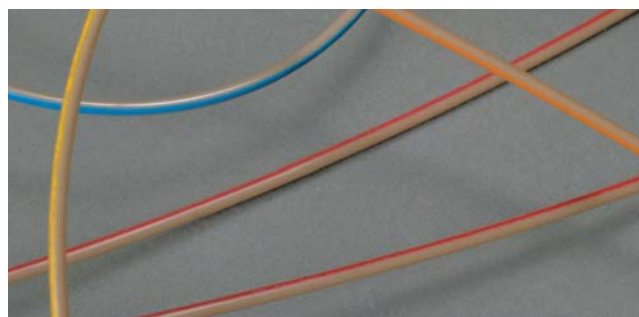## ASI Piston Seals for Agilent HPLC Systems

Over time the piston seal in every HPLC system becomes worn and must be replaced. Our piston seals are constructed of Teflon® material with an additive that reduces their tendency to "cold flow" and improves their wear characteristics. Teflon® seals are more resistant to any HPLC solvent than UHMWPE seals, but they are less wear-resistant and rugged. For Agilent 1050 and 1100 HPLC systems.

Description	Similar to Agilent part #	qty.	cat.#
ASI Piston Seal	5062-8516	ea.	25175
ASI Piston Seal		10-pk.	25176

Inert PEEK™ Tubing

- Replaces stainless steel, titanium, Teflon® or Tefzel® tubing.
- Less oxygen permeable and more temperature resistant (to 250 °C) than Teflon® or Tefzel® tubing.
- Use with PEEK™ fingertight or flangeless fittings.
- Use to 7,000 psi (48,263 kPa).

Description	OD	ID	Length	Color Code	qty.	cat.#
PEEK Tubing	$^1/_{16}$"	0.0025"	1m	pink dash stripe	3-pk.	25320
PEEK Tubing	$^1/_{16}$"	0.005"	3m	red stripe	ea.	25065
PEEK Tubing	$^1/_{16}$"	0.007"	3m	yellow stripe	ea.	25066
PEEK Tubing	$^1/_{16}$"	0.010"	3m	blue stripe	ea.	25067
PEEK Tubing	$^1/_{16}$"	0.020"	3m	orange stripe	ea.	25068

25170   25160

ASI Check Valves

ASI subjects each valve to a rigorous series of tests, including self-priming capability, which means you typically won't need a syringe or draw-off valves to prime your pump. A high-pressure test ensures that the valve will not leak, even at pressures up to 12,000 psi (82,737 kPa). A low-pressure test verifies that the valve closes properly, even without a high backpressure force. The cartridge design allows easy, convenient replacement of worn or damaged valves.

for Agilent 1050 & 1100

Description	Material	qty.	cat.#
Outlet Check Valve (cartridge and housing)	Sapphire & Ruby Ball & Seat	ea.	25170
Outlet Check Valve (cartridge and housing)	Ceramic Ball & Seat	ea.	25173
Outlet Cartridge	Sapphire & Ruby Ball & Seat	ea.	25171
Outlet Cartridge	Ceramic Ball & Seat	ea.	25174
Outlet Housing	—	ea.	25172

for Waters Alliance® Model 2690 & 2695

Description	Material	qty.	cat.#
Inlet and Outlet Cartridges	Sapphire & Ruby Ball & Seat	ea.	25160
Inlet and Outlet Cartridges	Ceramic Ball & Seat	ea.	25162

HPLC Stainless Steel Capillary Tubing

- 316 grade stainless steel.
- Precise pre-cut lengths.
- Smooth surface finish.
- Ultra clean.

Whether you need to replace system tubing as part of your troubleshooting or want to reduce the dwell volume of your system as you move to narrower columns, Restek has the quality tubing in the lengths and IDs you need. Each ID is color-coded so it is easy to identify and replace correctly.

