

THE RIGHT CONSUMABLES  
**FOR YOUR**  
GC APPLICATIONS



# INTRODUCTION AND OVERVIEW

For laboratories looking for a single gas chromatograph that's flexible enough to handle all types of critical samples, the Clarus® platform, 590 and 690 GC systems are the ideal choice; a proven high-performance GC platform that delivers the stringent sensitivity and characterization you need. And they're designed to meet your varied analytical requirements – and the experience levels of the people who run them.

The new Clarus platform is a remarkable step forward, delivering a host of features that enable top performance and increased stability: A wide-range flame ionization detector (FID); a new high-performance capillary injector with decreased reactivity; and autosampler technology that delivers multiple options for liquid injection, headspace, and solid phase microextraction (SPME) on one system.






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## Glass Inlet Liners

For the capillary injector on the Clarus 590 or 690 GC system, the liners are required to be 78.5 mm long.



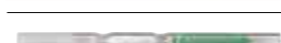
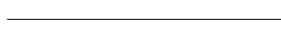
### Splitless Injector Liners

Product	Description	ID (mm)	OD (mm)	Length (mm)	Pkg.	Part No.
	Ultra Deactivated Glass Liner Single Taper for Splitless Injection	2	6.3	78.5	5	<b>N6502030</b>
	Ultra Deactivated Single Taper Splitless Liner	4	6.3	78.5	5	<b>N6502031</b>
	Ultra Deactivated Single Taper Inlet Liner with Wool for Splitless Inlets	4	6.3	78.5	5	<b>N6502035</b>

### Split Injector Liners




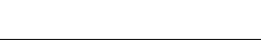








Product	Description	ID (mm)	OD (mm)	Length (mm)	Pkg.	Part No.
	Ultra Deactivated Straight Splitless Liner with Wool	2	6.3	78.5	5	<b>N6502033</b>
	Ultra-deactivated Split Precision Liner With Wool	4	6.3	78.5	5	<b>N6502034</b>
	Ultra Deactivated Straight Inlet Liner, no Wool	1	6.3	78.5	5	<b>N6502037</b>
	Quartz Glass Liner, no Wool, Straight Through with Dimple at the Bottom	4	6.3	78.5	1	<b>N6502038</b>
	Straight Through Glass Liner, no Wool	2	6.3	78.5	1	<b>N6502039</b>
	Glass Liner, Straight Through with Dimple at Bottom, no Wool	4	6.3	78.5	1	<b>N6502040</b>
	Capillary Split Deactivated Glass Liners with Deactivated Wool. Quartz Wool is used to Fully Vaporize the Sample	4	6.3	78.5	5	<b>N6502043</b>
	Ultra-Deactivated 0.75 mm ID Straight/SPME Inlet Liner	0.75	6.3	78.5	5	<b>N6502044</b>

### Split/Splitless Injector Liners




Product	Description	ID (mm)	OD (mm)	Length (mm)	Pkg.	Part No.
	Ultra Deactivated Single Low Pressure Drop Precision Liner with Wool	4	6.3	78.5	5	<b>N6502032</b>
	Ultra Deactivated Straight Inlet Liner with Wool for Split/Splitless Inlets	4	6.3	78.5	5	<b>N6502036</b>
	Capillary Split/Splitless Deactivated Glass Liners with Deactivated Wool	4	6.3	78.5	5	<b>N6502041</b>
	Capillary Split/Splitless Deactivated Glass Liners with Deactivated Wool and Tapered End	4	6.3	78.5	5	<b>N6502042</b>

# Glass Inlet Liners

## Programmed Temperature Split/Splitless (PSS) Injector Liners

Product	Description	ID (mm)	OD (mm)	Length (mm)	Pkg.	Part No.
	Quartz Liner for Splitless Operation – Excellent Liner for Low Volume Analyses	1	4	86.2	1	<b>N6121006</b>
	Quartz Liner for Split Operation (Ships with Instrument) – Approved PerkinElmer Standard Injector Liner	2	4	86.2	1	<b>N6121004</b>
	Siltek Deactivated Glass Liner for Split Operation (with Wool) – Maximum Inertness and Packed with Wool Gives Optimum Sample Dispersion. Surface provides inertness over wide sample pH range. Wool can be adsorptive if fibers are broken	2	4	86.2	5	<b>N6502001</b>
	Siltek Deactivated Glass Liner for Split Operation – Max Inertness Gives Optimum Sample Dispersion. Deactivated surface provides minimal bleed and inertness over a wide sample pH range	2	4	86.2	5	<b>N6502002</b>
	Zero Dilution Outer Liner – Use in conjunction with <b>N1011446</b>	2.8	4	83	1	<b>N1011447</b>
	Zero Dilution Inner Liner – Use in conjunction with <b>N1011447</b>		2	73	1	<b>N1011446</b>
	On-Column Glass Liner	2.4	4	86.2	1	<b>N6101539</b>
	Liner/Hour Glass for POC Injector	2.4	4	19.05	1	<b>N6101703</b>
	Quartz Split Liner with Silanized Glass Wool	2	4	86.2	1	<b>N6121008</b>
	Quartz Split Liner with Silanized Glass Wool	2	4	86.2	5	<b>N6121009</b>
	PSS Deactivated Glass Liners with Deactivated Wool. Narrow Bore and Quartz Wool Increase Volatilization and Reproducibility	2	4	86.2	5	<b>N9306232</b>
	PSS Splitless Deactivated Glass Liners	1.25	4	86.2	5	<b>N9306237</b>

## Direct Injection Liners

Product	Description	ID (mm)	OD (mm)	Length (mm)	Pkg.	Part No.
	Open Top Uniliner (with Wool) – Packed with fused silica wool, highly recommended for high molecular weight active samples. The fused silica wool traps dirt and sample residue	4	6.2	92.1	5	<b>N6502016</b>
	Wide-Bore Column Glass Liner	6	4	92.1	1	<b>N6101375</b>
	Wide-Bore Column On/Off Quartz Liner	6	4	92.1	1	<b>N6121003</b>

# O-Rings for Capillary Injector Liners

Description	Part No.
O-Ring Viton® for Glass Liner (Pkg. 10). Maximum Injector Temperature 300 °C, recommended for use with Mass Spec.	<b>09200714</b>
O-Ring, KALREZ® for Glass Liner (Pkg. 1). Maximum Injector Temperature 450 °C	<b>09200725</b>

# Ferrules

## SilTite Metal Ferrules

Provide a continuous leak-free connection and are perfect for connecting your column to a GC/MS.

The SilTite™ metal ferrule and nut are manufactured from the same material and therefore expand and contract at the same rate, eliminating the need to re-tighten – even after temperature cycling. The base of the SilTite™ ferrule forms a perfect seal with the MS interface, ensuring a leak-free connection. SilTite™ metal ferrules have a temperature limit well above the temperature capacity of the injector, MS interface or GC oven.



Description	Hole Size (mm)	Part No.
SilTite Ferrules Starter Kit*	0.4	<b>N9306090</b>
SilTite Ferrules Starter Kit*	0.5	<b>N9306091</b>
SilTite Ferrules Starter Kit*	0.8	<b>N9306092</b>
SilTite Ferrules (Pkg. 10)	0.4	<b>N9306093</b>
SilTite Ferrules (Pkg. 10)	0.5	<b>N9306094</b>
SilTite Ferrules (Pkg. 10)	0.8	<b>N9306095</b>
SilTite Nuts (Pkg. 5)	N/A	<b>N9306096</b>

\* Kits include 2 nuts and 10 ferrules

## Capillary Column Ferrules

### Graphite

Ferrule of choice for high-temperature applications up to 450 °C. Graphite seals easily and does not stick to glass columns. Suitable for use with FID, TCD and ECD detectors.

### Graphite/Vespel®

15% graphite/85% polyimide ferrules are recommended for use with GC/MS systems. The upper temperature limit is 350 °C.

## Ferrules For Use With Detectors

Size	For use with Column ID (mm)	Ferrule ID (mm)	Graphite Part No.	Graphite/Vespel Part No.
1/16 in.	0.25	0.4		<b>09920104</b> 
1/16 in.	0.32	0.5	<b>09903700</b> 	<b>09920105</b> 
1/16 in.	0.53	0.8	<b>09920141</b> 	<b>09920107</b> 
1/8 in.	0.53	1.0	<b>09903394</b> 	
1/16 in.	0.32 (Two hole ferrule)	0.5	<b>N9306001</b> 	<b>N9306000</b>
1/8 in.	0.32 (Two hole ferrule)	0.5	<b>09903395</b> 	

## 1/16 in. Short Ferrules For Use With The Capillary Injector

For use with Column ID (mm)	Ferrule ID (mm)	Graphite Part No.	Graphite/Vespel Part No.
0.32	0.4	<b>09200785</b>	<b>09200685</b>
0.32	0.5**	<b>09200785</b>	<b>09200686</b>
0.53	0.8	<b>09200787</b>	<b>09200687</b>
0.32 (Two hole ferrule)	0.5	–	<b>09200788</b>

\*\* Same graphite Part No. for 0.4 and 0.5 mm opening

## Autosampler Syringes

Syringes from PerkinElmer are individually inspected for accuracy and performance.

Recommended autosampler syringes are available in 0.5, 5 and 50 µL capacities. For routine analyses, the metal plunger in barrel with PTFE-tipped seal is the standard syringe as shipped with each Clarus GC instrument. Alternative syringes to use are the metal plunger in barrel or the 0.53 mm on-column injection.

Description	Part No.
50 µL Syringe, Metal Plunger 0.63 mm OD Needle	<b>N6101760</b>
5 µL Syringe, Metal Plunger PTFE-tipped Seal 0.63 mm OD Needle (ships with instrument)	<b>N6101390</b>
5 µL Syringe, Metal Plunger PTFE-tipped Seal 0.63 mm OD Needle BLUE Barrel (Pkg. 5 syringes)	<b>N6103240</b>
5 µL Syringe, Metal Plunger PTFE-tipped Seal 0.63 mm OD Needle BLUE Barrel (Pkg. 10 syringes)	<b>N6103241</b>
5 µL Syringe, Metal Plunger 0.63 mm OD Needle	<b>N6101251</b>
5 µL On-column Syringe Metal Plunger 0.47 mm OD Needle	<b>N6101380</b>
5 µL, Syringe, PTFE-tipped Metal Plunger 0.47 mm OD Needle	<b>N9308975</b>
0.5 µL Low Injection Volume Syringe, Metal Plunger 0.63 mm OD Needle	<b>N6101252</b>
0.5 µL Low Injection Volume Syringe Metal Plunger 0.63 mm OD Needle BLUE Barrel (Pkg. 5 syringes)	<b>N6103242</b>
0.5 µL Low Injection Volume Syringe Metal Plunger 0.63 mm OD Needle BLUE Barrel (Pkg. 10 syringes)	<b>N6103243</b>
0.5 µL Low Injection Volume Syringe, Metal Plunger 0.47 mm OD Needle	<b>N6101253</b>
0.5 µL Low Injection Volume Syringe, Metal Plunger 0.63 mm OD Needle	<b>N6101252</b>
0.5 µL Low Injection Volume Syringe Metal Plunger 0.63 mm OD Needle BLUE Barrel (Pkg. 5 syringes)	<b>N6103242</b>
0.5 µL Low Injection Volume Syringe Metal Plunger 0.63 mm OD Needle BLUE Barrel (Pkg. 10 syringes)	<b>N6103243</b>
0.5 µL Low Injection Volume Syringe, Metal Plunger 0.47 mm OD Needle	<b>N6101253</b>

## GC Inlet Septa

### Features and Benefits

- Select from a range of GC septa with varying properties limits
- Non-stick coating ensures no adhesion of the septa to the GC inlet
- Pre-conditioned septa, ready to use
- The CenterGuide design facilitates needle penetration to the same point with every injection, for easy and rugged operation
- Pre-pierced BTO septa provide long autosampler injection life
- Stay clean surface does not attract dust
- Compatible with all GC instruments

Description	Pkg.	Part No.
BTO Orange Injection Port Septa	50	<b>N9302972</b>
BTO Orange Injection Port Septa	10	<b>N9306872</b>
Green Injection Port Septa	50	<b>N9306219</b>
Green Injection Port Septa	10	<b>N9306218</b>
Blue Injection Port Septa	50	<b>N9306874</b>
Blue Injection Port Septa	10	<b>N9306873</b>

### BTO (Orange)

Septa rated to 400 °C. The precision molded silicone rubber septa BTO® (Bleed Temperature Optimized) are premium ultra-low bleed injector septa for today's most demanding applications. The BTO septa are uniquely formulated to extend ultra-low bleed characteristics and outstanding mechanical properties. It retains remarkable softness, even at high temperatures, and has been optimized to reduce injection port adhesion, with the addition of a non-stick coating. The pre-pierced BTO septa also benefit from the CenterGuide design. They have a recess on the injection side to help guide the syringe needle to the same point for every injection. The BTO septa are recommended for GC/MS applications.

