

Varian GC/MS

Varian, Inc. is one of the leading suppliers of Gas Chromatography / Mass Spectrometry systems — providing both Ion Trap and Quadrupole Mass Spectrometers coupled to Varian CP-3800 or 3900 Gas Chromatographs. With the introduction of the 4000 GC/MS, Varian now offers the most complete line of GC/MS instruments on the market. They are currently in use in environmental, toxicology, pharmaceutical, food and flavor analysis, and chemical research laboratories around the globe. The Varian GC/MS offering includes:

- Saturn 2000 series ion trap GC/MS system, the most widely used ion trap GC/MS in the world
- 4000 ion trap GC/MS, with expanded capabilities to meet the unique requirements of research and methods development
- 1200L single and triple quadrupole MS. The only MS that can be configured as a GC/MS, LC/MS, or both.

Saturn 2100 GC/MS

The Robust, Dedicated GC/MS



The Varian 2100 GC/MS is designed for routine analysis, sized for your bench top, and priced for your budget!

The GC and MS occupy just 25 inches of bench space. This streamlined, efficient GC/MS translates into a lower price for a complete system. But the reduced size and lower price do not translate into less performance. With state-of-the-art design throughout, GC and MS performance are superb. Nothing is compromised or sacrificed.

There is more to this GC/MS than just its compact size. The absence of an ion source and lenses means this ion trap MS rarely needs cleaning, so productivity is increased. Plus, the Saturn 2100 offers the full range of MS performance options including MS/MS, Selected Ion Storage (SIS), and Liquid Reagent Chemical Ionization.

A compact GC designed for mass spectrometry

- A single CP-1177 Split/Splitless Injector with Electronic Flow Control (EFC)
- Compact oven designed for standard 7 inch (17.5 cm) diameter capillary columns
- Roll-back cover for simplified injector maintenance

Saturn MS - the performance standard for benchtop mass spectrometry

- Highest sensitivity EI analyses at installation and after years of routine use
- Accurate library searches with commercial databases: NIST, Wiley, and PMW
- Documented environmental, toxicology, and industrial applications
- "No tools" removal of the analyzer
- Vacuum options: 2100T with turbomolecular pump; or 2100D with Peltier-cooled diffusion pump

Saturn 2200 GC/MS

A Combination of Versatility and Proven Ion Trap Performance



The Varian 2200 GC/MS combines the versatility of our proven 3800 GC and the performance of our industry leading ion trap MS.

The Saturn 2200 answers your analytical needs with the CP-3800 GC and the 2000 Series Ion Trap MS. These components create a platform a versatile GC and flexible MS system. Both deliver unequalled performance — a Saturn tradition. Both components support a remarkable array of highly productive, easy-to-use options. Under MS Workstation control, complex configurations become very simple to operate.

Powerful and easy-to-use MS options

- MS/MS for selectivity beyond full scan or SIM operation, and applications beyond NCI
- MS_n delivered only through ion trap technology
- PCI (Positive Chemical Ionization) with the sensitivity and convenience of EI
- Multi-reagent CI for automated selection of up to three CI reagents (liquids or gases)
- ChromatoProbe combines the advantages of a GC separation with the benefits of a probe for solids, liquids, and slurries

A large, versatile GC with room for up to 3 injectors, up to 3 detectors, and valving

- CP-1177 Split/Splitless Injector with EFC - optimized flow profiles for precise vaporization and sample transfer
- 1079 PTV Temperature Programmable Injector with EFC for labile samples or large volume injections
- ECD for ultra-high sensitivity halogen-selective detection
- PFPD for selective detection of sulfur, phosphorus, nitrogen and 25 additional elements
- TSD for selective detection of nitrogen/phosphorus compounds with Varian's reliable ceramic bead
- Simultaneous operation with the MS using single column/split effluent or parallel columns

4000 GC/MS

Outstanding Flexibility with an Ion Trap GC/MS



The Varian 4000 GC/MS provides the ultimate in power and choice with internal, external, and new hybrid ionization modes.

This GC/MS system builds on our ion trap expertise in internal ionization with the addition of two new hardware components – external ionization or hybrid CI configurations. These three easily switchable configurations, along with all ionization types plus numerous MS modes, let you choose the best tool for your analysis.

New external ionization by Varian provides the performance you expect in EI, PCI, and NCI

Added benefits include:

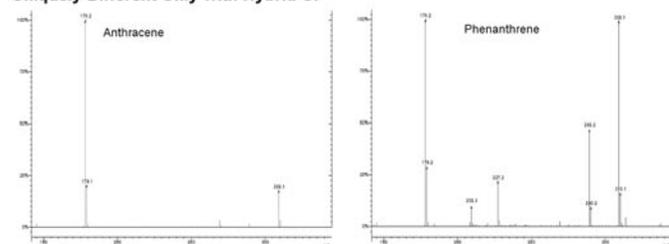
- Improved reliability with innovative, patented pulsed ionization
- Excellent PCI confirmation with high intensity adduct ions
- Automated switch between EI and CI ion volumes while maintaining vacuum
- MS/MS in all modes

Internal ionization continues to set the standard for routine, high-throughput applications. The Varian 4000's internal ionization configuration delivers outstanding sensitivity in full scan mode for EI and PCI using liquid and gas reagents.

New hybrid CI technology delivers the most selective CI

- Choose the desired liquid and gas reagents for CI
- Next, isolate the single specific reagent ion(s) for desired CI
- Obtain selectivity not always achievable by EI or CI

Uniquely Different Only with Hybrid CI



Sample introduction and separation are expertly handled by the Varian CP-3800 GC with its proven performance and many options. Varian MS Workstation controls the 4000 GC/MS with a full complement of productivity, reporting, and regulatory compliance tools.

1200 and 1200L GC/MS

For the Most Demanding Applications



The Varian 1200 and 1200L GC/MS provide exceptional selectivity and sensitivity with superior single or triple transmission quadrupole performance. The 1200L offers all the performance specifications of the 1200, plus a mass range to 1500u and the ability to switch quickly between the GC interface and the optional LC interface.

The 1200/1200L transmission quadrupole platform is an advanced design that is unique for benchtop technology. The vacuum interlock, source, hexapole guide, quadrupole analyzers with pre- and post-filters, curved collision cell, ultra-low noise detector, and the dual stage turbomolecular pump incorporate refinements that raise performance to consistently superior levels.

Improved quadrupole foundation delivers maximum sensitivity

- Traditional ion source for EI, PCI, and NCI - all included as standard, and optional Townsend Discharge Ionization for hydrocarbons
- Highest transmission efficiency through an optimized combination of hexapole ion guide, pre- and post-filters, and lens-free analyzer
- Maximum signal-to-noise assured by removing noise in the curved ion path
- Superior sensitivity for CI with differential pumping
- Improved analytical results with easily defined scan function scan speed, mass resolution, and MS/MS performance

MS/MS specificity and qualitative spectral information

- Lower sample preparation costs and minimize matrix interferences with the selectivity of unique product ions
- Unequaled detection limits with a baseline free of chemical noise
- Structural elucidation of unknowns with MS/MS precursor, product, and neutral loss scans
- High dissociation efficiencies achieved with long, curved (180° path) collision cell

Both the single and triple quadrupole configurations include a Varian CP-3800 GC plus numerous high performance features as 'standard.' A single quadrupole is easily upgraded to a triple quadrupole in the field. For solid sample introduction, add the Direct Insertion Probe or the Direct Exposure Probe.



Varian MS Workstation

The Varian MS workstation, with a common software platform for all Varian mass specs, puts you in full control of all system modules, parameters, and data handling.

- Easy setup of new methods with the flexibility to combine any number of MS modes
- Convenient and complete qualitative and quantitative data analysis capabilities
- Quick data review with a variety of standard report formats
- Highlight critical data with application-specific EnviroPro and ToxPro reporting packages

The MS workstation's performance and wide array of features give you more complete answers, faster.

For brochures, configuration options and ordering information, contact your local Varian, Inc. office or distributor.



Did you know that graphite ferrules should not be used on columns in GC/MS systems to avoid contaminating the MS detector with graphite particles?

Applications and Solutions from Varian, Inc.

e-inspirations

an electronic newsletter

THE NEWEST...

- Scientific news
- Applications
- State-of-the-art products
- Technical tips
- and more!

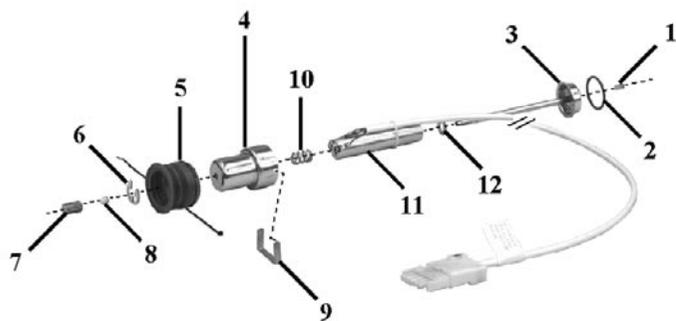
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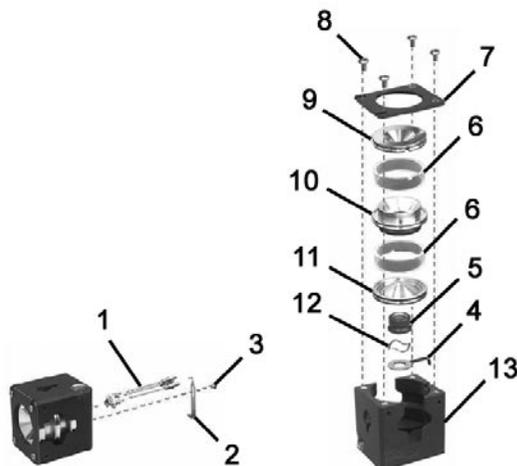


Saturn® 2000 Transfer Line Maintenance



Item #	Description	Part No.	Quantity
1	Transfer Line Tip	393059191	1 Each
2	Transfer Line Quad-Ring, 1.112 in. ID	393010918	1 Each
3	Transfer Line Center Tube	393001101	1 Each
4	Transfer Line Nose	393052501	1 Each
5	Transfer Line Boot, Air Seal	392040200	1 Each
6	External Retaining Clamp	2268001000	1 Each
7	Bottom Nut	394955100	1 Each
8	No Hole Ferrule, Vespel	CR2121XX	10 /Pk
9	Transfer Line Clip	393057001	1 Each
10	Compression Spring	2170925700	1 Each
11	Transfer Line Heat Exchanger, 115 Vac	393033401	1 Each
11	Transfer Line Heat Exchanger, 230 Vac	393033402	1 Each
12	Washer, Flat, SS, 0.25 in.	1410201400	1 Each
	Transfer Line Assembly, 120 Vac	393000591	1 Each
	Transfer Line Assembly, 230 Vac	393000592	1 Each

Saturn® 2200 Ion Trap Maintenance



Item #	Description	Part No.	Quantity (Each)
1	Filament Disk Assembly with wires	393060191	1
2	Filament Retaining Clip	393054901	1
3	6-32 x 1/4 in. SS PH Screw	1222200604	1
4	Gate Conductor	393055201	1
5	Gate	393055101	1
6	Quartz Spacer	393053501	1
6	Quartz Spacer, Silcosteel Coated	393053502	1
7	Clamping Plate	393052401	1
8	6-32 x 3/8 in. SS Phillips Head Screw	1222200606	1
	Exit End Cap, Chrome	393050292	1
	Exit End Cap, Silcosteel Coated	393050293	1
	RF Electrode, Chrome	393050492	1
	RF Electrode, Silcosteel Coated	393050493	1
	Filament End Cap, Chrome	393050392	1
	Filament End Cap, Silcosteel Coated	393050393	1
	Wavy Spring Washer	1492000900	1
	Trap Oven	393050001	1

Saturn 2200 Additional Maintenance Items

Description	Part No.	Quantity (Each)
Alignment Tool	393010801	1
Electron Multiplier Assembly	393031501	1
Ion Gauge O-ring, Viton, Clean 1.24 in.	393010905	1
RF / Multiplier Feedthrough O-ring, Viton, Clean, 0.487 in.	393010908	1
Spring, Gold Plated	393060501	1
Thermo Well O-ring, Viton, Clean, 0.112 in.	393010904	1
Thermo Well Post	393053901	1

Saturn® 2000/ 2100/ 2200 GC/MS Maintenance

CI Components

Description	Part No.	Quantity (Each)
Accessory Kit for Multi-reagent CI Module	393012891	1

CALGAS Components

Description	Part No.	Quantity (Each)
Needle Valve, CALGAS	392031200	1
Reservoir, CALGAS	392027000	1
Tube, Inlet, CALGAS	392027900	1

Maintenance Supplies

Description	Part No.	Quantity
Mass Spectrometer Supplies Kit. Includes CALGAS chamber, PFTBA Calibration Compound, Trap Alignment Tool, Quad-Rings, Transfer Line Tip, Filament Disk Assembly w/ Wires, Ferrules.	393011391	1 Kit
Aluminum Oxide, 600 grit	392027600	56 g
Cotton Tipped Applicators for Cleaning	8899999000	1000 /Pk

See our GC Columns starting on page 192.

Did you know when you use the 1079 Injector in the "SPI mode", the insert is installed without a ferrule? Also make sure the longer inside bore before the taper is facing toward the syringe needle.

