

# Top GC Accessories

Featuring the

# Cool-Lock™ Nut

Fast GC Column Installation without the Burn



**phenomenex**  
...breaking with tradition™



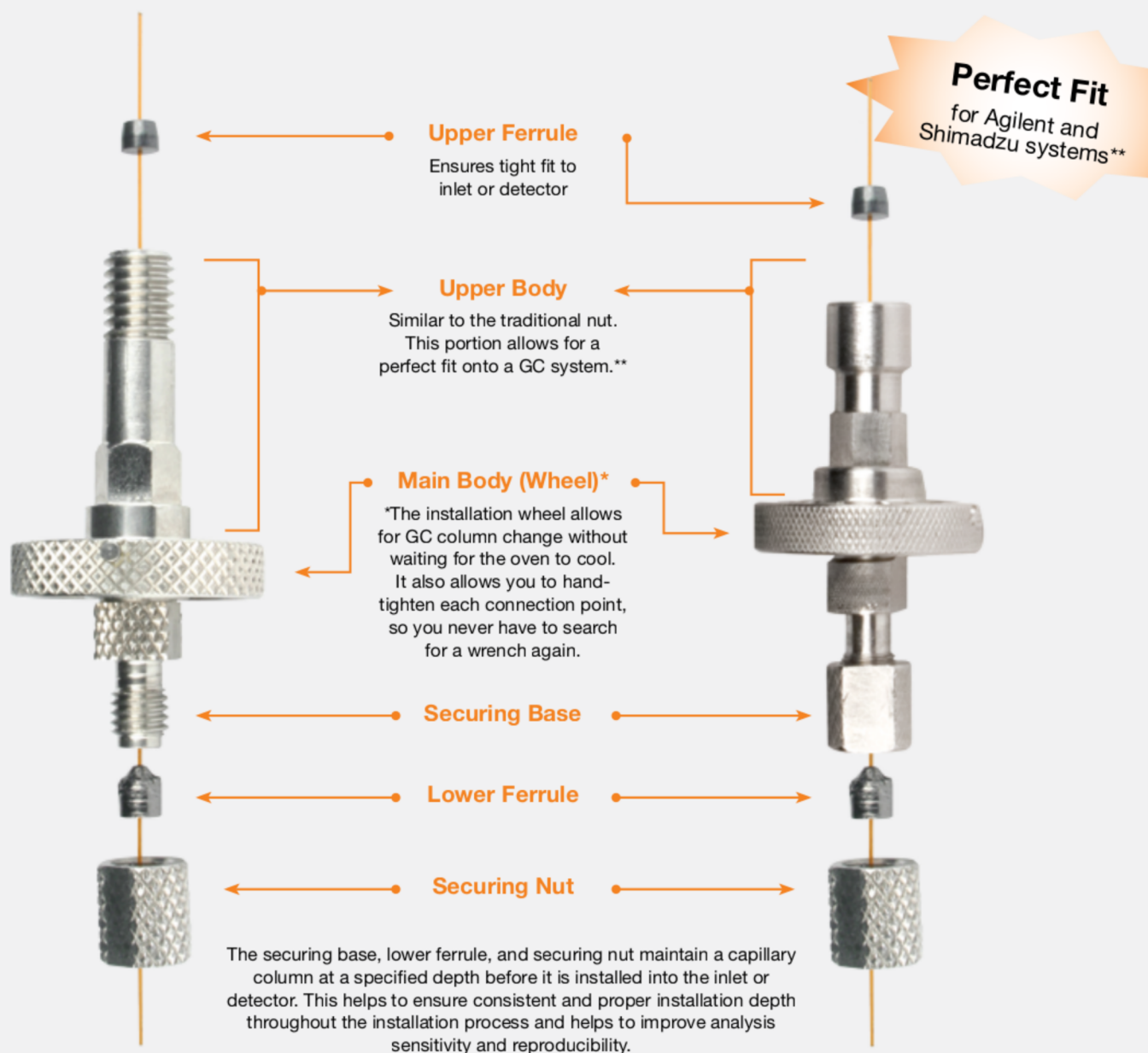
# Designed for Superior Performance

- Avoid burning your fingers again – cools with the oven
- No wrenches or Wite-Out® needed
- Achieve the proper installation depth each and every time
- Quickly change column to save laboratory down time and increase productivity
- Ensures more accurate and reproducible results

The Cool-Lock™ Nut is a significant improvement over other commercial GC nuts in many ways. The design allows for quick and easy GC column installation. Its low thermal mass makes it cool to the touch when the oven temperature is lowered, allowing you to change columns without fear of burning your fingers. When used together with the Cool-Lock Nut Installation Gauge, you ensure a proper installation depth each and every time – improving the reproducibility of your analysis.