### Green

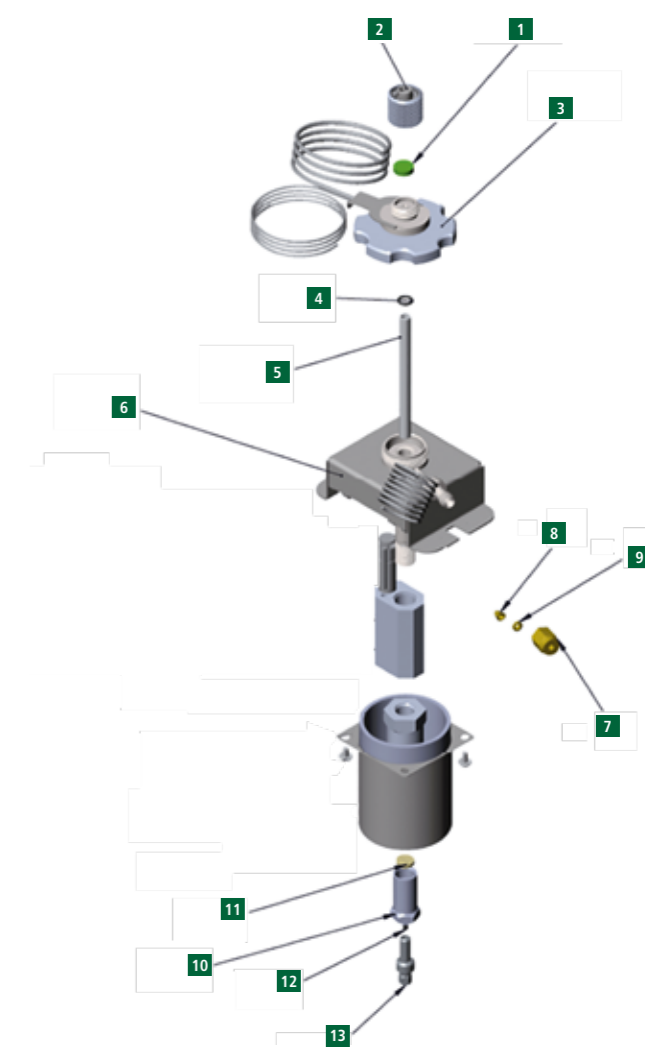
Septa rated to 350 °C. The advanced green septa were created to combine significantly longer injection life, low bleed and low injection port adhesion. These septa also benefit from also with the non-stick coating and the CenterGuide design. The result is a mid-range general purpose septum made of uniquely formulated silicone rubber you can use for all your daily analyses.

### Blue

Septa rated to 275 °C. The blue septa are designed for routine applications. Employing a soft silicone rubber material and stay clean surface, they are easy to penetrate without a recess. As the blue septa used at lower operating temperatures the non-stick coating is not required to prevent inlet adhesion. They offer a low level of inertness and for routine GC applications providing optimum performance at lower operating temperatures.

## 590/690 Capillary Injector Parts

Product	Description	Part No.
	Septum Cap	
<b>1</b>	PerkinElmer Green Injection Septum (Pkg. 50)	<b>N6621028</b>
<b>2</b>	Injector Top Nut	<b>N6550223</b>
<b>3</b>	Injector Head	<b>N6550220</b>
<b>4</b>	O-Ring, Viton® for Glass Liner (Pkg. 1) Maximum Injector Temperature 250 °C, Recommended for use with Mass Spec.	<b>09200714</b>
	O-Ring, KALREZ® for Glass Liner (Pkg. 1) Maximum Injector Temperature 450 °C	<b>09200725</b>
<b>5</b>	Ultra-deactivated Straight Inlet Liner With Wool, 4.0 mm ID, for Split/Splitless Inlets, 5 pack (ships with instrument) See page 3 for a full listing of liners	<b>N6502036</b>
	Ultra Deactivated Straight Splitless Liner With Wool	<b>N6502033</b>
	Ultra-deactivated Split Precision Liner With Wool, 4.0 mm ID, 5 pack	<b>N6502034</b>
	Ultra-deactivated Straight Inlet Liner No Wool, 1.0 mm ID, 5 pack	<b>N6502037</b>
	Straight Through Glass Liner No Wool, 2.0 mm ID	<b>N6502039</b>
<b>6</b>	Injector Body	<b>N6550221</b>
<b>7</b>	Brass Nut	<b>09903128</b>
<b>8</b>	Front Ferrule – 1/8 in. Brass	<b>09903129</b>
<b>9</b>	Back Ferrule – 1/8 in. Brass	<b>09903130</b>
<b>10</b>	Gold Seal Nut	<b>N6552080</b>
<b>11</b>	Gold Seal	<b>N6551043</b>
<b>12</b>	1/16 in. Short Graphite/Vespal Ferrule (Pkg. 10) For column ID 0.18 – 0.32 mm/0.4 mm See page 5 for a full listing of short ferrules	<b>09200685</b>
Not shown	Trap Installation Kit (same part for both split and splitless injection)	<b>N6550140</b>
Not shown	Trap Replacement Cartridge	<b>N6550142</b>
	Split Vent Trap Connecting Tube – 690, A Position	<b>N6552091</b>
	Split Vent Trap Connecting Tube – 690, B Position	<b>N6552092</b>
Not shown	Split Vent Trap Connecting Tube – 590, A Position	<b>N6552093</b>
	Split Vent Trap Connecting Tube – 590, B Position	<b>N6552094</b>
<b>13</b>	Capillary Column Nut	<b>N6552084</b>



## GC/MS 590/690 Capillary Injector Consumable Kit

Description	Pkg.	Qty.	Part No.
GC/MS Capillary Injector Starter Kit for Clarus 690, 590			<b>N6550448</b>
<b>Contents</b>			
5.0 µL Autosampler Syringe		1	<b>N6101390</b>
Vial Locator (Dongle)		2	<b>N6101182</b>
Viton O-Rings (300 °C)	10	1	<b>09200714</b>
Kelrez O-Rings (Maximum Injector temperature 450 °C)	1	2	<b>09200725</b>
Ultra Deactivated Split/Splitless Liner, 4 mm, with Wool	5	1	<b>09200624</b>
Graphite/Vespal Ferrules, for 0.25 mm Columns	10	1	<b>09200685</b>
PerkinElmer Green Septa (50 pieces)		1	<b>N6621028</b>
Marathon Filament		1	<b>N6470012</b>
Aluminum Oxide Powder (3 oz.)		1	<b>04190197</b>

## Split/Splitless Injector Add-On Kits

All capillary add on kits need the charcoal trap kit (Part No. **N6550140**) and the appropriate vent trap connecting tube.

Configuration	Part No.
Split Vent Trap Connecting Tube – 690, A Position	<b>N6552091</b>
Split Vent Trap Connecting Tube – 690, B Position	<b>N6552092</b>
Split Vent Trap Connecting Tube – 590, A Position	<b>N6552093</b>
Split Vent Trap Connecting Tube – 590, B Position	<b>N6552094</b>

### Capillary Injector with PPC

Kit includes split/splitless injector with programmable pneumatic control for carrier gas, split vent, heater, sensor, and heater block. If not, a PPC upgrade kit (Part No. **N6120146**) is required and in addition, modules may also be required. Installation by PerkinElmer Service is required, but not included.

Voltage	Part No.
120 V	<b>N6550138</b>
240 V	<b>N6550139</b>

### Capillary Injector for Manual Pneumatics

Kit includes split/splitless injector in module with heater and sensor, 0 – 60 psi pressure regulator, and transducer for pressure readout. For manual gas control.

Voltage	Part No.
120 V Clarus	<b>N6550012</b>
230 V Clarus	<b>N6550013</b>

### Split/Splitless Injector Starter Kit

Includes: 2 mm ID quartz liner, 4 mm ID quartz liner, silicone O-Rings, green septa (50), 0.4 mm, 0.5 mm and 0.8 mm GV ferrules, gold seal, gold seal nut, capillary injector nut and wafer scribes.

Description	Part No.
Split/Splitless Injector Starter Kit for Manual Gas Control	<b>N6550101</b>

## Packed Column Injector Add-On Kits

### Packed Column Injector Kit with Manual Pneumatics

Includes: complete injector assembly with heater and sensor, 0 – 100 mL flow controller, and column head pressure gauge for installation into the AutoSystem.

Voltage	Part No.
120 V*	<b>N6120007</b>
240 V*	<b>N6120023</b>

### Packed Column Injector Kit with PPC

The kit includes complete injector assembly with programmable pneumatic control, heater, sensor, and heater block. The GC must be PPC™ ready. If not, a PPC upgrade kit (**N6120146**) is required.

Voltage	Part No.
120 V*	<b>N6120136</b>
240 V*	<b>N6120137</b>

### Packed Column Injector Kit with Screen Readout and Manual Pneumatics

Includes: complete injector assembly with heater and sensor, 0 – 100 mL flow controller and column head pressure gauge, and transducer for screen readout of column carrier flow.

Voltage	Part No.
120 V* Clarus	<b>N6520010</b>
230 V* Clarus	<b>N6520011</b>

### Packed Column Injector Kit

The kit includes complete injector, heater, sensor and heater block. (Does not include pneumatics.)

Voltage	Part No.
120 V*	<b>N6120071</b>
240 V*	<b>N6120072</b>

### Packed Column Injector Starter Kit

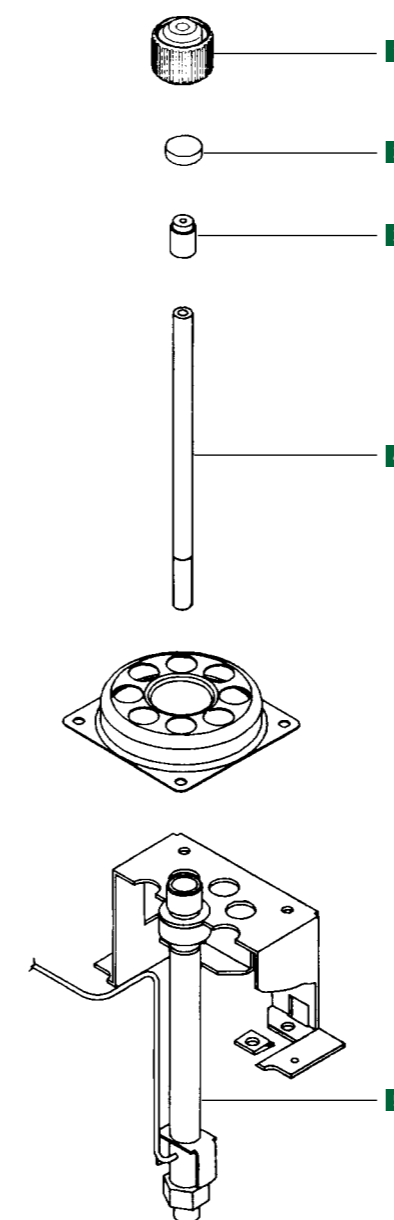
Includes glass liner, needle guide, green septa (50), untreated quartz wool, and packing rod.

Description	Part No.
Packed Column Injector Starter Kit	<b>N6120100</b>

\*Service installation suggested

## Packed Injector Replacement Parts

	Description	Part No.
1	Septum Cap	<b>N6100153</b>
2	PerkinElmer Green Injection Septum (Pkg. 50)	<b>N6621028</b>
	PerkinElmer BTO Injection Septum (Pkg. 50)	<b>N9302972</b>
3	Needle Guide	<b>N6101050</b>
4	Glass Liner	<b>N6101048</b>
	Quartz Liner	<b>N6121000</b>
5	Packed Injector Assembly	<b>N6100048</b>



## Wide-Bore Adapter Kit

### 0.53 Capillary Column Adapter Kit

The Wide-Bore Adapter Kit allows conversion of the packed inlet for 0.53 mm capillary column operation. The kit includes 0 – 20 mL flow control element, wide-bore adapter with 1/16 in. fitting, wide-bore glass liner, and column support hanger. Can be used in both on-column and off-column modes of operation.