Saturn® 2000/ 2100/ 2200 GC/MS Upgrade Kits

Saturn® 2000/ 2100/ 2200 GC/MS Upgrade Kits

Description	Part No.	Quantity (Kit)
Saturn 2000 Accessory Kit. Contains maintenance tutorial, tools, PFTBA Calibration Compound (HAZ), and commonly used maintenance items.	393010491	1
ChromatoProbe Kit for 1078 or 1079 injector	392567791	1
MS/MS Technology, Field Kit Saurm 2000/2100	393011191	1
Selected Ion Storage, Field Kit, Saturn 2000/2100	393011291	1

Analyzer Components

Description	Part No.	Quantity (Kit)
Ion Gauge Kit	393005291	1
Silchrom Electrodes Kit	393001991	1

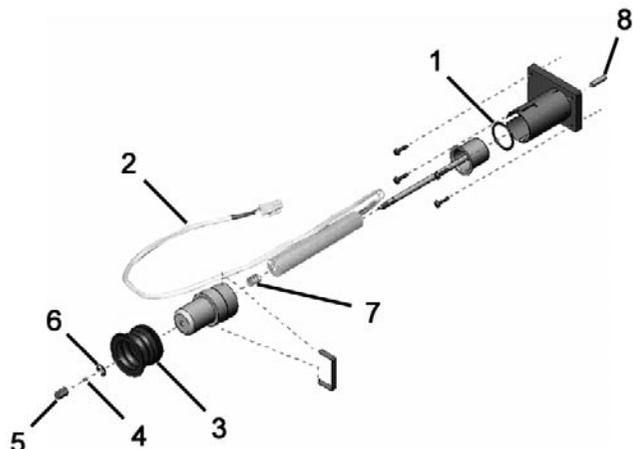
CI Components

Description	Part No.	Quantity (Kit)
Liquid CI Inlet, Single Solvent Saturn 2000/2100	393002291	1
Multi-CI Module, Filed Upgrade for 3800 GC/MS	393012791	1

Software

Description	Part No.	Quantity
Enviro Pro Workstation Software, Ver. 5.4	393035991	1 Each
Masstransit File Conversion Software, Palisade Corp. File conversion, to and from Varian, Agilent, and many other vendor formats.	390787200	1 Each
NIST98 MS Library and Search Program	391082401	1 Each
Pfleger, Maurer, Weber Kit for Drug & Pesticide Library	392052190	1 Each
Saturn Software, Workstation, 2 Copies	393035892	1 /Pk
Saturn Software, Workstation, 5 Copies	393035893	1 /Pk
Saturn Software, Workstation, 10 Copies	393035894	1 /Pk
Saturn Windows Software for Upgrade of Saturn 3, Post Run Only	393035792	1 Each
Saturn Workstation Software for Data Reduction on a Second PC	393035891	1 Each

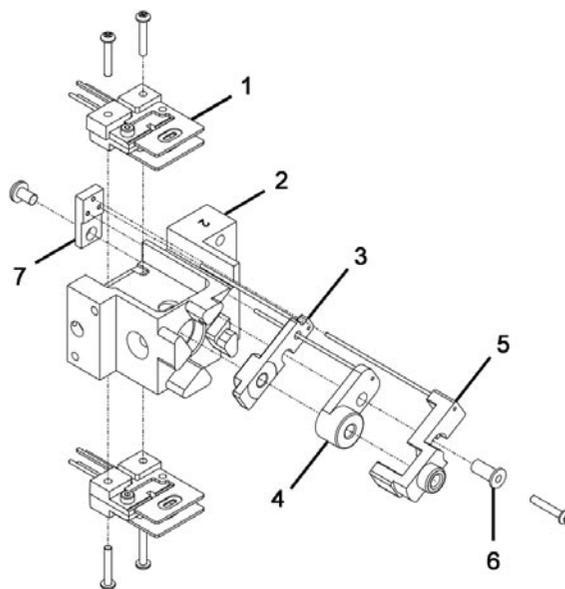
4000 MS Transfer Line Maintenance



4000 GC/MS Transfer Line

Item #	Description	Part No.	Quantity
1	Transfer Line Quad-Ring, 1.112 in. ID	393010918	1 Each
2	Transfer Line Heater Cable Assembly	393141001	1 Each
3	Transfer Line Boot, Air Seal	392040200	1 Each
4	1/16 in. Blank Ferrule , Vespel	CR2121XX	10 /Pk
5	Bottom Nut , Brass	394955100	1 Each
6	External Retaining Clamp	2268001000	1 Each
7	Compression Spring	2170925700	1 Each
8	Transferline Tip, External Ionization	393171101	1 Each
8	Transfer Line Tip, Internal Ionization	393171201	1 Each
	Transferline Outer O-ring (Between Manifold and Transferline Block)	393100920	1 Each

4000 MS External Ionization Source Maintenance



4000 MS External Ionization Source Maintenance

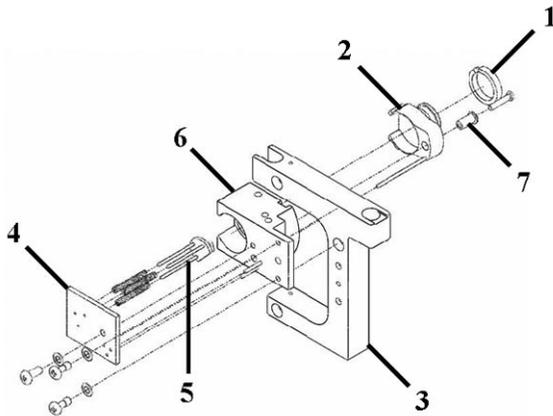
Item #	Description	Part No.	Quantity (Each)
1	Filament Assembly, Base with Posts	393161001	1
2	External Source Block	393167001	1
3	Lens 1 Assembly	393168401	1
4	Lens 2 Assembly	393168501	1
5	Lens 3 Assembly	393168601	1
6	Isolator, Lens and Screw	393161101	1
7	Lens Retainer, External Source	393168101	1

4000 GC/MS Additional Maintenance Items

Description	Part No.	Quantity (Each)
CI Volume	393160801	1
Center Ring, External Ionization	393168301	1
EI Volume	393167901	1
External Ionization Source Assembly	393101701	1
Gasket External Source	393168001	1
Holder, CI Volume	393160701	1
Magnet Disc	393176101	1
Magnet Holder	393167801	1
Spring, CI Volume	393175801	1
Transferline Tip, External Ionization	393171101	1

Did you know that you should install gas filters where the gas enters the GC to avoid column damage and detector noise due to gas manifold leaks?

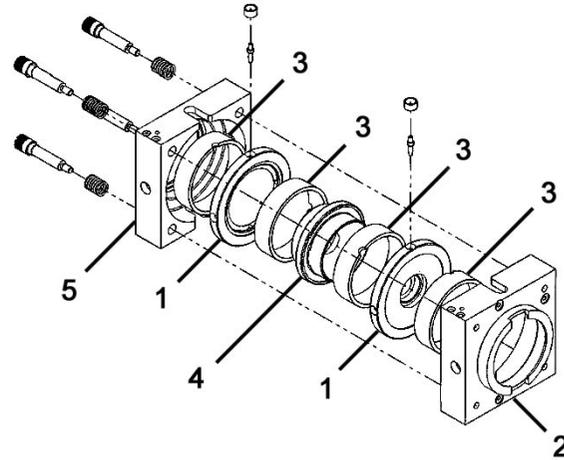
4000 MS Internal Ionization Source Maintenance



4000 MS Internal Ionization Source Maintenance

Item #	Description	Part No.	Quantity (Each)
1	Center Ring, Internal Ionization Source	393173701	1
2	Gate Assembly, Internal Ionization Source	393173901	1
3	Magnet Structure, Internal Ionization Source	393167702	1
4	Retaining Plate, Internal Ionization Source	393173601	1
5	Filament Disk Assembly, Long	392017401	1
6	Base Assembly, Internal Ionization Source	393173801	1
7	Isolator, Lens and Screw	393161101	1
	Transfer Line Tip, Internal Ionization	393171201	1

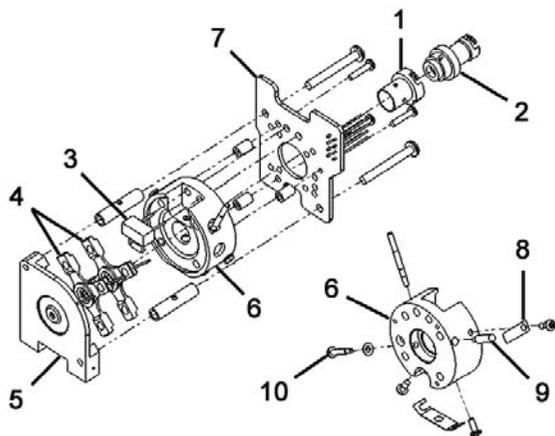
4000 MS Ion Trap Maintenance



4000 MS Ion Trap Maintenance

Item #	Description	Part No.	Quantity (Each)
1	End Cap Electrode with Plugs	393164493	1
2	Trap Oven, Front Half	393167301	1
3	Quartz Spacer, Silcosteel Coated	393053502	1
4	RF Electrode, Silcosteel coated	393167593	1
5	Trap Oven, Rear Half	393167401	1
	Trap Heater Assembly, Entrance	393102701	1
	Trap Heater Assembly, Exit	393102702	1

1200 MS Ion Source



1200 MS Ion Source

1200 MS Ion Source

Item #	Description	Part No.	Quantity (Each)
1	Cl Ion Volume	CUB0200043	1
1	El Ion Volume	CUB0200042	1
2	Ion Volume Holder with Wave Washer	393711401	1
3	Filament	393767401	1
4	Lens 1 and 2 Assembly	CUB0300006	1
5	Ion Block Assembly	393703001	1
6	Lens #3 Assembly	CUB0300007	1
7	Ion Source Ceramic PCB	CUB0600006	1
8	Spring, Ion Volume	CUB0200055	1
9	Fixed Pin, Ion Volume	CUB0200054	1
10	Screw, Ion Volume	393712101	1

1200 MS EI/CI Ionization Source

Description	Part No.	Quantity (Each)
Cl Ion Volume	CUB0200043	1
El Ion Volume	CUB0200042	1
El, Cl Ionization Source	1499824300	1
Filament	393767401	1
Fixed Pin, Ion Volume	CUB0200054	1
Ion Block Assembly	393703001	1
Ion Source Ceramic PCB	CUB0600006	1
Ion Volume Holder with Wave Washer	393711401	1
Lens #3 Assembly	CUB0300007	1
Lens 1 and 2 Assembly	CUB0300006	1
Screw, Ion Volume	393712101	1
Spring, Ion Volume	CUB0200055	1

Did you know that small septum particles that collect inside the injector insert can adsorb sample, resulting in peak adsorption or distortion or sample carryover effects? Periodic replacing the insert and cleaning the injector reduces this problem.

CP-3800 GC

- Flexible platform—single, dual, or three-channel configurations for maximum productivity
- Easy upgrades—quickly add additional capabilities as your requirements change
- Simplified PC control—streamline operation with intuitive, graphical interfaces for instrument control, data processing, and reporting



Leader in Gas Chromatography

For more than four decades, Varian has been a leader and innovator in Gas Chromatography. Varian GCs have always lead the way in easy-to use, reliable Gas Chromatography products. We offer three models to meet your needs: the flexible one-to-three channel CP-3800 GC, the affordable one or two-channel CP-3380 GC, and the small footprint, single channel CP-3900 GC.

CP-3800 GC

Today, Varian continues that tradition of excellence in CP-3800 GC product line. Varian GCs are the most extensive and flexible systems on the market, from our entry-level CP-3380 GC manual pneumatics instruments, to our fully automated, electronic flow controlled (EFC), network-compatible CP-3800 GC systems.

The efficient column oven design provides fast heat-up (100 °C/min) and rapid cool-down (400 °C to 50 °C in 4.5 min) for both the Varian CP-3800 and CP-3380 GC. The simple and intuitive design of the GC interface eliminates mistakes associated with scrolling through multiple screen displays. GC control is accomplished through the local user interface, or through the optional Varian Star Workstation or the Galaxie Chromatography Data system.

Regardless of your analytical requirements, Varian has a GC to meet your ever challenging, ever changing requirements. The CP-3800 GC is available with either manual pneumatics or full Electronic Flow Control (EFC), and can accommodate up to 3 injectors and 3 non-MS detectors, all permanently installed and operating concurrently.

In addition and depending on the level of automation required, the CP-3800 GC can be configured with the Varian CP-8400 AutoSampler, CP-8410 AutoInjector, or the flexible Combi PAL liquid/headspace/SPME injection system.

Custom Configurations

The part numbers listed below are for standard configurations. However the CP-3800 GC can accommodate complex valve and other configurations to handle any special application requirement. Contact you local Varian, Inc. office or distributor for custom configuration and ordering information.

CP-3800 - Single Channel, Injector EFC, Manual Detector Flow Controls

ECD detectors are licenced either for use in the US or in non-US locations.

The 1041 is an on-column 0.53 mm ID capillary/packed column injector.

The 1177 is an isothermal split/splitless capillary injector.

Please contact your local Varian, Inc. office or distributor for pricing information.

Injector #1	Detector #1	101 Vac	120 Vac	230 Vac
1041	FID	392500604	392500404	392500504
	TCD	392500606	392500406	392500506
1177	ECD (US)		392500407	
	ECD (non-US)	392500607	392500461	392500507
	FID	392500605	392500405	392500505

CP-3800 - Single Channel, Injector EFC, Detector EFC

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The 1041 is an on-column 0.53 mm ID capillary/packed column injector.

The 1177 is an isothermal split/splitless capillary injector.

Please contact your local Varian, Inc. office or distributor for pricing information.

Injector #1	Detector #1	101 Vac	120 Vac	230 Vac
1041	FID	392501104	392500904	392501004
	TCD	392501106	392500906	392501006
	TCD (H ₂)			392501046
1177	ECD (US)		392500907	
	ECD (non-US)	392501107	392500961	392501007
	FID	392501105	392500905	392501005

See our GC Columns starting on page 192.

CP-3800 - Dual Channel, Injector EFC, Manual Detector Flow Controls

ECD detectors are licenced either for use in the US or in non-US locations.

The 1041 is an on-column 0.53 mm ID capillary/packed column injector.

The 1177 is an isothermal split/splitless capillary injector.

Please contact your local Varian, Inc. office or distributor for pricing information.

Injector #1	Detector #1	Injector #2	Detector #2	101 Vac	120 Vac	230 Vac
1041	FID	1041	FID	392500601	392500401	392500501
		1177	ECD (US)		392500408	
			ECD (non-US)	392500608	392500462	392500508
			FID	392500602	392500402	392500502
	TCD	1041	FID	392500609	392500409	392500509
					392500406	
1177	ECD (US)	1177	ECD (US)		392500413	
	ECD (non-US)	1177	ECD (non-US)	392500613	392500465	392500513
	FID	1177	ECD (US)		392500412	
			ECD (non-US)	392500612	392500464	392500512
			FID	392500603	392500403	392500503
	TSD	1177	ECD (US)		392500411	
			ECD (non-US)	392500611	392500463	392500511

CP-3800 - Dual Channel, Injector EFC, Detector EFC

ECD detectors are licenced either for use in the US or in non-US locations.

The 1041 is an on-column 0.53 mm ID capillary/packed column injector.

The 1177 is an isothermal split/splitless capillary injector.

Please contact your local Varian, Inc. office or distributor for pricing information.

Injector #1	Detector #1	Injector #2	Detector #2	101 Vac	120 Vac	230 Vac
1041	FID	1041	FID	392501101	392500901	392501001
		1177	ECD (US)		392500908	
			ECD (non-US)	392501108	392500962	392501008
			FID	392501102	392500902	392501002
	TCD (H2)	1041	FID			392501049
	TCD (non-H2)	1041	FID	392501109	392500909	392501009
1177		FID	392501110	392500910	392501010	
1177	ECD (US)	1177	ECD (US)		392500913	
	ECD (non-US)	1177	ECD (non-US)	392501113	392500965	392501013
	FID	1177	ECD (US)		392500912	
			ECD (non-US)	392501112	392500964	392501012
			FID	392501103	392500903	392501003
	TSD	1177	ECD (US)		392500911	
ECD (non-US)			392501111	392500963	392501011	

CP-3380 GC

- Straightforward user interface
- Autosampler options for high productivity
- Full LAN connectivity

The CP-3380 GC is an entry level manual pneumatic GC offered in fixed single or dual channel configurations. Designed for basic gas chromatography applications, Varian's affordable CP-3380 GC is a fully functional system based on the revolutionary CP-3800 GC. Like the CP-3800, this low-cost model features the industry's largest display and full Ethernet communications using industry-standard protocols. The CP-3380 GC is available with the CP-1177 isothermal split/splitless injector, or the 1041 on-column megabore capillary/packed column injector. In addition, the CP-3380 GC can be automated with a Varian CP-8400 AutoSampler for high levels of productivity.



CP-3380 GC - Single Channel

ECD detectors are licenced for use in the US, or in non-US locations.

Please contact your local Varian, Inc. office or distributor for pricing information.

Injector	Detector	101 VAC	120 VAC	230 VAC	Quantity (Each)
1041 Packed/ 0.53 mm Cap	FID	392500722	392500702	392500712	1
	TCD	392500724	392500704	392500714	1
1177 Split/Splitless Cap	ECD (US)		392500703		1
	ECD (non-US)	392500723	392500761	392500713	1
	FID	392500721	392500701	392500711	1

CP-3380 GC - Dual Channel

ECD detectors are licenced for use in the US, or in non-US locations.

Please contact your local Varian, Inc. office or distributor for pricing information.

