

SPECTROSCOPY

Your Essential Resource for Supplies

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Agilent Technologies

SPECTROSCOPY

Satisfy your growing demand
to screen large numbers of samples, faster



Agilent 5100 Series ICP-OES



Agilent 7900 ICP-MS



Agilent Cary 7000
Universal Measurement Spectrophotometer

Agilent leads the way with our best-in-class portfolio of atomic and molecular spectroscopy systems. Our comprehensive and trusted portfolio offers the most powerful and reliable solutions for diverse application areas such as energy and chemicals, environmental, food safety and agriculture, geochemistry, materials testing and research, semiconductor analysis, pharmaceutical, academic, and life science research.

Our supplies product range includes:

- **Atomic Absorption supplies** that help you reduce detection limits. Our research and development efforts have also led to innovations such as single-element and solid-cathode multi-element lamps, along with high-intensity UltrAA lamps.
- **ICP-OES supplies** that deliver reliable results for complex matrixes. From spray chambers and brackets...to nebulizers, torches, and peristaltic pump tubing... Agilent ICP-OES supplies help you confidently determine major and trace elements in samples such as food, water, and soil.
- **ICP-MS supplies** for confident trace analysis. Agilent ICP-MS supplies continually push the boundaries of design and innovation, helping you reduce interferences and improve productivity.
- **MP-AES supplies** and accessories that maintain the superior performance of our revolutionary MP-AES – a system that literally runs on air.
- **Molecular supplies** that ensure high performance, nondestructive measurements for quantitative analysis and spectral imaging. From high-quality UV cuvettes, flow cells or fiber optic probes for solution measurement, sample holders for direct measurement to source lamps, cell holders, reference materials and other critical parts. Agilent molecular supplies help you discover, characterize, and test various solid, liquid, organic, and inorganic materials.

And remember, all Agilent supplies are engineered or selected by our experienced instrument design teams, manufactured to our demanding specifications, and tested under the strictest conditions. They are also backed by unmatched technical support – plus a 90-day warranty from the date of shipment.

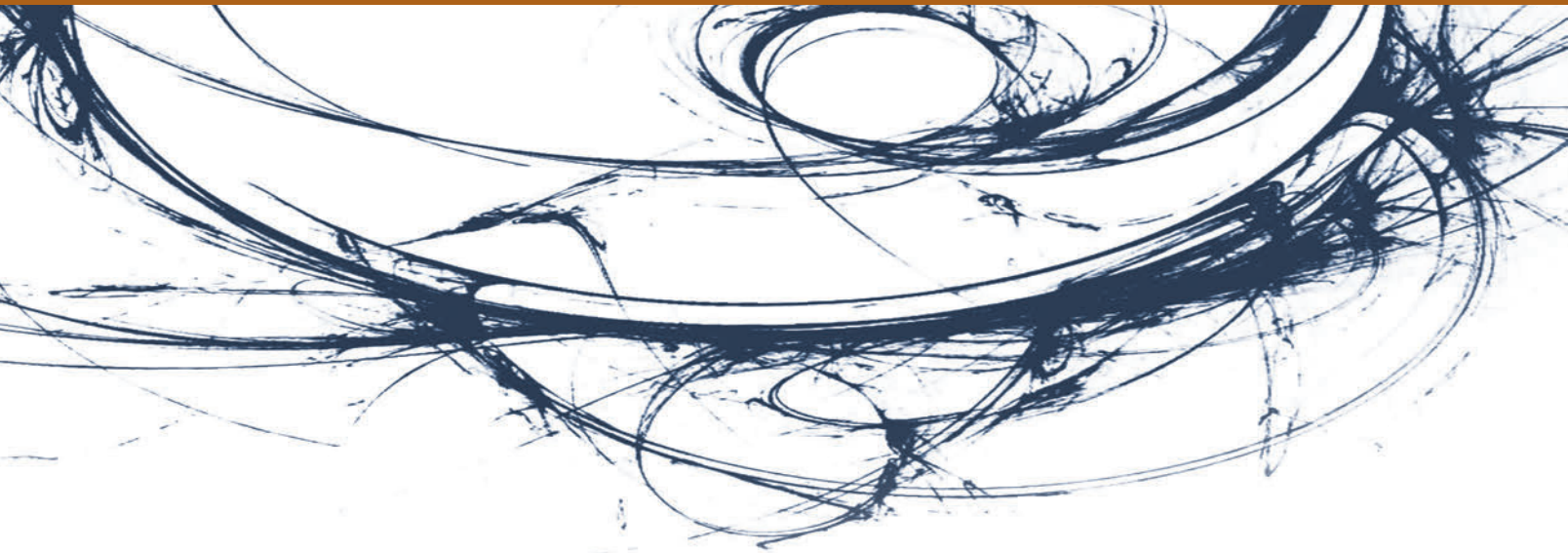


Table of Contents

Agilent Solutions, Services and Support	2
Featured Products	6
Atomic Absorption Supplies	11
ICP-OES Supplies	38
ICP-MS Supplies	73
MP-AES Supplies	112
AA/MP-AES, ICP-OES & ICP-MS Standards	116
UV-Vis and UV-Vis-NIR Flow Cells and Cuvettes	123
Agilent 8453/8454 UV-Vis Supplies	140
Agilent Cary UV-Vis & UV-Vis-NIR Supplies	144
UV Filters, Standards & Reagents	152
Fluorescence Supplies	155
FTIR Supplies	161
Indices	166
Ordering Information	175

PUT MORE THAN 40 YEARS OF RELENTLESS INNOVATION BEHIND YOUR EVERY RESULT

By continually raising the standards for technologies that support your routine analyses, Agilent's R&D efforts have led to breakthroughs such as:

- **New GC columns** that help you achieve higher levels of inertness and column-to-column reproducibility
- **LC column choices** that deliver the sensitivity and reliability you need for demanding applications
- **Cutting-edge sample preparation products** that promote reliable extraction and concentration
- **Fresh atomic and molecular spectroscopy ideas** for identifying and confirming targets and unknowns

Longtime Agilent customers have experienced our commitment firsthand. And now, we look forward to demonstrating how Agilent's approach to relentless innovation can work to your advantage, too.



CHEMICAL ANALYSIS SOLUTIONS

Food

From high-volume pesticide screening in food products to rapid identification of pathogens, Agilent understands the analytical needs of food producers, shippers, and regulators. Utilizing our easy-to-use analyzers and updated screening libraries, customers can quickly develop robust and reliable methods. Agilent's leading gas chromatography and mass spectrometry systems are widely regarded as valuable food testing techniques for an array of different analyses.

Environmental

Agilent offers more than 40 years of environmental testing and regulatory expertise. We help government and private labs with the full range of assays, from routine testing of soils for heavy metals to detection of pharmaceuticals in groundwater, in concentrations down to parts per trillion.

Energy & Chemicals

Agilent collaborates closely with process industry customers to offer analytical systems that meet their needs for separation, detection, throughput, and support. We'll even preconfigure custom or standard analyzers so they arrive at the lab ready-to-go. From crude oil, natural gas, and refining, to specialty chemicals and alternative fuels, Agilent provides the latest technologies and solutions to increase quality, safety, and profitability for energy and chemical labs, while meeting the industry's stringent quality requirements. Agilent leads the way in ASTM collaborations that have evolved – and will continue to evolve – into industry standards.

Forensics

Whether testing for poisons in a forensics investigation, screening athletes for performance enhancing drugs, analyzing samples for recreational drugs, or checking a crime scene for explosive residue – lives and professions may be dependent on the accuracy of your equipment. Agilent Technologies leads the industry with a comprehensive portfolio of workflow solutions that provide the ability to identify, confirm and quantify thousands of substances.

Lab Informatics

The ways labs capture, analyze and share data profoundly affect their efficiency. Agilent offers a rich, integrated suite of software products built on customer-driven architectural values with the Agilent OpenLAB Software Suite. OpenLAB delivers superior performance and connection across multiple systems, providing open systems integration and investment protection. Our commitment is to deliver more value across each step in the life cycle of scientific data – from data collection and analysis to interpretation and management.

Materials Science

Agilent offers a newly expanded portfolio of instruments used for the research, manufacturing and testing of advanced materials, from precision optics to pulp and paper. Tools for atomic spectroscopy, molecular spectroscopy, chromatography, and X-ray crystallography all support continuous progress in materials science.



LIFE SCIENCE SOLUTIONS

Biopharmaceutical

Biotherapeutics have enormous potential to improve human health, with growing numbers of protein and antibody therapeutics to address unmet medical needs. At every development stage, from disease research to QA/QC and manufacturing, Agilent can help you make the right choices for moving therapeutics to market. We understand the biopharmaceutical workflow so our product families work together seamlessly, as engines of research, discovery, and development. Agilent columns deliver complete characterization of biomolecules using reversed-phase, size exclusion, ion exchange, and affinity chromatography. Our bio-inert supplies ensure that every part of your workflow delivers the performance you need to optimize your bio-separation.

Pharmaceutical

You need the most efficient processes to evaluate drug candidates, determine efficacy, and ensure safety and compliance during development and manufacture. Agilent has worked with pharma companies for many years to ensure reliability and reproducibility for regulatory compliance, from lab-to-lab and around the world. Our pharma solutions provide high-throughput capability at every stage of the product lifecycle, with automated sample prep, industry-leading U/HPLC systems, the largest family of Fast LC columns, open access LC/MS, spectroscopy, and automated dissolution. A complete family of LC supplies and lamps help optimize every analysis and take day-to-day lab efficiency one step further.

Proteomics

Research into how large sets of proteins affect the health of an organism requires special sets of analytical tools. Agilent has built a formidable arsenal of liquid chromatograph/mass spectrometers, bioinformatics systems, multiple affinity protein removal columns, and OFFGEL electrophoresis for protein identification and protein biomarker discovery. Accurate-Mass mass spectrometry and the microfluidic HPLC-Chip/MS are two Agilent innovations speeding the work of proteomics researchers around the globe.