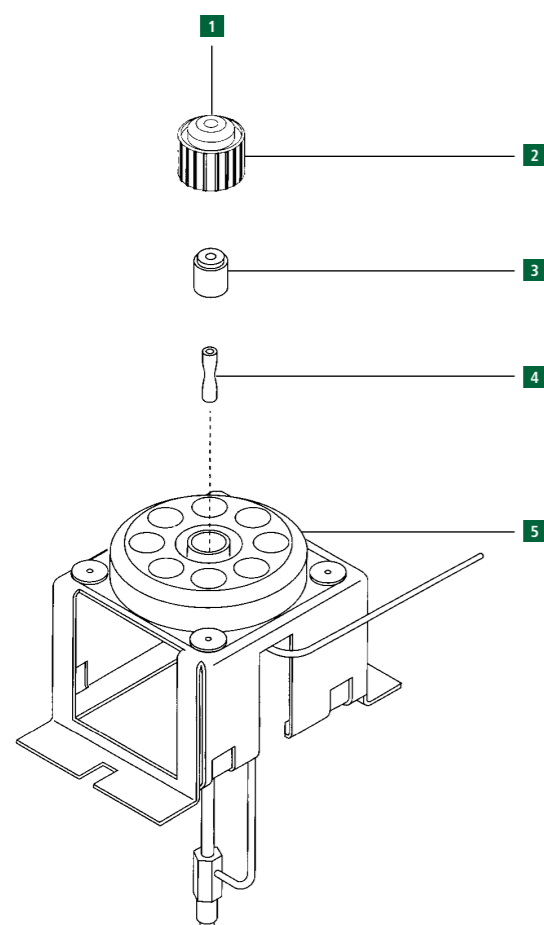
Description	Part No.
0.53 Capillary Column Adapter Kit	<b>N6120001</b>

## GC/MS PSS Injector Consumable Kit

Description		Part No.	
GC/MS PSS Injector Starter Kit		<b>N6100447</b>	
Contents	Pkg.	Qty.	Part No.
5.0 µL Autosampler Syringe		1	<b>N6101390</b>
Vial Locator (dongle)		2	<b>N6101182</b>
PSS Injector Viton O-Rings (300 °C)	10	1	<b>09926067</b>
PSS Injector Kelrez O-Rings (350 °C)	10	1	<b>09921004</b>
PSS Split/Splitless Liner, 2 mm, No Wool		2	<b>N6121004</b>
Graphite/Vespel Ferrules, for 0.25 mm Columns	10	2	<b>09920104</b>
PerkinElmer Green Septa (50 pieces)		1	<b>N6621028</b>
Marathon Filament		1	<b>N6470012</b>
Aluminum Oxide Powder (3 oz.)		1	<b>04190197</b>

## POC Replacement Parts

Description	Part No.
<b>1</b> Septum Cap	<b>N6100153</b>
<b>2</b> PerkinElmer Green Injection Septum (Pkg. 50)	<b>N6621028</b>
<b>3</b> Needle Guide	<b>N6101702</b>
<b>4</b> Liner/Hour Glass	<b>N6101703</b>
Body Assembly	<b>N6100256</b>
<b>5</b> Packed Injector Assembly	<b>N6100048</b>



## Programmed-Temperature On-Column Injector System

Programmed-Temperature On-Column (POC) Inlet is designed to be used with fused-silica capillary columns. The sample is injected onto the column while the inlet is cool. After the injection, the inlet begins to heat. This delay in heating avoids the flash vaporization associated with a normal injection. This explosive vaporization can cause thermal breakdown and/or discrimination of certain analytes, which can be avoided by using the POC.

The POC Injector is best used to achieve recovery of compounds of greater than C<sub>60</sub> (e.g., polywaxes). The POC utilizes flow control, producing the best recovery out to C<sub>100</sub> or greater.

### POC Injector with Manual Flow Controller and Head Pressure Gauge

Kit includes all necessary hardware to install injector into AutoSystem Series or Clarus Series.

Voltage	Part No.
120 V*	<b>N6120076</b>
240 V*	<b>N6120077</b>

### POC Injector with Manual Flow Controller and Head Pressure Gauge with Flow Readout on Screen

Kit includes all necessary hardware to install injector into AutoSystem Series or Clarus Series.

Voltage	Part No.
120 V*	<b>N6120082</b>
240 V*	<b>N6120083</b>

### POC Injector with PPC Add-On Kit

Kit includes injector with programmable pneumatic control, heater, sensor, and heater block. The Clarus GC must be PPC™ ready. If not, a PPC upgrade kit (**N6120146**) is required. Installation by PerkinElmer Service is required, but not included.

Voltage	Part No.
120 V*	<b>N6120142</b>
240 V*	<b>N6120143</b>

### POC Injector Starter Kit

Includes: needle guides (5), universal connectors (5), 0.53 mm ID deactivated fused silica (5 m), 1/16 in. stainless steel nuts (5), 0.8 mm graphite ferrules (10), green septa (50), and wafer scribes (10).

Voltage	Part No.
POC Injector Starter Kit	<b>N6120098</b>

\* Service installation suggested

## Programmed-Temperature Split/Splitless Injector System

### PSS Injector Add-On Kits with Manual Pneumatics

The programmed-temperature split/splitless (PSS) inlet allows accurate sample delivery to a capillary column. The PSS allows the analysis of thermally labile compounds, while eliminating the discrimination of high-boiling compounds. One of the major advantages of the PSS is that any nonvolatile material will remain in the inlet liner and not on the front of the column.

PSS with pneumatics and pressure readout on screen.

Kit includes all necessary hardware to install injector into GC.

Voltage	Part No.
120 V* Clarus	<b>N6520014</b>
230 V* Clarus	<b>N6520015</b>

### PSS Injector with PPC

Kit includes injector with programmable pneumatic control, heater, sensor, and heater block. The GC must be PPC™ ready. If not, a PPC upgrade kit (**N6120146**) is required.

Voltage	Part No.
120 V*	<b>N6120140</b>
240 V*	<b>N6120141</b>

### PSS Injector Starter Kit

Includes: universal connectors (5), 0.53 mm ID deactivated fused-silica (5 m), 2 mm ID quartz liner, 1 mm ID quartz liner, glass hourglass liner, 1/16 in. stainless steel nuts (5), 0.5 mm ID graphite ferrules (10), 0.8 mm ID graphite ferrules (10), Viton® O-Rings (6), graphite O-Rings (5), untreated quartz wool, wafer scribes (10), and green septa (50).

Voltage	Part No.
PSS Injector Starter Kit	<b>N6120102</b>

### Zero Dilution Liners Recommended for Headspace

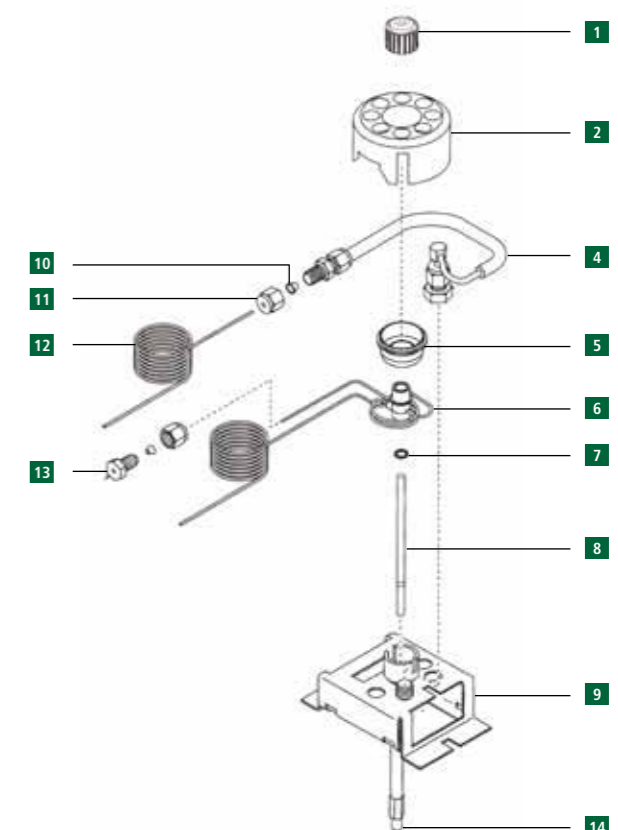
Used together as set.

Voltage	Part No.
Inner Liner	<b>N1011446</b>
Outer Liner	<b>N1011447</b>

\* Service installation suggested

## PSS Replacement Parts

Description	Part No.
<b>1</b> Septum Cap	<b>N6100153</b>
<b>2</b> Injector Cover	<b>N6101482</b>
<b>3</b> PerkinElmer Green Injection Septum (Pkg. 50)	<b>N6621028</b>
<b>4</b> Trap, Charcoal – non PPC version PPC version (not shown)	<b>N6100275</b>
<b>5</b> Nut	<b>N6101705</b>
<b>6</b> Septum Purge	<b>N6100260</b>
O-Ring Viton (Pkg. 10) max temp 300 °C, recommended for use with mass spec. Shipped with instrument	<b>N6101747</b>
<b>7</b> O-Ring KALREZ® (Pkg. 1) max temp. 450 °C	<b>09921004</b>
O-Ring Graphite (Pkg. 5) max temp. 450 °C	<b>N6101751</b>
Quartz Liner, 2 mm Split Mode Shipped with instrument	<b>N6121004</b>
<b>8</b> Quartz Liner, 1 mm Splitless Mode On-column liner	<b>N6121006</b> <b>N6101539</b>
<b>9</b> Body Assembly	<b>N6100261</b>
<b>10</b> Ferrule 1/8 in. x 1/16 in. (Pkg. 10)	<b>09920301</b>
<b>11</b> Nut 1/8 in.	<b>09903128</b>
<b>12</b> Split Vent Line	<b>N6100159</b>
<b>13</b> Purge Restrictor	<b>N6101034</b>
<b>14</b> Nut	<b>09903392</b>



## Wide Range FID Add-On Kits

### Auto-Ignite Wide Range FID Add-On Kit (with PPC)

Kit includes: detector assembly with heater and sensor, heater block, igniter, programmable pneumatics, amplifier and controls for detector combustion gases. GC must be PPC ready. If not, a PPC upgrade kit (**N6120146**) is required. Installation by PerkinElmer Service is required, but not included.

Voltage	Part No.
120 V	<b>N6550167</b>
240 V	<b>N6550168</b>

### Auto-Ignite Wide Range FID Add-On Kit (Manual Pneumatics), 590 only

Kit includes: detector assembly with heater and sensor, heater block, igniter, hydrogen pressure regulator, amplifier and needle valve.

Voltage	Part No.
120 V	<b>N6550165</b>
230 V	<b>N6550166</b>

### Wide Range FID Amplifier

Description	Part No.
Wide Range FID Amplifier	<b>N6559234</b>

## Detector Series Operation Kit

### TCD/FID Series Operation Kit

Used to direct sample effluent from the TCD to the FID.

Description	Part No.
TCD/FID Series Operation Kit	<b>N6120006</b>

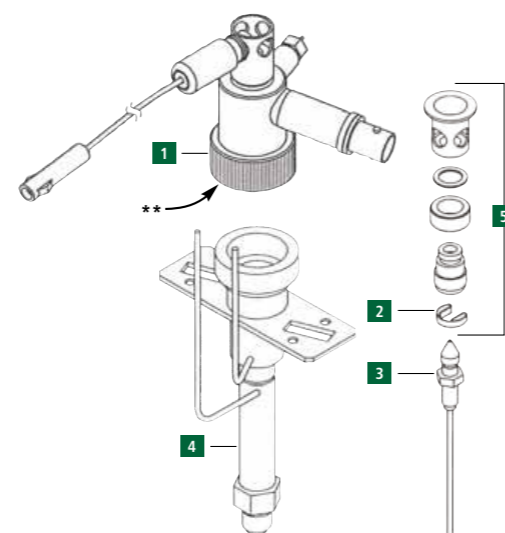
### PID/FID Series Operation Kit

Used to direct sample effluent from the PID to the FID.

Description	Part No.
PID/FID Series Operation Kit	<b>N6120059</b>

### Auto-Ignite Wide Range FID Replacement Parts

Description	Part No.
<b>1</b> Collector Head Assembly which includes Silicone Rubber O-Ring** (not shown)	<b>N6550077</b> <b>09902143</b>
<b>2</b> FID Jet Contact/Spring (included in <b>N6550072</b> )	<b>N6001204</b>
<b>3</b> Jet Assembly (0.28 mm jet, fitted as standard)	<b>N6550080</b>
Jet Assembly (0.71 mm jet)	<b>N6550083</b>
<b>4</b> FID Body	<b>N6550082</b>
<b>5</b> Nozzle Assembly	<b>N6550072</b>



## Wide Range FID Miscellaneous Accessories

Description	Part No.
Auto-Ignite Nozzle Replacement Tool for removing nozzle from auto-ignite FID body	<b>N6103188</b>
Auto-Ignite FID Catalytic Reactor Accessory*	<b>N6120161</b>
Capillary Column Adapter for capillary column use with the FID 1/8 to 1/16 in. detector adapter	<b>N6120020</b>
Ceramic Column Cutter	<b>N9301376</b>
Cotton Applicators	<b>N9301272</b>
Detector Cover (Brown Color)	<b>N6103225</b>
Detector Cover (White Color)	<b>N6103151</b>
Eraser Brush-Pencil	<b>09923078</b>
Jet Assembly (0.28 mm jet, fitted as standard)	<b>N6550080</b>
Jet Assembly (0.71 mm jet)	<b>N6550083</b>
Jet Replacement Tool	<b>N6101297</b>
1/4 in. nut driver for removing jet from auto-ignite FID body	
Replacement Stainless Steel Glow Plug for Auto-ignite FID	<b>N6103089</b>
1/4 in. Packed Column Adapter for use with 1/4 in. packed columns.	<b>00080100</b>
1/8 to 1/4 in. adapter fits both injector and detector ends	

## Catalytic Reactor Accessory

### Auto-Ignite Wide Range FID with PPC Add-On Kit

The catalytic reactor converts CO and CO<sub>2</sub> to methane conveniently and efficiently. The lower detection limit is extended to well below 0.1 ppm.