## Agilent GC System

## Shimadzu GC System



\*Patent-pending design

\*\*Guaranteed a perfect fit for Agilent 5850, 5890, 6890, 6850 GC Systems or Shimadzu QP-2010 and QP-2014 GC Systems.

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## Quick and Easy to Use

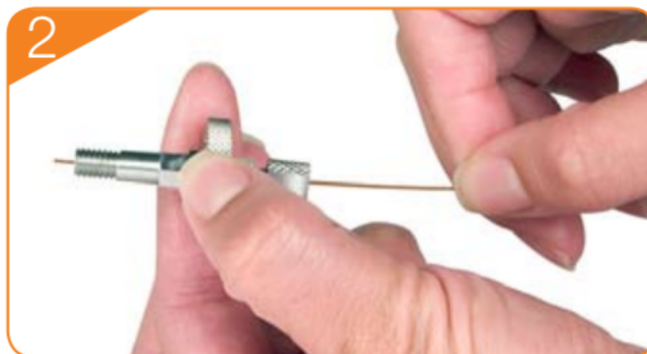
Because uptime and throughput are so important in most labs, Phenomenex has designed the Cool-Lock Nut for quick and easy installation. The nut is designed to make installation easier and quicker than ever, while avoiding painful burning of your fingers.



### GC Column Installation with the Cool-Lock Nut:



Detach the Cool-Lock Nut and column from GC instrument.



Insert column through column nut and ferrule. Cleanly cut  $\geq 1$  cm of the column that is protruding from the nut and ferrule.



Insert the end of the column and column nut into the bottom of the Cool-Lock Nut Installation Gauge.



Hand-tighten the column nut into the gauge until the ferrule starts to compress. Adjust the length of the column to the desired length. Further tighten the nut into the gauge until the column cannot slide.



Tighten its bottom ferrule. Make sure lower body/ ferrule is in the full extension position.



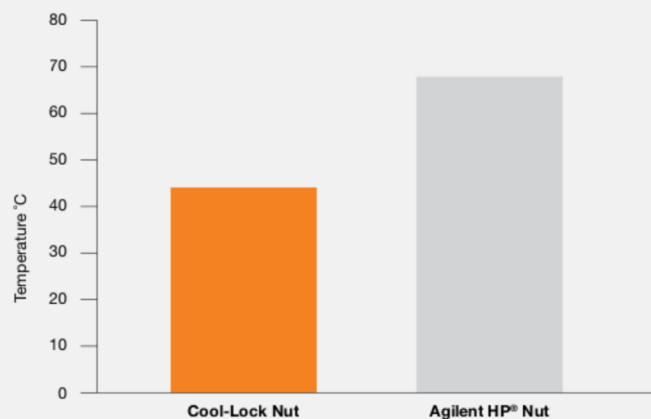
Unscrew the installation gauge and install the nut and column into the instrument. Make sure Cool-Lock nut is in the full extension position to achieve the correct premeasured position, and allow for proper leak checking.

# Cools Down Fast for Rapid Column Installation

The Cool-Lock™ Nut has the ability to cool down quickly for rapid GC column installation or maintenance. From the onset of process, the nut is already at a lower temperature compared to the standard nut (see Figure 1).

The Cool-Lock Nut's low thermal mass allows it to cool down faster, making it comfortable for chromatographers to manually install or remove the nut without waiting for the inlet/detector to cool down.

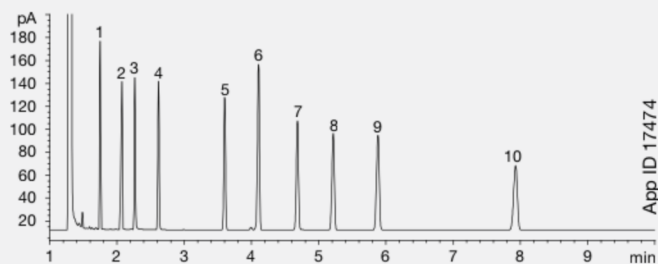
**Figure 1.** Initial temperature of GC nut.



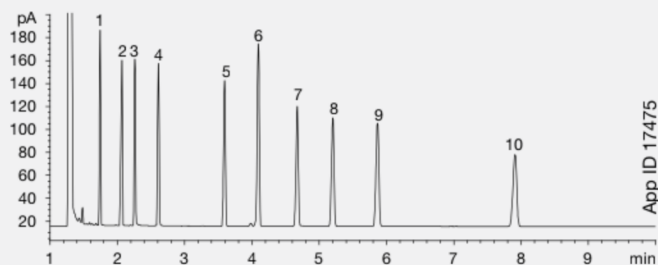
# Will Not Alter Your Chromatography

The Cool-Lock Nut is guaranteed to be a perfect fit for your GC system.\*\* Its upper ferrule ensures a tight fit to the inlet, without altering your chromatography results.