Metabolomics

Collections of small molecules are increasingly being seen as rich sources of biomarkers, but studying metabolites presents many challenges. The need for speed, accuracy, and powerful interpretation capabilities in looking at chemical profile snapshots is underscored because molecules are constantly entering, leaving or changing within the metabolome. Agilent's GC, LC, and MS portfolios, along with our excellent bioinformatics offerings, user-customizable METLIN metabolite database for LC/MS, and the industry's first commercial GC/MS retention time locked metabolite library align well with the needs of metabolomics researchers.

Genomics

Agilent is a global leader in microarrays, scanners, and NGS reagents used in a wide variety of genomic-based disease research experiments. Our SureSelect and HaloPlex Target Enrichment Systems dominate the category, streamlining next generation sequencing studies. Agilent offers a wide range of catalog CGH and gene expression microarrays and a highly-developed capability to produce custom arrays using our free online design tool, SureDesign. All Agilent microarrays feature highly sensitive, selective 60-mer probes, and, with as many as eight arrays printed on a slide, the cost per sample is cost-efficient.

Life Science Informatics

Mirroring its extensive instrument portfolio, Agilent offers the industry's most extensive suite of bioinformatics software, helping users derive knowledge from complex genomic, proteomic, metabolomic and other biological data. SureCall and CytoGenomics software analyzes NGS and aCGH data and the GeneSpring suite provides multi-omic analysis and visualization capabilities to help compare complex datasets to explore biological questions from multiple perspectives. The GeneSpring suite includes the GX module for microarray-based gene expression and genotyping data, the PA module for Pathway Analysis and multi-omic analysis and the MPP software, which analyzes mass spec data from proteomics and metabolomics experiments.

Lab Automation

To meet the skyrocketing demand for more throughput and automation, Agilent has substantially expanded its lab automation offerings. The Agilent line of liquid handlers and microplate processors are designed to streamline high-volume life science workflows. Agilent is also continually upgrading its advanced autosamplers for LC, GC, LC/MS and GC/MS, adding functionality and speed to reflect the performance of its advanced instruments.

Vacuum Technology

Agilent works with customers to solve vacuum challenges from experiments in high-energy physics to developing systems for nanotechnology. Agilent manufactures vacuum systems used in its own mass spectrometry instruments as well as those of other manufacturers. Agilent's vacuum technology has been proven by the most powerful physics experiment ever built, CERN's Big Bang machine, which was used in the discovery of the Higgs boson.



Get the Agilent Service Guarantee

Should your instrument require service while covered by an Agilent Advantage service agreement, we guarantee repair or we will replace your instrument for free.

No other company offers this level of commitment to keep your lab up and running at peak efficiency.

Agilent Lab-Wide Service and Support

Focus on what you do best

For over 40 years, Agilent has been building and maintaining the instruments you count on to stay competitive and successful. Trust us to protect your investment with a broad portfolio of services, backed by a global network of experienced service professionals dedicated to the productivity of your lab.

Agilent Advantage Service Plans

The best service available for your Agilent instruments

Agilent offers a flexible range of service plans so that you can choose the level of coverage that is best for your lab.

- **Agilent Advantage Gold** – Priority-one coverage for ultimate uptime and productivity
- **Agilent Advantage Silver** – Comprehensive coverage for dependable laboratory operations
- **Agilent Advantage Bronze** – Total repair coverage at a fixed annual price
- **Agilent Repair Service** – Basic coverage for reliable instrument repair

Agilent Advantage service plans include Agilent Remote Advisor for real-time remote monitoring and diagnostics. Through secure internet connections, you can interact with Agilent service professionals, receive detailed asset reports, and configure text or email alerts to notify you before problems occur – helping you to maximize instrument uptime and optimize laboratory workflows.

And for Agilent-quality service on analytical instruments from other leading manufacturers, Agilent CrossLab services offer the same quality coverage you have come to expect from the expert Agilent engineers you know and trust.

Agilent Compliance Services

Equipment qualification that meets the most stringent requirements

Enterprise Edition Compliance was developed to streamline qualification delivery compliance across your entire lab. Used worldwide in regulated labs, including standards organizations and regulatory agencies, Enterprise Edition enables you to:

- Improve qualification efficiency by harmonizing protocols across platforms to ensure greater efficiency and minimize regulatory risk
- Standardize your entire compliance operation with robust test designs that work with all your instruments
- Add, remove or reconfigure tests based upon your unique user requirements
- Reduce staff review time significantly with consistently formatted, computer generated, tamper-proof reports

Laboratory decision makers and users ranked Agilent as their first choice for general laboratory compliance services.



Agilent Education and Consulting Services

Our best minds, working for you

Make the most of your instrument with training and consulting from the same experts who designed the instruments, software and processes you use every day.

- Classroom, online, and on-site training in instrument operation, troubleshooting and maintenance
- Customized consulting services to meet your lab's unique needs

The Agilent Value Promise – 10 Years of Guaranteed Value

In addition to continually evolving products, we offer something else unique to the industry – our 10-year value promise guarantee. The Agilent Value Promise guarantees you at least 10 years of instrument use from your date of purchase, or we will credit you with the residual value of the system toward an upgraded model. Not only does Agilent ensure a reliable purchase now, but we also ensure that your investment is just as valuable in the future.

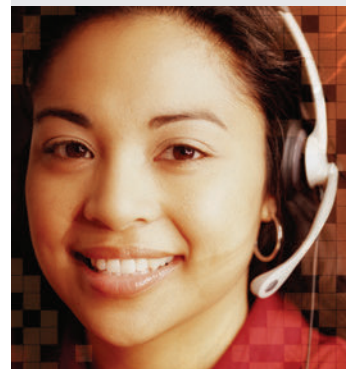
For more detailed information, please go to www.agilent.com/chem/services or contact your local Agilent Services and Support representative.



Technical Support at work for you

Have a hardware, software, application, instrument repair or troubleshooting question? Agilent's technical experts are available to answer your questions. With years of laboratory experience, our technical support specialists can provide in-depth knowledge and experience.

For questions pertaining to supplies found in this catalog, contact your local Agilent office or Authorized Agilent Distributor or visit www.agilent.com/chem/techsupport



Need more information?

Visit www.agilent.com/chem/contactus to:

- Locate your nearest Agilent office or distributor for expert technical support.
- Get fast sales and product assistance by phone. Simply use the scroll-down menu to select your country.
- Receive email assistance using our convenient online forms.

AGILENT ATOMIC SPECTROSCOPY PORTFOLIO

Lead Together

Agilent leads the way in atomic spectroscopy innovation. Our comprehensive and trusted portfolio offers you the most diverse application coverage for AA, ICP-OES and ICP-MS, while our unique MP-AES and ICP-QQQ technologies offer new possibilities for your lab.

Atomic Absorption (AA) Spectrometers

Extend your productivity, performance,
and output boundaries

Agilent AA instruments are suitable for routine analysis where reliability and simple operation are vital. With the world's fastest flame AA, the world's most sensitive furnace AA, user-friendly software, and unbeaten instrument ruggedness, you can be sure you're getting answers you can trust.



Microwave Plasma-Atomic Emission Spectrometer (MP-AES)



Lead the way with safe, cost effective
elemental analysis

The safer, cost efficient Agilent 4200 MP-AES has higher sensitivity with detection limits down to sub $\mu\text{g/L}$ levels, speed that goes beyond flame atomic absorption, and no combustible gases. Best of all, the revolutionary Agilent 4200 MP-AES runs on air, without flammable or expensive gas supply, dramatically reducing your operating costs.



Agilent 5100 Series ICP-OES

The fastest ICP-OES... Ever!

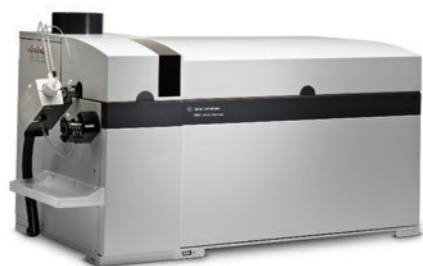
Our 5100 ICP-OES can run your samples faster, using less gas, without compromising performance. The 5100 SVDV features unique Dichroic Spectral Combiner (DSC) technology that selects and combines axial and radial light from the robust vertical plasma in a single measurement. Combined with the high speed VistaChip II CCD detector and the innovative SVS 2+ switching valve, this ensures the fastest sample throughput and lowest gas consumption per sample of any ICP-OES. The vertical torch and robust solid state RF also handles your toughest samples with ease.

Agilent 7900 Series ICP-MS

A new dimension in quadrupole ICP-MS

The world's best selling quadrupole ICP-MS now delivers 10x higher matrix tolerance, 10x wider dynamic range, 10x better signal-to-noise, and software so powerful it can write your methods for you.

Innovative technology and a new MassHunter software platform makes the 7900 the world's most powerful, and most automated quadrupole ICP-MS. With matrix tolerance extended into the tens of % TDS range plus a linear dynamic range of up to 11 orders of magnitude – and the industry's most effective helium collision mode – the 7900 ICP-MS delivers superior data quality whatever your application.



Agilent 8800 Triple Quadrupole ICP-MS

Transforming ICP-MS technology

The Agilent 8800 is a truly ground-breaking instrument that transforms the ICP-MS landscape. Combining the proven capabilities of ICP-MS with the unique power of MS/MS, the 8800 Triple Quadrupole ICP-MS is a new analytical tool that can handle even the most difficult samples and applications with ease. With MS/MS, the 8800 Triple Quadrupole ICP-MS unlocks the potential of reaction cell chemistry to remove spectral interferences, delivering greater accuracy and more consistent results – particularly in complex sample matrices.

AGILENT MOLECULAR SPECTROSCOPY PORTFOLIO

In the Lab – In the Field... Now we take you further

Agilent provides an extensive portfolio of molecular spectroscopy solutions. With over 60 years of experience, Agilent brings you UV-Vis and UV-Vis-NIR, FTIR and FTIR-imaging, and fluorescence spectroscopy products engineered to help you discover, characterize, and test a variety of solid, liquid, organic, and inorganic materials. Take advantage of powerful analysis routines for reliable results with built-in ease-of-use to ensure your productivity.



Agilent Cary Eclipse Fluorescence

Superior fluorescence sensitivity
and fast kinetics

The Agilent Cary Eclipse Spectrophotometer with unique Xenon flash lamp technology delivers superior sensitivity with fiber optics, high signal-to-noise, and fast kinetic measurement capabilities. Combined with room light immunity and a wide range of options including polarization and a microplate reader, the Cary Eclipse is sensitive, accurate, and flexible. With a range of measurement options, you can be sure that the Cary Eclipse is the ideal workhorse for all your analytical needs.