Injector #1	Injector #2	Detector #1	Detector #2	101 VAC	120 VAC	230 VAC	Quantity (Each)
1041 Packed/ 0.53 mm Cap	1041 Packed/ 0.53 mm Cap	FID	FID	392500754	392500734	392500744	1
		TCD	TCD	392500752	392500732	392500742	1
		TCD	TCD	392500753	392500733	392500743	1
1177 Split/Splitless Cap	1041 Packed/ 0.53 mm Cap	ECD (US)	FID		392500737		1
		ECD (non-US)	FID	392500757	392500762	392500747	1
		FID	FID	392500756	392500736	392500746	1
	1177 Split/Splitless Cap	FID	TCD	392500755	392500735	392500745	1
		ECD (US)	FID		392500738		1
		ECD (non-US)	FID	392500758	392500763	392500748	1
	FID	FID	392500751	392500731	392500741	1	

See our GC Columns starting on page 192.

3900 GC

- Simplified routine operation—keypad icons make instrument control intuitive
- Small footprint—occupies less than half the bench space of a conventional GC
- Flexible PC control—password security, Star Chromatography Workstation and Custom Report Writer templates streamline operation



The CP-3900 GC is an easy-to-use, high-throughput GC designed to meet the requirements of the routine analytical laboratory. It is a single channel, fixed configuration GC incorporating the same outstanding electronic flow control (EFC), injector, detector and autosampler as the full-featured Varian CP-3800 GC.

The small footprint (12.5 in./32 cm width) saves precious bench space. The compact and efficient column oven uses standard 7 in./17.5 cm diameter capillary columns, heats fast, and cools down from 450 °C to 50 °C in only 5.2 minutes. The GC's intuitive, icon-based keypad simplifies operation. The CP-3900 GC includes EFC-controlled gasses for injectors and detectors. The CP-3900 GC is available with the CP-1177 isothermal split/splitless injector, or the 1041 on-column megabore capillary/packed column injector, and an optional gas sampling valve or a liquid sampling valve.

The CP-3900 GC is available with a Flame Ionization Detector (FID) or a Thermal Conductivity Detector (TCD). In addition, the CP-3900 GC can be automated with a Varian CP-8400 AutoSampler or CP-8410 AutoInjector, and is fully functional as a standalone GC, or controlled through the optional Varian Star Workstation or the Galaxie Chromatography Data System.

We offer a wide variety of factory installed options that include Ethernet connection, UltiMetal passivated injector, gas sample valve, liquid sample valve, and carrier gas electronic flow control for Purge & Trap (P&T), Headspace, and valved applications. Please contact your local Varian, Inc. office or distributor for configuration options and ordering information.

CP-3900 GC Standard Configurations

LSV = liquid sampling valve, GSV = gas sampling valve

Please contact your local Varian, Inc. office or distributor for pricing information.

Injector	Detector	Column EFC Type	Valve	120 VAC	230 VAC
1041 Packed/ 0.53 mm Cap	FID	Standard	None	393301713	393301714
			LSV	CP740704	CP740710
			GSV	CP740654	CP740660
	TCD	Standard	None	393301716	393301717
			LSV	CP740705	CP740711
			GSV	CP740655	CP740661
1177 Split/Splitless Cap	FID	Standard	None	393301701	393301702
			LSV	CP740700	CP740706
			GSV	CP740650	CP740656
		P&T/Head Space/Valve	None	393301704	393301705
			LSV	CP740701	CP740707
			GSV	CP740651	CP740657
UltiMetal 1177 Split/Splitless Cap	FID	Standard	None	393301707	393301708
			LSV	CP740702	CP740708
			GSV	CP740652	CP740658
		P&T/Head Space/Valve	None	393301710	393301711
			LSV	CP740703	CP740709
			GSV	CP740653	CP740659

See our GC Columns starting on page 192.

Varian Custom GC Solutions

Varian offers a complete range of standard analyzers based on the CP-3800 GC, using capillary and packed column technologies. These systems are fully tested and tuned before they are shipped.

Natural Gas Analyzers are available in three configurations to customize the analytical performance to your needs.

A wide range of Petrochemical Gas Sample Analyzers is available including the Refinery gas analyzers (RGA). Based on three channels of the CP-3800 GC, combinations of channels are available to provide the optimal flexibility in meeting the analytical requirements.

For trace analysis, Varian offers analyzers with a Pulsed Discharge Helium Ionization Detector (PDHID). This sensitive detector operates optimally because of the special precautions Varian takes in the sample path and gas supply.

For liquid petrochemical samples, Varian offers a wide range of systems dedicated for compositional analysis. These systems are based on ASTM methods, such as ASTM D3606, D4815, and D6839 (gasoline analysis), but also on Varian-developed methods like the Gasohol (% level oxygenates) and the Lowox analyzer (ppm level oxygenates).

Varian offers advanced SimDist analyzers based on the Galaxie Workstation with integrated Simulated Distillation software. The analyzer determines the true boiling point distribution of petroleum products according to the official methods.

For official GC methods, such as ASTM, UOP, EN, etc., Varian offers a wide range of configurations. Depending on your requirements, these methods can often times be combined in one CP-3800 GC. Take full advantage of the three-channel CP-3800 to reduce your analysis costs.

Contact your local Varian, Inc. office or distributor for more information on these, or other custom applications that you might have.



Varian CP-3800 GC with the 8400 AutoSampler

Natural Gas Analyzers

- Natural Gas Analysis system A
- Natural Gas Analysis system B
- Natural Gas Analysis system C

Petrochemical Gas Sample Analyzers

- Refinery Gas Analyzer
- Rapid Refinery Gas Analyzer
- Permanent Gases Analyzer
- Permanent Gas/CO/CO₂ Analyzer
- Permanent Gas/Hydrogen Analyzer
- Light Hydrocarbon/Permanent Gas Analyzer
- Light Hydrocarbon Analyzer
- Light Hydrocarbon Analyzer with liquid injection valve
- Dual Light Hydrocarbon Analyzer
- Light Hydrocarbon/Hydrogen Analyzer
- Light Hydrocarbon/CO/CO₂ Analyzer
- CO/CO₂ Analyzer
- CO/CO₂/Hydrogen Analyzer

Trace Impurities in Gas Analyzers

- PDHID System, Straight 40' HayeSep DB
- PDHID System, Straight 40' HayeSep DB + 4-port sample selection valve
- PDHID System, Straight 10' Molsieve
- PDHID System, Straight 10' Molsieve + 4-port sample selection valve
- PDHID System, with Backflush
- PDHID System, with Backflush + 4-port sample selection valve

Transformer Gas Analyzer

- Transformer Gas Analysis system

Petrochemical Liquid Sample Analyzers

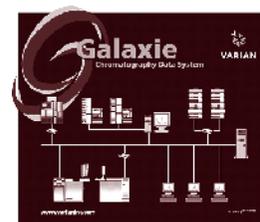
- PIONA+ Analyzer
- Low Level Oxygenates Analyzer
- Dual Low Level Oxygenates Analyzer
- Gasohol Analyzer
- Oxygenates In Gasoline ASTM D 4815
- Benzene and Toluene in Gasoline ASTM D 3606

Simulated Distillation Analyzers

- SimDist Analyzer ASTM D-3710
- SimDist Analyzer ASTM D-2887, ISO 3924 and IP 406
- SimDist Analyzer ASTM D-2887, Extended and DIN 51435
- SimDist Analyzer for Fast 2887
- SimDist Analyzer for High Temp, ASTM D-6352

Galaxie Chromatography Data System for GC and HPLC

- A superior stand-alone workstation or client/server solution
- Multi-vendor GC & HPLC control
- Simplified Graphical User Interface for high-throughput laboratories
- Universal, bidirectional LIMS interfacing
- Multi-Chromatogram Calculator tool
- Oracle/SQL Database option



The new Galaxie Chromatography Data System lets you control Varian GC and HPLC systems as well as similar instruments from other manufacturers. Galaxie's unique architecture readily expands from a single workstation, to networks with hundreds of instruments. Galaxie allows you to:

- Control Varian GCs and HPLCs, and view running analyses from anywhere on the network
- Also fully control instruments from Agilent, Waters, Perkin Elmer, Jasco and Shimadzu
- Reduce the requirement for PCs in laboratories and centralize method, data, and results storage
- Simplify the graphical user interface (GUI) to suit walkup users in high-throughput laboratories
- Perform complex post-run calculations on data from multiple chromatograms
- Seamlessly link to LIMS for worksheet uploading and result exporting
- Restrict access to methods, data and reports via secure, configurable user profiles

The Galaxie simple Graphical User Interface (GUI) is a customizable user shell option that gives walkup users the ability to select and run GCs set up for regular, routine analyses in high-throughput, quality control laboratory environments, without such users having to know how to set up and modify methods, calibrations or reports. Simply by selecting one of several on-screen button options, samples can be automatically analyzed, and the results reported in either a simple Pass/Fail or a comprehensive certificate of analysis format. Users can also perform automatic instrument recalibrations at anytime using this option.

Galaxie's LimsLink™

Galaxie's LimsLink™ Bidirectional LIMS Interface option automatically uploads daily LIMS worksheet data directly into the Galaxie sequence table for immediate analysis, and upon completion of each run, automatically posts qualified results data to the LIMS. This interface provides users with a seamless and secure interface to any commercially available LIMS product.

The Multi-Chromatogram Calculator

The Multi-Chromatogram Calculator tool for Galaxie enables GC users to select and combine peak results from several chromatograms, perform complex calculations on these data including normalization, addition, and subtraction, and print final result reports from these combined data sets. This post-run calculation tool has an integrated, user-editable database that can store non-chromatographic chemical and physical data associated with each component being analyzed. When used in conjunction with the built-in user programmable equation tool, these data can be incorporated to automatically generate results that for example compensate for moisture content, trace contaminants, etc.

Galaxie Database (Galaxie DB)

The Galaxie Database (Galaxie DB) option provides users with a Relational Database for the storage, archiving and retrieval of data within the Galaxie environment. This plug-in stores data as binary large objects (BLOBs) within an Oracle or other SQL database for enhanced data security. Galaxie DB enables users to either store chromatographic data as BLOBs, in a file-based system within the database, or for added security, as a combination of flat files and BLOBs. Users can store and index multiple formats including chromatographic parameters, libraries, PDF and Microsoft Office™ documents within this database for complete data management.

For brochures, configuration options and ordering information, contact your local Varian, Inc. office or distributor.

CP-8400 AutoSampler/CP-8410 AutoInjector

- Now with Solid Phase Microextraction - SPME
- Automatically access two injectors with a single tower
- Three vial size options with the CP-8410 AutoInjector
- Sample tray cooling/heating option

The Varian CP-8400 AutoSampler and CP-8410 AutoInjector elevate GC automation to new levels of reliability, productivity, and performance. Built on the same platform design, both sample-handling devices offer the same outstanding performance features.

Productivity and Flexibility

The CP-8400 AutoSampler provides maximum sample throughput with a standard 100 sample carousel for 2 mL vials.

The CP-8410 AutoInjector supports ten 2 mL, plus five 5 mL and five 10 mL sample vials on a fixed sample tray. Both models fit our CP-3800 GC, CP-3380 GC, and 3900 GC instruments.

On both the CP-8400 and CP-8410, the single syringe tower automatically accesses two independent injectors. The ability to access both injectors allows for dual and duplicate sample injections.

Dual sample injection mode injects two different samples into two different injectors sequentially. Only one sample list is required in the dual injection mode. Dual injections result in greater sample throughput. Three separate solvent wash vials with one waste drain eliminate the possibility of sample carry over. Any combination of pre- and post-solvent flushes can be programmed during method set-up.

Duplicate sample injection mode injects the same sample into two different injectors sequentially for dual column analysis. This mode is an improvement over splitting the sample between two columns with a single injection.

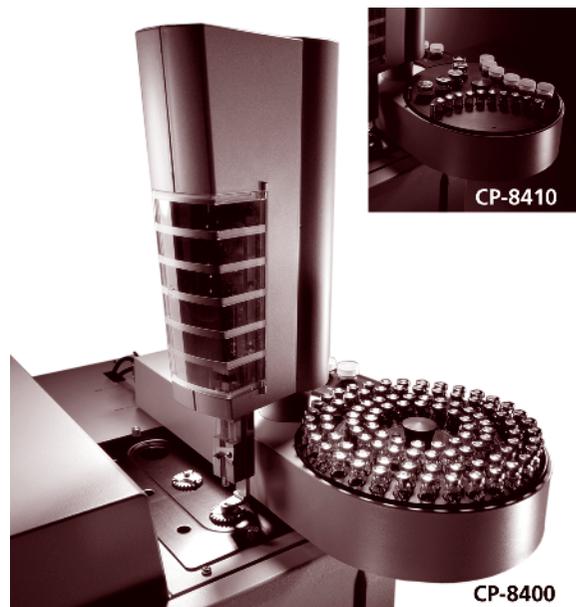
Internal standards or matrix spikes can be automatically added to any injection. Simply substitute one of the solvent wash vials with a standard spiking solution. Headspace sampling or large volume injections are possible with the optional 100 µL syringe.

Sample Integrity

Both the CP-8400 and CP-8410 sample trays and syringe needles are positioned away from all heated surfaces. This new configuration prevents volatile solvent evaporation and degradation of thermally sensitive samples. Optional sample cooling and heating can be added to the CP-8400 to further enhance the Varian CP-8400 and CP-8410 provide the flexibility and performance necessary to handle any automation requirement.

Complete, Automated SPME with the CP-3800 GC

SPME is a solvent-free sample preparation technique where analytes are extracted onto a stationary phase coated, fused silica fiber. The coated fiber is then inserted into the GC injector for thermal desorption and analysis. With automated SPME on the CP-8400 and the CP-8410, every step from extraction to desorption is precisely timed for optimum reproducibility. Sample throughput is greatly increased with automated SPME. CP-8400/8410 SPME is controlled by the Varian CP-3800 GC either standalone, or through the Varian Star Workstation or the Galaxie Chromatography Data System.



CP-8400 AutoSampler/CP-8410 AutoInjector

Note: The CP-8400 requires a CP-3800 or CP-3380 GC ROM Version 3.3.5 or higher, and the CP-8410 requires CP-3800 or CP-3380 GC ROM version 3.3 or higher. All 3900 GCs are compatible with both samplers. Contact your local Varian, Inc. office or distributor if you need assistance checking the ROM version, or if you require a new ROM version.

Description	Part No.	Quantity (Each)
CP-8400 AutoSampler for Varian CP-3800/CP-3380/3900 GCs	CP739371	1
CP-8410 AutoInjector for Varian CP-3800/CP-3380/3900 GCs	CP739651	1

CP-8400/CP-8410 AutoSampler Accessories

CP-8400 AutoSampler

Description	Part No.	Quantity (Each)
100-Vial Sample Tray 8400	CP738642	1
CP-8400 Carousel Cooling/Heating Plate (10 - 40 °C). Requires Circulating Bath.	CP739379	1
Flush/ Waste Tray CP-8400	CP739376	1

CP-8410 AutoInjector

Description	Part No.	Quantity (Each)
CP-8410 Carousel Cooling/Heating Plate (10 - 40 °C). Requires Circulating Bath.	CP740608	1

CP-8400/CP-8410 Accessories

Description	Part No.	Quantity (Each)
SPME Option for CP-8400/CP-8410	CP740813	1
SPME Fiber Holder for 8400/8410/Combi PAL. Not for 8200 A/S.	392590210	1
SPME Sensitivity Test Sample	391896700	5 /Pk

Combi PAL Autosamplers

- Flexibility with headspace, liquid, and SPME injections
- Increase reliability with syringe-only operation
- Save bench space and cost with a single autosampler

Multiple injection modes on a single GC system

Combi PAL is the only autosampler to offer liquid and headspace injection, plus solid phase microextraction (SPME) in a single instrument. Sampling modes and sample capacity can be expanded at any time to meet changing needs. With complete software control and automation, Combi PAL simplifies sample processing for speed, flexibility, and precision.