## Installation with Cool-Lock Nut



## Installation with Standard GC Nut



Conditions for both runs:

- Column:** Zebron ZB-5ms
- Dimensions:** 30 meters x 0.25 mm x 0.25 µm
- Part No.:** 7HG-G010-11
- Injection:** Split 5:1 @ 250 °C, 1 µL
- Carrier Gas:** Helium @ 40 cm/sec (Constant Flow)
- Oven Program:** 140 °C for 10 minutes
- Detection:** FID @ 250 °C
- Sample:**
  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

\*Patent-pending design

\*\*Guaranteed a perfect fit for Agilent 5850, 5890, 6890, 6850 GC Systems or Shimadzu QP-2010 and QP-2014 GC Systems.

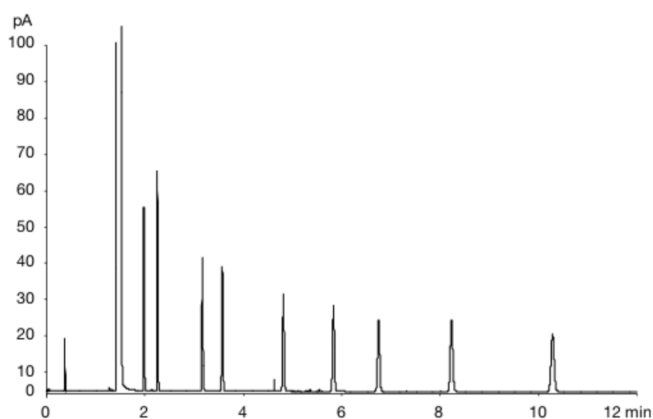


# Achieves Consistent Chromatography with the Proper Installation Depth

Correct and precise gas chromatography (GC) column installation is critical to system performance. Yet, errors in this seemingly simple process cause most of the problems associated with GC analysis. Columns that are installed at an improper or inconsistent depth will cause various chromatographic problems, including poor sensitivity, split or tailing peaks, and poor run-to-run response reproducibility. Therefore, it is essential to use a tool, such as the Cool-Lock Nut, to ensure correct GC column installation.

## Correct GC Column Installation

The Zebron ZB-WAX GC column was installed following the installation procedures outlined by manufacturer. ZB-WAX test mix was used for verification of column installation.



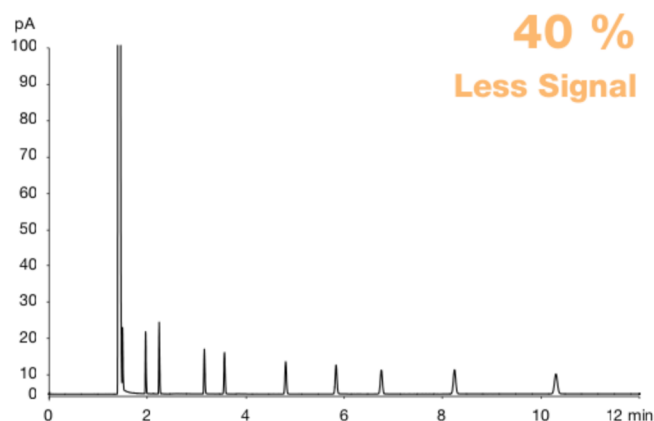
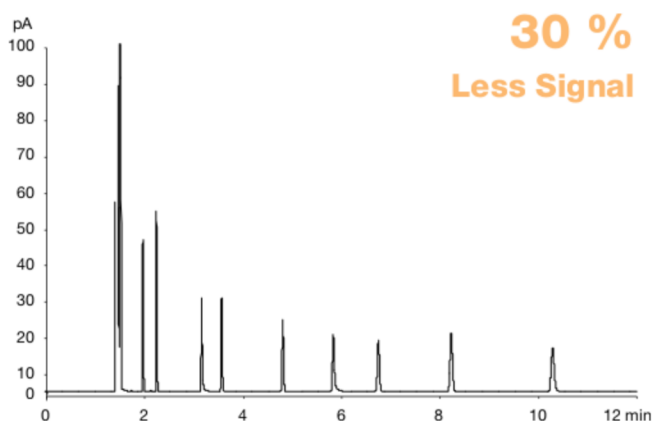
All chromatogram examples were generated using the system conditions below:

- Column:** Zebron ZB-WAX
- Dimensions:** 30 m x 0.25 mm x 0.25  $\mu$ m
- Part No.:** 7HG-G007-11
- Injection:** Split 1:100 @ 250 °C, 1.4  $\mu$ L
- Carrier Gas:** Helium @ 40 cm/sec (Constant Flow)
- Oven Program:** 140 °C for 10 minutes
- Detector:** F10 @ 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

## Incorrect GC Column Installations

The column below is not installed at the optimum depth on the detector side of the system. This results in a noticeable decrease in the sensitivity as shown in the chromatogram.