Agilent Handheld and Portable FTIR

Fully integrated, portable FTIR

Agilent's range of handheld and portable FTIR systems includes the world's most capable handheld and portable FTIR analyzers. Each system offers a simplified workflow, providing immediate answers regardless of the location of the sample.

The Agilent 4300 Handheld FTIR enables true non destructive analysis for a variety of applications. At the heart of the system is a unique, rugged, interferometer, field-proven in challenging environments. The rugged design combined with superior ergonomics, provides an exceedingly compact, easy to use system, perfect for obtaining fast, high quality answers.

Agilent Cary 630 FTIR

Innovative, intuitive, reliable

The compact Agilent Cary 630 FTIR spectrometer is innovative, intuitive, and reliable, providing superior quantitative and qualitative information for routine analysis of solids, liquids, and gases. With a wide range of sample interfaces and high performing optics – including our unique DialPath for measuring liquids – the compact Agilent Cary 630 FTIR will give you accurate results – fast.



FTIR Microscopy and Imaging

See more than ever – fast

The Agilent Cary FTIR microscopes and chemical imaging systems represent the latest in cutting-edge performance. Leveraging the latest in technological developments, these systems deliver unparalleled spatial resolution and sensitivity. The wide range of options provides flexibility to suit applications ranging from routine measurements to cutting-edge applied research. The Agilent Cary 620 uses true Focal Plane Array (FPA¹) imaging, enabling you to collect hundreds to thousands of spectra simultaneously. Using Agilent's unique high magnification optics, you can collect the highest resolution data with quality similar to that of an IR synchrotron, ideal for analyzing biomedical samples. If your application is more related to materials, such as polymer laminates, then Agilent's unique Live FPA Imaging mode for ATR analysis eliminates time-consuming sample preparation, providing answers in less than 5 minutes compared to over 24 hours with traditional systems.

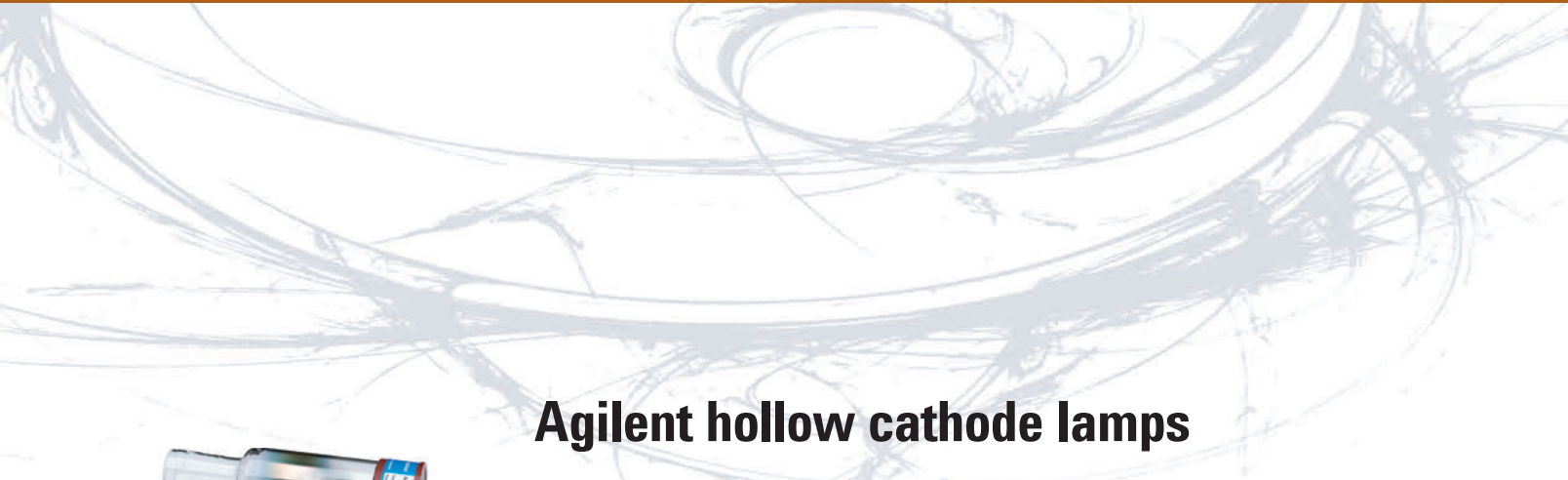
¹This product is regulated by the US Department of State under the International Traffic in Arms Regulations, 22 CFR 120-130 ("ITAR"). An export license from the US government is therefore required to export this product from the United States, and other ITAR restrictions apply to the shipment, use, service, and other aspects of this product and the FTIR instrument in which it is used.

UV-Vis and UV-Vis-NIR Spectrophotometers

You can do it all with a Cary spectrophotometer

The Agilent Cary range of UV-Vis and UV-Vis-NIR spectrophotometers are renowned for their superior performance, flexibility, and ease-of-use. With unsurpassed photometric accuracy and a wide range of flexible accessories, the series is designed to meet your application requirements now and in the future. The instruments vary in capabilities from the routine QA/QC Cary 60 to the industry-leading Cary 6000i and Cary 7000 UMS, and from scanning spectrophotometers to the photodiode-array-based Cary 8454.





Agilent hollow cathode lamps



Agilent uncoded hollow cathode lamps provide economical operation, superb performance and are compatible with all Agilent and most AA systems from other manufacturers (except PE). Agilent lamps are manufactured in an ISO 9001 certified environment and use proven processing steps to ensure optimum purity, stable operation and long lifetime.

Turn to page 11.

Inert OneNeb universal nebulizer for ICP-OES and MP-AES

The OneNeb nebulizer is an inert, high efficiency universal nebulizer that is virtually indestructible, provides superb tolerance to high levels of dissolved solids and tolerant to most sample matrixes determined using ICP-OES and MP-AES, including high acids, HF digests, and organic solvents. It replaces a conventional glass concentric nebulizer and is compatible with most conventional cyclonic spray chambers.

Turn to pages 43-45.



ICP-MS Interface cones for superior, reproducible performance



Optimum performance of your ICP-MS is critically dependent on the size, shape, and condition of the interface cones. They provide the ideal combination of matrix tolerance and high sensitivity. Agilent cones ensure optimum performance and maximum uptime. Don't risk performance problems with non-genuine cones. Agilent also offers a trade-in credit against return of used Pt cones when purchasing replacements, ensuring cost savings for you and reducing your lab's environmental impact.

Turn to pages 86-92.



Atomic Absorption Supplies

Agilent provides a comprehensive range of consumables for atomic absorption, designed to maintain the high performance of your AA instrument. In addition, Agilent continues to research and manufacture an extensive range of single-element and solid-cathode multi-element lamps, plus high-intensity UltrAA lamps for superior cost-effective performance.

Hollow Cathode Lamps

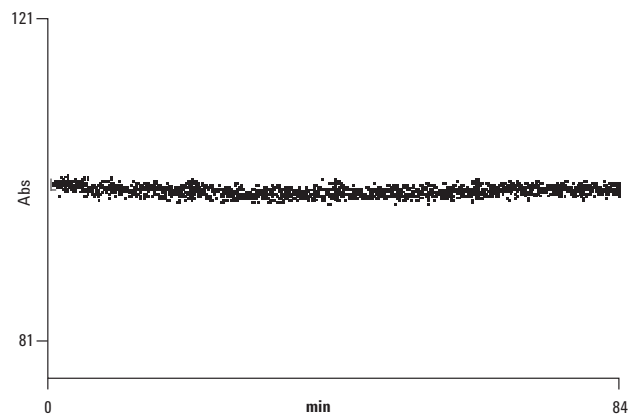
Agilent hollow cathode lamps provide optimal signal-to-noise performance, permitting determinations at even lower levels with the most demanding applications. Agilent lamps are manufactured in an ISO 9001 certified environment and use proven processing steps to guarantee quality and reliability, and ensure they are optimized to deliver the best performance from your AA. Our lamps provide high spectral purity because of purified materials, an extended processing cycle, and unique lamp conditioning procedures. These ensure minimal lamp warm-up time and good stability during operation.

Economical operation is assured by the long lamp life, typically exceeding 8,000 mA hours, over and above our factory conditioning and testing service.

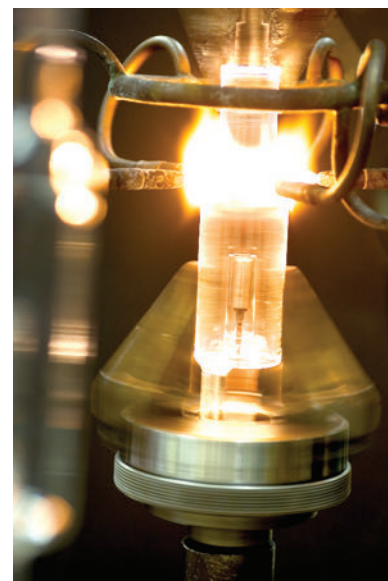
Consistent performance is also assured. All lamps are tested to confirm that the emission intensity exceeds a minimum level. No lamp leaves our factory without having satisfied our demanding test standards. These tests ensure that you receive quality lamps that can provide optimum signal-to-noise and stable performance throughout the life of the lamp.

The trace shows the variation in emission intensity from a lamp over 1 hour 24 minutes. The steady trace demonstrates the superb stability and low drift achieved when using our hollow cathode lamps (after a suitable warm-up period).