The catalytic reactor consists of a special catalytic reactor base which replaces the FID base. The reactor body contains a quantity of catalyst held in place by a quartz wool plug.

Kits include base assembly, reactor tube, and instructions.

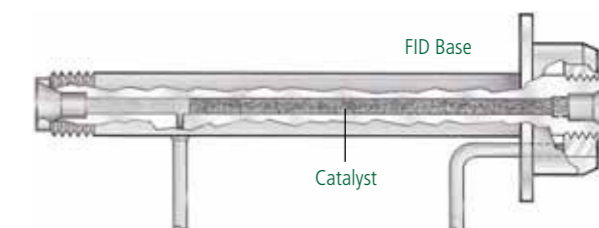
### External Igniter Wide Range FID Catalytic Reactor Accessory\*

Description	Part No.
External Igniter FID Catalytic Reactor Accessory	<b>N6550180</b>

\* Same part for Auto-Ignite catalytic reactor accessory

### Catalytic Reactor Replacement Parts

Description	Part No.
Catalyst	<b>N9302698</b>
Jet Assembly (specific to methanizer/catalytic reactor)	<b>N6100194</b>
Quartz Wool (available in the US only)	<b>N6102354</b>



## Miscellaneous Accessories

### Hydrogen Regulator Replacement Kit (Manual Pneumatics)

Description	Part No.
Hydrogen Regulator Replacement Kit	<b>N6100289</b>

### Hydrogen/Air Replacement Needle Valve (Manual Pneumatics)

Description	Part No.
Hydrogen/Air Replacement Needle Valve	<b>N6101412</b>

### FID Flow Measurement Adapter

Description	Part No.
FID Flow Measurement Adapter	<b>N6101345</b>

## FPD Add-On Kits

The FPD is a highly sensitive and selective detector for both sulfur and phosphorus compounds. It is especially suitable for environmental monitoring of H<sub>2</sub>S and sulfur gases in general and for organophosphorus compounds present at trace levels in pesticide analysis. Alkyl tin compounds can also be analyzed by changing the filter assembly. The sulfur filter is shipped standard.

The FPD mounts in either the front or rear detector position. This allows many detector combinations, such as FPD/FPD, FPD/TCD, and FPD/ELCD.

The AutoSystem also includes a linearizer function for the sulfur mode and convenient control of the photomultiplier tube from the keyboard.

The FPD is capillary-column compatible. The detector will accept columns of 0.530 mm ID or less. The standard jet shipped with the FPD does not have a glass-lined tail pipe. If an all-glass system is required and glass packed columns will be used, then a glass-lined tail pipe should be ordered (N6100264). As a reminder, use of packed 1/4 in. columns requires a 1/8 to 1/4 in. adapter.

### Filters

Description	Part No.
Phosphorus Lens (Yellow)	N6000981
Sulfur Lens* (Blue)	N6000637
Tin Lens (Orange)	L4135472

\* Shipped standard

### FPD Add-On Kit (Manual Pneumatics)

Kit includes detector, heater, sensor, heater block, hydrogen needle valve, air pressure regulator, and sulfur photomultiplier filter. Requires but does not include FPD amplifier (N6120095). Firmware revision 1.6 or greater required. Firmware must be PerkinElmer Service installed.

Voltage	Part No.
120 V Clarus	N6520028
230 V Clarus	N6520029

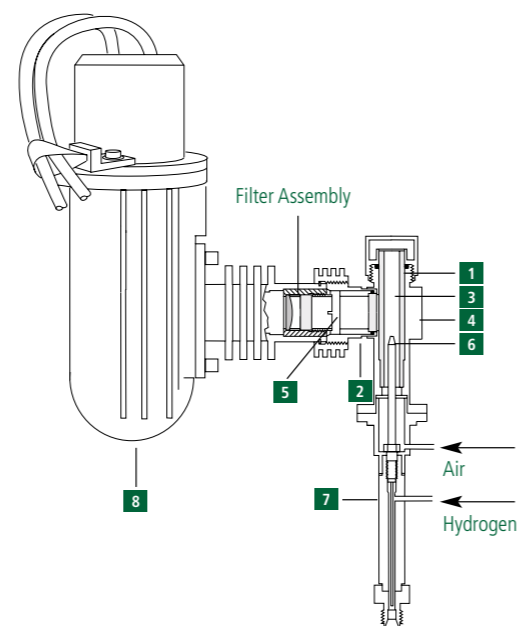
### FPD Amplifier

Firmware revision 1.6 or greater required. Firmware must be PerkinElmer Service installed.

Description	Part No.
FPD Amplifier	N6120095

### FPD Replacement Parts for AutoSystem Series GCs

Description	Part No.
1 O-Ring	09902247
2 Seal Assembly and Window (heat shield)	N9300096
3 Liner (window)	N6003057
4 FPD Body (upper)	N6100243
5 Window Holder	N6003066
6 FPD Jet	N6100245
6 Glass-lined Jet Tailpipe (for all-glass system)	N6100264
7 FPD Body (lower)	N6100244
8 Photomultiplier Tube	09972321



### FPD with PPC Add-On Kit

Kit includes: detector, heater, sensor, heater block, programmable pneumatic control for detector combustion gases, and sulfur photomultiplier filter. Requires, but does not include, FPD amplifier (N6120095). GC must be PPC ready. If not, a PPC upgrade kit (N6120146) is required. Installation by PerkinElmer Service is required, but not included.

Voltage	Part No.
120 V	N6120128
230 V	N6120129

### Packed Column Adapter

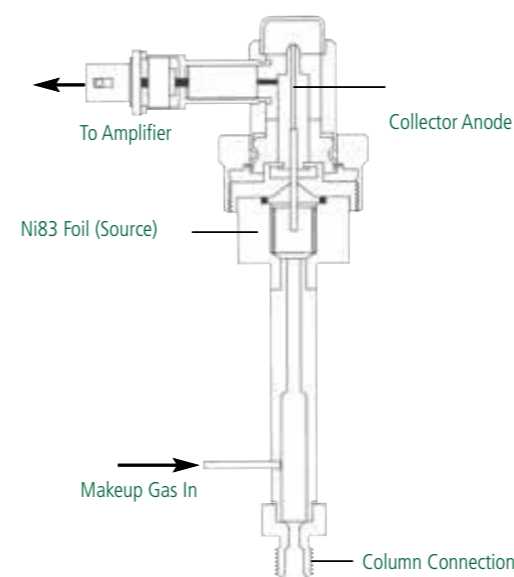
1/8 to 1/4 in. adapter for use with 1/4 in. packed columns.

Description	Part No.
Adapter (set of 2)	00080100

## ECD Add-On Kits

The ECD is a versatile, nondestructive detector which responds strongly to halogen-containing compounds as well as to certain other electron-capturing substances. The ECD's high sensitivity and selectivity make it an ideal choice for pesticide-residue analysis and for detection of halogen-derivatized compounds.

The ECD has an independent temperature range of 100-450 °C. The detector contains thermal protection that prevents heating the Ni63 source to temperatures beyond safe operating limits. Two ECDs can be installed and operated simultaneously on the Clarus GCs. Nitrogen or argon/methane is the required detector operating gas. The base of the detector terminates in a 1/8 in. fitting.



### ECD Add-On Kit (Manual Pneumatics)

Kit includes all parts necessary to install an ECD on the AutoSystem Series or Clarus GCs. Includes: detector, heater, sensor, heater block, 1/16 in. makeup gas line, makeup gas needle valve, and vent tube assembly. Requires, but does not include, ECD amplifier (N6120014). Installation by PerkinElmer Service is recommended.

Voltage	Part No.
120 V Clarus	N6520020
230 V Clarus	N6520021

### ECD Amplifier

Required for use with ECD detector with add-on kit.

Description	Part No.
ECD Amplifier	N6120014

### ECD Add-On Kit (PPC Pneumatics)

Kit includes: detector, heater, sensor, heater block, and programmable pneumatic control for makeup gas. Requires, but does not include, ECD amplifier (N6120014). The Clarus GCs must be PPC ready. If not, a PPC upgrade kit (N6120146) is required. Installation by PerkinElmer Service is required, but not included.

Voltage	Part No.
120 V	N6120122
230 V	N6120123

### Vent Tube Assembly

Flexible tube to safely vent toxic sample effluent.

Description	Part No.
Vent Tube Assembly	N6100161

## Column Adapters

### Column Adapter/Receiver

Adapter converts 1/8 in. fitting to 1/16 in. for use with capillary columns. **Note:** Glass-lined tubing reduces background from polyimide coating in high-temperature applications.

Description	Part No.
Capillary Column Adapter/Receiver	N6000968

### PID/ECD Series Operation Kit

Kit for directing effluent from PID to ECD.

Description	Part No.
PID/ECD Series Operation Kit	N6120059

### 1/4 in. Packed Column Adapter

For use with 1/4 in. packed columns. 1/8 to 1/4 in. adapters fit both injector and detector ends. (Pkg. 2).

Description	Part No.
1/4 in. Packed Column Adapter	00080100

## ECD Wipe Test Kit

U.S. Federal law requires that all ECDs be wipe-tested periodically as described in the instrument operator's manual. In the U.S., possession and use of ECD is regulated by N.R.C. and/or state regulatory agencies. Licensing by regulatory agencies is required. Outside of the U.S., check with governing bodies for licensing and regulations covering possession and use. This kit contains everything necessary to do a complete wipe test. For use on any model GC ECD.

Description	Part No.
ECD Wipe Test Kit	00091667



## NPD Add-On Kits

### NPD Add-On Kit (Manual Pneumatics)

The NPD can be used for the analysis of organic compounds containing nitrogen or phosphorus down to the picogram level. The NPD has become the detector of choice for low-level drug and pesticide applications because of its sensitivity and selectivity.

Kit includes: detector, heater, sensor, heater block, air needle valve, and hydrogen pressure regulator with snubber and two beads. Requires, but does not include, amplifier. Firmware must be PerkinElmer Service installed.

Voltage	Part No.
120 V Clarus	N6520024
230 V Clarus	N6520025

### NPD Amplifier

Required for use with NPD Add-On Kit.

Description	Part No.
NPD Amplifier	N6120094

### NPD with PPC Add-On Kit

Kit includes: detector, heater, sensor, heater block, and programmable pneumatic control for detector combustion gases and two beads. Requires, but does not include, amplifier (N6120094). The Clarus GC must be PPC ready. If not, the PPC upgrade kit (N6120146) is required. Installation by PerkinElmer Service is required, but not included.

Voltage	Part No.
120 V	N6120126
240 V	N6120127

## Column Adapter

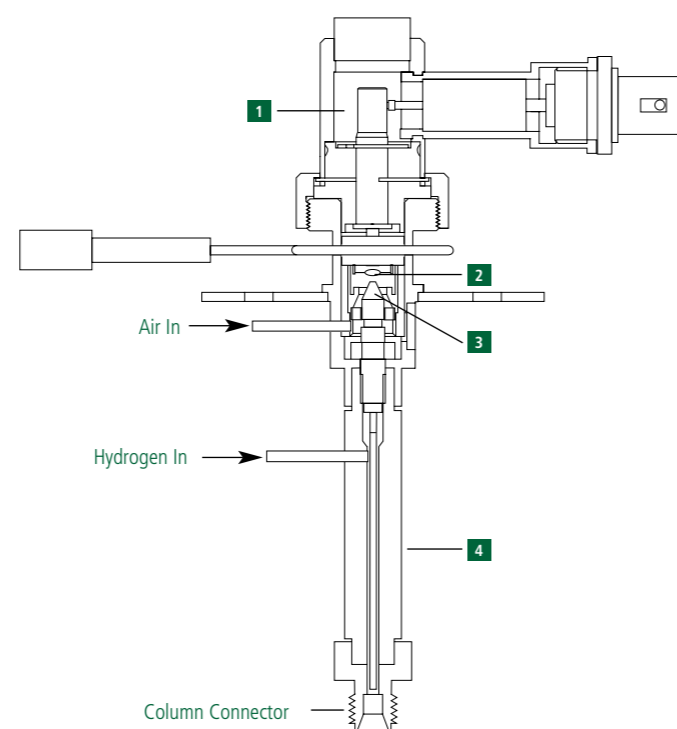
### 1/4 in. Packed Column Adapter

1/8 to 1/4 in. detector receiver adapter for use with 1/4 in. packed columns. Two included (injector/detector).

Description	Part No.
1/4 in. Packed Column Adapter	00080100

## NPD Replacement Parts

Description	Part No.
1 Collector Head	N6100253
2 Bead Assembly (Pkg. 5) Single Pkg.	N6120093 N6120092
3 Jet Assembly	N6100038
4 NPD Body	N6100228



## PID Add-On Kits

### PID Add-On Kit (Manual Pneumatics)

The PID utilizes a high-intensity ultraviolet light source to ionize the sample components eluting from the column in order to generate the chromatographic signal. The PID has a maximum recommended operating temperature of 250 °C. The lamp can be replaced with a blanking disk to allow bake-out operation (up to 350 °C). Kit includes: detector, heater, sensor, makeup gas needle valve, and all necessary mounting hardware for installation on a GC. Requires, but does not include, amplifier (N6120061) and lamp power supply (N6120062). Firmware revision 1.2 or greater is required. Firmware must be PerkinElmer Service installed.