The column below is installed at 2 cm, rather than the manufacturer's recommended 6 mm past the column on the injector side of the system. Again, there is a noticeable decreased in sensitivity for all peaks.



# Parts for Agilent HP GC Systems



## Cool-Lock GC Capillary Nut\*

Part No.	Description	Unit	Price
AG0-8319	Cool-Lock GC Nut For Use With Short-Style Ferrules	ea	
AG0-8320	Cool-Lock GC Nut For Use With Long-Style Ferrules	ea	



## Cool-Lock Nut Installation Gauge

Part No.	Description	Unit	Price
AG0-8349	Cool-Lock Nut Installation Gauge	ea	



## Replacement Ferrules Graphite

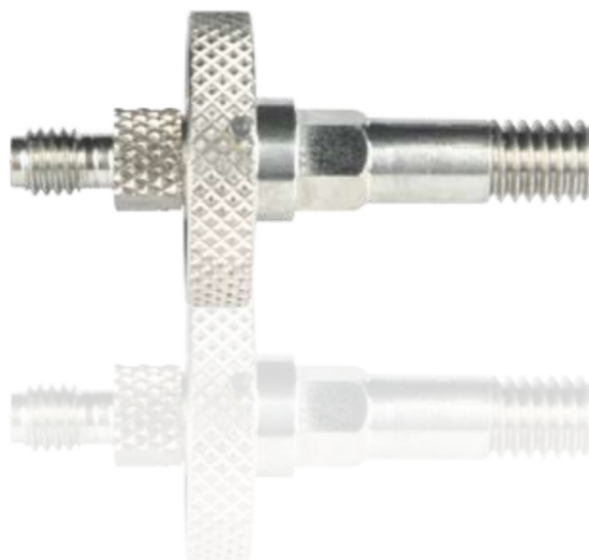
Part No.	Description	Unit	Price
AG0-4701	GC Capillary Ferrules Graphite 1/16 in. to 0.5 mm ID	10/pk	
AG0-4704	GC Capillary Ferrules Graphite 1/16 in. to 0.8 mm ID	10/pk	

\*Guaranteed a perfect for Agilent 5850, 5890, 6890, and 6850 GC systems

## How to Select a Cool-Lock Nut for your Agilent GC System

### 1 Decide on The Style of Cool-Lock Nut Needed

Short Style (AG0-8319)	Long Style (AG0-8320)
Recommended for use with standard short style ferrules.	Recommended for use with standard long style ferrules.
Also, use for both the inlet and detector configurations on an Agilent 6890 GC system ( <i>Short ferrules provide a robust seal and typically remain tight over time.</i> )	



### 2 Determine How Many Cool-Lock Nuts Needed Per System

Detector	Number of Nuts
MS	1
FID, ECD, Other	2

### 3 Select other GC Accessories Needed with Cool-Lock Nut

Column ID (mm)	Ferrule ID (mm)	Ferrule needed with Long Style	Ferrule needed with Short Style
0.1 to 0.25	0.4	AG0-4698	AG0-7513 (Upper) AG0-4698 (Lower)
0.25 to 0.35	0.5	AG0-4701	AG0-7513 (Upper) AG0-4701 (Lower)
0.45 to 0.53	0.8	AG0-4704	072636 (Upper) AG0-4704 (Lower)

# Parts for Shimadzu GC Systems



## Cool-Lock GC Capillary Nut\*

Part No.	Description	Unit	Price
AG0-8419	Cool-Lock GC Nut For Use With Short-Style Ferrules	ea	

\*Guaranteed a perfect fit for Shimadzu QP-2010 and QP 2014 GC systems



## Cool-Lock Nut Installation Gauge

Part No.	Description	Unit	Price
AG0-8420	Cool-Lock Nut Installation Gauge	ea	

## Replacement Ferrules

### Graphite Ferrules, Rated to 450 °C

- High-purity graphite significantly reduces ferrule bleed
- Special construction minimizes “flaking”

Part No.	Description	Unit	Price
<b>0.4 mm Ferrule ID</b>			
AG0-4698	Graphite Ferrule 1/16 in. to 0.4 mm	10/pk	
AG0-4699	Graphite Ferrule 1/16 in. to 0.4 mm	50/pk	
<b>0.5 mm Ferrule ID</b>			
AG0-4701	Graphite Ferrule 1/16 in. to 0.5 mm	10/pk	
AG0-4702	Graphite Ferrule 1/16 in. to 0.5 mm	50/pk	
<b>0.8 mm Ferrule ID</b>			
AG0-4704	Graphite Ferrule 1/16 in. to 0.8 mm	10/pk	
AG0-4705	Graphite Ferrule 1/16 in. to 0.8 mm	50/pk	

### Vespe/Graphite Ferrules (60/40 %), Rated to 400 °C

- High quality, improved universal design
- Use for most applications, up to 400 °C

