

# The **Right Parts** Make All the Difference

**Quick Guide for Agilent Split/Splitless  
Replacement Parts and Supplies**

# How to Choose the Right **Split/Splitless Parts** Authentic Agilent Replacement Parts and Supplies

**Split injection is best for introducing samples when components of interest are roughly 500 ppm and higher; splitless injection is an effective way to introduce samples for GC trace analysis. For consistent results, you need to have the right septa, liner and ferrule—and you need to know when to change them.**

**NEW**

**These Parts Are Just a Sample**  
Everything you need to know for GC inlets as well as a full listing of inlet parts and supplies are in Agilent's *Inlet Resource Guide* (5988-3460).

Includes valuable tips for keeping inlets in top condition.

## Guide to Selecting the Right Inlet Parts

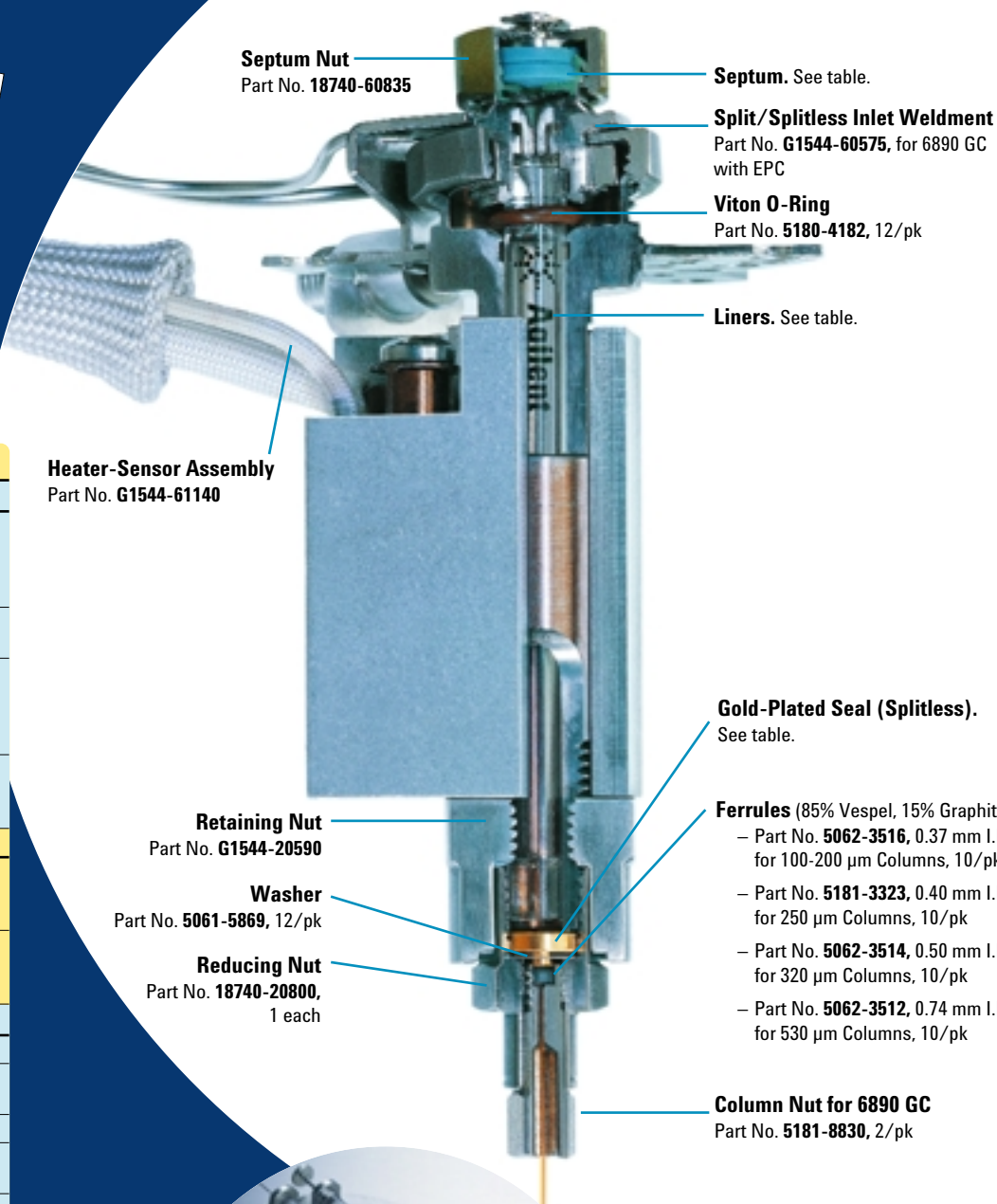
Item/Part Number*	Advantages	When to Use	Example
<b>Septa Type</b>			
Bleed and Temperature Optimized Septa 5183-4757	Center point recess allows for easy needle penetration and less coring. Best performance for low bleed and high temperature.	In applications with inlet temperatures up to 400°C.	Analyses of heavy hydrocarbon mixtures when on-column injection is not an option.
Agilent Advanced Green Septa 5183-4759	Center point recess allows for easy needle penetration and less coring.	In most applications with inlet temperatures below 350°C.	EPA semivolatile methods.
General-Purpose Red Septa 5181-1263	Center point recess allows for easy needle penetration and less coring. Cost effective septa with low bleed and long life.	In most applications with inlet temperatures below 350°C.	EPA semivolatile methods.
Merlin Microseal Septum 5182-3444. (For use with Merlin Microseal 5182-3442)	Ultra long life septa technology, no particles.	High throughput, routine analysis at moderate chromatographic temperatures.	Raw material area percent purity assays.
<b>Seal Type</b>			
Gold-Plated Seal 18740-20885	More inert than a stainless steel seal; proper flow dynamics for most splitless injector flows.	In splitless injections, or split injections with total injector flows less than 200 mL/min.	Any splitless injection with normal purge flows.
Gold-Plated Seal, cross-notched 5182-9652	More inert than a stainless steel seal; proper flow dynamics for most split injector flows.	In split injections, only with total injector flows greater than 200 mL/min.	Area percent purity assays of complex mixtures using high split flows.
<b>Liner Type</b>			
<b>Split</b>			
Liner, split only, tapered, deactivated, low pressure drop, 5183-4647	Glass wool and bottom taper increase injection precision.	In split injections, especially with electronic pneumatics control (EPC) inlets.	Area percent purity assays of complex mixtures.
<b>Splitless</b>			
Single-Taper Liner 5181-3316	Deactivated, focus flow onto the column.	In most splitless applications.	EPA semivolatile methods.
Single-Taper Liner, glass wool 5062-3587	Deactivated, focus flow onto the column; glass wool will mitigate effects of non-volatile residues.	With dirty samples. Caution: glass wool can cause problems with active analytes.	Trace analysis in biological/soil extracts with non-active analytes.
Double Taper Liner, deactivated 5181-3315	Same as single taper, but will help prevent backflash.	With very volatile solvents, and larger injection volumes at high temperatures.	With injector temps above 250°C, when water, methanol, or methylene chloride is solvent.
<b>Autosampler Syringe Type</b>			
10 µl, Fixed Needle, 23-26s 5181-1267	Taper from wider to narrower gauge for added strength and less coring.	In split or splitless injections.	Most splitless applications.
10 µl Fixed Needle, 26s 9301-0714	Common, narrow gauge needle for less septum coring.	In split or splitless injections.	Most splitless applications.
5 µl, Fixed Needle, 23-26s 5181-1273	Same as 5181-1267, but allows for 0.5 µl vs 1.0 µl minimum injection.	In split or splitless injections where smaller injection volume is required.	More concentrated samples to prevent column/detector overload.
10 µl Fixed Needle, Teflon-tipped plunger, 23-26s, 5181-3354	Gas-tight, used for small headspace injections.	Ambient headspace analysis, and sometimes with water injections.	See application note 5966-1473E for ambient headspace.
10 µl, Fixed Needle, 23-gauge, ALS 9301-0713	Specifically for Merlin Microseal septum.	Required for Merlin Microseal septum.	Raw material area percent purity assays.