H.C.L. Drift Test



240FS AA Fast Sequential
Atomic Absorption Spectrometer

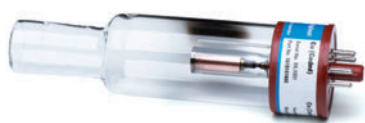


Coded Single Element Lamps

- High performance – manufactured from the purest cathode materials
- Easier to use – element coded for automatic lamp recognition, preventing errors
- Stable operation – extended processing ensures minimal warm-up and good lamp stability

Coded Single Element Lamps

Element	Part No.	Element	Part No.
Aluminum – Al	5610100100	Neodymium – Nd	5610103600
Antimony – Sb	5610100200	Nickel – Ni	5610103700
Arsenic – As	5610100300	Niobium – Nb	5610103800
Barium – Ba	5610100400	Osmium – Os	5610103900
Beryllium – Be	5610100500	Palladium – Pd	5610104000
Bismuth – Bi	5610100600	Phosphorus – P	5610107700
Boron – B	5610100700	Platinum – Pt	5610104100
Cadmium – Cd	5610100800	Potassium – K	5610104200
Calcium – Ca	5610101000	Praseodymium – Pr	5610104300
Cesium – Cs	5610100900	Rhenium – Re	5610104400
Chromium – Cr	5610101200	Rhodium – Rh	5610104500
Cobalt – Co	5610101300	Rubidium – Rb	5610104600
Copper – Cu	5610101400	Ruthenium – Ru	5610104700
Dysprosium – Dy	5610101500	Samarium – Sm	5610104800
Erbium – Er	5610101600	Scandium – Sc	5610104900
Europium – Eu	5610101700	Selenium – Se	5610105000
Gadolinium – Gd	5610101800	Silicon – Si	5610105100
Gallium – Ga	5610101900	Silver – Ag	5610105200
Germanium – Ge	5610102000	Sodium – Na	5610105300
Gold – Au	5610102100	Strontium – Sr	5610105400
Hafnium – Hf	5610102200	Tantalum – Ta	5610105500
Holmium – Ho	5610102300	Tellurium – Te	5610105600
Indium – In	5610102500	Terbium – Tb	5610105700
Iridium – Ir	5610102600	Thallium – Tl	5610105800
Iron – Fe	5610102700	Thulium – Tm	5610106000
Lanthanum – La	5610102800	Tin – Sn	5610106100
Lead – Pb	5610102900	Titanium – Ti	5610106200
Lithium – Li	5610103000	Tungsten – W	5610106300
Lutetium – Lu	5610103100	Vanadium – V	5610106500
Magnesium – Mg	5610103200	Ytterbium – Yb	5610106600
Manganese – Mn	5610103300	Yttrium – Y	5610106700
Mercury – Hg	5610103400	Zinc – Zn	5610106800
Molybdenum – Mo	5610103500	Zirconium – Zr	5610106900



Coded Single Element Lamp, Cu, 5610101400

TIPS & TOOLS

Did you know you can safely and conveniently return used hollow cathode lamps for recycling using pre-paid shipping pails?



This recycling service is currently available in US and Canada.

Find out more about the Agilent AA lamp recycling service at

www.agilent.com/chem/aarecycle

Uncoded Single Element Lamps

- No element coding for economical operation
- Compatible with all Agilent and most other AA systems
- Same excellent performance as provided by Agilent coded single element lamps

Uncoded Single Element Lamps

Element	Part No.	Element	Part No.
Aluminum – Al	5610122000	Neodymium – Nd	5610125500
Antimony – Sb	5610122100	Nickel – Ni	5610125600
Arsenic – As	5610122200	Niobium – Nb	5610125700
Barium – Ba	5610122300	Osmium – Os	5610125800
Beryllium – Be	5610122400	Palladium – Pd	5610125900
Bismuth – Bi	5610122500	Phosphorus – P	5610126000
Boron – B	5610122600	Platinum – Pt	5610126100
Cadmium – Cd	5610122700	Potassium – K	5610126200
Calcium – Ca	5610122900	Praseodymium – Pr	5610126300
Cesium – Cs	5610122800	Rhenium – Re	5610126400
Chromium – Cr	5610123100	Rhodium – Rh	5610126500
Cobalt – Co	5610123200	Rubidium – Rb	5610126600
Copper – Cu	5610123300	Ruthenium – Ru	5610126700
Dysprosium – Dy	5610123400	Samarium – Sm	5610126800
Erbium – Er	5610123500	Scandium – Sc	5610126900
Europium – Eu	5610123600	Selenium – Se	5610127000
Gadolinium – Gd	5610123700	Silicon – Si	5610127100
Gallium – Ga	5610123800	Silver – Ag	5610127200
Germanium – Ge	5610123900	Sodium – Na	5610127300
Gold – Au	5610124000	Strontium – Sr	5610127400
Hafnium – Hf	5610124100	Tantalum – Ta	5610127500
Holmium – Ho	5610124200	Tellurium – Te	5610127600
Indium – In	5610124400	Terbium – Tb	5610127700
Iridium – Ir	5610124500	Thallium – Tl	5610127800
Iron – Fe	5610124600	Thulium – Tm	5610128000
Lanthanum – La	5610124700	Tin – Sn	5610128100
Lead – Pb	5610124800	Titanium – Ti	5610128200
Lithium – Li	5610124900	Tungsten – W	5610128300
Lutetium – Lu	5610125000	Vanadium – V	5610128500
Magnesium – Mg	5610125100	Ytterbium – Yb	5610128600
Manganese – Mn	5610125200	Yttrium – Y	5610128700
Mercury – Hg	5610125300	Zinc – Zn	5610128800
Molybdenum – Mo	5610125400	Zirconium – Zr	5610128900



Uncoded single element lamp, Au, 5610124000

Convenient Multi-Element Lamps

- Save time by eliminating lamp warm-up, when switching elements
- Same excellent performance as provided by Agilent single element lamps
- Primary lines checked to avoid and minimize spectral interferences



Coded multi-element lamp, Co/Cr/Cu/Fe/Mn/Ni, 5610107600

Coded Multi-Element Lamps – for automatic lamp recognition, preventing errors

Element	Part No.
Aluminum/Calcium/Magnesium – Al/Ca/Mg	5610108800
Calcium/Magnesium – Ca/Mg	5610107100
Cobalt/Chromium/Copper/Iron/Manganese/Nickel – Co/Cr/Cu/Fe/Mn/Ni	5610107600
Cobalt/Molybdenum/Lead/Zinc – Co/Mo/Pb/Zn	5610109800
Copper/Iron/Manganese/Zinc – Cu/Fe/Mn/Zn	5610109600
Copper/Iron/Silicon/Zinc – Cu/Fe/Si/Zn	5610109700
Copper/Zinc – Cu/Zn	5610119200
Silver/Cadmium/Lead/Zinc – Ag/Cd/Pb/Zn	5610108700
Silver/Chromium/Copper/Iron/Nickel – Ag/Cr/Cu/Fe/Ni	5610109500
Sodium/Potassium – Na/K	5610107000



Uncoded multi-element lamp, Co/Cr/Cu/Fe/Mn/Ni, 5610129200

Uncoded Multi-Element Lamps – for economical operation and universal compatibility

Element	Part No.
Barium/Chromium – Ba/Cr	5610133500
Calcium/Magnesium – Ca/Mg	5610129100
Cobalt/Chromium/Copper/Iron/Manganese/Nickel – Co/Cr/Cu/Fe/Mn/Ni	5610129200
Copper/Zinc – Cu/Zn	5610129300
Sodium/Potassium – Na/K	5610129000

High Intensity UltrAA Coded Single Element Lamps

- Emission intensity is increased by 3 to 5 times, for lower noise
- Sensitivity is increased by up to 40% due to the sharper emission profile, allowing determinations at even lower levels
- Element coded for automatic lamp recognition, preventing errors

UltrAA lamps are high intensity, boosted discharge hollow cathode lamps. They use the standard lamp current, but apply an additional boost discharge within the lamp to increase the emission intensity. The boost current is supplied from a secondary control module (either integrated into the instrument or supplied from an external module).

UltrAA lamps are manufactured from the purest cathode materials, and every lamp is QA/QC tested to guarantee performance and reliability. These lamps are coded for automatic lamp recognition (except for 55 AA, SpectrAA-50/55 and SpectrAA-5 models), eliminating the risk of time-consuming errors when reprogramming the lamp position.



High intensity UltrAA lamp, As, 5610108100

High Intensity UltrAA Coded Single Element Lamps

Element	Part No.
Antimony – Sb	5610108000
Arsenic – As	5610108100
Bismuth – Bi	5610134200
Boron – B	5610135700
Cobalt – Co	5610134100
Copper – Cu	5610109100
Germanium – Ge	5610134300
Gold – Au	5610109000
Iron – Fe	5610108600
Lead – Pb	5610108200
Manganese – Mn	5610133700
Nickel – Ni	5610108500
Palladium – Pd	5610135800
Platinum – Pt	5610135900
Selenium – Se	5610108300
Silicon – Si	5610133400
Tellurium – Te	5610134000
Thallium – Tl	5610108400
Tin – Sn	5610133900

High Intensity UltrAA Multi-Element Lamps

- Unique combinations of compatible elements extend the versatility and performance of any AA spectrometer
- Save time by avoiding the need to warm up a new lamp
- Same excellent performance as provided by Agilent single element lamps

High Intensity UltrAA Multi-Element Lamps

Element	Part No.
Aluminum/Calcium/Magnesium – Al/Ca/Mg	5610133600
Cobalt/Chromium/Copper/Iron/Manganese/Nickel – Co/Cr/Cu/Fe/Mn/Ni	5610134500
Cobalt/Molybdenum/Lead/Zinc – Co/Mo/Pb/Zn	5610135200
Copper/Iron/Manganese/Zinc – Cu/Fe/Mn/Zn	5610135000
Copper/ Iron/Silicon/Zinc – Cu/Fe/Si/Zn	5610135100
Copper/Zinc – Cu/Zn	5610134600
Silver/Cadmium/Lead/ Zinc – Ag/Cd/Pb/Zn	5610108900
Silver/Chromium/Copper/Iron/Nickel – Ag/Cr/Cu/Fe/Ni	5610134900



High intensity UltrAA lamp, Ag/Cd/Pb/Zn,
5610108900



High intensity UltrAA lamp, As/Cu/Fe,
5610135300

High Intensity UltrAA Uncoded Multi-Element Lamps

Element	Part No.
Arsenic/Copper/Iron – As/Cu/Fe	5610135300
Nickel/Selenium – Ni/Se	5610135400

Background Correction Lamps

Deuterium background correction lamps provide accurate and fast correction over the widest possible absorbance range and are QC-selected for optimal lifetime.