Part No.	Description	Unit	Price
<b>0.4 mm Ferrule ID</b>			
AG0-4707	Graphite Ferrule 1/16 in. to 0.4 mm	10/pk	
AG0-4708	Graphite Ferrule 1/16 in. to 0.4 mm	50/pk	
<b>0.5 mm Ferrule ID</b>			
AG0-4710	Graphite Ferrule 1/16 in. to 0.5 mm	10/pk	
AG0-4711	Graphite Ferrule 1/16 in. to 0.5 mm	50/pk	
<b>0.8 mm Ferrule ID</b>			
AG0-4713	Graphite Ferrule 1/16 in. to 0.8 mm	10/pk	
AG0-4714	Graphite Ferrule 1/16 in. to 0.8 mm	50/pk	

# General GC Accessories

## Inlet Base Seals

- For all Agilent 5890/6890 split/splitless injection ports
- Guaranteed replacement to equivalent Agilent part numbers



### Gold Inlet Base Seals

Part No.	Similar to Description	Mfr. No.*	Unit	Price
<b>Standard, single groove for splitless applications, 0.8 mm dia. inlet hole</b>				
AG0-7518	Gold Inlet Base Seal, splitless (single groove), 0.8 mm	18740-20885	2/pk	
AG0-7519	Gold Inlet Base Seal, splitless (single groove), 0.8 mm	18740-20885	10/pk	
<b>High Split Flow, cross groove for split applications, 0.8 mm dia. inlet hole</b>				
AG0-7520	Gold Inlet Base Seal, split (double groove/cross), 0.8 mm	5182-9652	2/pk	
AG0-7521	Gold Inlet Base Seal, split (double groove/cross), 0.8 mm	5182-9652	10/pk	
<b>Replacement Inlet Seal Washers</b>				
AG0-7522	Inlet Seal Washers, for Agilent GC injection port	5061-5869	12/pk	

### Stainless Steel Inlet Base Seals

Part No.	Similar to Description	Mfr. No.*	Unit	Price
<b>Standard, single groove for splitless applications, 0.8 mm dia. inlet hole</b>				
AG0-8393	Stainless Steel Inlet Base Seal, splitless (single groove), 0.8 mm	18740-20880	2/pk	
AG0-8394	Stainless Steel Inlet Base Seal, splitless (single groove), 0.8 mm	18740-20880	10/pk	
<b>High Split Flow, cross groove for split applications, 0.8 mm dia. inlet hole</b>				
AG0-8395	Stainless Steel Inlet Base Seal, split (double groove/cross), 0.8 mm	-	2/pk	
AG0-8396	Stainless Steel Inlet Base Seal, split (double groove/cross), 0.8 mm	-	10/pk	
<b>Replacement Inlet Seal Washers</b>				
AG0-7522	Inlet Seal Washers, for Agilent GC injection port	5061-5869	12/pk	

Inlet seal washers are sold separately from inlet base seals.

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

**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.

# General Accessories (cont'd)

## Silicone Rubber Inlet Septa

- Advanced silicone formulations reduce coring and increase septum lifetime
- Enhanced durability and re-sealing capabilities

### PhenoGrey™-250

This general purpose silicone rubber septum is designed for use up to 250 °C for extended periods of time. With a durometer reading of 40-45, septum puncture is easy (fewer bent needles) for up to 100 injections.

### PhenoBlue™-300

This low-bleed septum is designed from a recent technology advance in the silicone field. Thoroughly tested and evaluated, the high durometer rating of 50-60 guarantees over 100 injections at 300 °C, but is actually heat-stable to 350 °C to give you even greater confidence when the oven heats up!

### PhenoRed™-400

Fire brick red, with a 50 durometer rating, this specially formulated high-temperature, low-bleed silicone rubber septum is designed and conditioned for high sensitivity analysis where the demands for low bleed and heat stability are critical. Say goodbye to ghost peaks! Temperature-rated to 400 °C, even continuous injection port temperatures of 350 °C rarely change this septum's physical properties. Typical injection life is 150 punctures. Available with or without needle GuideRight™ Hole.

### PhenoGreen™-400

Long life, high-temperature green septum, rated to 400 °C. GuideRight™ through-hole to guide the needle during injection.

## GuideRight™ Injection Hole Septa

Choose from either our high-temperature PhenoGreen or our top-performing PhenoRed, both rated to 400 °C. The GuideRight through-hole guides the needle during injection. Septum performance and lifetime increase while downtime due to bent needles or dirty injection ports decreases.