Length	qty.	0.005" ID (red) cat.#	0.007" ID (gray) cat.#	0.010" ID (blue) cat.#	0.020" ID (yellow) cat.#
$^1/_{16}$" OD Tubing					
5cm	3-pk.	25240	25244	25248	25252
10cm	3-pk.	25241	25245	25249	25253
20cm	3-pk.	25242	25246	25250	25254
30cm	3-pk.	25243	25247	25251	25255

RESTEK

Teflon® Tubing
- Ideal for mobile phase inlet lines.
- Chemically inert.
- Use to 500 psi (3,447 kPa) and 80 °C.

Description	OD	ID	Length	qty.	cat.#
Teflon Tubing	$1/8$"	0.063" (1.6mm)	3m	3m	25306
Teflon Tubing	$1/8$"	0.094" (2.4mm)	3m	3m	25307

cool **tool!**

Tubing Clip
Securely holds $1/16$-inch or $1/8$-inch tubing in beaker, flask, or bottle up to 4 mm thick.

Description	qty.	cat.#
Tubing Clip	5-pk.	25310

25308
25309

PEEK™ Tubing Elbows
Tubing Elbows (90° and 180°) are ideal for routing $1/16$-inch PEEK™ tubing through your system. Simply snap the tubing into the elbow. Prevent pinching of PEEK™ tubing which can cause high pressure.

Description	qty.	cat.#
PEEK Tubing Elbow, 90°	5-pk.	25308
PEEK Tubing Elbow, 180°	5-pk.	25309

20188

Tubing Dressing Tool
Opens stainless steel tubing bore and removes burrs. For $1/16$-inch OD tubing or $1/8$-inch OD tubing.

Description	Size	qty.	cat.#
Tubing Dressing Tool	$1/16$"	ea.	20188
Replacement Insert	for $1/16$" Tubing Dressing Tool	ea.	20189
Tubing Dressing Tool	$1/8$"	ea.	20190
Replacement Insert	for $1/8$" Tubing Dressing Tool	ea.	20191

25069

Clean-Cut Tubing Cutter
- Burr-free, perpendicular cuts that will not distort the tubing OD or close the ID.
- Use on PEEK™, Teflon®, Tefzel®, other polymeric tubing.

Description	qty.	cat.#
Clean-Cut Tubing Cutter	ea.	25069
Replacement Blade for Clean-Cut Cutter	ea.	25070

Improving Column Connections

A good connection is necessary for trouble-free chromatography. Connecting incompatible fittings from different manufacturers can result in leaks, poor peak shape, and increased void volume (Figure 1). Each type of end-fitting has a unique seat depth or style. Generally, Restek, Valco®, Parker, and Upchurch Scientific® fittings are interchangeable; whereas Waters, SSI, Rheodyne®, and Gasukura fittings are not (Figure 2).

Our wrenchless universal 10-32 PEEK™ Column Connector (cat.# 25015) can be used with any style of end fitting, and all $1/16$-inch tubing. It is reusable and will adjust to any seat, depth, or style, allowing tubing to adjust to depth of hole.

25015

Use with any style of end fitting!

25324

Universal 10-32 PEEK™ Column Connectors and Plugs

Universal PEEK™ Connectors allow easy installation of all $1/16$-inch tubing, including stainless steel.

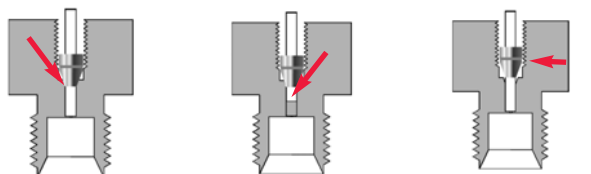| Description	qty.	cat.#
PEEK Column Connector (beige, round body)	10-pk.	25015
PEEK Column Plug (black)	10-pk.	25016
PEEK Fingertight Fittings (blue, flat-sided)	10-pk.	25324

25095

25096

Rheodyne® Style Nut and Ferrule

Replacement long nut for connecting stainless steel tubing to a Rheodyne® 6-port valve or other Rheodyne® part.