Deuterium lamp for AA instruments, G8431-80000

Background Correction Lamps

Element	Part No.
Deuterium background correction lamp for AA systems	G8431-80000

ACT-80 Atom Concentrator Tube

The ACT-80 Atom Concentrator Tube is a quartz tube which is positioned in the air/acetylene flame to enhance the sensitivity of flame AA by 2-3 times when compared to that of normal flame AA. An improvement in detection limit is also achieved.

ACT-80 Atom Concentrator Tube

Description	Unit	Part No.
ACT-80 atom concentrator tube for Mark 7 air/acetylene burner		110656800
Spare quartz atomization cells for ACT-80	10/pk	9910054400

TIPS & TOOLS

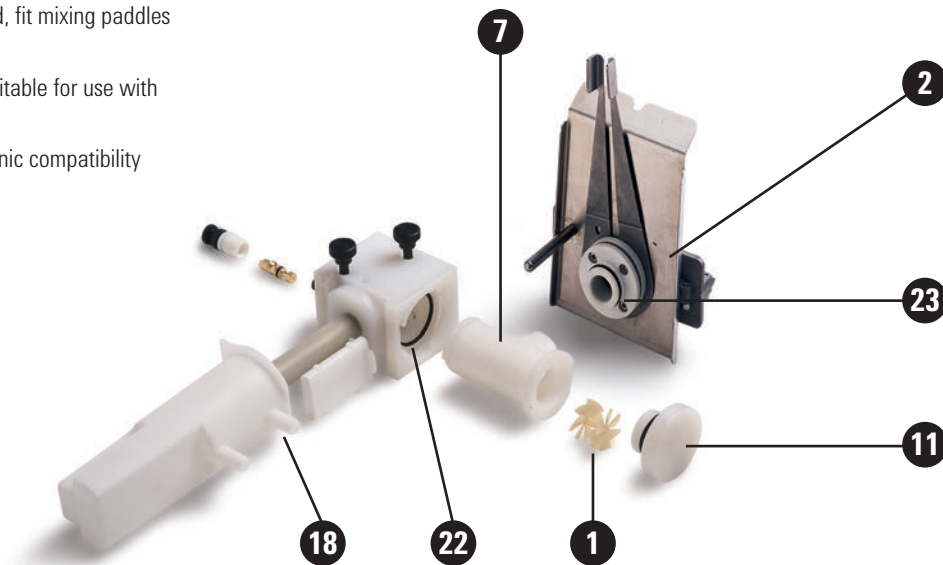
Deuterium background correction is only usable over the range from 185 to ~ 430 nm. At higher wavelengths there is no usable output from the lamp



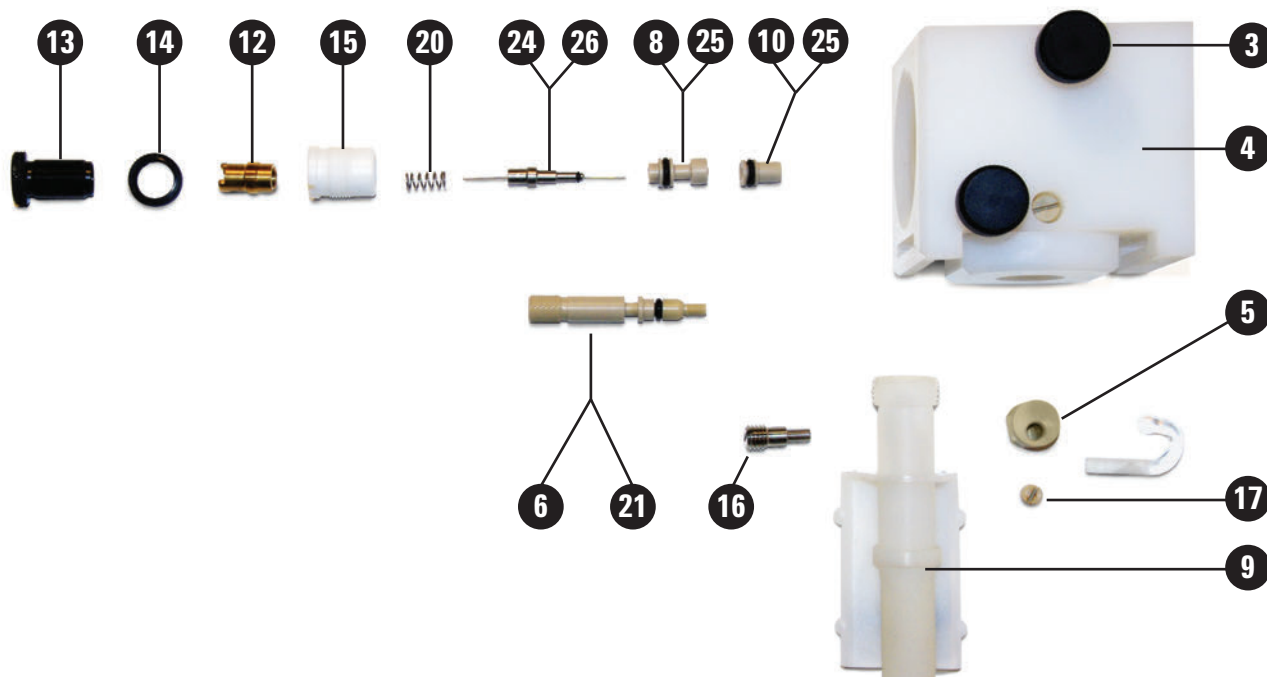
Flame Atomization System

Mark 7 Spray Chamber

- Simple-to-use twist and lock assembly makes for easy cleaning and routine maintenance
- Flexible operation with the capability to tune performance using the externally adjustable impact bead, fit mixing paddles for better precision, or both
- Inert construction makes spray chamber suitable for use with aqueous and organic solutions
- Fit organic resistant O-rings to ensure organic compatibility



Complete Mark 7 spray chamber assembly, 110634490
(shown with optional Mark 7 air-acetylene burner (item 2), ordered separately)



Exploded view of nebulizer block from the Mark 7 spray chamber

Mark 7 Spray Chamber		
Item	Description	Part No.
	Complete Mark 7 spray chamber assembly, aqueous, for use with aqueous solutions (fitted with standard O-rings)	110634490
	Complete Mark 7 spray chamber assembly, organic, for use with organic solvents (fitted with organic resistant O-rings)	110866890
1	Mixing paddle, fluorinated, 1/pk	110637000
	Mixing paddles, fluorinated, 5/pk	9910093600
2	Mark 7 air/acetylene burner	210164000
	Mark 7 nitrous oxide/acetylene burner	210164100
7	Spray chamber body, fluorinated	6210092090
11	Spray chamber bung, fluorinated	1610118800
11	O-ring for spray chamber bung, nitrile for aqueous solutions	6910012100
11	O-ring for spray chamber bung, organic solvent compatible	6910015200
18	Kit, fluorinated liquid trap, drain tube with integrated float and magnet	9910105800
22	O-ring spray chamber, nitrile	6910037000
22	O-ring spray chamber, organic solvent compatible	6910036800
23	O-ring burner base, nitrile, for aqueous solutions	6910010500
23	O-ring burner base, organic solvent compatible	6910013100

Nebulizer components for Mark 7 Spray Chamber		
Item	Description	Part No.
3	Spray chamber screw mounting	1510226600
4	Nebulizer block, fluorinated (excludes integrated nebulizer)	9910093100
5	Clamp bead adjuster	810133400
6	Screw bead adjuster	1510225000
8	Nebulizer capillary guide	810134400
9	Kit, fluorinated liquid trap, drain tube with integrated float and magnet	9910105800
10	Venturi nebulizer, PEEK	1610117390
12	Clamp bush guide	810134300
13	Screw capillary adjuster	1510226800

(Continued)

Nebulizer components for Mark 7 Spray Chamber		
Item	Description	Part No.
14	Nut lock M12 x 0.5	1510226700
15	Bearing bush nebulizer	310046600
16	Screw lock dog point M8	1510226000
17	Screw M6 x 6 Ertalyte	1510226500
18	Kit, fluorinated liquid trap, drain tube with integrated float and magnet	9910105800
20	Spring nebulizer	4610017400
21	O-ring screw bead adjuster, nitrile	6910000100
21	O-ring screw bead adjuster, organic solvent compatible	6910036900
24	O-ring, 1/32 inch id x 3/32 inch od x 1/32 inch, nitrile	6910009700
25	O-ring, 3/16 inch id x 5/16 inch od x 1/16 inch, nitrile	6910009800
25	O-ring, 3/16 inch id x 5/16 inch od x 1/16 inch, organic solvent compatible	6910013600
26	Nebulizer capillary kit Includes capillary assembly, capillary guide, nebulizer spring, nebulizer cleaning wire, Hi-Vac capillary tubing and standard capillary tubing	9910093000
	Glass impact beads, 5/pk	9910025700
	PTFE impact beads (for use with HF digests), 5/pk	9910053300
	Mark 7 O-ring kit, for aqueous samples Includes O-rings to suit screw bead adjuster (1 ea), nebulizer capillary assembly (1 ea), capillary guide and Venturi (7 ea), spray chamber bung and burner (3 ea), and nebulizer block (1 ea)	9910093400
	Mark 7 O-ring kit, for organic solvents Includes O-rings to suit screw bead adjuster (1 ea), nebulizer capillary assembly (1 ea), capillary guide and Venturi (2 ea), spray chamber bung and burner (2 ea), and nebulizer block (1 ea)	9910093500
	Drain tubing for aqueous solutions, per m, 2 m required	3710009200
	Drain tubing for organic solvents, nitrile rubber, per m, 2 m required	3710011700
	Venturi extraction tool	7210027700
	Nebulizer capillary extraction tool	7210027600
	Stand for Mark V, VI and 7 spray chambers	9910049800



Mark 7 Flame Atomization System Operating Kit

Typical operation supplies required for moderate use of Flame Atomic Absorption Spectrometer Systems with Mark 7 spray chamber.