### GuideRight Injection Hole Septa

Part No.	Description	Unit	Price
<b>PhenoGreen 3/8 in. (9.5 mm) Diameter 400 °C</b>			
AG0-7874	PhenoGreen™ 400 Injector Septa	50/pk	
<b>PhenoGreen 7/16 in. (11 mm) Diameter 400 °C</b>			
AG0-7875	PhenoGreen™ 400 Injector Septa	50/pk	
<b>PhenoRed 3/8 in. (9.5 mm) Diameter 400 °C</b>			
AG0-7916	PhenoRed™ 400 Injector Septa	50/pk	
<b>PhenoRed 7/16 in. (11 mm) Diameter 400 °C</b>			
AG0-7917	PhenoRed™ 400 Injector Septa	50/pk	



## Septa Sizes by GC Instrument

Manufacturer	Instrument Model	Septa Diameter
Agilent (HP)	5850, 5880, 5890, 6850, 6890	7/16 in. (11 mm)
	5700 series, 5880A	3/8 in. (9.5 mm)
Shimadzu	9A, 14, 15A, 16, 17A, 2010	Plug

TIP



## Silicone Rubber Septa

Part No.	Description	Unit	Price
<b>PhenoGrey 3/8 in. (9.5 mm) Diameter</b>			
AG0-4686	PhenoGrey-250 Injector Septa	50/pk	
AG0-4687	PhenoGrey-250 Injector Septa	100/pk	
<b>PhenoBlue</b>			
AG0-4688	PhenoBlue-300 Injector Septa	50/pk	
AG0-4689	PhenoBlue-300 Injector Septa	100/pk	
<b>PhenoRed</b>			
AG0-4690	PhenoRed-400 Injector Septa	50/pk	
AG0-4691	PhenoRed-400 Injector Septa	100/pk	
<b>PhenoGrey 7/16 in. (11 mm) Diameter</b>			
AG0-4692	PhenoGrey-250 Injector Septa	50/pk	
AG0-4693	PhenoGrey-250 Injector Septa	100/pk	
<b>PhenoBlue</b>			
AG0-4694	PhenoBlue-300 Injector Septa	50/pk	
AG0-4695	PhenoBlue-300 Injector Septa	100/pk	
<b>PhenoRed</b>			
AG0-4696	PhenoRed-400 Injector Septa	50/pk	
AG0-4697	PhenoRed-400 Injector Septa	100/pk	

## Injector Septa Plug

- High temperature silicone
- Maximum injector temperature 350 °C
- For Shimadzu 9A, 14, 15A, 16, 17A and 2010 and 2014

















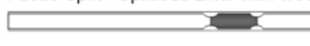

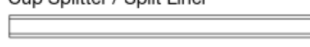
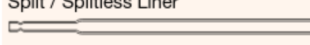
## Shimadzu Injector Septa Plug

Part No.	Description	Unit	Price
AG0-7517	Septa plug for Shimadzu Injectors (9A, 14, 15A, 16, 17A, 2010) Rated to 350 °C	50/pk	