\* When there are several options listed, the top recommendation in each category will work for most applications.

Optimizing  
of Agilent  
GC  
(SEN).



## PerfectFit Inlet Parts



### When to Change

Variable, and depends on needle condition. Usually after 50-100 injections.

Variable, and depends on needle condition. Usually after 50-100 injections.

Variable, and depends on needle condition. Usually after 100 injections, or when leak is observed.

Variable, and depends on needle condition. Check after 2000 injections, or when leak is observed.

When active analyte response decreases below acceptable levels or tails excessively.

When active analyte response decreases below acceptable levels or tails excessively.

When there is a loss of precision, or when liner is dirty.

When active analyte response decreases below acceptable levels or tails excessively.

When analyte peak tailing becomes unacceptable.

When active analyte response decreases below acceptable levels or tails excessively.

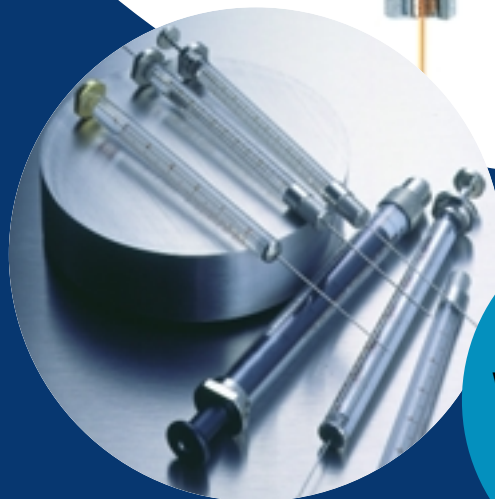
When needle or syringe plunger bends or syringe plugs.

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When Teflon wears out, or needle bends.

When needle or syringe plunger bends, or when septum is replaced.



## Learn More

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800 227 9770

or contact your local  
Agilent office or authorized  
Agilent distributor.

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#### **For More Information**

To find out more about Agilent split/splitless parts, our Customer Contact Center is a convenient, single point of contact for everything from product information and quotations to ordering and technical assistance. Visit online at [www.agilent.com/chem](http://www.agilent.com/chem) or call 1-800-227-9770 in the U.S. and Canada for quick, knowledgeable help. Or contact your local Agilent office or authorized Agilent distributor.

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