Voltage	Part No.
120 V Clarus	N6520026
230 V Clarus	N6520027

### PID Amplifier

Required for use with PID Add-On Kit.

Description	Part No.
PID Amplifier	N6120061

### PID Lamp Power Supply

Required for use with PID Add-On Kit.

Description	Part No.
PID Lamp Power Supply	N6120062

### PID with PPC Add-On Kit

Kit includes: detector, heater, sensor, heater block, and programmable pneumatic control for makeup gas. Requires, but does not include, amplifier (N6120061) and power supply (N6120062). The GC must be PPC ready. If not, a PPC upgrade kit (N6120146) is required. Installation by PerkinElmer Service is required, but not included.

Voltage	Part No.
120 V	N6120130
230 V	N6120131

## Detector Series Operation Kits

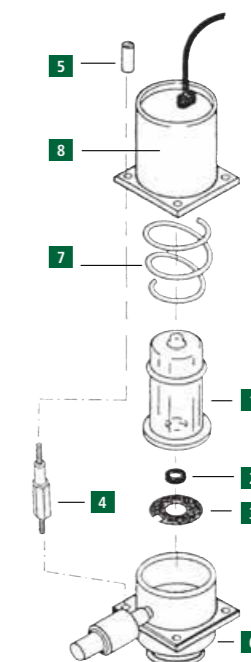
Description	Part No.
PID/FID, PID/ECD Series kit for directing effluent from a PID to an FID or an ECD	N6120059

## Miscellaneous Accessories

Description	Part No.
Bakeout Disk	03302989
Lamp Cleaning Compound	03302775
1/4 in. Detector Receiver	03300866
1/8 in. Detector Receiver	03300865

## PID Replacement Parts

Description	Part No.
1 PID Lamp (10.2eV), For most applications including aromatics, alkenes, and aliphatics higher than C4. Shipped standard with PID	03303599
PID Lamp (9.5eV), Improved selectivity for multiple ring aromatic, sulfur compounds	03303598
2 PID Lamp Window Seal	03302778
3 PID Lower Lamp Seal	03302777
4 Shoulder Pin	03302976
5 Cap Nut	03303773
6 Base Assembly	03302979
7 Spring	03302973
8 Cap with Harness	N6101696



## TCD Add-On Kits

### Features and Benefits

- Lower internal volume and smaller overall size
- No makeup gas required with 0.53 mm and 0.32 mm ID capillary columns
- Series connection option
- Excellent sensitivity over a wide dynamic range

### TCD Add-On Kit (Manual Pneumatics)

Kit includes all necessary items to install the TCD into the instrument: detector, heater, sensor, heater block, 1/16 in. gas line, and flow controller pneumatics. Requires, but does not include, amplifier (**N6120015**). The TCD can only be installed in the rear detector position.

Voltage	Part No.
120 V Clarus	<b>N6520022</b>
230 V Clarus	<b>N6520023</b>

### TCD Amplifier

Description	Part No.
TCD Amplifier	<b>N6120015</b>

### TCD with PPC Add-On Kit

Kit includes: detector, heater, sensor, heater block, and programmable pneumatic control for reference gas. Requires, but does not include, amplifier (**N6120015**). The TCD can only be installed in the rear detector position. The GC must be PPC ready. If not, a PPC upgrade kit (**N6120146**) is required. Installation by PerkinElmer Service is required, but not included.

Voltage	Part No.
120 V	<b>N6120124</b>
240 V	<b>N6120125</b>

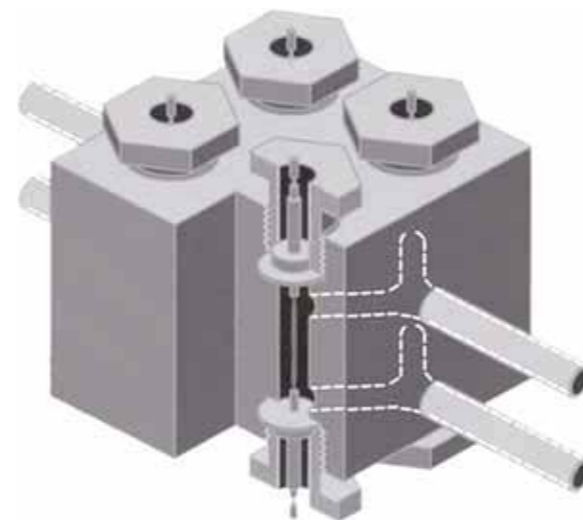
### TCD with PPC Makeup Gas Kit

Includes parts required to add PPC controlled makeup gas to an existing TCD. Includes tubing, tee-piece, PPC pneumatics module, and PPC frit #4 (**N6120155**). Requires PPC capability in the GC.

Description	Part No.
TCD with PPC Makeup Gas Kit	<b>N6120150</b>

## Column Adapter

Description	Part No.
1/8 to 1/4 in. Column adapter for use with 1/4 in. packed columns	<b>00080100</b>
1/8 to 1/16 in. Column adapter for use with capillary columns	<b>N6120020</b>



Thermal Conductivity Detector

## TCD/FID Series Operation Kit

TCD and FID series operation kit for directing effluent from a TCD to an FID.

Description	Part No.
TCD/FID Series Operation Kit	<b>N6120006</b>

### TCD Detector Makeup Gas Kit (Manual Pneumatics)

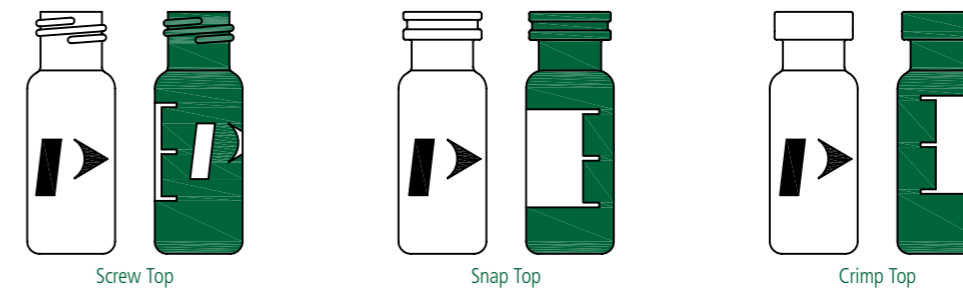
For use with TCD (at low flow rates). Required when using 0.25 mm ID and recommended when using 0.32 mm ID capillary columns. Kit includes 1 m of 1/16 in. tubing to connect to gas supply, graphite/vespel ferrules, manual pneumatics, and installation instructions.

Description	Part No.
TCD Detector Makeup Gas Kit (Manual Pneumatics)	<b>N6120080</b>

## Autosampler Vials

Our vials are manufactured from Type I Borosilicate Glass, which meets all USP, JP, and EP Pharmacopeia requirements. The glass performs excellently at high temperatures and is chemical resistant to acidic, neutral and alkali solutions. All our vials are packed in a clean environment to ensure you receive contaminant free product every time.

### 2 mL Autosampler Glass Vials (12 x 32 mm)



Neck ID Size (mm)	Vial Top Type	Vial Description	Pkg.	Part No.
9	Screw	Clear glass	100	<b>N9306201</b>
9	Screw	Clear glass with write on patch and fill lines	100	<b>N9307801</b>
9	Screw	Clear glass with write on patch (deactivated)	100	<b>N9304139</b>
9	Screw	Amber glass	100	<b>N9306220</b>
9	Screw	Amber glass with write on patch and fill lines	100	<b>N9307802</b>
10	Screw	Clear glass with write on patch and fill lines	100	<b>N9306053</b>
10	Screw	Amber glass with write on patch and fill lines	100	<b>N9306057</b>
11	Crimp	Clear glass	100	<b>N9301385</b>
11	Crimp	Clear glass with write on patch and fill lines	100	<b>N9306223</b>
11	Crimp	Amber glass	100	<b>N9302680</b>
11	Crimp	Amber glass with write on patch and fill lines	100	<b>N9302679</b>
11	Snap	Clear glass	100	<b>N9303418</b>
11	Snap	Clear glass with write on patch and fill lines	100	<b>N9306207</b>
11	Snap	Amber glass with write on patch and fill lines	100	<b>N9306208</b>

### Waste and Wash Vials, Caps and Septa for GC

ID Size (mm)	Product Description	Screw		
		Part No. Pkg. 1	Part No. Pkg. 100	Part No. Pkg. 1000
13	Clear Glass Vial – 4 mL (15 x 45 mm)	<b>09923031</b>	<b>N9306247</b>	
	200 µL Vial Insert			<b>N9302681</b>
	Support for Vial Insert			<b>N9302682*</b>
13	Black Cap with PTFE/Silicone (Ultra Low Bleed) Septa		<b>N9304141</b>	<b>N9304142</b>
13	Black Phenolic Cap (no septa)	<b>09923032</b>		
13	Silicone Septa (no cap)		<b>N9302780</b>	
	Vial Diffuser	<b>N6101276</b>		

\*N9302682 is Pkg. 500

# Autosampler Caps and Septa

PerkinElmer offers a variety of caps and septa to fulfil your application needs. Our screw thread vial caps use the revolutionary Inter-Seal®. Using a process that bonds silicone/PTFE and other elastomeric compounds directly into thermoplastic closures eliminates liner fallout, while still providing the excellent re-sealability and multiple injection capability. No adhesives are used in this process, bonding the cap and septa at the molecular level of plastic and rubber. These septa have a very broad chemical resistance and can be used in many markets including: environmental, diagnostic packaging, pharmaceutical packaging, cosmetic and food packaging.



## Pre-Assembled Cap and Septa

For your convenience, a wide range of pre-assembled caps and septa are available, in differing pack sizes.

Neck ID Size (mm)	Septa Type	Cap Type	Closure Type	Pkg.	Part No.
9	PTFE/red rubber	Blue (polypropylene)	Screw	100	<b>N9306200</b>
9	PTFE/silicone	Blue (polypropylene)	Screw	100	<b>N9306360</b>
9	PTFE/silicone	Blue (polypropylene)	Screw	1000	<b>N9306361</b>
9	PTFE/silicone (ultra-low bleed)	Blue (polypropylene)	Screw	100	<b>N9306362</b>
9	PTFE/silicone (ultra-low bleed)	Blue (polypropylene)	Screw	1000	<b>N9306363</b>
9	PTFE/silicone (ultra-low bleed and pre-slit)	Blue (polypropylene)	Screw	100	<b>N9306364</b>
9	PTFE/silicone (ultra-low bleed and pre-slit)	Blue (polypropylene)	Screw	1000	<b>N9306365</b>
9	PTFE/silicone (pre-slit)	Blue (polypropylene)	Screw	100	<b>N9306203</b>
9	PTFE/silicone	Blue (polypropylene)	Screw	1000	<b>N9306202</b>
10	PTFE/red rubber	Black (polypropylene)	Screw	100	<b>N9306206</b>
10	PTFE/silicone	Black (polypropylene)	Screw	100	<b>N9306205</b>
10	PTFE/silicone (pre-slit)	Black (polypropylene)	Screw	100	<b>N9306052</b>
11	PTFE/red rubber	Aluminium (silver)	Crimp	100	<b>N9306015*</b>
11	PTFE/red rubber	Aluminium (green)	Crimp	100	<b>N9302684</b>
11	PTFE/red rubber	Aluminium (red)	Crimp	100	<b>N9302685</b>
11	PTFE/red rubber	Aluminium (blue)	Crimp	100	<b>N9302686</b>
11	PTFE/silicone (red/white)	Aluminium (silver)	Crimp	100	<b>N9307823</b>
11	PTFE/silicone (red/white)	Aluminium (silver)	Crimp	100	<b>N9306228</b>
11	PTFE/Silicone (red/white) Ultra low bleed	Aluminium (silver)	Crimp	100	<b>N9304148</b>
11	PTFE/Silicone (red/white) Ultra low bleed	Clear (polypropylene)	Snap	100	<b>N9304149</b>
11	PTFE/Silicone (red/white) Ultra low bleed	Clear (polypropylene)	Snap	1000	<b>N9304185</b>
11	PTFE/silicone (red/white)	Clear plastic (polyethylene)	Snap	100	<b>N9303419</b>
11	PTFE/silicone (red/white) pre-slit	Clear plastic (polyethylene)	Snap	100	<b>N9303416</b>
11	PTFE/silicone/PTFE	Aluminium (silver)	Crimp	100	<b>N9306229</b>
11	PTFE/silicone/PTFE	Gold magnetic	Crimp	100	<b>N6356473</b>
11	PTFE/silicone/PTFE	Clear plastic	Snap	100	<b>N9303417</b>
11	Aluminium/PTFE	Aluminium (silver)	Crimp	500	<b>N9302139</b>
11	Black viton	Aluminium (silver)	Crimp	1000	<b>N9302784</b>

\*Same Part No. as **N9306230**

## Un-Assembled Cap and Septa

Neck ID Size (mm)	Description	Material	Closure Type	Pkg.	Part No.
8	Septa	PTFE/red rubber	–	100	<b>N9303442</b>
8	Cap	Phenolic cap	Screw	100	<b>N9303441</b>
11	Septa	PTFE/silicone	–	12	<b>00091357</b>
11	Septa	PTFE/silicone (pre-slit)	–	500	<b>N9307021</b>
11	Cap	Clear plastic cap with slit	Snap	500	<b>N9307023</b>

## Autosampler Vial, Cap and Septa Convenience Kits

Available with either glass or polypropylene vials and a range of cap choices, these autosampler vial, cap and septa kits make it surprising simple to re-stock your laboratory. For your added convenience, the most popular kits are also available in 1000 pack size.