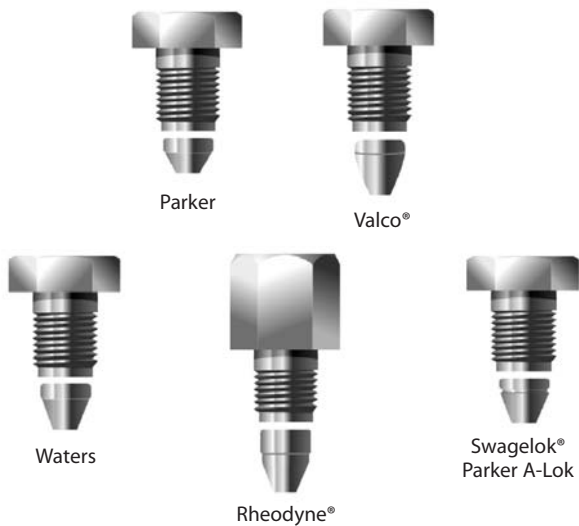| Description	qty.	cat.#
$1/16$" Rheodyne Style Nut	10-pk.	25095
$1/16$" Rheodyne Style Ferrule	10-pk.	25096

Figure 1 Incompatible fittings create problems.

Tubing and ferrule seated correctly

Tubing not seated, causing dead volume

Ferrule can't seal

Figure 2 Fitting styles differ among various manufacturers.

Parker

Valco®

Waters

Rheodyne®

Swagelok® Parker A-Lok

25015

Universal 10-32 PEEK™ Column Connector works with any style of end fitting!

ChromaBLOGraphy

Topical and timely insights from top chromatographers.

Visit us at **blog.restek.com**

RESTEK

25323

PEEK™ Union Connector

Quickly and reliably connect two pieces of $^1/_{16}$-inch tubing. 0.3 mm union bore. End fittings included.

Description	qty.	cat.#
PEEK Union Connector $^1/_{16}$"	2-pk.	25323

20147

Zero-Dead-Volume Valco® Internal Union

Ends of tubing seat squarely at bottoms of fitting details. 300 series stainless steel. For $^1/_{16}$" OD tubing. Stainless steel ferrules included.

Description	Union Bore	Valco #	qty.	cat.#
Internal Union	0.15mm	ZU1XC	ea.	20147
Internal Union	0.25mm	ZU1C	ea.	20148
Internal Union	0.75mm	ZU1	ea.	20149
Internal Union	$^1/_{16}$"	ZU1T	ea.	20150

Ensure a consistent, leak-free seal!

PEEK™ Secure-Fit Fitting

Stainless Steel Secure-Fit Fitting

Secure-Fit Fittings

A good connection between HPLC components is necessary for trouble-free chromatography. Secure-Fit connectors from Restek and Selerity Technologies ensure a consistent, leak-free seal—and they eliminate excess dead volume! An internal spring mechanism holds the capillary tubing at the proper depth in the female fitting. This seal is maintained while you finger-tighten the nut. These fittings are available in stainless steel or PEEK™, and in a variety of tubing lengths and internal diameters.

Secure-Fit Fittings (Single Connectors)

	Stainless Steel			PEEK		
Length	0.005" ID	0.007" ID	0.010" ID	0.005" ID	0.007" ID	0.010" ID
6cm	25181	25185	25190	25230	25234	25217
10cm	25182	25186	25191	25231	25235	25218
20cm	25183	25187	25192	25232	25236	25219
30cm	25184	25188	25193	25233	25237	25220
50cm	26510	26511	26512	—	—	—

Secure-Fit Fittings (Two Connectors)

	Stainless Steel			PEEK		
Length	0.005" ID	0.007" ID	0.010" ID	0.005" ID	0.007" ID	0.010" ID
10cm	25208	25211	25214	25221	25224	25227
20cm	25209	25212	25215	25222	25225	25228
30cm	25210	25213	25216	25223	25226	25229
50cm	26513	26514	26515	—	—	—

NEW!