Heated Headspace for Volatiles

Add more problem-solving capabilities to your laboratory by easily switching between liquid and headspace sampling with Combi PAL. Accuracy is improved as contamination is virtually eliminated with syringe-only, heated headspace injections for volatile samples. To increase productivity, the next sample is always ready for injection with automated vial transfer into the incubator oven.

Automated SPME

Combi PAL supports automated SPME over a wide range of applications from volatiles in water to trace odor compounds in beverages. SPME provides speed and simplicity by reducing sample preparation time when extracting and concentrating compounds from small volumes of complex matrices. Easy-to-use software control of Combi PAL SPME improves the reliability and reproducibility of your results.

Software Control

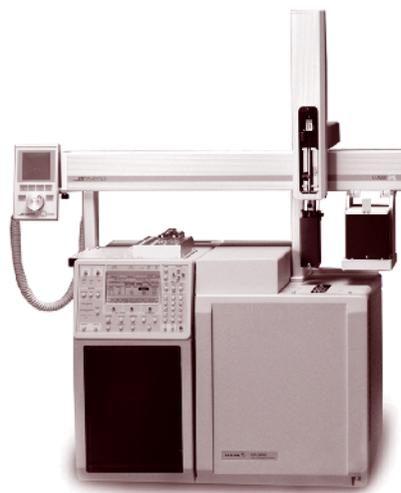
Combi PAL is controlled directly through both Varian Star® Workstation and Varian MS Workstation software for most applications. For advanced operations, the Cycle Composer software controls all stages of the Combi PAL operation.

Combi PAL Autosamplers

Combi PAL for liquid injections includes: wash station for 2 solvents, single sample tray holder, syringe adapter 10ul, syringe 10ul, PAL tool kit, PC cable.

Combi PAL for liquid and headspace injections includes: wash station for 2 solvents, single sample tray holder, syringe adapter 10ul, syringe 10ul, PAL tool kit, PC cable, incubator for heating and mixing 6 20-ml vials with adapters for 10ml vials, temperature up to 200 °C, wash station with 5 vials, sample tray for 32 10/20ml vials, PAL vial kit consisting of 6 each of 10-ml and 20-ml vials with steel caps and septa, headspace syringe kit consisting of one heated syringe adapter, two headspace syringes of 1 mL, 23 gauge, point style 5. Note: headspace analysis using the Varian 1041 injector requires a 26 gauge syringe, p/n 392590201.

Description	Part No.	Quantity (Each)
Combi PAL Autosampler for Liquid Injections. Requires mounting kit and tray holder.	392590102	1
Combi PAL Autosampler for Liquid and Headspace Injections. Requires mounting kit and tray holder.	392590101	1



Combi PAL Mounted on a CP-3800 GC

Specifications			
Positioning precision:	±0.1 mm		
Injection mode:	Automatic recognition of syringe type		
Liquid Injection:	<ul style="list-style-type: none"> • Liquid injection syringes: 2 µL, 10 µL, 25 µL, 100 µL, and 250 µL • Syringe cleaning: Wash Station with two different solvents • Injection speed: 0.01 µL/sec to 500 µL/sec 		
Headspace Injection:	<ul style="list-style-type: none"> • Headspace syringes: 1 mL, 2.5 mL, and 5.0 mL • Syringe temperature range: 30 °C to 150 °C • Syringe cleaning: inert gas purge • Injection speed: 0.01µL/sec to 1000 µL/sec • Incubator Oven/Orbital Shaker module: standard • Heated vial positions: six • Incubation temperature range: 30 °C to 200 °C • Agitation: interval shaking from 250 rpm to 750 rpm 		
SPME Injection:	<ul style="list-style-type: none"> • Requires Headspace upgrade which includes Incubator Oven/ Orbital Shaker module • Vial sampling depth: variable 		
Sample Capacity:	<ul style="list-style-type: none"> • Sample trays: two, standard and expandable to four • Tray types: 98 x 2 mL vials; 200 x 1 mL vials; 32 x 10 mL/20 mL vials; and 96-well plates 		
Instrument Control:	<ul style="list-style-type: none"> • Local User Interface • Control panel: four function keys with graphical LCD display • Unique scroll knob for 'Teach Functions' 		
Remote control:	<ul style="list-style-type: none"> • Star Workstation Software • Varian MS Workstation Software • Cycle Composer Software 		
Electrical connections:	<ul style="list-style-type: none"> • Two RS232C ports • Three TTL input/three TTL output • Two Opto coupler input/two relay output 		
Optional modules:	<ul style="list-style-type: none"> • Sample trays for 1 mL, 2 mL, or 10 mL/20 mL vials • Trayholders for microwell or deepwell 96-well plates • High Capacity Wash Station for large volume injections (LVI) • Bake-Out Station for SPME fibers • Cooled Trayholders: Temperature range: 4 °C to 70 °C • PAL Dilutor • Barcode Reader • Flowcell, excluding external pump: for sampling a gas or liquid stream 		
Dimensions and Weight			
Size:	height	25.5 in. 64.8 cm	width 34.7 in. 88.2 cm
			depth 15.2 in. 38.5 cm
Weight:	22 lb /10 kg, without accessories		

Combi PAL Mounting Kits and Tray Holders

Mounting kits include the communications cable.

See pages 305 and 306 for CTC Combi PAL-compatible round bottom headspace vials.

Description	Part No.	Quantity
Mounting Kit for Finnigan GC8000	PALMR8000	1 Kit
Mounting Kit for Finnigan GC8000, Top	PALMR8TOP	1 Kit
Mounting Kit for Finnigan Trace 2000	PALMRTRACE	1 Kit
Mounting Kit for HP GC5890	PALMR5890	1 Kit
Mounting Kit for HP GC6890	PALMR6890	1 Kit
Mounting Kit for PE	PALMRPEXL	1 Kit
Mounting Kit for Shimadzu GC 14 Includes Communication Cable.	PALMR14A	1 Kit
Mounting Kit for Shimadzu GC 17A Includes Communication Cable.	PALMRS17A	1 Kit
Mounting Kit for Varian 3400/3600 GCs	PALMR34003600	1 Kit
Mounting Kit for Varian 3900 GC	PALMRV3900	1 Kit
Mounting Kit for Varian CP-3800 GC Includes Special Tray Holder for 2 Trays.	PALMRV3800	1 Kit
Tray Holder, 114 mm, for Standard Trays Holding 2, 10 or 20 mL Vials. Not for Varian CP-3800 GC.	PALMR2200	1 Each
Tray Holder, 76 mm, for Standard Trays Holding 2 or 10 mL Vials. Not for Varian CP-3800 GC.	PALMR2100	1 Each

Combi PAL Liquid Syringes

Replacement syringes for an existing syringe holder. Point Style is AS - tapered tip.

Volume (µL)	23 ga.	26 ga.	Quantity (Each)
1.2		392590202	1
5		392590204	1
10	SYRCL1023SAS	392590205	1
25		392590206	1
100		392590207	1
250		SYRCG25026AS	1
500		SYRCG50026AS	1

Combi PAL Headspace Syringes

Replacement syringes for an existing syringe holder. Point Style 5 - round tip with side hole

Volume (mL)	22 ga.	23 ga.	26 ga.	Quantity (Each)
1		SYRCHS1235	392590201	1
2.5		SYRCHS25235	392590203	1
5	SYRCHHS5225	SYRCHS5235		1

Combi PAL Headspace Syringe Kits

Order a syringe kit the first time you use a new syringe volume. Kits include a syringe and syringe holder. Point Style 5 - round tip with side hole

Volume (mL)	23 ga.	26 ga.	Quantity (Kit)
1	PALHS1000UL23G	PALHS1000UL26G	1
2.5	PALHS2500UL23G	PALHS2500UL26G	1
5	PALHS5000UL23G		1

Combi PAL Accessories

See pages 305 and 306 for CTC Combi PAL-compatible round bottom headspace vials.

Description	Part No.	Quantity
Headspace Upgrade Kit for CombiPAL Liquid Version	PALLHSUPGRDVAR	1 Kit
Liquid Tray Cooler 4 °C to 60 °C for One Standard Sample Tray, Excluding External Heating/Cooling Circulator	PALLIQCOOLER	1 Each
Peltier Cooler 4 °C to 70 °C for One Standard Sample Tray Holding 1 or 2 mL vials. On CP-3800, the Incubator Must Be Removed To Install This Item.	PALTRAYCOOLER	1 Each
Sample tray for 200 vials, 0.7/1 mL	PALTRAY1ML	1 Each
Sample tray for 32 10 mL vials, or 21 2 mL vials	PALTRAY10ML	1 Each
Sample tray for 98 vials 2 mL or 78 vials 0.7/1 mL	PALTRAY2ML	1 Each
Solvent Reservoir Consisting Of Holder and Three 100 mL Vials with Caps and Seals.	PAL3XSOLV100	1 Each
SPME Sensitivity Test Sample	391896700	5 /Pk
Win95/NT Cycle Composer Software. Includes Liquid/headspace/SPME Methods.	392590111	1 Each

Combi PAL Liquid Syringe Kits

Order a syringe kit the first time you use a new syringe volume. Kits include a syringe and syringe holder. Point Style AS - tapered tip

Volume (µL)	26 ga.	Quantity (Kit)
1.2	392590213	1
5	392590214	1
10	PALSYRGC10UL	1
25	PALSYRGC25UL	1
100	PALSYRGC100UL	1
250	PALSYRGC250UL	1

Did you know that using a tapered centerhole syringe needle can lower the tendency for undesirable septum particles to collect inside injector and plug the syringe needle?

Archon® Purge & Trap AutoSamplers



Archon Purge & Trap AutoSamplers provide automated analysis of water and soil samples.

The Archon water-only configuration includes: 51-position tray for drinking water and wastewater sampling capability, dual standard injection, priority sample, programmable sample volume, and hot water rinse. Also includes: power cord, blue reverse ferrule fitting, ESS EPA 40 mL water vials (12/pk), 6x15 mm stir bars (6/pk), 80 oz. Safety coated reservoir bottle, 22 mm low bleed septa (60/pk), and manual. **REQUIRES:** Installation Kit and Interface Cable.

The Archon needle sparge configuration includes: Patented Needle Sparge, 51-position tray for water, wastewater, soils and solids, dual standard injection, priority sample, programmable sample volume, heated sample chamber, and hot water rinse. Also includes: power cord, blue reverse ferrule fitting, ESS EPA 40mL water vials (12/pk), 6x15 mm stir bars (6/pk), 80 oz. Safety coated reservoir bottle, 22 mm low bleed septa (60/pk), and manual. **REQUIRES:** Installation Kit and Interface Cable.

The Archon SoilVial configuration includes: Patented SoilVial Sparge, 51-position tray for water, wastewater, soils and solids, dual standard injection, priority sample, programmable sample volume, heated sample chamber, and hot water rinse. Also includes: power cord, blue reverse ferrule fitting, ESS EPA 40 mL water vials (12/pk), 6 x 15 mm stir bars (6/pk), 80 oz. Safety coated reservoir bottle, 22 mm low bleed septa (60/pk), 40 mL SoilVial (2/pk), SoilVial stir bars (2/pk), and manual. **REQUIRES:** Installation Kit and Interface Cable.

Please contact your local Varian, Inc. office or distributor for assistance with configuring your Archon Purge & Trap AutoSampler.

Did you know that making multiple injections from the same vial can allow compounds in the vial septa to contaminate the sample?

ARCHON Purge & Trap AutoSamplers

Description	120 Vac	230 Vac	Quantity (Each)
Archon Purge & Trap AutoSampler, Needle Sparge	DY50522001	DY50522002	1
Archon Purge & Trap AutoSampler, SoilVial	DY50522003	DY50522004	1
Archon Purge & Trap AutoSampler, Water Only	DY50522005	DY50522006	1

ARCHON Installation Kits

Description	Part No.	Quantity (Each)
Installation Kit for OI 4460 and Tekmar Purge & Trap	DY50574790	1
Installation Kit for OI 4560 Purge & Trap	DY50574890	1
Installation Kit for Tekmar LSC 2000/3000 Purge & Trap	DY50574690	1

ARCHON Interface Cables

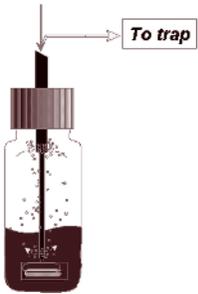
Description	Part No.	Quantity (Each)
Archon to OI 4460	DY50587700	1
Archon to OI 4460/4560 with HP5890 GC	DY50587100	1
Archon to OI 4460/4560 with HP5890, RTE HP1000 GC/MS Software, HP5970 MSD or HP5988 MS	DY50587500	1
Archon to OI 4460/4560 with Varian 3400 GC	DY50587000	1
Archon to Tekmar LSC 2000/3000/Velocity XPT	DY50587200	1
Archon to Tekmar LSC 2000/3000/Velocity XPT with HP5890 GC	DY50586900	1
Archon to Tekmar LSC 2000/3000/Velocity XPT with HP5890 with 5970/71/72 MSD and UNIXB or MSDOS Software, and HP5890/5989 MS Engine	DY50587400	1
Archon to Tekmar LSC 2000/3000/Velocity XPT with HP6890 GC	DY50587300	1
Archon to Tekmar LSC 2000/3000/Velocity XPT with Varian 3400 GC	DY50586800	1
Archon to Tekmar Purge & Trap and CP-3800/3900 GC cable	392567301	1

Archon® Purge & Trap SoilVials



Description	Part No.	Quantity
Stirbar for SoilVials	DY50402400	1 Each
Archon 40 mL Soil Vial	DY50409900	6 /Pk

Archon® Purge & Trap Water Vials



Description	Part No.	Quantity
40 mL Clear Glass Vials, Screw Caps, EPA Low-Bleed Septa	DY63006800	72 /Pk
EPA Low-Bleed Septa, 22 mm	DY50425200	60 /Pk
	DY50410400	300 /Pk
Teflon Stirbar for 40 mL VOA Vials	DY50295500	1 Each
Teflon/Silicon Water Vial Septa	DY66467100	72 /Pk

Archon® Purge & Trap AutoSampler Maintenance

Description	Part No.	Quantity
3/8 in. Teflon Ferrule for Reservoir	ALSF600T	10 /Pk
5 mL Standard Reservoir Vial	DY50548400	1 Each
10 micron Soil Probe Frit	DY50559900	1 Each
26 mL Syringe Glass Barrel	DY50296800	1 Each
26 mL Syringe Plunger with Rod	DY70006091	1 Each
75 micron Water Probe Screen	DY50559800	1 Each
Field Upgrade Plumbing For Cooling of Sample Vials	DY70008590	1 Each
Lower Soil Purge Gas Needle Assembly	DY50546390	1 Each
Needle Sparge Soil Probe Assembly for Single-ended Vials for S/N 995 and Below	DY50549290	1 Each
Needle Sparge Soil Probe Assembly for Single-ended Vials, for S/N from 996 through 13160	DY50574190	1 Each
Needle Sparge Soil Probe Assembly, for Single-ended Vials, after S/N 13160	DY70007791	1 Each
Recirculating Bath for Cooling of Sample Vials. Requires Plumbing.	DY50562700	1 Each
Rinse Water Kit for Interfacing Direct Water Line	DY50562890	1 Each
Soil Probe Assembly for Double-ended Vials for S/N 995 and Below	DY50549090	1 Each
Soil Probe Assembly for Double-ended Vials for S/N from 996 through 13160	DY50574390	1 Each
Soil Probe Assembly, for Double-ended Vials, after S/N 13160	DY70007691	1 Each
Water Probe Assembly for S/N 995 and Below	DY50549100	1 Each
Water Probe Assembly for S/N 996 and Above	DY50573990	1 Each

Did you know that trace analysis requires a low bleed septum to reduce extraneous peaks in the chromatogram?