ID Size (mm)	Septa Type	Cap Type	Vial Type	Screw Top	Screw Top	Screw Top
				Part No. Pkg. 100	Part No. Pkg. 500	Part No. Pkg. 1000
8	PTFE/Silicone	Black Cap	Clear Glass	<b>N9301945</b>		
9	PTFE/Red Rubber	Blue Cap	Clear Glass	<b>N9300699</b>		<b>N9300910</b>
9 (certified)	PTFE/Silicone	Blue Cap	Amber Glass	<b>N9300719</b>		<b>N9300911</b>
9	PTFE/Silicone	Blue Cap	Clear Glass	<b>N9300700</b>		<b>N9300912</b>
9 (certified)	PTFE/Silicone	Blue Cap	Clear Glass	<b>N9300707</b>		
9	PTFE/Silicone (Pre-Slit)	Blue Cap	Amber Polypropylene	<b>N9301735</b>		
9 (certified)	PTFE/Silicone (Pre-Slit)	Gray Cap	Amber Glass	<b>N9300720</b>		
9	PTFE/Silicone (Pre-Slit)	Blue Cap	Clear Polypropylene	<b>N9301736</b>		
9	PTFE/Silicone (Pre-Slit)	Blue Cap	Clear Polypropylene (300 µL capacity)		<b>N9306080</b>	
9 (certified)	PTFE/Silicone (Pre-Slit)	Gray Cap	Clear Glass	<b>N9300708</b>		
9	PTFE/Silicone (Pre-Slit)	Blue Cap	Clear Glass	<b>N9300701</b>		
10	PTFE/Silicone (Pre-Slit)	Black Cap	Clear Glass	<b>N9300695</b>	<b>N9300650</b>	<b>N9300913</b>
10	PTFE/Silicone (Pre-Slit)	Black Cap	Amber Glass	<b>N9300696</b>		<b>N9300914</b>

ID Size (mm)	Septa Type	Cap Type	Vial Type	Crimp Top	Crimp Top	Snap Top
				Part No. Pkg. 100	Part No. Pkg. 500	Part No. Pkg. 100
11	PTFE/Red Rubber	Aluminum Cap	Clear Glass	<b>N9300502</b>	<b>N9300503</b>	
11	PTFE/Silicone	Aluminum Cap	Clear Glass	<b>N9300500</b>		
11	PTFE/Silicone	Clear Plastic Cap	Clear Glass			<b>N9300702</b>
11	PTFE/Silicone (Pre-Slit)	Clear Plastic Cap	Clear Glass			<b>N9300697</b>
11	PTFE/Silicone/PTFE	Aluminum Cap	Clear Glass	<b>N9300501</b>		
11	PTFE/Silicone/PTFE	Clear Plastic Cap	Clear Glass			<b>N9300698</b>

## PerkinElmer Flowmeter Plus

The PerkinElmer Flowmeter Plus is a valuable tool for troubleshooting detector problems. Measuring gas volumetrically eliminates the need to select gas type. Highly accurate, identifying leaks by differences in thermal conductivity, it offers a minimum detection limit of 0.0005 mL/min hydrogen and helium.



### Hassle Free Recalibration

Offering a much simpler and more efficient work flow, the annual recalibration is simply replacing a NIST certified calibration cartridge. Each flowmeter cartridge is individually factory calibrated and can easily be replaced directly by customers. There is no need to return the flowmeter to us, saving you time and money.

The cartridge calibration is valid for a period of one year from its first use. A new, calibrated cartridge can be ordered in advance, and then installed when necessary.

#### Features and Benefits

- Simply replace a NIST certified cartridge for revalidation, no need to return the flowmeter
- Flow range 0.5 to 750 mL/min (auto-ranging)
- Operating temperature range 0 °C to 45°C
- Accurate to ± 2% of reading or ± 0.2 mL/min, whichever is greater
- Compact size (201 mm x 88 mm x 48 mm)
- Portable operation, uses 3 AA batteries (or USB power)

Description	Part No.
Flowmeter Plus	N9307088
Replacement NIST certified calibration cartridge	N9307084

## Portable Gas Leak Detector

The PerkinElmer compact handheld electronic gas leak detector is the ideal solution for detecting gas leaks in your Gas Chromatography systems. Leaks in your system waste gas and can cause detector noise, baseline instability, and shorter column life. This portable unit detects minute leaks of any gas with thermal conductivity different from air. The reference gas inlet draws in ambient air for comparison to air drawn into the sample probe. A leak is detected by both LED bar graph display and audible alarm.



### Detectable Gases

Gas Type	Minimum Detectable Leak Rate (atm cc/sec)	Indicating LED Light Color
Helium	1.0 x 10 <sup>-5</sup>	Red
Hydrogen*	1.0 x 10 <sup>-5</sup>	Red
Nitrogen	1.4 x 10 <sup>-3</sup>	Yellow
Argon	1.0 x 10 <sup>-4</sup>	Yellow
Carbon Dioxide	1.0 x 10 <sup>-4</sup>	Yellow

Description	Specification
Battery	Rechargeable Ni-MH internal battery pack (6 hours normal operation)
Universal Power Adapter Set	US, UK, European, Australian plugs included
Temperature Range	32 – 120 °F (0 – 48 °C)
Humidity Range	0 – 97%
Warranty	1 Year
Certifications	CE, Japan
Compliance	WEEE, ROHS

#### Features and Benefits

- Sleek ergonomic, hand-held design with rugged side grips
- Automatic shut-off capabilities
- Optimized sample flow path
- LED readout and audible alarm

Description	Part No.
Portable Electronic Leak Detector	N9306089
Soft Carrying Case	N9306142
Probe (Fine Tip)	N9306063

\* Caution: The PerkinElmer leak detector is not designed for determining leaks in a combustible environment. This unit may be used for determining trace amounts of hydrogen in a GC environment only.

## Crimpers: Electronic, Handheld and Benchtop

### Crimping Tools and Vial Accessories

Whatever your need may be, PerkinElmer offers a wide range of crimping tools for your convenience. Our universal voltage, precision control, power crimpers with adjustable settings are designed to deliver hundreds of crimps on a single battery charge. The tools are ergonomically designed to reduce strain associated with the repetitive actions of using a blocky metal manual crimping tool.



### Headspace Crimper and Decapper Tools

Description	Qty.	Part No.
Benchtop Crimper	1	N6621006
Benchtop Crimper Jaws – 20 mm	1	N6621009
Electronic Hand Crimper – 20 mm	1	N9304501
Electronic Hand Decapper – 20 mm	1	N9304503
Manual Hand Crimper – 20 mm	1	N9302785
Manual Hand Crimper (Ergonomic) – 20 mm	1	N6621037
Manual Hand Decapper – 20 mm	1	N9301270
Manual Hand Decapper (Ergonomic) – 20 mm	1	N6621038



### Vial Racks

Description	Qty.	Part No.
11 mm Vial Rack – 50 Vial Capacity	1	N9301303
20 mm Vial Rack – 36 Vial Capacity	1	N9301304



### Autosampler Crimper and Decapper Tools

Description	Qty.	Part No.
Benchtop Crimper	1	N6621006
Benchtop Crimper Jaws – 11 mm	1	N6621008
Electronic Hand Crimper – 11 mm	1	N9304500
Electronic Hand Decapper – 11 mm	1	N9304502
Manual Hand Crimper – 8 mm	1	N9306127
Manual Hand Crimper – 11 mm	1	00090699
Manual Hand Crimper (Ergonomic) – 11 mm	1	N6621035
Manual Hand Decapper – 11 mm	1	N9301390
Manual Hand Decapper (Ergonomic) – 11 mm	1	N6621036

### High Powered Crimpers and Decappers

The high powered crimper and decapper is an essential laboratory accessory for any high throughput environment. Realize the benefits of not only fast and accurate crimping or decapping, but also the ultimate tool in flexibility with interchangeable jaw sets. Now in a single unit you can crimp and decap standard analytical vials and headspace vials. Changing the jaws, either size or function, takes a matter of just seconds.



Description	Qty.	Part No.
High powered crimping tool	1	N9304510
20 mm crimper jaw set	1	N9304511
20 mm decapper jaw set	1	N9304512
11 mm crimper jaw set	1	N9304513
11 mm decapper jaw set	1	N9304514
Base and mounting kit	1	N9304515

# GC Columns for GC/MS

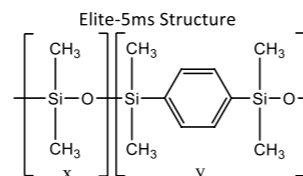
The Elite range of MS columns are engineered for extremely low bleed for MS detectors. Covering a range of polarities and applications.

## Elite-1ms

ID (mm)	df (μm)	Temp Limits (°C)	15 m Part No.	20 m Part No.	30 m Part No.	60 m Part No.
0.18	0.18	-60 to 330/350		N9305635		
	2.00	-60 to 330/350		N9305636		
0.25	0.25	-60 to 330/350	N9305637		N9305638	N9305639
	0.50	-60 to 330/350	N9305640		N9305641	N9305642
	1.00	-60 to 330/350	N9305643		N9305644	N9305645
0.32	0.25	-60 to 330/350	N9305646		N9305647	N9305648
	0.50	-60 to 330/350	N9305649		N9305650	N9305651
	1.00	-60 to 330/350			N9305652	N9305653
	4.00	-60 to 330/350			N9305654	

## Elite-5ms

The Elite-5ms phase incorporates a phenyl group in the polymer backbone to improve thermal stability, reduce bleed and make the phase less prone to oxidation. This results in a phase that is inert to active compounds with extremely low bleed to meet the requirements of sensitive MS detectors. It is a general purpose column ideal for GC/MS analysis of semivolatiles, PAHs, chlorinated hydrocarbons, phthalates, phenols, amines, organochlorine and organophosphorus pesticides, drugs and solvent impurities.



- Temperature Range: -60 °C to 350 °C
- Similar to USP G27 and G36 phases

ID (mm)	df (μm)	Temp Limits (°C)	15 m Part No.	30 m Part No.	60 m Part No.
0.18	0.18	-60 to 325/340		N9316276 <sup>1</sup>	N9316277 <sup>1</sup>
0.20	0.33	-60 to 330/350	N9316301 <sup>2</sup>	N9316302 <sup>2</sup>	N9316303 <sup>2</sup>
0.25	0.25	-60 to 330/350	N9316279	N9316282	N9316286
	0.50	-60 to 330/350		N9316284	
	1.00	-60 to 325/350	N9316280	N9316283	N9316287
0.32	0.25	-60 to 330/350	N9316289	N9316293	N9316297
	0.50	-60 to 330/350		N9316295	
	0.52	-60 to 330/350		N9316291 <sup>3</sup>	
	1.00	-60 to 325/350	N9316290	N9316294	N9316298
0.53	1.50	-60 to 310/330	N9316299	N9316300	

<sup>1</sup> The lengths of N9316276 and N9316277 are 20 m and 40 m, respectively

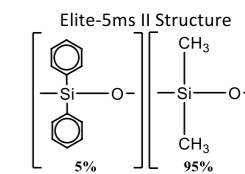
<sup>2</sup> The lengths of N9316301, N9316302 and N9316303 are 12 m, 25 m and 50 m, respectively

<sup>3</sup> The length of N9316291 is 25 m

## Elite-5ms II

The Elite-5ms II columns incorporate the same phase as the Elite-5 columns but are specifically tested for low bleed performance.

- Temperature Range: -60 °C to 350 °C
- Equivalent to USP G27 and G36 phases

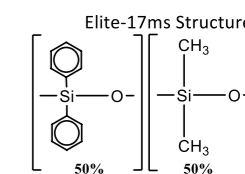


ID (mm)	df (μm)	Temp Limits (°C)	15 m Part No.	30 m Part No.	60 m Part No.
0.25	0.10	-60 to 330/350	N9305655	N9305656	N9305657
	0.25	-60 to 330/350	N9305658	N9305659	N9305660
	0.50	-60 to 330/350	N9305661	N9305662	N9305663
	1.00	-60 to 325/350	N9305664	N9305665	
0.32	0.10	-60 to 330/350	N9305666	N9305667	N9305668
	0.25	-60 to 330/350	N9305669	N9305670	N9305671
	0.50	-60 to 330/350		N9305672	N9305673
	1.00	-60 to 325/350	N9305674	N9305675	N9305698

## Elite-17ms

The Elite-17ms columns are general purpose, mid-polarity columns that are coated with a crosslinked, (50%-diphenyl)-dimethylpolysiloxane engineered for very low bleed to meet the requirements of sensitive MS detectors.