Column Installs This End

Description	GC Model No.	Dimensions ID x L x OD (mm)	Material* (de-activated)	Quartz Wool (Y / N)	Notes	Similar to Mfr. No.**	Part No.	Unit	Price
<b>Agilent Technologies Systems</b>									
Cup Splitter / Split Liner 	5880, 5890, 6890	4 x 78.5 x 6.3	B (n)	N	ea 5/pk 25/pk	HP 18740-80190 5183-4699 5183-4700	- 20710 -	- AG0-4647 AG0-4648	- 5/pk 25/pk
Cup Splitter / Split Liner with wool 	5880, 5980, 6890	4 x 78.5 x 6.3	B (n)	Y	ea 5/pk 25/pk Supelco	Like HP 18740-80190, but with wool 5183-4697 5183-4698 2048205	- - - -	- AG0-7853 - -	- 5/pk - -
Splitless Liner 	5880, 5890, 6890	2 x 78.5 x 6.45	B (y)	N	not de-activated ea 5/pk 25/pk	HP 18740-80220 5181-8818 5183-4703 5183-4704	- - 20713 20714	- - AG0-4649 AG0-4650	- - 5/pk 25/pk
Splitless Liner 	5880, 5890, 6890	4 x 78.5 x 6.45	B (y)	N	ea 5/pk 25/pk	- 210-3003 210-3003-5	- 20773 20774	- AG0-4651 AG0-4652	- 5/pk 25/pk
Split / Splitless with Single Taper 	5880, 5890, 6890	4 x 78.5 x 6.45	B (y)	N	ea 5/pk 25/pk	5181-3316 5183-4695 5183-4696	- 20799 20800	- AG0-7516 AG0-7640	- 5/pk 25/pk
Split / Splitless, Single Taper/Gooseneck Liner 	5880, 5890, 6890	2 x 78.5 x 6.45	B (y)	N	ea 5/pk 25/pk	5181-3316 5183-4695 5183-4696	- 20796 20797	- AG0-4653 AG0-4654	- 5/pk 25/pk
Split / Splitless Liner with wool 	5880, 5890, 6890	4 x 78.5 x 6.3	B (y)	Y	ea 5/pk 25/pk	19251-60540 5183-4691 5183-4692	- 20782 20783	- AG0-4655 AG0-4656	- 5/pk 25/pk
Split / Splitless Single Taper/Gooseneck Liner with wool 	5880, 5890, 6890	4 x 78.5 x 6.45	B (y)	Y	ea 5/pk 25/pk	5062-3587 5183-4693 5183-4694	- 22406 22407	- AG0-4657 AG0-4658	- 5/pk 25/pk
Direct Liner 	5880, 5890, 6890	1.5 x 78.5 x 6.3	B (y)	N	ea 5/pk 25/pk	18740-80200 5183-4709 5183-4710	- 20973 -	- AG0-4659 AG0-4660	- 5/pk 25/pk
Split / Splitless, Recessed Gooseneck Liner with wool 	5880, 5890, 6890	4 x 78.5 x 6.45	B (y)	Y	ea 5/pk 25/pk	19251-60540 5183-4691 5183-4692	- 22409 22410	- AG0-4661 AG0-4662	- 5/pk 25/pk
Single Taper Direct Connect with Side Hole (top) 	5880, 5890, 6890	4 x 78.5 x 6.3	B (y)	N	ea 5/pk 25/pk	- - -	- 21055 20998	- AG0-7850 -	- 5/pk -
Single Taper Direct Connect with Side Hole (bottom) 	5880, 5980, 6890	4 x 78.5 x 6.3	B (y)	N	-	G1544-80730	20771	AG0-7851	5/pk
Split Liner with wool 	5880, 5890, 6890	4 x 78.5 x 6.3	B (y)	Y	ea 5/pk 25/pk	5183-4647 5183-4701 5183-4702	- 21033 -	- AG0-8172 -	- 5/pk -
Splitless, Double Taper/Gooseneck Liner 	5880, 5890, 6890	4 x 78.5 x 6.45	B (y)	N	ea 5/pk 25/pk	5181-3315 5183-4705 5183-4706	- 20785 20786	- AG0-8173 -	- 5/pk -
Focus Split / Splitless Liner with wool 	5880, 5890, 6890	4 x 78.5 x 6.3	B (y)	Y	-	-	-	AG0-8174	5/pk
Split / Splitless, Single Taper with wool 	5880, 5980, 6890	4 x 78.5 x 6.3	B (y)	Y	ea 5/pk 25/pk	5183-4711 5183-4712 5183-4713	- 22406 22407	- AG0-8175 -	- 5/pk -
<b>Shimadzu Systems</b>									
Cup Splitter / Split Liner 	17A, 17B, 2010, 2014	2.6 x 95.5 x 5.0	B (y)	N	-	-	-	AG0-4667	5/pk
Split / Splitless Liner 	9A/16A	3.4 x 139 x 5.0	B (y)	N	5/pk 25/pk	- -	20749 20750	AG0-4669 -	5/pk -

\*B = Borosilicate; Deactivated = Yes (y) or No (n). \*\*Similar to but not always an exact equivalent to the original manufacturer's product.

# General Accessories (cont'd)

## Limited Volume Vials

Increase sensitivity, selectivity and reproducibility by using a Phenomenex precision high recovery insert (previous page) or specialty vial. Such as these below.

### QsertVial™

- Clear wide-mouth vial, 12 x 32 mm
- 300 µL volume
- Write-on patch
- Screw top with pre-assembled caps and septa
- For use with:
  - Agilent Technologies
  - PerkinElmer Autosystem
  - Spectra-Physics
  - Varian
  - Beckman
  - Gilson
  - Hitachi
  - Waters Alliance



### QsertVial™

Part No.	Description 100/pk	Price 100/pk
AH0-7508	QsertVial Kit, Silicone/PTFE septa	
AH0-7505	QsertVial Kit, Silicone/PTFE septa with pre-slit	

### CD™ Vial

- Clear wide-mouth vial, 12 x 32 mm
- 1.5 mL volume
- Screw top with pre-assembled caps and septa
- For use with:
  - Agilent Technologies
  - PerkinElmer Autosystem
  - Spectra-Physics
  - Varian
  - Beckman
  - Gilson
  - Hitachi
  - Waters Alliance



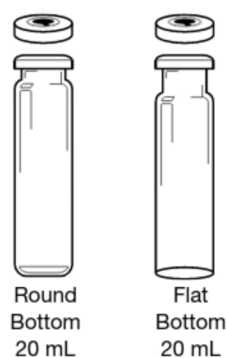
### CD™ Vial

Part No.	Description	Price 100/pk
AH0-7509	CD Vial Kit, Silicone/PTFE septa	
AH0-7506	CD Vial Kit, Silicone/PTFE septa with pre-slit	

Kit packs include caps.

## Headspace Vials

A clean vial with a cap that forms a tight seal is essential to achieving good results in headspace analysis. Quality headspace vials and caps at affordable prices are your guarantee from Phenomenex. Beveled tops with round or flat bottom styles are compatible with most instruments as indicated. Call us if you don't see what you need.