8200 AutoSampler Accessories

Accessories

Description	Part No.	Quantity (Each)
8200 Ambient Headspace Syringe Kit	391872990	1
8200 to CP-3800 GC Serial Cable to Connect an Existing 8100/8200 A/S to CP-3800 GC.	392530201	1
Label for 48-vial Carrousel	392527100	1
Large Vial Carrousel, holds 12 10 mL vials	391887290	1
Large Volume Injection Kit with 100 µL Syringe and Instructions.	392541391	1
Mounting Plate, Short, 8200	391840100	1
SPME Fiber Holder, 8200 A/S	391896402	1

Syringes

Description	Part No.	Quantity (Each)
10 µL Liquid Injection Syringe with Side Hole Needle for 8200 A/S	391898600	1
100 µL Headspace Syringe with Side Hole Needle for 8200 A/S	391872800	1
100 µL Liquid Injection Syringe for 8200 A/S	392541401	1

Needles

Description	Part No.	Quantity (Each)
Large Bore Side Hole Needle for 10 µL 8200 A/S Syringe	392604900	1
Standard Bore Side Hole Needle for 10 µL 8200 Syringe	391898700	1
Standard Bore Through Hole Needle for 10 µL 8200 A/S Syringe	392604902	1

Plunger

Description	Part No.	Quantity (Each)
Plunger for 100 µL Headspace Syringe, 8200 A/S	391872801	1



Did you know that GCs with autosamplers require a septum that has excellent resealing qualities so septum leaks do not develop during unattended operation?

Did you know that syringes wear out over time, and the resulting leaking can cause sample discrimination, and increase the injected sample volume variations?

Tekmar Velocity XPT™ Purge & Trap Concentrator

- Increase sample throughput up to 100%
- Highest resolution, lowest carryover
- Eliminate moisture interference
- Foam sensing and elimination

Tekmar Velocity XPT

Velocity XPT is more than a next-generation Purge and Trap system, it's a revolutionary leap in technology. Advancements in Velocity XPT ensure the highest throughput with the least amount of downtime. From cutting sample cycle time nearly in half, to built-in intelligent diagnostics, Velocity XPT is the most productive Purge and Trap available today.

Increase Sample Throughput up to 100%

Nearly double sample throughput and increase the profitability of your VOC lab without the cost of an additional GC system. Patent-pending Accelerated Purge and Trap technology lets you independently control the flow rate during all modes, greatly reducing dry purge and bake times. Velocity XPT also provides a 25% reduction in trap cool down time after bake mode.

Highest Resolution, Lowest Carryover

Forward Focusing Chamber (FFC)*: This patent-pending technology provides the highest resolution chromatography and superior peak shape for early eluting gases. By placing an expansion chamber after the trap during the desorption modes, analytes are focused into a tight band. When analytes are tightly focused prior to desorption into the GC, dramatic improvements in chromatography resolution are evident. The FFC also efficiently desorbs which greatly reduces carryover from run to run.

Exceptional Inertness

Silcosteel tubing and Silcosteel-treated fittings throughout the sample pathway prevent loss of active, polar, and high-boiling compounds, and also resist corrosion.

Tekmar Velocity XPT P&T Concentrators

Order spargers and traps separately.

Guardian Foam Sensor/Foam Eliminator	120 Vac	230 Vac	Quantity (Each)
No	T14890V00T	T14890V10T	1
Yes	T14890V0ET	T14890V1ET	1

Sparger Glassware Kits

Kits include the sparger, PEEK sparging tubing, ferrules and nuts.

Volume (mL)	Side Arm	Frit Sparger	Fritless Sparger	Needle Sparger	Quantity (Kit)
5	No	T148921000	T148923000	T148925000	1
	Yes	T144006224	T144825224		1
25	No	T148922000	T148924000	T148926000	1
	Yes	T144007224	T144826224		1

Sparger Glassware

Volume (mL)	Side Arm	Frit Sparger	Fritless Sparger	Needle Sparger	Quantity (Each)
5	No	99764210	99764212	T142052024	1
	Yes	T144006024			1
25	No	99764211	99764213	T142053024	1
	Yes	T144007024			1

Eliminate Moisture Interference

Velocity XPT contains three new innovations that eliminate moisture interference in GC/MS:

- **High-Flow Dry Purge**
High-flow dry purge maximizes water removal without breakthrough of early eluting gases. Dry purge flow rate can be set as high as 500 mL/minute, completing dry purge in as little as 30 seconds
- **Dry Purge Temperature Programming**
Control adsorbent trap temperature during dry purge. Set trap temperature to ambient during purge mode and 40°C during dry purge. By holding the trap temperature at 40°C during dry purge, water removal improves and does not cause breakthrough of early eluting gases.
- **DryFlow Moisture Trap***
If your method does not allow use of a dry purgeable trap, then the DryFlow moisture trap is your solution. In most applications this temperature-programmable trap removes virtually all water from the desorption gas prior to transfer to the GC and does not compromise analyte recovery.

Foam Sensing and Elimination*

The Guardian Foam Sensor option is a set of built-in photodiode-based sensors. If foam or liquid is detected at the top of the glassware, purge gas shuts down, the vent valve closes, and the sample drains. Guardian can be configured to automatically add an anti-foaming agent to the sample, allowing purge to continue and without re-running the sample.*

* Patent pending

For assistance in selecting and configuring a Velocity XPT, please contact your local Varian, Inc. office or distributor.



Traps

Description	Part No.	Quantity (Each)
Blank Trap (#0)	T141168003	1
DryFlow Moisture Trap	T148911003	1
Tenax Trap (#1)	T120083003	1
Tenax/Silica Gel Trap (#2)	T120084003	1
Tenax/Silica Gel/Charcoal Trap (#3)	T140124003	1
Vocarb 3000 Trap	T145864003	1
Vocarb 4000 Trap	T145865003	1

Syringe

Description	Part No.	Quantity (Each)
Syringe, 25 mL, with Luer Lock	T140070052	1

Tekmar LSC 3000/3100 Accessories & Maintenance

Glassware Kits For LSC 3000/3100

Kits include glassware and fittings

Description	Part No.	Quantity (Kit)
5 mL Frit Sparge Kit, 1/2 in. Mount	T143096100	1
25 mL Frit Sparge Kit, 1/2 in. Mount	T143095100	1
25 mL Fritless Sparge Kit, 1/2 in. Mount	T143093100	1
25 mL Needle Sparge Kit	T143600100	1

Miscellaneous For LSC 3000/3100

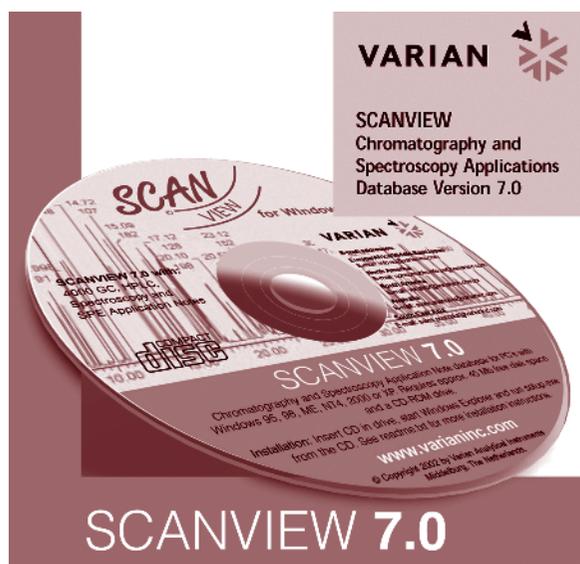
Description	Part No.	Quantity (Each)
Hydrocarbon Trap Assembly for Purge Gas	99636842	1
Sample Pocket Heater for LSC 3000	T145736000	1
Sample Tube Heater for LSC 3000	T145736100	1

Sample Needles For LSC 3000/3100

Description	Part No.	Quantity (Each)
Sample Needle, 7.75 in for 5 mL Frit/Fritless Sparger	T143595053	1
Sample Needle, 9 1/8 in for 25 mL Frit/Fritless Sparger	T143196053	1
Soil Needle, 10.25 in for 20/25 mL Needle Sparger, 4 Hole	T145186453	1
Soil Needle, 7.75 in for 5 mL Needle Sparger, 4 Hole	T145186053	1

Traps For LSC 3000/3100

Description	Part No.	Quantity (Each)
Blank Trap, #0	T141168303	1
Tenax Trap, #1	T120083303	1
Tenax/Silica Gel Trap, #2	T120084303	1
Tenax/Silica Gel/Charcoal Trap, #3	T140124303	1
Vocarb 3000 Trap	T145864303	1
Vocarb 4000 Trap	T145865303	1



Contact your Varian, Inc. sales representative for a free copy, or use Scanview online at www.varianinc.com, under Consumables, click Applications Online.

CP-1177 Injector Maintenance

Please see pages 381 - 383 for our complete listing of injector liners for the CP-1177 injector. See our GC Columns starting on page 192.

Items 1 & 2: Injector Switch & Injector Nut

Description	Part No.	Quantity (Each)
Inject Switch Assembly	390820601	1
CP-1177 Injector Nut	392597501	1

Item 3: 9 mm Septa

We recommend BTO septa for lowest bleed, Marathon septa for AutoSampler use, and Advanced Green 3 septa for general purpose use. Please see pages 289 and 289 for additional septa information.

Advanced Green 3	BTO	Marathon	Quantity (/Pk)
CR246713	CR298713		50
		CR239778	25

Item 4: Injector Bodies

SS	UltiMetal	Quantity (Each)
392599401	392599411	1

Item 5: 1/16 in. Column Ferrules

Please see pages 280 to 284 for information on selecting ferrules.

Column ID	Holes	40% Graphite/60% Vespel	Graphite	SilTite	Teflon	Vespel	Quantity (/Pk)
0.18 mm ID and Smaller	1	CR213103			CR214103	CR212103	10
0.25 mm ID	1	CR213104	CR211104		CR214104	CR212104	10
	2	CR213124	CR211124				10
0.25 mm ID and Smaller	1			SG073300			10
0.32 mm ID	1	CR213105	CR211105	SG073301	CR214105	CR212105	10
	2	CR213125	CR211125		CR214222	CR212125	10
0.53 mm ID	1	CR213108	CR211108	SG073302	CR214108	CR212108	10

Item 6: Bottom Nut

Description	Part No.	Quantity
Bottom Nut	394955100	1 Each

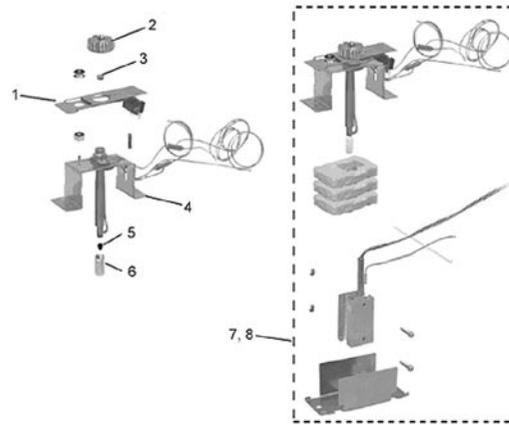
Items 7 & 8: Injector Assemblies

For Pneumatics Type	Material	101 Vac	120 Vac	230 Vac	Quantity (Each)
Type 1 EFC	SS	392599693	392599691	392599692	1
	UltiMetal	392599633	392599631	392599632	1
Type 5 EFC and Manual Pneumatics	SS	392599793	392599791	392599792	1
	UltiMetal	392599733	392599731	392599732	1

Injector Liner O-rings

Please see pages 381-383 for our injector liners.

Description	Part No.	Quantity (/Pk)
O-rings, Graphite, 6.5 mm ID to Fit Splitless 6.5 mm OD Liners	392611930	10
O-rings, Viton, for 6.3 and 6.5 mm OD Liners. 260 °C max	8850103100	25



Purge Heads

For Pneumatics Type	SS	UltiMetal	Quantity (Each)
Type 1 EFC	392597301	392597303	1
Type 5 EFC & Manual Pneumatics	392597302	392597304	1

Purge Head Screw

Description	Part No.	Quantity (Each)
Purge Head Screw	391866308	1

1041 Injector Maintenance

Item 1: Injector Nut

Description	Part No.	Quantity (Each)
Injector Nut	390812700	1

Item 2: 9.5 mm Septa

We recommend BTO septa for lowest bleed, Marathon septa for AutoSampler use, and Advanced Green 3 septa for general purpose use. Please see pages 289 and 289 for additional septa information.

Advanced Green 3	BTO	Marathon	Quantity (/Pk)
CR246124	CR298705		50
		CR239188	25

Item 3: Injector Body

Pneumatics	Part No.	Quantity (Each)
Type 3 EFC	392548201	1

Item 4: 1/4 in. Injector Body Ferrules

Graphite/Vespel ferrules can be used up to 400 °C, and graphite ferrules can be used up to 450 °C.

40% Graphite/60% Vespel	Graphite	Quantity (/Pk)
CR213400	CR211400	10

Item 5: 1/4 in. Injector Body Nut

Material	Part No.	Quantity (/Pk)
SS	SWSS4021	10

Items 6-8 are only used for capillary columns.

Item 6: Injector Insert for 0.53 mm ID Columns

Material	Part No.	Quantity (Each)
SS	392543101	1

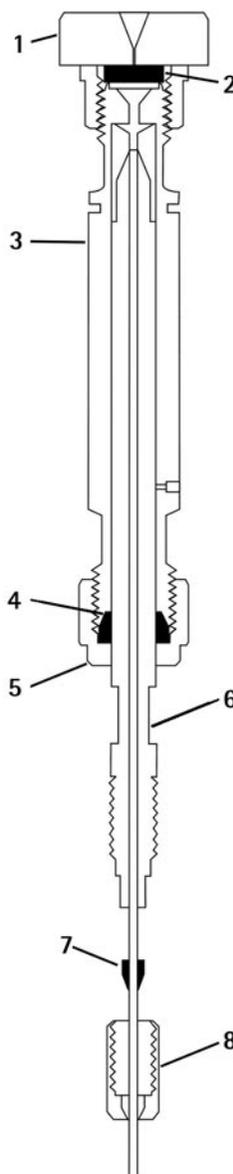
Item 7: 1/16 in. x 0.8 mm ID Column Ferrules

Please see pages 280 to 284 for information on selecting ferrules.

Column	40% Graphite/60% Vespel	Graphite	SilTite	Teflon	Vespel	Quantity (/Pk)
0.53 mm ID	CR213108	CR211108	SG073302	CR214108	CR212108	10

Item 8: Bottom Nut

Description	Part No.	Quantity (Each)
Bottom Nut	394955100	1



Did you know that only the 1041 and 1061 injectors can be used with packed columns?

1061 Injector Maintenance

Item 1: Injector Nut

Description	Part No.	Quantity (Each)
Injector Nut	390812700	1

Item 2: 9.5 mm Septa

We recommend BTO septa for lowest bleed, Marathon septa for AutoSampler use, and Advanced Green 3 septa for general purpose use. Please see pages 289 and 289 for additional septa information.