Mark 7 Flame Atomization System Operating Kit

Description	Kit Quantity	Unit	Part No.
Mark 7 operating supplies kit			190034100
Kit Contents			
Venturi nebulizer, PEEK	1		1610117390
Nebulizer Capillary Kit Includes capillary assembly, capillary guide, nebulizer spring, nebulizer cleaning wire, Hi-Vac capillary tubing and standard capillary tubing	1		9910093000
Nebulizer block, fluorinated (excludes integrated nebulizer)	1		9910093100
Glass impact beads	1	5/pk	9910025700
High solids capillary tubing	1	3 m	9910024800
Mark 7 O-ring kit, for aqueous samples Includes O-rings to suit screw bead adjuster (1 ea), nebulizer capillary assembly (1 ea), capillary guide and Venturi (7 ea), spray chamber bung and burner (3 ea), and nebulizer block (1 ea)	1		9910093400
Mixing paddles, fluorinated	1	5/pk	9910093600
Burner cleaner strips	1	100/pk	9910053900

TIPS & TOOLS



The best way to clean the burner is to polish the inside of the burner slot using the burner cleaning strips and a liquid metal polish. Then clean the outside of the burner slot with a clean rag. Then sonicate for a few minutes in a detergent solution, rinse, and dry. Ensure the burner is dry before refitting and igniting the flame.

TIPS & TOOLS



To avoid damaging the bead when replacing, ensure the adjusting screw is turned fully clockwise. Then fit the bead and tighten the locking screw.

Burners

The Mark 7 burner fits all current AA instruments and the earlier SpectrAA series instruments and is compatible with the Mark V, VI and 7 spray chambers.

Burners

Description	Part No.
Mark 7 air/acetylene burner	210164000
Mark 7 nitrous oxide/acetylene burner	210164100
Burner cleaner strips, 100/pk	9910053900



Mark 7 air/acetylene burner, 210164000

Nebulizers and Nebulizer Maintenance

Description	Use With	Part No.
Barrel nebulizer, adjustable	Mark V and VI spray chambers	9910043500
Barrel nebulizer, high vacuum	Mark V and VI spray chambers	9910043700
Spare Venturi kit, PEEK Includes PEEK Venturi, O-rings, nebulizer spring, nebulizer tool and instructions	Mark V and VI spray chambers	9910024400
Pt/Ir capillary spares kit Includes capillary assembly, capillary guide, nebulizer spring, nebulizer tool, nebulizer cleaning wire, Hi-Vac capillary tubing and standard capillary tubing	Mark V and VI spray chambers	9910024500
High solids capillary tubing, 3 m	Mark V, VI and 7 spray chambers	9910024800
High vacuum capillary tubing, 3/pk	Mark V, VI and 7 spray chambers	9910044000
Nebulizer capillary kit Includes capillary assembly, capillary guide, nebulizer spring, nebulizer cleaning wire, Hi-Vac capillary tubing and standard capillary tubing	Mark 7 spray chamber	9910093000
Nebulizer cleaning wire, 3 x 0.3 m	Mark V, VI and 7 spray chambers	9910024700
Nebulizer O-ring kit	Barrel nebulizers	9910035200



Capillary spares kit, 9910024500



High solids capillary tubing, 9910024800



Nebulizer cleaning wire, 9910024700



Glass impact beads, 9910025700



PTFE impact beads, 9910053300

Impact Beads

Description	Use With	Unit	Part No.
Glass impact beads	Mark V, VI and 7 spray chambers	5/pk	9910025700
PTFE impact beads (for use with HF digests)	Mark V, VI and 7 spray chambers	5/pk	9910053300



High vacuum capillary tubing, 9910044000

Mark VI Flame Atomization System Operating Kit

Typical operation supplies required for moderate use of Flame Atomic Absorption Spectrometer Systems with the Mark VI spray chamber.

Mark VI Flame Atomization System Operating Kit – For use with aqueous samples

Description	Kit Quantity	Unit	Part No.
Mark VI operating supplies kit			190024800
Kit Contents			
Spare Venturi kit, PEEK	1		9910024400
Pt/Ir capillary spares kit	1		9910024500
Barrel nebulizer, high vacuum	1	1/ea	9910043700
Nebulizer O-ring kit	1		9910035200
High vacuum capillary tubing	1	3/pk	9910044000
High solids capillary tubing	1	3 m	9910024800
O-ring/gasket kit	1		9910026500
Mixing paddles	1	5/pk	9910063600
Burner cleaner strips	1	100/pk	9910053900

Mark VI Standard Spray Chambers

The Mark VI spray chamber was used with older model Agilent AA instruments. It has many of the design features and benefits of the Mark 7 design.

Mark VI Standard Spray Chambers – For use with aqueous samples

Description	Part No.
O-ring/gasket kit	9910026500
Mixing paddles, 5/pk	9910063600
Liquid trap and float assembly	9910061600
Drain tubing for aqueous solutions, per m, 2 m required	3710009200
Nebulizer bung assembly Requires nebulizer	110351990
Complete Mark VI spray chamber assembly Requires nebulizer	110351790

Mark VI Universal Spray Chamber – For use with organic solvents*

Description	Part No.
O-ring/gasket kit	9910045700
Mixing paddles, 5/pk	9910063600
Liquid trap and float assembly	9910061600
Nebulizer bung assembly Requires nebulizer	9910063200
Pressure relief bung	9910063100
Drain tubing for organic solvents, nitrile rubber, per m, 2 m required	3710011700
Complete universal spray chamber and liquid trap assembly Requires nebulizer	9910061100

*Also suitable for use with aqueous solutions



Liquid trap and float assembly, 9910061600



Nebulizer bung assembly, 9910063200



SPS 3 Autosampler for AA, MP-AES, ICP-OES and UV-Vis instruments

SPS 3 Autosampler Supplies

The fast spectroscopy autosampler from Agilent meets the diverse requirements of high-throughput analytical laboratories.

SPS 3 Start-up and Operating Supplies Kit

Description	Kit Quantity	Unit	Part No.
SPS 3 start-up and operating supplies kit			190065400
Kit Contents			
0.8 mm id inert probe, PTFE-sleeved	1	each	9910111900
Pump tubing, PVC Solvaflex, 3-bridged, gray/gray	2	12/pk	3710049000
Silicon tubing, 1 mm id x 3 mm od	1	each	3710026400
Tubing, 1/8 inch id x 1/4 inch od x 1/16 inch wall, per m	2	meter	3710031500
Nebulizer capillary tubing, per m	2	meter	2410020500
Rinse reservoir, 10 L	1	each	6610011800
Polypropylene tubes, 16 mm od	1	1,000/pk	190049700
Sample rack for 30 mm od tubes, 21 positions	3	each	6610026600
Centrifuge tubes, screw-capped, 29 mm od, 50 mL polypropylene	1	500/pk	190065200



Autosampler cover, 910245400



Internal purge kit, 9910120200

Optional Accessories for SPS 3

Description	Comments	Part No.
Autosampler cover, transparent	Prevents contamination of samples and standards from dust and drafts Has provision for optional purge connection and/or exhaust outlet to enable removal of corrosive or solvent fumes	910245400
Internal purge kit	Includes all components required to purge inside of cover with inert gas Includes flow meter, regulator, tubing and instructions	9910120200
Exhaust port connection	Installs on rear panel of cover and allows safe removal of corrosive or solvent fumes; suitable for connection to 2 inch (50 mm) diameter exhaust ducting	9910130600

Test Tubes

Description	Unit	Part No.
Polypropylene tubes, 16 mm od	125/pk	3710051100
	1,000/pk	190049700
Polypropylene test tubes, 17 mm od, 16.5 mL	1,000/pk	00000001600L



Polypropylene test tubes, 3710051100

Digestion Tubes

Description	Unit	Part No.
Centrifuge tubes, screw-capped, 29 mm od, 50 mL polypropylene	500/pk	190065200

Probes

Description	Part No.
0.8 mm id inert probe, PTFE-sleeved For use with MP-AES and ICP-OES instruments (without diluter)	9910111900
1.0 mm id inert probe, PTFE-sleeved For use with AA, MP-AES, ICP-OES, and UV-Vis instruments (or with diluter)	9910112000
1.3 mm id inert probe, PTFE-sleeved For use with viscous solutions and high matrix samples	9910130900
1.2 mm id inert, carbon fiber probe For use with strong acid digests. Straighter than a PTFE probe with good rigidity. Less chance of damage if it hits a tube. Replacement probe only. Requires carbon fiber update kit to be fitted.	G8480-80002
Carbon fiber probe update kit Allows installation of a carbon fiber probe in place of a standard PTFE probe. Includes 3.0 mm od x 1.2 mm id carbon fiber probe, mounting block, nut and ferrule, 1.5 m x 0.8 mm id FEP sample tubing, cable ties and tube anchors	G8480-80001



0.8 mm id inert probe, PTFE-sleeved, 9910111900



Sample rack, 6610025400
(shown with the optional rack overlay kit
(p/n 6610026100) fitted)



Rack overlay for 60-position sample rack,
6610026100



Standard rack for 29 mm od tubes, 810167000

Racks

Description	Part No.
Sample Racks	
Sample rack for 13 mm od tubes, 90 positions	6610026400
Sample rack for 16 mm od tubes, 60 positions	6610025400
Sample rack for 20 mm od tubes, 40 positions	6610025500
Sample rack for 25 mm od tubes, 24 positions	6610026500
Sample rack for 30 mm od tubes, 21 positions	6610026600
Spare Standards Racks	
Standard rack for 16 mm od tubes, 11 positions	810166900
Standard rack for 29 mm od tubes, 6 positions	810167000
Rack Overlays for Sample Racks	
Rack overlay for 60-position sample rack Allows 13 mm od tubes to be used in 60-position rack (2 recommended per rack)	6610026100
Rack overlay for 40-position sample rack Allows 18 mm od tubes to be used in 40-position rack (2 recommended per rack)	6610026000



Diluter Spares

Description	Part No.
Syringe-to-valve tube kit	9910062700
Replacement tubing kit for auto diluter, screw fittings Includes all tubing and connectors	9910083100
Rinse reservoir, 10 L	6610011800

Diluter Maintenance Supplies

Description	Part No.
Syringe, 20 mL	4710003000
Syringe-to-valve tube kit	9910062700
Replacement tubing kit for auto diluter, screw fittings Includes all tubing and connectors	9910083100

