoej, Denmark
t: +358 (0)9 4789 0063
nordicinfo@phenomenex.com

France
Parc des Grillons, Bât. 3
60 route de Sartrouville
78232 Le Pecq Cedex, France
t: +33 (0)1 30 09 21 10
f: +33 (0)1 30 09 21 11
franceinfo@phenomenex.com

Germany
Zeppelinstr. 5
63741 Aschaffenburg, Germany
t: +49 (0)6021-58830-0
f: +49 (0)6021-58830-11
anfrage@phenomenex.com

Hong Kong
Suite 1605, 16th Floor, Tower 6
China Hong Kong City,
33 Canton Road,
Tsim Sha Tsui, Kowloon,
Hong Kong
f: +852 3102 0003
hkinfo@phenomenex.com

India
Laxmi Cyber City
Ground Floor, B Block
Survey no.: 10
Kondapur, Hyderabad 500 084
India
t: +91 (0)40-3012 2400
f: +91 (0)40-3012 2411
indiainfo@phenomenex.com

Indonesia
PT. DHH Trading Indonesia
Revenue Tower 19th floor, unit #116
Lot.13, District 8 SCBD
Jl. Jendral Sudirman Kav.52-53
Jakarta 12190 Indonesia
t: +62 21 3952 5747
indoinfo@phenomenex.com

Ireland
Phenomenex ltd
Unit 3
Melville House
Queens Avenue,
Hurdsfield Industrial Estate
Macclesfield
SK10 2BN, UK
t: +353 (0)1 247 5405
f: +44 1625-501796
eireinfo@phenomenex.com

Italy
Via M. Serenari, 15/D
40013 Castel Maggiore (BO)
Italy
t: +39 051 6327511
f: +39 051 6327555
italiainfo@phenomenex.com

Japan
K.K. AB SCIEX
Gotenyama Trust Tower 21F,
4-7-35 Kita Shinagawa
Shinagawa-ku, Tokyo 140-0001
Japan
t: +81 (0)120-149-262
f: +81 (0)50-3153-1623
jpinfo@phenomenex.com

Luxembourg
Pelmolenlaan 15
3447 GW Woerden
The Netherlands
t: +31 (0)30-2418700
nlinfo@phenomenex.com

Mexico
411 Madrid Ave.
Torrance, CA
90501-1430, USA
t: 01-800-844-5226
f: 001-310-328-7768
tecnicomx@phenomenex.com

The Netherlands
Pelmolenlaan 15
3447 GW Woerden
The Netherlands
t: +31 (0)30-2418700
nlinfo@phenomenex.com

New Zealand
c/o Beckman Coulter
Unit J, 33-37 Walmsley Road
Otahuhu, 1062 Auckland
New Zealand
t: +64 (0)9-4780951
f: +64 (0)9-4780952
nzinfo@phenomenex.com

Norway
Åkandevej 21
DK-2700 Broenshoej, Denmark
t: +47 810 02 005
nordicinfo@phenomenex.com

Poland
Al. Jerozolimskie 181A
02-222 Warsaw, Poland
t: +48 22 51 02 180
pl-info@phenomenex.com

Portugal
Valgrande 8 Edificio Thanworth II
Planta 2
28108 Alcobendas Madrid,
Spain
t: +351 221-450-488
f: +34 91-413-2290
ptinfo@phenomenex.com

Singapore
1 North Coast Ave, #06-01
Singapore 737663
t: 800-852-3944
sginfo@phenomenex.com

Slovakia
Murmanská 1475/4, 10000 Praha 10,
Czech Republic
t: +420 272 017 077
f: +420 274 021 210
sk-info@phenomenex.com

Spain
Valgrande 8 Edificio Thanworth II
Planta 2
28108 Alcobendas Madrid,
Spain
t: +34 91-413-8613
f: +34 91-413-2290
espinfo@phenomenex.com

Sweden
Åkandevej 21
DK-2700 Broenshoej, Denmark
t: +46 (0)8 611 6950
nordicinfo@phenomenex.com

Switzerland
Schäferweg 16
4057 Basel, Switzerland
t: +41 (0)61 692 20 20
f: +41 (0)61 692 20 22
swissinfo@phenomenex.com

Taiwan
4F., No. 631, Ruiguang Road
Neihu District, Taipei City 114
Taiwan
t: +886 (0) 0801-49-1246
twinfo@phenomenex.com

Thailand
555, Rasa Tower 1, unit 1602-1/1,
16th Floor, Phahonyothin Rd.,
Chatuchak, Chatuchak,
Bangkok, 10900 Thailand
t: +66 (0) 2 566 0287
thaiinfo@phenomenex.com

United Kingdom
Phenomenex ltd
Unit 3
Melville House
Queens Avenue,
Hurdsfield Industrial Estate
Macclesfield
SK10 2BN, UK
t: +44 (0)1625-501367
ukinfo@phenomenex.com

USA
411 Madrid Ave.
Torrance, CA
90501-1430, USA
t: +1 (310) 212-0555
f: +1 (310) 328-7768
www.phenomenex.com/support

danaher

© 2025 Phenomenex, Inc. All rights reserved.

1566905739_CT1224_ACC