Advanced Green 3	BTO	Marathon	Quantity (/Pk)
CR246124	CR298705		50
		CR239188	25

Item 3: Injector Body

Pneumatics	Part No.	Quantity (Each)
Type 3 EFC	392548301	1

Item 4: Injector Liner

Description	Part No.	Quantity (/Pk)
1061 Flash Vaporization Injector Liner for 0.53 mm ID columns	392611943	5

Item 5: 1/4 in. Ferrules

40% Graphite/ 60% Vespel	Graphite	Quantity (/Pk)
CR213400	CR211400	10

Item 6: 1/4 in. Injector Body Nut

Material	Part No.	Quantity (/Pk)
SS	SWSS4021	10

Items 7, 8 and 9 are only used for capillary columns.

Item 7: Bottom Injector Insert

Material	Part No.	Quantity (Each)
SS	390835600	1

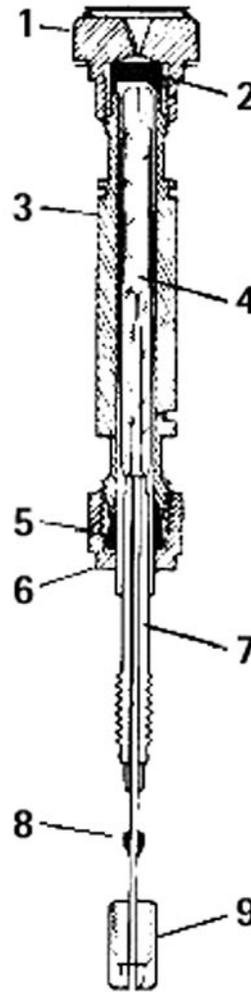
Item 8: 1/16 in. x 0.8 mm ID Column Ferrules

Please see pages 280 to 284 for information on selecting ferrules.

Column	40% Graphite/ 60% Vespel	Graphite	SiTite	Teflon	Vespel	Quantity (/Pk)
0.53 mm ID	CR213108	CR211108	SG073302	CR214108	CR212108	10

Item 9: Bottom Nut

Description	Part No.	Quantity
Bottom Nut	394955100	1 Each



Did you know the 1061 injector can be used with either packed columns or 0.53 mm ID capillary columns?

1079 PTV Injector Maintenance

Items 1 & 2: Injector Nut and Switch

Description	Part No.	Quantity (Each)
Injector Nut	394966601	1
Inject Switch Assembly	390820601	1

Item 3: 11.5 mm Septa

We recommend BTO septa for lowest bleed, Marathon septa for AutoSampler use, and Advanced Green 3 septa for general purpose use. Please see pages 289 and 289 for additional septa information.

Advanced Green 3	BTO	Marathon	Quantity (/Pk)
CR246725	CR298717		50
		CR239787	25

Item 4: Injector Bodies

Pneumatics	SS	UltiMetal	Quantity (Each)
EFC	392544001	392544011	1
Manual Pneumatics	392559601	392559611	1

Items 5 & 6: Internal Components

Description	Part No.	Quantity
Septum Support	391867600	1
Insert Ferrule	392534201	10

Item 7: 1079 injector Liners are shown on pages 384-385.

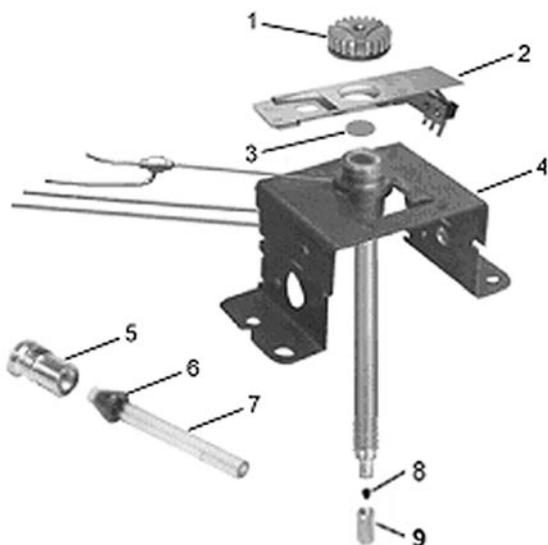
Item 8: 1/16 in. Column Ferrules

Please see pages 280 to 284 for information on selecting ferrules.

Column	Holes	40% Graphite/ 60% Vespel	Graphite	SilTite	Teflon	Vespel	Quantity (/Pk)
0.18 mm ID and Smaller	1	CR213103			CR214103	CR212103	10
0.25 mm ID	1	CR213104	CR211104		CR214104	CR212104	10
	2	CR213124	CR211124			CR212124	10
0.25 mm ID and Smaller	1			SG073300			10
0.32 mm ID	1	CR213105	CR211105	SG073301	CR214105	CR212105	10
	2	CR213125	CR211125			CR212125	10
0.53 mm ID	1	CR213108	CR211108	SG073302	CR214108	CR212108	10

Item 9: Bottom Nut

Description	Part No.	Quantity (Each)
Bottom Nut	394955100	1



Did you know that an injector septum can develop leaks after numerous injections and cause sample discrimination?

Did you know that you should use tweezers to install new injector septa to avoid contaminating them?

See our GC Columns starting on page 192.

CP-1177 Varian Deactivated Injector Liners

Varian injection liners are deactivated using gas phase silanization to reduce sample degradation. See our GC Columns starting on page 192.

CP-1177 Varian Deactivated Injector Liners

1177 injector liners also fit HP/Agilent models 4890, 5880, 5890, 6850, 6890, and Finnigan 9001, GCQ. 6.3 mm OD x 78.5 mm long.

Top	Injection Mode	ID (mm)	Type	Packing	OD	Part No.	Quantity (/Pk)
	SPME	0.75	Gooseneck	Open	6.3 mm	392611998	5
	Split	1	Straight Through	Open	6.3 mm	392611999	5
	Split	4	Cup Splitter	10% OV-1 On Chromosorb-W HP	6.3 mm	392611933	5
	Split	4	Cup Splitter	Fused Silica Wool	6.3 mm	392611932	5
	Split	4	Cup Splitter	Open	6.3 mm	392611931	5
	Split	4	Straight Through	Fused Silica Wool	6.3 mm	392611934	5
	Split/Splitless	2	Gooseneck	Open	6.5 mm	392611926	5
	Splitless	2	Straight Through	Glass Wool	6.5 mm	392599903	5
	Splitless	2	Straight Through	Open	6.5 mm	392611924	5
	Splitless	4	Double Gooseneck	Open	6.5 mm	392611929	5
	Splitless	4	Gooseneck	Fused Silica Wool	6.5 mm	392611928	5
	Splitless	4	Gooseneck	Glass Wool	6.5 mm	392611936	5
	Splitless	4	Gooseneck	Open	6.5 mm	392611927	5
	Splitless	4	Straight Through	Glass Wool	6.5 mm	392611937	5
	Splitless	4	Straight Through	Open	6.5 mm	392611925	5

O-Rings for all 6.3 mm and 6.5 mm OD Liners

Material	T Max °C	6.3 and 6.5 mm	6.3 mm	6.5 mm	Quantity (/Pk)
Graphite	400		392611935	392611940	10
Viton	250	8850103100			25

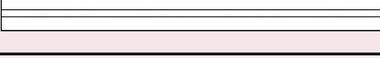
GC Instruments

CP-1177 Restek Siltek® Deactivated Injector Liners

- 6.3 mm and 6.5 mm x 78.5 mm liners
- Maximizes the inertness of sample pathway
- Minimizes sample breakdown
- Low bleed
- Thermally stable

1177 Siltek Deactivated Restek Injector Liners

1177 injector liners also fit HP/Agilent models 4890, 5880, 5890, 6850, 6890, and Finnigan 9001, GCQ. 6.3 mm OD x 78.5 mm long.

Top	Injection Mode	ID (mm)	Type	Packing	OD	Part No.	Quantity (/Pk)
	Split	4	Gooseneck	Glass Frit	6.3 mm	RT210462145	5
	Split	4	Straight	IP-deactivated Fused Silica Wool	6.3 mm	RT210792265	5
	Split	4	Straight	Siltek-deactivated Fused Silica Wool	6.3 mm	RT210792135	5
	Splitless	2	Straight	Open	6.3 mm	RT207132145	5
	Splitless	4	Gooseneck	IP-deactivated Fused Silica Wool	6.5 mm	RT224062265	5
	Splitless	4	Gooseneck	Open	6.3 mm	RT207992145	5
	Splitless	4	Straight	Open	6.3 mm	RT207732145	5

See our GC Columns starting on page 192.

Did you know that the use of specially coated and deactivated injector inserts can lower the degradation and adsorption of sensitive compounds, and make the analysis more sensitive and accurate?

Did you know that dirty injector liners can cause peak tailing and absorb trace sample components?

CP-1177 SGE Deactivated Injector Liners

- Deactivated to reduce sample loss
- Direct, Split, and Splitless injection modes
- FocusLiner for improved peak shape

CP-1177 SGE Deactivated Injector Liners

CP-1177 injector liners also fit HP/Agilent models 4890, 5880, 5890, 6850, 6890, and Finnigan 9001, GCQ. 6.3 mm OD x 78.5 mm long.

Top	Injection Mode	ID (mm)	Type	Packing	5 /Pk	25 /Pk
	Direct	1.2	Straight Through	Open	SG092016	SG092224
	Split	4	Straight Through	Fused Silica Wool	SG092001	SG092220
	Split	4	Straight Through	Open	SG092007	SG092222
	Split/Splitless	2.3	FAST FocusLiner	Fused Silica Wool	SG092005	SG092008
	Split/Splitless	2.3	Tapered Fast FocusLiner	Fused Silica Wool	SG092111	SG092115
	Split/Splitless	4	Double Gooseneck	Open	SG092018	SG092230
	Split/Splitless	4	FocusLiner	Fused Silica Wool	SG092002	SG092219
	Split/Splitless	4	Gooseneck	Fused Silica Wool	SG092019	
	Split/Splitless	4	Gooseneck	Open	SG092017	SG092229
	Split/Splitless	4	Recessed Gooseneck	Fused Silica Wool	SG092010	SG092223
	Split/Splitless	4	Tapered FocusLiner	Fused Silica Wool	SG092003	SG092011
	Splitless	2	Recessed Gooseneck	Open	SG092013	
	Splitless	2	Straight Through	Open	SG092004	

See our GC Columns starting on page 192.

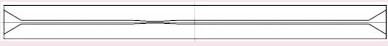
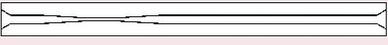
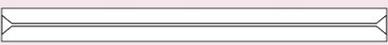
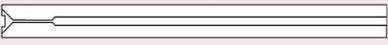
Did you know that using the wrong type of injector liner can cause sample discrimination?

1078/1079 Varian Deactivated Injector Liners

- A full line of split, splitless and SPME Injector Liners
- All liners are deactivated to meet Varian's high performance standards
- Sold in packages of 5 easy opening storage trays

1078/1079 Varian Deactivated Injector Liners

Liners are 5 mm OD x 54 mm long

Top	Injection Mode	ID (mm)	Type	Packing	Part No.	Quantity (/Pk)
	Direct, for 0.25 and 0.32 mm ID Columns	0.8	Taper	Open	190010906	5
	On Column, for 0.53 mm ID Columns	0.8	Taper	Open	190010907	5
	SPME	0.8	Straight Through	Open	392611948	5
	Split	3.4	Gooseneck	10% OV-101 on Chromosorb W-HP 80/100	392611954	5
	Split	3.4	Gooseneck	Glass Frit	392611946	5
	Split	3.4	Gooseneck	Open	392611945	5
	Split/Splitless	2	Gooseneck	Glass Wool	392611953	5
	Splitless	0.5	Straight Through	Open	392611949	5
	Splitless	2	Gooseneck	Open	392611947	5

1078/1079 Restek Siltek® Deactivated Injector Liners

- Maximizes the inertness of sample pathway
- Minimizes sample breakdown
- Low bleed
- Thermally stable

1078/1079 Restek Siltek Deactivated Injector Liners

Liners are 5 mm OD x 54 mm long

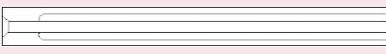
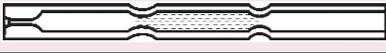
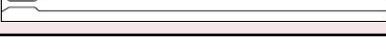
Top	Injection Mode	ID (mm)	Type	Packing	Part No.	Quantity (/Pk)
	Split	2	Gooseneck	Open	RT217122145	5
	Split	3.4	Gooseneck	Glass Frit	RT217092145	5
	Split	3.4	Gooseneck	Open	RT209012145	5

1078/ 1079 SGE Deactivated Injector Liners

- FocusLiner for improved accuracy and precision
- Direct, Large Volume Injection, Split, and Splitless injections

1078/ 1079 SGE Deactivated Injector Liners

Liners are 5 mm OD x 54 mm long.

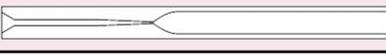
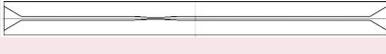
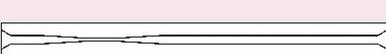
Top	Injection Mode	ID (mm)	Type	Packing	Part No.	Quantity (/Pk)
	Direct	0.5	Straight Through	Open	SG092031	5
	Large Volume Injection	1	Gooseneck	Scintered Tube	SG092245	5
	Split/Splitless	3.4	FocusLiner	Fused Silica Wool	SG092037	5
	Split/Splitless	3.4	Gooseneck	Open	SG092038	5
	Split/Splitless	3.4	Tapered FocusLiner	Fused Silica Wool	SG092036	5
	Splitless	2	Gooseneck	Open	SG092039	5

1060/ 1061 Varian Injector Liners

Top	Injector	Injection Mode	Type	Packing	Part No.	Quantity (/Pk)
	1060	Flash Vaporization, Packed	Gooseneck	Glass Wool	392611944	5
	1060	Flash Vaporization, Packed	Gooseneck	Glass Wool	3700081301	10
	1061	Flash Vaporization, 0.53 mm ID Capillary	Double Gooseneck	Open	392611943	5

1093/ 1094 SPI Varian Deactivated Injector Liners

Liners are 4.6 mm OD x 54 mm long.

Top	Injection Mode	ID (mm)	Type	Packing	Part No.	Quantity (/Pk)
	Direct	4	Buffer Volume	Open	190010908	5
	Direct	0.8	Taper	Glass Wool	392611950	5
	Direct, for 0.25 and 0.32 mm ID Columns	0.8	Taper	Open	190010906	5
	On Column, for 0.53 mm ID Columns	0.8	Taper	Open	190010907	5

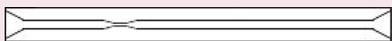
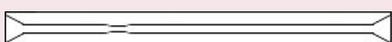
See our GC Columns starting on page 192.

1093/ 1094 SPI SGE Deactivated Injector Liners

- Deactivated to reduce sample loss
- Tapered for narrow or wide bore capillary columns

1093/ 1094 SPI SGE Deactivated Injector Liners

Liners are 4.6 mm OD x 54 mm long.

Top	Injection Mode	ID (mm)	Type	Packing	5 /Pk	25 /Pk
	On Column	0.5	Taper	Open	SG092027	
	On Column	0.8	Taper, 0.25 mm Restriction	Open	SG092030	
	On Column	0.8	Taper, 0.5 mm Restriction	Open	SG092034	SG092035

1075/ 1077 Varian Deactivated Injector Liners

- Deactivated
- Split and Splitless styles

1075/ 1077 Varian Deactivated Injector Liners

Liners are 6.3 mm OD.