- Temperature Range: 40 °C to 320/340 °C
- Equivalent to USP G3 phase

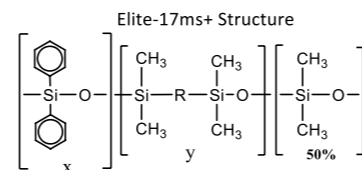


ID (mm)	df (μm)	Temp Limits (°C)	15 m Part No.	30 m Part No.	60 m Part No.
0.18	1.411	40 to 300/340	N9316534		
0.25	0.15	40 to 300/320	N9316535	N9316537	
	0.25	40 to 300/320	N9316536	N9316538	N9316539
0.32	0.15	40 to 300/320	N9316540	N9316542	
	0.25	40 to 300/320	N9316541		

We offer a comprehensive range of GC columns, both capillary and packed. For more details simply visit our chromatography consumables catalogue at [www.perkinelmer.com/chromsupplies](http://www.perkinelmer.com/chromsupplies) or ask your local sales representative.

### Elite-17ms+

The Elite-17ms+ columns are general purpose, mid-polarity columns offering extremely low bleed at higher temperatures, as required by MS detectors. They are coated with a unique blend of linked dimethyl polysiloxanes and diphenyl polysiloxanes that is inert and selective for active environmental compounds, such as PAHs.

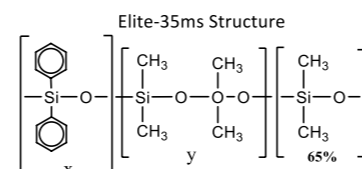


- Temperature Range: 40 °C to 360 °C
- Equivalent to USP G3 phase

ID (mm)	df (μm)	Temp Limits (°C)	10 m Part No.	15 m Part No.	20 m Part No.	30 m Part No.	60 m Part No.
0.15	0.15	40 to 340/360	<b>N9305677</b>		<b>N9305678</b>		
0.18	0.18	40 to 340/360			<b>N9305679</b>		
	0.36	40 to 340/360			<b>N9305680</b>		
0.25	0.25	40 to 340/360		<b>N9305681</b>		<b>N9305682</b>	<b>N9305685</b>
0.32	0.25	40 to 340/360		<b>N9305683</b>		<b>N9305684</b>	

### Elite-35ms

The Elite-35ms columns are general purpose, mid-polarity columns offering extremely low bleed, as required by MS detectors, at higher temperatures. They are coated with a unique blend of linked dimethyl polysiloxanes and diphenyl polysiloxanes that are inert and selective for substituted polar compounds, such as drugs, pesticides, herbicides, PCBs and phenyls.

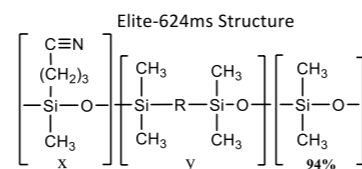


- Temperature Range: 50 °C to 340/360 °C
- Equivalent to USP G42 phase

ID (mm)	df (μm)	Temp Limits (°C)	15 m Part No.	30 m Part No.
0.25	0.25	50 to 340/360	<b>N9305686</b>	<b>N9305687</b>
	0.50	50 to 340/360	<b>N9305688</b>	<b>N9305689</b>
	1.00	50 to 320/340	<b>N9305690</b>	<b>N9305691</b>
0.32	0.25	40 to 340/360	<b>N9305692</b>	<b>N9305693</b>
	0.50	40 to 340/360	<b>N9305694</b>	<b>N9305695</b>
	1.00	40 to 320/340	<b>N9305696</b>	<b>N9305697</b>

### Elite-624ms

The Elite-624ms incorporates a unique proprietary blend of cyanopropyl and methyl siloxanes that results in a very inert, extremely low bleed and high thermal stability column. This column provides excellent peak shape for a wide range of compounds and is highly selective for residual solvents making it a great choice for USP method <467>.

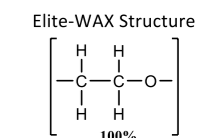


- Temperature Range: -20 °C to 240 °C
- Similar to USP G43 phase
- Ideal choice for USP method 467

ID (mm)	df (μm)	Temp Limits (°C)	20 m Part No.	30 m Part No.	60 m Part No.
0.18	1.00	-20 to 240	<b>N9315067</b>		
0.25	1.40	-20 to 240		<b>N9315068</b>	<b>N9315066</b>
0.32	1.80	-20 to 240		<b>N9315069</b>	<b>N9315070</b>

### Elite-WAX

The Elite-WAX column, a Polar Polyethylene glycol (PEG) stationary phase column, is a general purpose polar PEG phase commonly used for the analysis of polar compounds like alkenols, glycols and aldehydes.



- Temperature Range: 20 °C to 250 °C
- Equivalent to USP G14, G15, G16, G20 and G39 phases

ID (mm)	df (μm)	Temp Limits (°C)	15 m Part No.	30 m Part No.	60 m Part No.
0.25	0.15	20 to 250	<b>N9316399</b>	<b>N9316402</b>	<b>N9316405</b>
	0.25	20 to 250	<b>N9316400</b>	<b>N9316403</b>	<b>N9316406</b>
	0.50	20 to 250	<b>N9316401</b>	<b>N9316404</b>	<b>N9316407</b>
0.32	0.15	20 to 250	<b>N9316408</b>	<b>N9316411</b>	
	0.25	20 to 250	<b>N9316409</b>	<b>N9316412</b>	<b>N9316416</b>
	0.50	20 to 250	<b>N9316410</b>	<b>N9316413</b>	<b>N9316417</b>
0.45	0.42	20 to 250	<b>N9316420</b>	<b>N9316422</b>	
	0.85	20 to 240/250	<b>N9316419</b>	<b>N9316421</b>	<b>N9316423</b>
	1.70	50 to 230	<b>N9316418</b>		
0.53	0.50	20 to 250	<b>N9316426</b>	<b>N9316428</b>	
	1.00	20 to 240/250	<b>N9316425</b>	<b>N9316427</b>	<b>N9316429</b>

### Elite-MWAX: Metal Column

ID (mm)	df (μm)	Temp Limits (°C)	30 m Part No.
0.53	1.00	20 to 240/250	<b>N9316478</b>

### Elite-WAX ETR

The Elite-WAX ETR (Extended Temperature Range) columns are manufactured with a special bonding process that binds the Carbowax® polymer to the polar deactivated silica. This results in a low bleed WAX column that exhibits extended lifetimes even when repeatedly heated to 260 °C. The bonding mechanism results in very stable polar retention that does not shift as often as observed with other WAX-type columns. This phase can be used for a wide range of compounds and matrices such as: FAMES, flavor compounds, essential oils, solvents, aromatics, acrolein/acrylonitrile, impurities in water and alcoholic beverages.

- Temperature Range: 40 °C to 260 °C
- Equivalent to USP G14, G15, G16, G20 and G39 phases
- Suitable for EPA method 603

ID (mm)	df (μm)	Temp Limits (°C)	5 m Part No.	15 m Part No.	30 m Part No.	50 m Part No.	60 m Part No.
0.25	0.25	40 to 250		<b>N9316547</b>	<b>N9316549</b>		<b>N9316551</b>
	0.50	40 to 250		<b>N9316548</b>	<b>N9316550</b>		
0.32	0.25	40 to 250		<b>N9316552</b>	<b>N9316555</b>		<b>N9316559</b>
	0.50	40 to 250		<b>N9316553</b>	<b>N9316556</b>		<b>N9316560</b>
	1.00	40 to 240/250		<b>N9316554</b>	<b>N9316557</b>	<b>N9316558</b>	<b>N9316561</b>
0.45	0.85	40 to 240		<b>N9316563</b>	<b>N9316564</b>		<b>N9316565</b>
	1.70	40 to 230/250	<b>N9316562</b>				
0.53	1.00	40 to 240/250		<b>N9316567</b>	<b>N9316569</b>		<b>N9316571</b>
	2.00	40 to 220/230	<b>N9316566</b>	<b>N9316568</b>	<b>N9316570</b>		

## Advanced Filter System

The Advanced Filter System has high-capacity and efficiency levels for oxygen, water and hydrocarbons. The recommended maximum flow rate is 2 L/min with 200 psi maximum operating pressure.

A polycarbonate shield surrounding the glass indicator section of the filter is sealed, unlike other gas filters, the gas flow is secure even if the glass should break. This redundant sealing system and robust construction provides a new level of security in gas filtration.



### Features and Benefits

- Two indicators – for oxygen and moisture
- High capacity and efficiency in a single, easy to replace, cartridge
- Double-seal construction for safety
- Check valves protect gas lines during replacement
- Includes mounting hardware for bench or wall

Description	Part No.
Advanced Filter System	<b>N9303963</b>
Replacement Cartridge for Oxygen, Water and Hydrocarbons	<b>N9303964</b>
Manifold and Mounting Hardware	<b>N9303139</b>

Description	Capacity	Efficiency
Oxygen	850 cc	<5 ppb
Water	12 g	<20 ppb
Hydrocarbons	8 g	<5 ppb

### Features and Benefits

- High purity output insures 99.9999% pure gas
- No tool replacement of filter cartridges, no need to shut gas flow off with quick disconnect base plate
- Easy to read indicators to determine replacement interval
- Helium and Hydrogen specific cartridges available: operational with 15 minute purge after installation
- Safety shielding of glass filter with plastic cover
- Serial numbered for ease of tracking

### Carrier Gas Purity

Carrier gas should contain less than 1 ppm of oxygen, moisture, or other trace contaminants to prevent column degradation, increase column lifetime, and decrease stationary phase bleed. The expense of using high purity gases in combination with carrier gas line purifiers will be offset by longer column lifetime and less GC maintenance.

Contaminants cause ghost peaks to appear during temperature programming and degrade the validity of analytical data. Make-up gas also should be contaminant-free, or baseline fluctuations and excessive detector noise can occur. Detector gases should be free of water and hydrocarbons, or excessive baseline noise can result. Gas purifiers remove these contaminants from gas sources, thereby improving system performance.

When the easy to read indicators change color it is a signal on a major gas carrier problem; a major leak upstream or downstream, a high concentration of contaminants or to late replacement or filter replacement is overdue. This is the time to swap a filter.

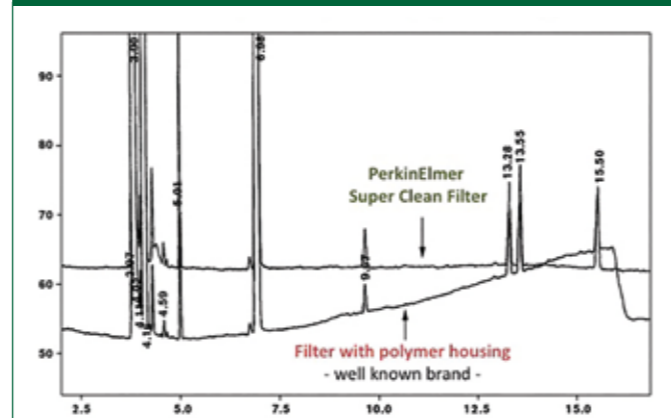
To prevent contamination or saturation issues, the filter should be swapped every 12 months, as a minimum, regardless the indicator has changed color or not. Some high throughput applications may need the filter changing every 6 months.

## Ultra Clean Gas Filters

Wrenches to change filters is a thing of the past. There is no longer a need for loosening and tightening fittings every time a trap is changed, which may contaminate your system during the process. Cartridge systems make changing gas filters quick and easy. A base plate allows cartridges to be exchanged without introducing ambient air. Spring-loaded check valves seal when a filter is removed and open only when a new filter has been locked in place.



### Comparing baseline performance with PerkinElmer SuperClean filters vs. a competitive polymer housed filter.



## Ultra Clean Gas Filter Kits for GC and GC/MS

Available with different sized fittings, (1/8 in. or 1/4 in.) in brass or stainless steel, these complete filter kits contain everything you need to quickly and easily install into your analytical system; instantly assuring you of a continual high purity gas supply. A full listing of individual replacement cartridges are listed on page 30-31.

### Triple Filter Kit for MS/ECD/NPD

The triple combination filter kit is ideal for purifying GC/MS carrier gases. It contains oxygen, moisture and hydrocarbon scrubbers in one easy to change economical cartridge. There is a range of brass and stainless steel base plate fittings and options for hydrocarbon trap to be helium or hydrogen specific, in addition to the general carrier gas.