Tubing

Description	Use With	Part No.
Nalgene tubing, per m	For outlet rinse vessel	3710031500
Silicon tubing, 1 mm id x 3 mm od	For connecting nebulizer capillary to SPS probe line	3710026400
Pump tubing, PVC Solvaflex, 3-bridged, gray/gray, 12/pk	For use with aqueous samples on AA, MP-AES and ICP-OES instruments	3710049000
Pump tubing, Santoprene, 3-bridged, gray/gray, 12/pk	For ketone-based solvents on AA, MP-AES and ICP-OES instruments	3710057500
Pump tubing, PVC Solvaflex, 3-bridged, yellow/yellow, 12/pk	For use with low volatile organic solvents on AA, MP-AES and ICP-OES instruments	3710069300
Pump tubing, PVC Solvaflex, 3-bridged, black/black, flared ends, 12/pk	For use with low volatile organic solvents on AA, MP-AES and ICP-OES instruments	3710069200
Pump tubing, PVC Solvaflex, 3-bridged, orange/yellow, flared ends, 12/pk	For use with low volatile organic solvents on AA, MP-AES and ICP-OES instruments	3710069000
Pump tubing, Viton, 3-bridged, black/black, flared ends, 12/pk	For use with aromatic organic solvents on AA, MP-AES and ICP-OES instruments	3710069100
Pump tubing, PVC Solvaflex, 3-bridged, purple/black, 12/pk	For use with aqueous samples on UV instruments	3710052000
Replacement spill tray		6610025100



Rinse reservoir, 6610011800



Pump tubing, PVC Solvaflex, 3710049000



Replacement spill tray, 6610025100



SIPS 20 Sample Introduction Pump System for flame AA



SIPS 10/20 pump tubing, 9910075900



Constant pressure head bottle, rectangular, 110533590



Pump bands, 9910077600



SIPS 20 3-way T-piece assembly, 110585790

SIPS 10/20 Supplies

The Sample Introduction Pump System (SIPS) is an innovative sample introduction and dilution system for flame AA that eliminates the task of manual preparation of multiple calibration standards, providing fast, accurate online dilution of over-range samples.

SIPS 10/20 Maintenance Supplies

Description	Part No.
Peristaltic pump tubing, orange/orange, 6/pk	9910075900
Tubing kit for SIPS 10/20, to connect constant pressure head bottle to T-piece	9910076100
Constant pressure head bottle, rectangular, 1 L	110766690
Constant pressure head bottle, rectangular, 500 mL	110533590
Pump bands, 10/pk	9910077600
SIPS 10 2-way T-piece assembly	110651090
SIPS 20 3-way T-piece assembly	110585790

SIPS 10/20 Operating Supplies Kit

Description	Kit Contents	Part No.
SIPS 10/20 operating supplies kit	Includes 2 constant pressure bottles, 500 mL (110533590), 1 L diluent bottle (6610014600), SIPS 3-way T-piece assembly for SIPS 20 (110585790), SIPS pump tubing, 6/pk (9910075900), SIPS tubing kit (9910076100), SIPS pump bands, 10/pk (9910077600)	190025400

VGA 77 Supplies

The Vapor Generation Accessory (VGA 77) is ideal for µg/L determination of Hg and the hydride-forming elements.

Hydride Modules*

Description	Part No.
AA hydride module VGA 77	9910062100
ICP hydride module VGA 77P	9910062200

*A separate hydride module should be used exclusively for Hg determinations to reduce cross contamination

Operating Supplies Kit

Description	Kit Contents	Part No.
VGA 77 operating supplies kit	Includes 2 tubes and connectors (9910061900), 2 packs pump tubes, black/black, 12/pk (3710027200), 2 packs pump tubes, purple/black, 12/pk (3710027300), pump bed kit (9910050700), gas liquid separator (9910071100), mercury flow-through cell (9910040700), 2 boxes hydride absorption cells, 2/box (9910040000), spare plumbing module (9910062100)	190025200

Absorption Cells

Description	Use With	Part No.
Flow-through mercury absorption cell, single cell	VGA 76/77	9910040700
Hydride absorption cells, quartz, 2/pk	VGA 76/77	9910040000



VGA 77 Vapor Generation Accessory



AA hydride module VGA 77, 9910062100



Flow-through mercury absorption cell, 9910040700



Hydride absorption cells, quartz, 9910040000



Tubing and connector kit, 9910061900



Transfer tubing, VGA 76/77, 3710026390



Pump tube beds kit, 9910050700

Tubing

Description	Use With	Part No.
Reagent pump tubing, black/black, 12/pk	VGA 76/77	3710027200
Sample pump tubing, purple/black, 12/pk	VGA 76/77	3710027300
Tubing and connector kit Includes 1 sample and 2 reagent peristaltic pump tubes, inlet tubing for sample and reagents (3 x 0.4 m), connectors, acid-resistant connecting tubing, gas inlet tubing to gas-liquid separator, reaction coil and O-ring strap to secure gas-liquid separator	VGA 77 for AA	9910061900
Tubing and connector kit Includes 2 sample and 2 reagent peristaltic pump tubes, inlet tubing for sample and reagents, (3 x 0.4 m), connectors, acid-resistant connecting tubing, gas inlet tubing to gas-liquid separator, reaction coil and O-ring strap to secure gas-liquid separator	VGA 77 for ICP	9910061800
Drain tubing for gas-liquid separator to waste, per m, 2 m required	VGA 76/77	3710009200
Transfer tubing Gas-liquid separator to absorption cell	VGA 76/77	3710026390
Tubing and connector kit Includes 1 sample and 2 reagent peristaltic pump tubes, inlet tubing for sample and reagents, (3 x 0.4 m), connectors, acid-resistant connecting tubing, gas inlet tubing to gas-liquid separator and reaction coil	VGA 76	9910039900

VGA 76/77 Miscellaneous Supplies

Description	Part No.
Reagent vessel and cap, polyethylene 500 mL	6610011600
Pump tube beds kit	9910050700
VGA cell support for Mark 7 burner	110654990
VGA cell support for Mark VI burner	110375990
O-ring strap to secure gas-liquid separator	6910018900
Bracket to mount VGA 77 on the 700 Series ICP-OES	410427590
Spare thumbscrews to secure VGA 77 mounting bracket to 700 Series ICP-OES (4 required)	1510267900

Reagents for VGA 76/77 Operation

Description	Part No.
Sodium tetrahydroborate, 500 g	8210029100

Gas-liquid Separators

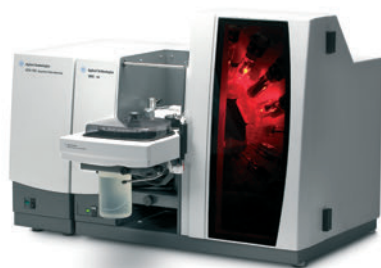
Description	Use With	Part No.
Gas-liquid separator	VGA 77 for AA	9910071100
	VGA 77 for ICP	9910062000
	VGA 76 for AA	9910040200
	VGA 76 for ICP	9910056900



AA gas-liquid separator for VGA 77, 9910071100



Gas-liquid separator, 9910062000



280Z dedicated Zeeman graphite furnace Atomic Absorption Spectrometer



GTA 120 Deuterium furnace operating supplies kit, 190067900



Graphite shroud for GTA 120, 6310003100

Graphite Furnace Parts and Supplies

Maximize your uptime by keeping one of these kits handy.

Kit for GTA 120 Furnace System

Description			Part No.
GTA 120 Deuterium furnace operating supplies kit			190067900
Kit Contents	Kit Quantity	Unit	Part No.
Graphite electrodes For GTA 120	2	1 pair	6310003400
Graphite shroud For GTA 120	1		6310003100
Omega platform tubes, pyrolytically coated	5	10/pk	6310003700
Syringe, 100 µL	1	1/ea	4710003200
Capillary assembly	1	5/pk	9910115100
Plastic beakers, 10 mL	1	5/pk	9910115600
Sample vials, 2 mL, conical polyethylene	2	1,000/pk	9910028200

Kit for GTA 120 Zeeman Furnace System

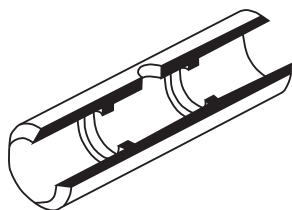
Description			Part No.
GTA 120 Zeeman furnace operating supplies kit			190068000
Kit Contents	Kit Quantity	Unit	Part No.
Graphite electrodes For GTA 120 Zeeman	2	1 pair	6310003500
Graphite shroud For GTA 120 Zeeman	1		6310003600
Omega platform tubes, pyrolytically coated	5	10/pk	6310003700
Syringe, 100 µL	1		4710003200
Capillary assembly	1	5/pk	9910115100
Plastic beakers, 10 mL	1	5/pk	9910115600
Sample vials, 2 mL, conical polyethylene	2	1,000/pk	9910028200

Kits for GTA 100/GTA 110 Furnace Systems

Description				Part No.
GTA 110 Deuterium furnace operating supplies kit				190024900
GTA 110 Zeeman furnace operating supplies kit				190025000
Kit Contents	Kit Quantity	Unit	Part No.	
Omega platform tubes, pyrolytically coated	5	10/pk	6310003700	
Syringe, 100 µL	1	1/ea	4710002300	
Plunger for 100 µL syringe, PTFE tipped	1	1/pk	4710003100	
Capillary assembly	1	5/pk	9910032300	
Glass beakers, 25 mL	1	5/pk	6610008200	
Sample vials, 2 mL, conical polyethylene	2	1000/pk	9910028200	
And				
Graphite electrodes For GTA 95/96/97/100/110	2	1 pair	6310001600	
Or				
Graphite electrodes For GTA 96/100/110 Zeeman	2	1 pair	6310001700	



GTA 110 Deuterium furnace operating supplies kit, 190024900



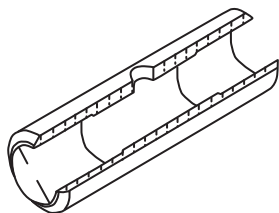
Partitioned tubes, 6310001200



Omega platform tubes, 6310003700



Solid pyrolytic graphite platforms, 6310001300



Plateau tubes, 6310001100

Graphite Tubes and Platforms

- High purity graphite reduces spurious absorption from trace contaminants and improves signal-to-noise
- Every tube is individually tested for reproducible and reliable results
- Perform fewer repeats and increase productivity

Graphite tubes are quality tested to ensure each batch passes our demanding performance specifications for contamination, sensitivity, precision, electrical resistance, and lifetime.