Top	Injection Mode	ID (mm)	Type	Packing	Length (mm)	Part No.	Quantity (/Pk)
	Split	4	Gooseneck	10% OV-101 On Chromosorb W-HP	72	392611941	5
	Split	4	Gooseneck	Baffle	72	190010904	5
	Split	4	Gooseneck	Glass Frit	72	190010903	5
	Split	4	Gooseneck	Laminar Cap	72	190010902	5
	Split	4	Gooseneck	Open	72	392611942	5
	Splitless	2	Taper	Open	75	190010905	5

Liner Accessories

Description	Part No.	Quantity
1/4 in. Graphite Ferrule	CR211400	10 /Pk
Spring for use with Split Liners	394978600	1 Each

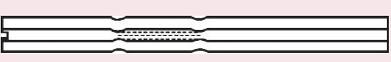
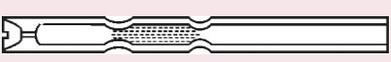
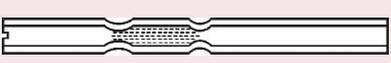
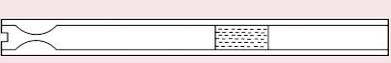
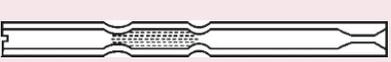
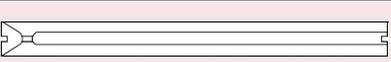
See our GC Columns starting on page 192.

1075/ 1077 SGE Deactivated Injector Liners

- All liners are deactivated to reduce sample loss
- Split and Splitless styles
- FocusLiners for improved accuracy and precision

1075/ 1077 SGE Deactivated Injector Liners

Liners are 6.3 mm OD.

Top	Injection Mode	ID (mm)	Type	Packing	Length (mm)	5 /Pk	25 /Pk
	Split	2.3	Fast FocusLiner	Fused Silica Wool	72	SG092113	
	Split	4	FocusLiner	Fused Silica Wool	72	SG092028	
	Split	4	FocusLiner	Fused Silica Wool	72	SG092022	
	Split	4	Gooseneck	Fused Silica Wool	72	SG092021	
	Split	4	Tapered FocusLiner	Fused Silica Wool	72	SG092025	
	Splitless	2	Gooseneck	Open	74	SG092024	SG092228

Liner Accessories

Description	Part No.	Quantity
1/4 in. Graphite Ferrule	CR211400	10 /Pk
Spring for use with Split Liners	394978600	1 Each

See our GC Columns starting on page 192.

Did you know that using the wrong type of injector liner can cause too much or too little sample to be transferred to the column?

Thermal Conductivity Detector — TCD

TCD Replacement Detectors

We recommend the following be installed by a Varian, Inc. Service Engineer.

Feature	Transfer Line	101 Vac	120 Vac	230 Vac	Quantity (Each)
Single TCD	No	392560703	392560701	392560702	1
	Yes	392560713	392560711	392560712	1
Dual TCD	No	392560723	392560721	392560722	1

TCD Maintenance

Description	Part No.	Quantity (Kit)
Adapter for TCD DEFC Capillary Makeup, Field Kit	392585291	1
Adapter for TCD DEFC Reference Gas, Field Kit	392585292	1
TCD Capillary Make Up, Field Kit. Manual Pneumatics.	392560591	1
TCD DEFC Type 14, nonH2 , 2 Channels, Upgrade from Manual	392561290	1
TCD DEFC Type 16, H2 version , 2 Channels, Upgrade from Manual	392561590	1

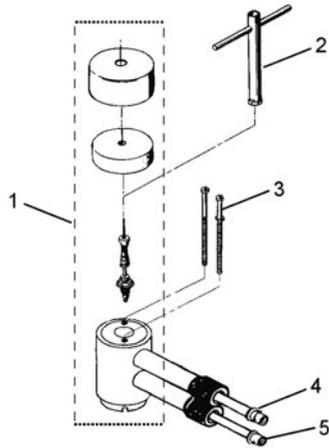
TCD Field Kits for CP-3800

We recommend the following Field Kits be installed by a Varian, Inc. Service Engineer.

Pneumatics	Transfer Line	101 Vac	120 Vac	230 Vac	Quantity (Kit)
DEFC Type 14, non H2	No	392561293	392561291	392561292	1
	Yes	392561296	392561294	392561295	1
DEFC Type 16, H2	No	392561593	392561591	392561592	1
	Yes	392561596	392561594	392561595	1
Manual	No	392560293	392560291	392560292	1
	Yes	392560296	392560294	392560295	1

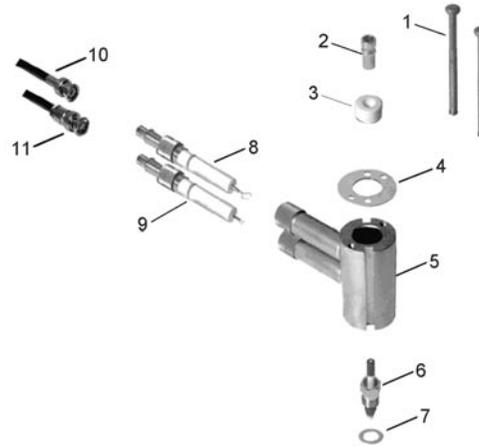
Did you know you must cool all heated injectors and detectors before removing any mounting screws?

Electron Capture Detector — ECD



Item #	Description	Part No.	Quantity (Each)
1	Refurbished ECD General License, All Varian GCs Except 3500	200197250	1
1	Refurbished ECD Specific License, All Varian GCs Except 3500	200197251	1
1	Rebuilt ECD Specific License, All Varian GCs Except 3500	200197271	1
2	Installation Tool	7200008100	1
3	ECD Tower Screw, 8-32 X 3-1/8 Microseal	391866300	1
4	Pulser Probe	200197400	1
5	Signal Probe	200197300	1
	Flow Tube to Measure Flow Rate	200196700	1

Flame Ionization Detector — FID



Item #	Description	Part No.	Quantity
1	Tower Screws, 8-32 x 3"	391866301	1 Each
2	Collector Tube	394958700	1 Each
3	Insulator	2100003200	1 Each
4	FID Tower Top Plate	3400073100	1 Each
5	Detector Tower Body	100099300	1 Each
6	0.010 in. Flame Tip, Capillary Tip	200187500	1 Each
6	0.020 in. Flame Tip, Standard Tip	200193800	1 Each
7	Aluminum Seal Washer, 0.741 in. OD x 0.452 in. ID	1500334701	25 /Pk
8	Signal Probe Assembly	200187300	1 Each
9	Ignitor Probe Assembly	200187200	1 Each
10	Signal Cable Assembly	200187700	1 Each
11	CP-3800 GC FID Igniter Cable	392548701	1 Each
	Flow Tube	200187600	1 Each
	Large Stopper	394958600	1 Each

ECD Testing

Description	Part No.	Quantity
Clean and Test ECD General License, All Varian GCs Except 3500	200197260	1 Each
Clean and Test ECD Specific License, All Varian GCs Except 3500	200197261	1 Each
Nickel 63 ECD Disposal	391438500	1 Each
Transfer of Ownership, ECD, All Varian GCs Except 3500	200197299	1 Each
Tritium ECD Disposal	391438501	1 Each
Wipe Test Kit Including Analysis	394904100	1 Kit
Wipe Test Kit, pk. 5 Including 5 Analyses	394904101	1 Kit

ECD Field Kits for CP-3800 GCs

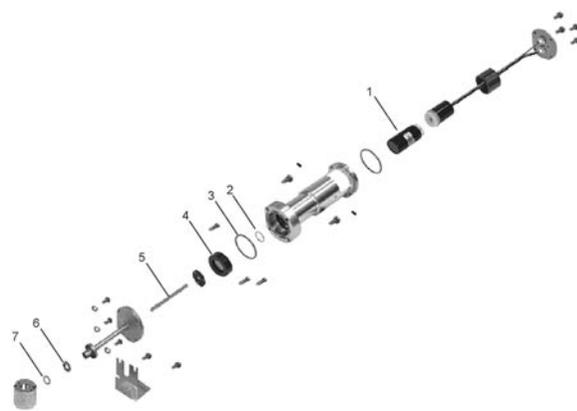
Kits include the detector and electrometer. We recommend the following Field Kits be installed by a Varian, Inc. Service Engineer.

Pneumatics	License	101 Vac	120 Vac	230 Vac	Quantity (Kit)
DEFC Type 13	General License	392561193	392561191	392561192	1
	Specific License	392561196	392561194	392561195	1
Manual	General License	392560193	392560191	392560192	1
	Specific License	392560196	392560194	392560195	1

Pulsed Flame Photometric Detector — PFPD

PFPD Sulfur — Phosphorous Mode Maintenance

Item #	Description	Part No.	Quantity (Each)
1	Photomultiplier Tube, Sulfur-Phosphorous Mode, R647	392517100	1
2	O-ring, 0.530 in. ID x 0.103 in. Wall, Silicone	2740292400	1
3	O-ring, 1.487 in. ID x 0.103 in. Wall, Silicone	2740282600	1
4	PFPD Filter Assembly, Sulfur, S, BG12	392515101	1
4	PFPD Filter Assembly, Phosphorus, P, GC495	392515102	1
4	PFPD Filter Assembly, Sulfur + Phosphorus, S+P, UV-34	392515104	1
5	Quartz Light Pipe	392515500	1
6	Sapphire Window Assembly	392514500	1
7	Sapphire Window Washer	392514300	1
	Combustor Support Wrench	392519200	1
	Combustor Support Seal	392513800	1
	Combustor Support, Sulfur, 2 mm	392517800	1
	Combustor, Sulfur, 2 mm	392517600	1
	Combustor Support, Phosphorous, 3 mm	392517901	1
	Combustor, Phosphorous, 3 mm	392517700	1



PFPD nitrogen mode detector. Sulfur mode detector is similar.

PFPD Nitrogen Mode Maintenance

Item #	Description	Part No.	Quantity (Each)
1	Photomultiplier Tube, Nitrogen Mode, R5070	392512800	1
2	O-ring, 0.987 in. ID x 0.103 in. Wall, Viton	2740236100	1
3	O-ring, 1.487 in. ID x 0.103 in. Wall, Silicone	2740282600	1
5	PFPD Filter Assembly, Nitrogen, N, RG9	392511901	1
5	Quartz Light Pipe	392515500	1
6	Sapphire Window Assembly	392514500	1
7	Sapphire Window Washer	392514300	1

Conversion Kits

Kits include photomultiplier tube, filter, and necessary hardware.

Description	Part No.	Quantity (Kit)
Convert to Nitrogen Mode from Sulfur or Phosphorous Mode, PFPD Field Kit	392512990	1
Convert to Phosphorous Mode from Nitrogen Mode, PFPD Field Kit	392513303	1

Cables

Description	Part No.	Quantity (Each)
PFPD High Voltage Cable	392549001	1
PFPD Igniter with cable assembly, CP-3800 GC ONLY	392546101	1

PFPD Field Kits for CP-3800 GC

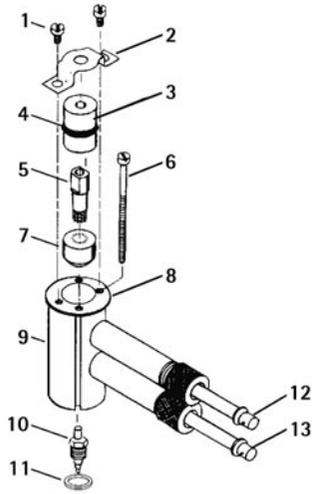
We recommend these kits be installed by a Varian, Inc. Service Engineer.

Mode	Pneumatics	101 Vac	120 Vac	230 Vac	Quantity (Kit)
N/S/P	DEFC Type 15	392561496	392561494	392561495	1
	Manual		392560494	392560495	1
S/P	DEFC Type 15	392561493	392561491	392561492	1
	Manual	392560493	392560491	392560492	1

PFPD Filter Assemblies

Element Detected	Filter	Part No.	Quantity (Each)	Use Photomultiplier Tube	Use Combustor Size
Arsenic, As	RG695	392515105	1	R5070 (Phosphorous)	3 mm (Phosphorous)
Manganese, Mn	IF403	392544391	1	R647 (Sulfur)	3 mm (Phosphorous)
Nitrogen, N	RG9	392511901	1	R5070 (Phosphorous)	3 mm (Phosphorous)
Phosphorous + Sulfur, P+S	UV-34	392515104	1	R647 (Sulfur)	3 mm (Phosphorous)
Phosphorous, P	GC495	392515102	1	R647 (Sulfur)	3 mm (Phosphorous)
Sulfur, S	BG12	392515101	1	R647 (Sulfur)	2 mm (Sulfur)
Tin, Sn	OG590	392515103	1	R647 (Sulfur)	3 mm (Phosphorous)

Thermionic Specific Detector — TSD



Item #	Description	Part No.	Quantity
1	Screw, 8-32 x 1/4 in. Fillister Head	1214200804	1 Each
2	TSD Top Clamp	800022900	1 Each
3	Upper Insulator	2100003100	1 Each
4	O-ring	2740928202	30 /Pk
5	Collector Tube	390607900	1 Each
6	Tower Mounting Screw, 8-32 x 3"	391866301	1 Each
7	Insulator	2100003200	1 Each
8	Tower Top Plate	3400073100	1 Each
9	Detector Tower Body	390607700	1 Each
10	0.020 in. Flame Tip, Standard Tip	200193800	1 Each
11	Aluminum Seal Washer, 0.741 in. OD x 0.452 in. ID	1500334701	25 /Pk
12	TSD Signal Probe	390607600	1 Each
13	TSD Silicate Bead, unconditioned	390607400	1 Each
13	TSD Silicate Bead, conditioned	390607401	1 Each
	Signal Cable Assembly	200187700	1 Each
	CP-3800 GC TSD Bead Cable	392548801	1 Each
	Flow Tube to measure flow rate	200187600	1 Each

Did you know the Varian TSD bead will perform better and last longer when used with Nitrogen as the makeup gas?

CP-4900 Micro-GC

- Portable GC for gas analysis
- Refinery gas
- Fuel cells
- Industrial gases
- Natural gas analysis



CP-4900 Micro-GC

Varian, Inc.'s CP-4900 Micro-GC is a rugged, compact, lab-quality analyzer that always delivers the information you need – at any site. When the composition of gas mixtures is critical, this 4th generation micro-Gas Chromatograph generates more data in less time for faster, better business decisions.

The CP-4900 offers advanced micro-machining and computing technologies, and one to four plug-and-play GC channels. Each channel is a separate GC with pneumatics, injector, column, and micro-thermal conductivity detector (μ -TCD). Low power consumption lets you take your GC to the sample source.

CP-4900 Field Case

The CP-4900's small size and light weight lets you move it easily to analysis sites in the field, such as refineries, drilling locations, and natural gas pipelines. Portability is the solution when transporting samples to the laboratory is impractical, when sample integrity may be compromised in transit, or when you need the answer immediately.

The Field Case holds up to two gas cylinders and two rechargeable battery packs to provide eight hours of productive field time. Operation is continuous with battery packs, which are easily exchanged while the GC is running. Instrument control, data analysis, and diagnostic testing can be carried out at the instrument or over the Internet, even for a CP-4900 in the field. Preserve samples, protect data quality, and get immediate answers by taking the CP-4900, in its portable Field Case, right to your sample source.

Control and Data Reduction Software

The CP-4900 Micro-GC is fully controlled through the Varian Star Workstation or the Galaxie Chromatography Data System.

Configurations

Our CP-4900 Micro-GCs come in a wide variety of configurations with up to four Channels installed. Please contact your local Varian, Inc. office or distributor for configuration and ordering information.

CP-4900 DMD

For preconfigured gas analyzers, see our CP-4900 DMD gas chromatographs.