### Compatible With The Following Autosamplers

Brand	Model	Round Bottom	Flat Bottom
Agilent	HS 7694		•
Carlo-Erba	HS 850		•
Dani	HS 39.50 / 86.50		•
Fisons	HS 850		•
PerkinElmer	HS 100 / 101 / 40	•	
Tekmar-Dohrmann	7000HT	•	
ThermoQuest	HS 850, Trace GC 2000 + HS 2000		•
Varian	Genesis	•	•



### Headspace Autosampler Vials

Part No.	Description	Price 100/pk
AH0-7546	Headspace Vial 20 mL clear, round bottom, 23 x 75 mm	
AH0-7547	Headspace Vial 20 mL clear, flat bottom, 23 x 75 mm	
AH0-7548	Aluminum Seal, with PTFE/Silicone septum, 0.130" thickness	
AH0-7550	Aluminum Seal, with Pharma-Fix molded pressure-release septum	
AG0-8350	Aluminum Seal, Magnetic Crimp Cap, 20 mm TEF/SIL, blue	

# Zebron™ High Performance GC Columns

## ZB-1 GC Column

Part No.	Description	Price
7HG-G001-11	30 meters x 0.25 mm x 0.25 µm	
7HK-G001-28	30 meters x 0.53 mm x 1.50 µm	
7HM-G001-11	30 meters x 0.32 mm x 0.25 µm	

## ZB-5 GC Column

Part No.	Description	Price
7HG-G002-11	30 meters x 0.25 mm x 0.25 µm	
7EG-G002-11	15 meters x 0.25 mm x 0.25 µm	
7HM-G002-11	30 meters x 0.32 mm x 0.25 µm	
7HK-G002-39	30 meters x 0.53 mm x 5.00 µm	
7KG-G002-11	60 meters x 0.25 mm x 0.25 µm	
7HM-G002-17	30 meters x 0.32 mm x 0.50 µm	

## ZB-5MSi GC Column

Part No.	Description	Price
7HG-G018-11	30 meters x 0.25 mm x 0.25 µm	
7EG-G018-11	15 meters x 0.25 mm x 0.25 µm	
7HG-G018-17	30 meters x 0.25 mm x 0.50 µm	

## ZB-WAX GC Column

Part No.	Description	Price
7HG-G007-11	30 meters x 0.25 mm x 0.25 µm	
7HK-G007-22	30 meters x 0.53 mm x 1.00 µm	
7HM-G007-17	30 meters x 0.32 mm x 0.50 µm	
7HM-G007-11	30 meters x 0.32 mm x 0.25 µm	

## ZB-624 GC Column

Part No.	Description	Price
7HK-G005-36	30 meters x 0.53 mm x 3.00 µm	
7HM-G005-31	30 meters x 0.32 mm x 1.80 µm	
7HG-G005-27	30 meters x 0.25 mm x 1.40 µm	



## ZB-1ms GC Column

Part No.	Description	Price
7DE-G011-14	12 meters x 0.20 mm x 0.33 µm	
7GE-G011-14	25 meters x 0.20 mm x 0.33 µm	
7HG-G011-11	30 meters x 0.25 mm x 0.25 µm	

## ZB-5ms GC Column

Part No.	Description	Price
7HG-G010-11	30 meters x 0.25 mm x 0.25 µm	
7EG-G010-11	15 meters x 0.25 mm x 0.25 µm	
7KG-G010-11	60 meters x 0.25 mm x 0.25 µm	
7HG-G010-17	30 meters x 0.25 mm x 0.50 µm	
7HM-G010-11	30 meters x 0.32 mm x 0.25 µm	

## ZB-5HT GC Column

Part No.	Description	Price
7HG-G015-11	30 meters x 0.25 mm x 0.25 µm	
7EM-G015-02	15 meters x 0.32 mm x 0.1 µm	
7EG-G015-02	15 meters x 0.25 mm x 0.1 µm	

## ZB-WAXplus GC Column

Part No.	Description	Price
7HG-G013-11	30 meters x 0.25 mm x 0.25 µm	
7HM-G013-11	30 meters x 0.32 mm x 0.25 µm	
7HK-G013-22	30 meters x 0.53 mm x 1.00 µm	
7HM-G013-17	30 meters x 0.32 mm x 0.50 µm	



Please inquire with your Phenomenex GC Specialist on bulk discounts.

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### Disclaimer

Cool-Lock Nut is patent pending by Phenomenex. Subject to Phenomenex Standard Terms & Conditions, which may be viewed at [www.phenomenex.com/TermsAndConditions](http://www.phenomenex.com/TermsAndConditions).

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If you need a 5 in. cage, simply add a (-B) after the part number, e.g., 7HG-G017-11-B

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