Description	Qty.	Part No.
PerkinElmer Triple (Oxygen/Moisture/Hydrocarbon) Filter Kit – 1/4 in. Brass Kit: Includes (1) 1 position base plate with 1/4 in. Brass inlet/outlet fittings and (1) Oxygen/Moisture/Hydrocarbon Trap	Kit	<b>N9306828</b>
PerkinElmer Triple (Oxygen/Moisture/Hydrocarbon) Filter Kit – 1/8 in. Brass kit: Includes (1) 1 position base plate with 1/8 in. Brass inlet/outlet fittings and (1) Oxygen/Moisture/Hydrocarbon Trap	Kit	<b>N9306829</b>
PerkinElmer Triple (Oxygen/Moisture/Hydrocarbon) Filter Kit – 1/4 in. Stainless Steel kit: Includes (1) 1 position base plate with 1/4 in. Stainless Steel inlet/outlet fittings and (1) Oxygen/Moisture/Hydrocarbon Trap	Kit	<b>N9306830</b>
PerkinElmer Triple (Oxygen/Moisture/Hydrocarbon) Filter Kit – 1/8 in. Stainless Steel kit: Includes (1) 1 position base plate with 1/8 in. Stainless Steel inlet/outlet fittings and (1) Oxygen/Moisture/Hydrocarbon Trap	Kit	<b>N9306831</b>
PerkinElmer Triple filter (Oxygen/Moisture/Hydrocarbon)	1	<b>N9306819</b>
PerkinElmer Triple filter (Oxygen/Moisture/Hydrocarbon): Helium specific filter	1	<b>N9306820</b>
PerkinElmer Triple filter (Oxygen/Moisture/Hydrocarbon): Hydrogen specific filter	1	<b>N9306822</b>

Configuration	Benefit
GC/MS	Higher data accuracy and less maintenance
GC/ECD	Greater sensitivity
GC/TCD	Greater sensitivity and less maintenance

### Complete Triple Filter Bundle Kit for FID

This complete filter kit is the perfect all-in-one solution for purifying Flame Ionization Detector (FID) fuel gases together with the carrier gas. The triple filter simultaneously hydrocarbons, moisture and oxygen are removed from the carrier gas and combi filter removes both moisture and hydrocarbons from the hydrogen and air fuel gases. The kit consists of one triple filter and two combi filters (hydrogen and air) together with one three position base plate. There are a range of base plate fittings options available.

Description	Qty.	Part No.
PerkinElmer 3 Filters Kit – 1/4 in. Brass: Includes (1) 3 position base plate with 1/4 in. Brass inlet/outlet fittings and (1) Oxygen/Moisture/Hydrocarbon Trap and (2) Hydrocarbon/Moisture Traps	Kit	<b>N9306842</b>
PerkinElmer 3 Filters Kit – 1/8 in. Brass: Includes (1) 3 position base plate with 1/8 in. Brass inlet/outlet fittings and (1) Oxygen/Moisture/Hydrocarbon Trap and (2) Hydrocarbon/Moisture Traps	Kit	<b>N9306843</b>
PerkinElmer 3 Filters Kit – 1/4 in. stainless steel: Includes (1) 3 position base plate with 1/4 in. stainless steel inlet/outlet fittings and (1) Oxygen/Moisture/Hydrocarbon Trap and (2) Hydrocarbon/Moisture Traps	Kit	<b>N9306844</b>
PerkinElmer 3 Filters Kit – 1/8 in. stainless steel: Includes (1) 3 position base plate with 1/8 in. stainless steel inlet/outlet fittings and (1) Oxygen/Moisture/Hydrocarbon Trap and (2) Hydrocarbon/Moisture Traps	Kit	<b>N9306845</b>
PerkinElmer triple filter – (Oxygen/Moisture/Hydrocarbon)	1	<b>N9306819</b>
PerkinElmer Combi (Hydrocarbon/Moisture) Filter	1	<b>N9306818</b>
PerkinElmer Filter Bundles: Includes (1) Oxygen/Moisture/Hydrocarbon Trap and (2) Hydrocarbon/Moisture Traps	3	<b>N9306826</b>



Configuration	Benefit
GC/FID	Improved reproducibility and sensitivity

# Click-On In-line Super Clean Purifiers

Using the Click-On Connectors lets you change the trap without introducing contaminants into your system. Click-On connectors can replace a trap, without introducing impurities into the system. This in turn eliminates the need to flush the system.

The ability to add a Click-On In-line Super Clean™ Indicator after the stainless steel trap gives the user a clear visual indication of when to change the filter. This indicator may also be used as a standalone trap.

## Features and Benefits

- Reduce system downtime with Click-On fast connectors
- No open gas line when changing the trap
- Helium Specific Glass Indicating Triple Trap is ideal for GC/MS



## Stainless Steel Traps

Description	Part No.
Moisture Trap	N9306100
Oxygen Trap	N9306101
Hydrocarbons Trap	N9306102
Combination: Oxygen/Moisture Trap	N9306103
Combination: Moisture/Hydrocarbons Trap	N9306105
Triple: Oxygen/Moisture/Hydrocarbons Trap	N9306104
Triple Gas Specific (He): Oxygen/Moisture/Hydrocarbons	N9306106

## Helium Specific Glass Indicating Triple Trap for your PerkinElmer Clarus GC/MS

This trap contains oxygen, moisture and hydrocarbons adsorbents in one trap and is packed and purged under helium.

The glass indicating trap clearly shows when the filter needs to be replaced with the use of color changes. The packing material is a silica-based environmentally friendly substitute for cobalt dioxide (blue) in the moisture indicator.

Available as a kit with the necessary 1/8 in. brass connectors, and as a replacement trap. This system is easy to install.

Description	Connector (Qty.)	Part No.
Indicating Glass Triple Gas Specific (He): Oxygen/Moisture/Hydrocarbons	Not Included	N9306107
Indicating Glass Triple Gas Specific (He): Oxygen/Moisture/Hydrocarbons	1/8 in. Brass (2)	N9306114
Indicating Glass Triple Gas Specific (He): Oxygen/Moisture/Hydrocarbons	1/8 in. Stainless Steel (2)	N9306116

## Stainless Steel Trap Kits

Description	Connector (Qty.)	Part No.
Combination: Oxygen/Moisture Trap	1/8 in. Brass (2)	N9306108
Combination: Oxygen/Moisture Trap	1/8 in. Stainless Steel (2)	N9306109
Combination: Moisture/Hydrocarbons Trap	1/8 in. Brass (2)	N9306117
Combination: Moisture/Hydrocarbons Trap	1/8 in. Stainless Steel (2)	N9306118
Triple: Oxygen/Moisture/Hydrocarbons Trap	1/8 in. Brass (2)	N9306110
Triple: Oxygen/Moisture/Hydrocarbons Trap	1/8 in. Stainless Steel (2)	N9306111
Triple Gas Specific (He): Oxygen/Moisture/Hydrocarbons	1/8 in. Brass (2)	N9306112
Triple Gas Specific (He): Oxygen/Moisture/Hydrocarbons	1/8 in. Stainless Steel (2)	N9306113

## Product Specifications

Purifier Type	Gas Quality*	Max Pressure	Max Flow	Use For	H <sub>2</sub> O	Capacity O <sub>2</sub>	Hydrocarbons	Est. Lifetime
Moisture	100.00%	11 bar, 160 psi	25 L/min	Inert carrier gas He, Air, H <sub>2</sub>	21 g	–	–	> 3 years
Oxygen	100.00%	11 bar, 160 psi	25 L/min	Inert carrier gas	–	3,000 mL	–	> 3 years
Hydrocarbons	100.00%	11 bar, 160 psi	25 L/min	Inert carrier gas Air, H <sub>2</sub>	–	–	36 g (as <i>n</i> -butane)	> 3 years
Combination Moisture/Hydrocarbons	100.00%	11 bar, 160 psi	25 L/min	Inert carrier gas He, Air, H <sub>2</sub>	10 g	–	18 g (as <i>n</i> -butane)	> 2 years
Indicating Triple Moisture/Oxygen/Hydrocarbons	100.00%	11 bar, 160 psi	25 L/min	Inert carrier gas He	3 g	400 mL	5 g (as <i>n</i> -butane)	> 1 year
Triple Moisture/Oxygen/Hydrocarbons	100.00%	11 bar, 160 psi	25 L/min	Inert carrier gas	6 g	1,000 mL	12 g (as <i>n</i> -butane)	> 2 years

\* Results @ 2 L/min

## Hydrocarbon Trap

Use our activated charcoal in-line trap to remove gaseous hydrocarbons (C5 and heavier) from nitrogen, hydrogen and inert carrier gas supplies. Recommended for use with purge and trap apparatuses, high-sensitivity FID operations and with GC carrier gases for trace analyses. Frits in each end prevent particulates from entering the gas stream. Trap is shipped filled with helium. Maximum pressure is 1000 psi (69 bar). Dimensions are 5 x 37 cm including fittings. Weight is 1.0 Kg.



Description	Part No.
Hydrocarbon Trap	N9301192

## High Capacity Hydrocarbon Trap

- Eliminates potential hydrocarbon background to insure best LC/MS results
- Contains 750 cc of preconditioned activated charcoal
- Stainless steel body. 1/4 in. brass compression fittings with ferrules for installation
- Maximum pressure 200 psi
- Recommended flow rate up to 2 L/min
- Will remove hydrocarbon impurities (50 ppm or less) from inert gases, nitrogen and hydrogen at room temperature to low ppb range
- Capacity of 67 g. of hydrocarbons C5 and heavier
- 10 µm stainless steel porous frits protect gas stream from particulates
- Individually helium leak tested. Shipped filled with helium
- 2 in. OD x 20 in. L (including fittings)
- Weight 3.5 lb/1.6 Kg



Description	Part No.
High Capacity Hydrocarbon Trap	N9301208

## Indicating Oxygen Trap

This high-efficiency indicator trap reduces oxygen to less than 0.1 ppm. Changes color from bright green to gray when adsorption capacity is depleted. Oxygen capacity for this compact unit is 0.05 g at STP. The non-contaminating, heavy-wall inner glass tube of adsorbent is protected from breakage by the outer plastic tube. Maximum pressure is 100 psi (6.9 bar). Dimensions are 3.2 x 26 cm including fittings. Weight is 0.2 Kg.



Description	Part No.
Indicating Oxygen Trap	N9301191

## Oxygen Trap

This high-capacity, high-efficiency trap is used for long-term protection of capillary column stationary phases against oxidation at GC operating temperatures. Can remove 3.5 g of oxygen and has an output efficiency of less than 10 ppb oxygen concentration at the outlet. Effective at removing sulfur compounds, such as hydrogen sulfide and mercaptans. Intended for use with non-oxidizing gases such as He, Ar, N<sub>2</sub>, H<sub>2</sub> or CH<sub>4</sub>, containing less than 1% oxygen. The trap is filled with 500 cc of active oxygen adsorbent that binds covalently with oxygen; no gas is generated from this reaction. Maximum pressure is 1000 psi (69 bar). Dimensions are 5 x 37 cm including fittings, weight is 1.2 Kg.



Description	Part No.
Oxygen Trap	N9301179

## Safe Glass Moisture Trap

Gas contacts only glass, metal and the adsorbents for purity. The Drierite® indicator and molecular sieve 5A are packed in glass protected by an outer plastic tube in the event that the glass breaks. Unique loading design allows operation in any orientation without channeling. Designed for GC detectors that require high purity gases and recommended for ELCD and ECD systems where moisture and contamination are a problem. Maximum pressure is 100 psi (6.9 bar). Dimensions are 3.2 x 26 cm including fittings. Weight is 0.3 Kg.



Description	Part No.
Safe Glass Moisture Trap	N9301193

## Gas In-line Filter

The Gas In-line Filter Trap removes moisture, oil and dust from nitrogen or inert supply gases. It has 400 cc total volume of molecular sieve 5A and an indicator in a clear acrylic tube. The indicating Drierite® changes color at low relative humidity indicating that the packing must be changed. Base-plate version is available for free-standing orientation. Maximum pressure is 100 psi (6.9 bar). Dimensions are 6 x 43 cm including fittings. Weight is 1.0 Kg.



Description	Part No.
Gas In-line Filter	N9301178



## Ordering Information

Place your order online at: [www.perkinelmer.com/shop](http://www.perkinelmer.com/shop)  
or contact your local PerkinElmer Customer Care Representative.

Visit us online at [www.perkinelmer.com/lasoffices](http://www.perkinelmer.com/lasoffices) to obtain the correct address for mailing your company Purchase Order.

## Return Goods Policy

Before returning any item to PerkinElmer, please obtain a Return Authorization Number from a customer service representative. Call your local PerkinElmer office and please have the following information ready:

- Our Order Number or your Purchase Order Number
- The PerkinElmer part numbers of the items that you wish to return
- Reason for return

Our customer service representative will provide you with a Return Authorization Number and the return address. We cannot accept any returns without a Return Authorization Number. Policy may vary. Please contact your local PerkinElmer representative for details.

## Technical Support

For technical assistance, please contact your local PerkinElmer Customer Care Representative. See local office listings. Check with your local PerkinElmer Customer Care Center for current pricing.

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