CP-4900 Accessories

Description	Part No.	Quantity
Battery pack for CP-4900, NiMH (rechargeable).	CP740328	1 Each
CP-4900 USB to serial Cable for PC, 60 cm	CP741375	1 Each
Carrier Gas Refill Assembly CGA580, US	CP738013	1 Each
Carrier Gas Refill Assembly, DIN6	CP738012	1 Each
Carrier Gas Refill Assembly, England	CP737161	1 Each
Carrier Gas Refill Assembly, Europe	CP736964	1 Each
Carrier Gas Refill Assembly, France	CP737381	1 Each
Charger for CP-4900 battery pack. Additional to the charger in the Field case.	CP740427	1 Each
Ethernet and Com Port board, DIMM-PC	CP740573	1 Each
Ethernet cross over cable, 10m	CP740293	1 Each
Ethernet cross over cable, 2.8m	CP740292	1 Each
Field case, 2 channel standard. Includes: 1 battery pack, 1 carrier gas cylinder.	CP490240	1 Each
Field case, 2 channel with two separate carrier gases. Includes: 1 battery pack, 2 separated carrier gas cylinders (two gas types).	CP490241	1 Each
Field case, 4 channel standard. Includes: 2 battery packs, 1 carrier gas cylinder.	CP490250	1 Each
Field case, 4 channel with double volume carrier gas. Includes: 2 battery packs, 2 carrier gas cylinders (for one gas type only).	CP490251	1 Each
Field case, 4 channel with two separate carrier gases. Includes: 2 battery packs, 2 separated carrier gases (two gas types).	CP490252	1 Each
Filters, external sample filter kit, 5 μ m	CP736729	1 Kit
Filters, external sample filters, set of 5	CP736467	1 Set
Filters, internal filter assemblies, set of 5	CP490210	1 Set
Genie 101 BTU Filter	392590001	1 Each
Genie 101 membrane replacements, BTU	392590005	5 /Pk
Genie 170 BTU Filter	392590006	1 Each
Genie 170 Standard Filter	392590002	1 Each
Genie 170 membrane replacements, BTU	392590003	5 /Pk
Genie 170 membrane replacements, Standard	392590004	5 /Pk
Micro-Gasifier for CP-4900, 100-120V, 50-60 Hz	CP740431	1 Each
Micro-Gasifier for CP-4900, 230V, 50 Hz, Euro-plug	CP740432	1 Each
Micro-Gasifier for CP-4900, 240V, 50 Hz, UK-plug	CP740433	1 Each

Did you know that you should verify the carrier gas is flowing from the ECD vent tube before heating the detector to avoid detector damage?

CP-4900 Micro-GC Channels

- Each Channel includes the injector, column, ovens, detector, and pneumatics
- Variety of column phases
- Choice of standard or heated injector
- Choice of standard or backflush Channel
- Special application-specific Channels for optimum performance
- Easily user replaceable

CP-4900 GC Channels are easily replaceable by users. Each Channel includes a variable volume injector (standard or heated), a column, a heated column oven, an ultra-low volume thermal conductivity detector, and a field upgrade kit (Part No. CP490200) that includes the necessary fittings and tubing.

Note: Our CP-4900 DMD uses special factory-installed dual-detector Channels, which are different from the Channels listed here. To replace or change a CP-4900 DMD Channel contact your local Varian, Inc. office or distributor.

CP-4900 Standard Unheated Injector Channels

Some Channels are specially tested for specific applications, and are recommended over standard Channels.

Phase	Length	Standard Column	For Natural Gas	TBM in Natural Gas	THT in Natural Gas	Quantity (Each)
Alumina PLOT	10 m	CP74012550				1
CP-COX	1 m	CP74012650				1
CP-Sil 13 CB	12 m			CP74012250		1
CP-Sil 19 CB	6 m	CP74012050			CP74012150	1
CP-Sil 5 CB	4 m	CP74011650	CP74011750			1
	6 m	CP74011850				1
	8 m	CP74011950				1
CP-Wax 52 CB	4 m	CP74012350				1
HayeSep A	25 cm	CP74011150				1
	40 cm		CP74011250			1
Molsieve 5Å	4 m	CP74011350				1
	10 m	CP74011450				1
	20 m	CP74011550				1
PoraPLOT Q	10 m	CP74012450				1
PoraPLOT U	10 m	CP74012750				1

CP-4900 Standard Unheated Injector Channels with Backflush

Phase	Length (m)	Part No.	Quantity (Each)
Alumina PLOT	10	CP74013150	1
Molsieve 5Å	10	CP74012850	1
	20	CP74012950	1
PoraPLOT Q	10	CP74013050	1
PoraPLOT U	10	CP74013250	1

CP-4900 Heated Injector Channels

Some Channels are specially tested for specific applications, and are recommended over standard Channels.

Phase	Length	Standard Column	For Natural Gas	MES in Natural Gas	TBM in Natural Gas	THT in Natural Gas	Quantity (Each)
Alumina PLOT	10 m	CP74014450					1
CP-COX	1 m	CP74014550					1
CP-Sil 13 CB	12 m				CP74048350		1
CP-Sil 19 CB	6 m	CP74048150				CP74048250	1
CP-Sil 5 CB	4 m	CP74013850	CP74013950				1
	6 m	CP74014050					1
	8 m	CP74014150					1
CP-Wax 52 CB	4 m	CP74014250				1	
HayeSep A	25 cm	CP74013350					1
	40 cm		CP74013450				1
MES in Natural Gas	15 m			CP74014750			1
Molsieve 5Å	4 m	CP74013550					1
	10 m	CP74013650					1
	20 m	CP74013750					1
PoraPLOT Q	10 m	CP74014350				1	
PoraPLOT U	10 m	CP74014650				1	

CP-4900 Heated Injector Channels with Backflush

Phase	Length (m)	Part No.	Quantity (Each)
Alumina PLOT	10	CP74015150	1
Molsieve 5Å	10	CP74014850	1
	20	CP74014950	1
PoraPLOT Q	10	CP74015050	1
PoraPLOT U	10	CP74015250	1

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VARIAN

CP-4900 DMD Analyzers

- Trace and major components in one analysis
- Portable gas analyzer
- Refinery gas
- Fuel cells
- Industrial gases
- Natural gas analysis



The Varian CP-4900 Differential Mobility Detector (μ -DMD) is a revolutionary new portable GC instrument utilizing a tunable ion filter to achieve unique analytical solutions.

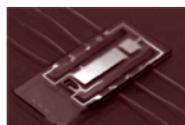
In many applications, present GC detection technology is insufficient for (multiple-) target component analysis. The μ -DMD detects specific target components with increased sensitivity, compared to standard detection techniques.

The CP-4900 DMD uses dual detection technology where a μ -TCD and the μ -DMD are in serial connection. The workstation software processes both signals of the system, providing trace component information (μ -DMD), as well as matrix information (μ -TCD) within one analysis.

The μ -DMD offers the capability detecting components even while they are coeluting. The unique selectivity of the μ -DMD makes even trace analysis possible when coeluting with bulk components. This enables the user to have an improved process control environment, resulting in a higher quality of end product.

μ -DMD

The μ -DMD is fully integrated into the basic CP-4900 Micro-GC hardware. The operational conditions are integrated into the software as part of the operational method. This eliminates any peripheral instrumentation and complex method development.



The unique selectivity of the μ -DMD makes trace analysis possible even when co-eluting with bulk components.

Control and Data Reduction Software

The CP-4900 DMD is fully functional through the Varian Star Workstation or the Galaxie Chromatography Data System.

CP-4900 DMD Analyzers

Application	N. & S. America	Europe	Great Britain	Quantity (Each)
Anesthetic Gases in Air	CP741252	CP741272	CP741292	1
CFCs in Air	CP741255	CP741275	CP741295	1
Mercaptans in Gas	CP741254	CP741274	CP741294	1
Sulfur Odorants in Natural Gas	CP741250	CP741270	CP741290	1
Sulfur and Hydrocarbons in CH ₄ -matrices	CP741253	CP741273	CP741293	1
Sulfur-free Odorants in Natural Gas	CP741251	CP741271	CP741291	1

CP-4900 Field Case

The CP-4900 DMD's small size and light weight lets you move it easily to analysis sites in the field, such as refineries, drilling locations, and natural gas pipelines. Portability is the solution when transporting samples to the laboratory is impractical, when sample integrity may be compromised in transit, or when you need the answer immediately.

The Field Case holds up to two gas cylinders and two rechargeable battery packs to provide eight hours of productive field time. Operation is continuous with battery packs, which easily exchange while the GC is running. Instrument control, data analysis, and diagnostic testing can be carried out at the instrument or over the Internet, even for a CP-4900 DMD in the field. Preserve samples, protect data quality, and get immediate answers by taking the CP-4900 DMD, in its portable Field Case, right to your sample source.

Note: Our CP-4900 DMD uses special factory-installed dual-detector Channels. Contact your local Varian, Inc. office or distributor to replace or change a CP-4900 DMD Channel.

CP-4900 DMD Accessories

Description	Part No.	Quantity
CP-4900 USB to Serial Cable for PC, 60 cm	CP741375	1 Each
Ethernet and Com Port Board, DIMM-PC	CP740573	1 Each
Ethernet Cross Over Cable, 10m	CP740293	1 Each
Ethernet Cross Over Cable, 2.8m	CP740292	1 Each
Filters, External Sample Filter Kit, 5 μ m	CP736729	1 Kit
Filters, External Sample Filters, set of 5	CP736467	1 Set
Filters, Internal Filter Assemblies, set of 5	CP490210	1 Set
Genie 101 BTU Filter	392590001	1 Each
Genie 101 Membrane Replacements, BTU	392590005	5 /Pk
Genie 170 BTU Filter	392590006	1 Each
Genie 170 Standard Filter	392590002	1 Each
Genie 170 Membrane Replacements, BTU	CP739531	5 /Pk
Genie 170 Membrane Replacements, Standard	392590004	5 /Pk
Micro-Gasifier for CP-4900, 100-120V, 50-60 Hz	CP740431	1 Each
Micro-Gasifier for CP-4900, 230V, 50 Hz, Euro-plug	CP740432	1 Each
Micro-Gasifier for CP-4900, 240V, 50 Hz, UK-plug	CP740433	1 Each

CP-2002/CP-2003 Micro-GC Column Modules

These CP-2002/CP-2003 Micro-GC column modules fit the CP-2002 and CP-2003 Micro-GCs, but not the CP-4900 Micro-GC or the CP-4900 DMD. CP-2002/CP-2003 column modules are not user installable and must be installed by a Varian, Inc. service engineer.

CP-2002/CP-2003 Micro-GC Standard Injector Column Modules

Phase	Length	Standard Column	For Natural Gas	H ₂ S in Natural Gas	TBM in Natural Gas	THT in Natural Gas	Quantity (Each)
Alumina KCl PLOT	10 m	CP73822790					1
CP-COX	1 m	CP73792090					1
CP-Sil 19 CB	4 m	CP73705490					1
CP-Sil 5 CB	4 m	CP73705290	CP73835790				1
	6 m	CP73803190					1
	8 m	CP73803290					1
CP-Sil 8 CB	4 m	CP73705390					1
CP-Wax 52 CB	4 m	CP73705590					1
HayeSep A	25 cm	CP73705090					1
	40 cm		CP73835890				1
Molsieve 5Å	4 m	CP73705190					1
	10 m	CP73705790					1
	20 m	CP73808590					1
PoraPLOT Q	10 m	CP73805090					1
PoraPLOT U	10 m	CP73969290					1
				CP73936190			1
TBM in Natural Gas					CP73894590		1
THT in Natural Gas						CP73836890	1

CP-2002/CP-2003 Micro-GC Standard Injector Column Modules with Backflush

Phase	Length (m)	Standard Column	Quantity (Each)
Alumina KCl PLOT	10	CP73971690	1
Molsieve 5Å	10	CP73971590	1
	20	CP73971490	1
PoraPLOT Q	10	CP73971790	1
PoraPLOT U	10	CP73971890	1

CP-2002/CP-2003 Micro-GC Heated Injector Column Modules with Backflush

Phase	Length (m)	Standard Column	Quantity (Each)
Alumina KCl PLOT	10	CP73999690	1
Molsieve 5Å	10	CP73999590	1
	20	CP73999490	1
PoraPLOT Q	10	CP73999790	1
PoraPLOT U	10	CP73999890	1

CP-2002/CP-2003 Micro-GC Heated Injector Column Modules

Phase	Length	Standard Column	For Natural Gas	MES in Natural Gas	Quantity (Each)
Alumina KCl PLOT	10 m	CP73842490			1
CP-COX	1 m	CP73842290			1
CP-Sil 5 CB	4 m	CP73841590	CP73841690		1
	6 m	CP73966190			1
	8 m	CP95828890			1
		CP73966290			1
	10 m	CP95717490			1
			CP73969490		1
CP-Wax 52 CB	4 m	CP73842090			1
	8 m	CP95828790			1
HayeSep A	25 cm	CP73841290			1
	40 cm		CP73841390		1
MES in Natural Gas				CP73978390	1
Molsieve 5Å	4 m	CP73841490			1
	10 m	CP73842190			1
	20 m	CP73964990			1
PoraPLOT Q	10 m	CP73842390			1
	12 m	CP95775590			1

**CP-2002/ CP-2003 Micro-GC
Accessories & Maintenance**

Description	Part No.	Quantity
Analog Cable, General Purpose, Spade Lugs	CP736460	1 Each
Analog Cable, Thermo Separations 4270/4400 Integrators	CP736461	1 Each
Assembly Cable Power Switch Front	CP736484	1 Each
Auxiliary Power Cable, Cigarette Lighter	CP736464	1 Each
Battery 12V 5AH	CP111012	1 Each
Carrier Gas Refill Assembly CGA580, US	CP738013	1 Each
Carrier Gas Refill Assembly, DIN6	CP738012	1 Each
Carrier Gas Refill Assembly, England	CP737161	1 Each
Carrier Gas Refill Assembly, Europe	CP736964	1 Each
Carrier Gas Refill Assembly, France	CP737381	1 Each
Check Valve Parker 2A-C2L-25 for Portable Micro-GC Carrier	CP473750	1 Each
Ferrule, 1/8 x 0.5/0.5 mm	CP737036	1 Each
Ferrule, 1/8 x 0.8/0.8 mm, One Hole	CP737035	1 Each
Ferrule, Vespel, 1/8 x 0.5/0.5 mm	SG072674	10 /Pk
Filters, External Sample Filter Kit, 5 µm	CP736729	1 Kit
Filters, External Sample Filters Only, set of 5	CP736467	1 Set
Finger-Tight Fitting PEEK	CP23050	1 Each
Fuse 4A fast	CP108016	1 Each
Genie 101 Universal Assembly, liquid membrane filter kit	CP739534	1 Kit
Genie 101 membrane replacements-BTU	CP739533	5 /Pk
Genie 170 Filter Only	CP739536	1 Each
Genie 170 Universal Assembly, Liquid Membrane Filter Kit	CP739535	1 Kit
Genie 170 Membrane Replacements-BTU	CP739531	5 /Pk
Multi-Purpose Cable, Analog/Contact Closure, Spade Lugs	CP736462	1 Each
Soft Carry Case for Portable Micro GC and Laptop PC	CP086616	1 Each
Software CP2002 non-EZChrom version	CP737108	1 Each
Software CP2002E EZChrom version	CP737105	1 Each
Union 1/8" Brass Fitting	CP737617	1 Each



Contact your Varian, Inc. sales representative for a free copy, or use Scanview online at www.varianinc.com, under Consumables, click Applications Online.

GC Instruments

Did you know that Vespel ferrules can become loose with temperature cycling and should be retightened?