20568

25043

Ferrules for Secure-Fit ($^1/_{16}$")

Description	Material	qty.	cat.#
$^1/_{16}$" Ferrule for Secure-Fit	PEEK	10-pk.	20568
$^1/_{16}$" Ferrule for Secure-Fit	Stainless Steel	10-pk.	25043

25322

MLE
Make Life Easier!

Kits are convenient and economical, compared to ordering individual items!

25097

Survival Kit for HPLC, PEEK™

The PEEK™ Survival Kit is an invaluable parts kit that contains tubing, fittings, and tools essential for setting up and maintaining your HPLC system: PEEK™ tubing, connectors, and elbows, Teflon® tubing, a tubing cutter and extra blades, a ValvTool wrench, open-end wrenches, and more.

For start-up and maintenance in all HPLC systems.

Description	qty.	cat.#
Survival Kit for HPLC, PEEK	kit	25322

Contents:

Description	qty.	cat.#
PEEK Column Connector (beige, round body)	10-pk.	25015
PEEK Tubing, $1/16$" OD x 0.005" ID x 3m (red stripe)	ea.	25065
PEEK Tubing, $1/16$" OD x 0.007" ID x 3m (yellow stripe)	ea.	25066
PEEK Tubing, $1/16$" OD x 0.010" ID x 3m (blue stripe)	ea.	25067
PEEK Tubing Elbow, 90°	5-pk.	25308
PEEK Tubing Elbow, 180°	5-pk.	25309
Teflon Tubing, $1/8$" OD x 0.063" (1.6mm) ID x 3m	3m	25306
Teflon Tubing, $1/8$" OD x 0.094" (2.4mm) ID x 3m	3m	25307
Tubing Clip	5-pk.	25310
ValvTool Wrench	ea.	25321
Open-End Wrenches, $1/4$" x $5/16$"	2-pk.*	20110
Clean-Cut Tubing Cutter	ea.	25069
Replacement Blade for Clean-Cut Cutter	ea.	25070
PEEK Union Connector $1/16$"	2-pk.	25323
Mobile Phase Sparge Filter: 2μm	ea.	25311
Inlet Filter: 10μm	ea.	25312

*Kit contains 1 wrench, replacement (cat.# 20110) is a 2-pk.

Survival Kit for HPLC, Stainless Steel

The stainless steel survival kit contains a wide range of tubing, fittings, and tools necessary to set up and maintain your HPLC system: a selection of lengths and IDs of $1/16$-inch tubing, plus nuts, ferrules, a ValvTool wrench, and a zero-dead-volume union.
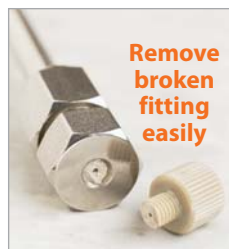
Description	qty.	cat.#
Survival Kit for HPLC, Stainless Steel	kit	25097

Contents:

Description	color	qty.	cat.#
HPLC Capillary Tubing, SS $1/16$" x 0.005" x 5cm	red	3-pk.	25240
HPLC Capillary Tubing, SS, $1/16$" x 0.005" x 10cm	red	3-pk.	25241
HPLC Capillary Tubing, SS, $1/16$" x 0.005" x 20cm	red	3-pk.	25242
HPLC Capillary Tubing, SS, $1/16$" x 0.005" x 30cm	red	3-pk.	25243
HPLC Capillary Tubing, SS, $1/16$" x 0.007" x 5cm	gray	3-pk.	25244
HPLC Capillary Tubing, SS, $1/16$" x 0.007" x 10cm	gray	3-pk.	25245
HPLC Capillary Tubing, SS, $1/16$" x 0.007" x 20cm	gray	3-pk.	25246
HPLC Capillary Tubing, SS, $1/16$" x 0.007" x 30cm	gray	3-pk.	25247
HPLC Capillary Tubing, SS, $1/16$" x 0.010" x 5cm	blue	3-pk.	25248
HPLC Capillary Tubing, SS, $1/16$" x 0.010" x 10cm	blue	3-pk.	25249
HPLC Capillary Tubing, SS, $1/16$" x 0.010" x 20cm	blue	3-pk.	25250
HPLC Capillary Tubing, SS, $1/16$" x 0.010" x 30cm	blue	3-pk.	25251
HPLC Capillary Tubing, SS, $1/16$" x 0.020" x 5cm	yellow	3-pk.	25252
HPLC Capillary Tubing, SS, $1/16$" x 0.020" x 10cm	yellow	3-pk.	25253
HPLC Capillary Tubing, SS, $1/16$" x 0.020" x 20cm	yellow	3-pk.	25254
HPLC Capillary Tubing, SS, $1/16$" x 0.020" x 30cm	yellow	3-pk.	25255
$1/16$" Rheodyne Style Nut		10-pk.	25095
$1/16$" Rheodyne Style Ferrule		10-pk.	25096
ValvTool Wrench		ea.	25321
Ferrules, $1/16$" Stainless Steel		10-pk.	26548
Nuts, $1/16$" Stainless Steel		10-pk.	20287
Zero-Dead-Volume Internal Union		ea.	20148

HPLC PEEK™ Performance Kit

This HPLC PEEK™ Performance Kit is a useful complement to your HPLC system. Includes:

- Hub-Cap Adapter w/Cap (1)
- Tubing Clips (3)
- Clean Cut Tubing Cutter (1)
- PEEK Finger Tight Fittings (5)
- PEEK Column Plugs (5)
- PEEK 90° Tubing Elbows (2)
- PEEK 180° Tubing Elbows (2)
- PEEK Column Connectors (2)

Description	qty.	cat.#
HPLC PEEK Performance Kit	kit	26394

RESTEK

Remove broken fitting easily

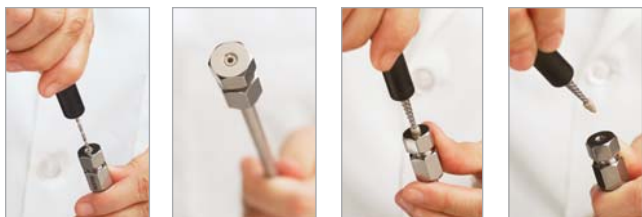**Use the flat side of the Piston Seal Insertion Tool to seat a Waters face seal.**

25325

PEEK™ Fitting Extractor

Drill into the broken fitting, then screw the extractor into the fitting and remove it easily. Eliminates the need for heat or other techniques that could damage your column.

Description	qty.	cat.#
PEEK Fitting Extractor	ea.	25325

HPLC Piston Seal Insertion Tool

Simplify pump maintenance: use one end to remove your old seal, then simply slip your new seal on the other end and push it flush into position. The tool cannot mar the surrounding metal surface of the pump housing.

Remove a seal

Seat a seal

Description	qty.	cat.#
HPLC Piston Seal Insertion Tool	ea.	21356

25321

ValvTool Wrench

The ValvTool is a time-saving device that provides easy access to many hard-to-reach Rheodyne® or Valco® valves. For $^1/_4$-inch nuts.

Description	qty.	cat.#
ValvTool Wrench	ea.	25321

Outlet Cap and Gold Seal Assembly Tool for Agilent 1050 & 1100 HPLC Systems

Easily install the gold seal into the outlet cap.

Put Outlet Cap on male part of Assembly Tool.

Push the Assembly Tool together, then hold on to Outlet Cap and pull Assembly Tool apart.

Put Gold Seal over pin on male part of Assembly Tool.

Push the Assembly Tool together and press the Gold Seal in the Outlet Cap.

Pull the Assembly Tool apart and remove assembled Outlet Cap and Gold Seal.

Description	qty.	cat.#
Outlet Cap and Gold Seal Assembly Tool for Agilent 1050 & 1100 HPLC Systems	ea.	24989
Seal, Gold Disk (outlet)	ea.	25467
Outlet Cap	4-pk.	25139
Outlet Cap & Gold Seal Assembly	2-pk.	25140

25140

RESTEK