Use partitioned tubes for general purpose work and when you need the best detection limits with samples that have low background. These are also ideal when measuring organic solutions, or samples with low viscosity that may spread throughout the tube, potentially degrading precision.

Omega platform tubes combine ease-of-use with perfect atomization. The integrated platform ensures a perfect thermal profile to produce dense atom clouds for good signal-to-noise ratios and the best detection limits.

The combination of the solid pyrolytic platforms and plateau tubes provides continuity with older methods, and gives the best platform effect. This ensures best performance with samples that have high background or interferences. More operator skill is required for best results.

Graphite Tubes and Platforms

Description	Unit	Part No.
Partitioned tubes, pyrolytically coated	10/pk	6310001200
Omega platform tubes, pyrolytically coated	10/pk	6310003700
Solid pyrolytic graphite platforms Only for use with plateau tubes, p/n 6310001100	10/pk	6310001300
Plateau tubes, pyrolytically coated Only for use with pyrolytic platforms, p/n 6310001300	10/pk	6310001100

Graphite Electrodes

- Spare electrodes maximize uptime
- Good electrical contact ensures optimum performance and maximizes tube life
- High purity graphite reduces spurious absorption from trace contaminants and improves signal-to-noise

Graphite Electrodes

Description	Unit	Part No.
Graphite electrodes for GTA 120	1 pair	6310003400
Graphite electrodes for GTA 120 Zeeman	1 pair	6310003500
Graphite electrodes for GTA 95/96/97/100/110	1 pair	6310001600
Graphite electrodes for GTA 96/100/110 Zeeman	1 pair	6310001700



Graphite electrodes for GTA 120, 6310003400



Graphite electrodes for GTA 95/96/97/100/110, 6310001600

TIPS & TOOLS

Easy, Reliable pH Testing, Designed for Chromatographers

Agilent now offers a full line of pH meters and electrodes. Designed for chromatographers, these pH meters offer intuitive user design and exceptional ruggedness for your lab. Learn more at www.agilent.com/chem/phmeters





Graphite shroud for GTA 120, 6310003100



Graphite shroud for GTA 120 Zeeman, 6310003600



Electrode extractor tool, 9910031200

Graphite Shrouds

Graphite Shrouds

Description	Part No.
Graphite shroud for GTA 120	6310003100
Graphite shroud for GTA 120 Zeeman	6310003600
Graphite shroud for GTA 95/96/97/100/110	6310001800
Graphite shroud for GTA 96/100/110 Zeeman	6310001900

Graphite Furnace Tools

Graphite Furnace Tools

Description	Part No.
Graphite tube alignment tool	7210034200
Graphite tube removal tool	7210018900
Electrode extractor tool for GTA 96/97/100/110/120, 2 draw bars	9910031200
Shroud removal tool for GTA 96/97/100/110/120	9910033300
Electrode extractor tool for GTA 96/100/110/120 Zeeman, 2 draw bars	9910049300
Shroud removal tool for GTA 96/100/110/120 Zeeman	9910050400

Programmable Sample Dispensers (PSD) used with Graphite Furnace AA

Spares and Supplies

Description	Use With	Part No.
Sample vials, 1.1 mL, polyethylene, 2,000/pk	PSD 120 high capacity sample carousel	6610025900
Sample vials, 2 mL, conical polyethylene, 1,000/pk	PSD 95/96/97/100/120	9910028200
Glass beakers, 25 mL, 5/pk	PSD 95/96/97/100	6610008200
Plastic beakers, 10 mL, 5/pk	PSD 120	9910115600
Rinse bottle, Nalgene, 1 L	PSD 97/100/120	6610012100
Cap for rinse bottle	PSD 97/100/120	1610094600
Capillary assembly, 5/pk	PSD 120	9910115100
	PSD 95/96/97/100	9910032300
Carousel adapters, 5/pk Allows use of 2 mL sample vials in the central carousel locations	PSD 120	9910116900
Carousel adapters, 5/pk Allows use of 2 mL sample vials in the central carousel locations	PSD 96/97/100	9910054200
Syringe, 100 µL	PSD 120	4710003200
	PSD 95/96/97/100	4710002300
Plunger for 100 µL syringe, PTFE-tipped	PSD 96/97/100/110	4710003100
Replacement carousel plate	PSD 100/120	5410056900
Replacement carousel plate for 130-sample carousel	PSD 120	5410046300
Furnace workhead viewing mirror	GTA 110/120	9910091200
Furnace workhead viewing mirror	GTA 96/97/100	9910032700

Optional Accessories for Graphite Furnace AAS

Description	Use With	Part No.
GTA viewing and fume extraction accessory Mounts on sample compartment to remove fumes from the GTA workhead and improves viewing of the tube for easier alignment; connects to a 150 mm (6 inch) or 125 mm (5 inch) exhaust duct	GTA 120	210190000
High capacity carousel kit Includes carousel disk (130 samples), 1.1 mL vials (2,000/pk) and five 10 mL plastic beakers for bulk solutions	GTA 120	9910113100
Bubble-free syringe update kit	PSD 97/100	9910116800



Sample vials, 2 mL, 9910028200



Glass beakers, 6610008200



Plastic beakers, 9910115600



Carousel adapters, 9910054200



High capacity carousel kit, 9910113100



5100 SVDV ICP-OES Spectrometer

ICP-OES Supplies

Agilent is the recognized world leader and innovator in ICP-OES with thousands of systems installed worldwide. The Agilent 5100 ICP-OES revolutionizes ICP-OES analysis – designed to run your samples faster, using less gas, without compromising performance on your toughest samples. Our ICP range can handle both routine and the most challenging applications. A choice of sample introduction options and a wide range of performance and productivity enhancing accessories and options make Agilent systems the fastest and most flexible ICP-OES systems available today. Agilent ICP-OES are compatible with a range of supplies designed to extend the capabilities of the instruments.

Sample Compartment Kits, Spray Chambers and Brackets

- Single-pass glass cyclonic spray chamber for good signal-to-noise performance with excellent washout
- Double-pass glass cyclonic spray chamber provides improved plasma stability with organic and high TDS samples
- Sturman-Masters spray chamber is inert, minimizes interferences and improves stability with high TDS samples (compatible with 700 Series and Liberty ICP-OES only)



Sample compartment O-ring kit, 9910057200



Sample compartment/torch box tube connection kit, 9910057100

Sample Compartment Kits

Description	Part No.	For axial ICP	For radial ICP
Sample compartment O-ring kit Includes all O-rings for spray chamber area, demountable torch, and ASA (compatible with 700 Series and Liberty ICP-OES only)	9910057200		
Sample compartment/torch box tube connection kit Includes all tubing for spray chamber area and spare nipples for drain (excluding pump tubing) (compatible with 700 Series and Liberty ICP-OES only)	9910057100		
Tubing and connector kit for 700 Series and Liberty ICP-OES Includes two packs of standard peristaltic pump tubing, snap connectors and other connectors used in sample compartment and torch box area; ideal for spare start-up kit		9910097500	9910105400
Molding drip tray for 700 Series ICP-OES	6210113000		
O-ring kit, ASA Argon saturation accessory	9910081400		

Operating Supplies Kits for 700 Series and Liberty ICP-OES

Description	Part No.
<p>Extenda Valu-Pack</p> <p>Supports routine operation of Agilent axial ICP systems with glass cyclonic sample introduction system</p> <p>Includes spare torches (7), double-pass (1) + single-pass (2) glass cyclonic spray chambers, SeaSpray nebulizer, spray chamber O-ring kits (2), tubing and connectors kit, EzyFit sample inlet connectors, and GazFit gas connectors for the nebulizer</p>	9910112800
<p>Matrix Valu-Pack</p> <p>Supports routine operation of Agilent axial ICP systems with inert sample introduction system</p> <p>Includes high-solids torch, semi-demountable torch with 1.8 mm id alumina injector, 0.8 mm id quartz injector, 1.4 mm id quartz injectors (6), spray chambers (1 each double-pass glass cyclonic and inert Sturman-Masters), V-groove nebulizer, O-ring kit for inert spray chamber, tubing and connectors kit, EzyFit sample inlet connectors, and GazFit gas connectors for the nebulizer</p>	9910112600
<p>Extenda Valu-Pack</p> <p>Supports routine operation of Agilent radial ICP systems with inert sample introduction system</p> <p>Includes spare torches (4), Sturman-Masters spray chamber, torch bonnet, O-ring kit (2), V-groove nebulizer (2), tubing and connectors kit (2), and GazFit gas connectors for the nebulizer</p>	9910112700

Spray Chambers and Brackets

Description	Use With	Part No.
<p>Single-pass glass cyclonic spray chamber for 700 Series and Liberty ICP-OES</p> <p>Needs mounting bracket</p>	Routine aqueous samples where best signal-to-noise performance is required	2010081700
<p>Cooled double-pass glass cyclonic action spray chamber with cooling gallery</p> <p>Includes mounting bracket for Liberty Series I/II, Vista and 700 Series ICP-OES instruments; requires, but does not include, a refrigerated water recirculator for subambient operation</p>	Ideal for use with highly volatile organic solvents	9910070400

(Continued)



Single-pass cyclonic spray chamber, 2010081700

Spray Chambers and Brackets

Description	Use With	Part No.
Double-pass glass cyclonic spray chamber, suitable for 700 Series and Liberty ICP-OES Needs mounting bracket	Organic solvents and high matrix or high TDS samples	7910043700
Sturman-Masters spray chamber, white, for 700 Series and Liberty ICP-OES Needs mounting bracket	Samples dissolved in hydrofluoric acid (HF) or when using the V-groove nebulizer for fusions or slurries and other high TDS samples	110593190
Bracket for mounting glass cyclonic spray chambers	715/725/735 radial, Vista-PRO radial and early axial, Vista-MPX radial and Liberty Series II radial and early axial models	110611700
	710/720/730 axial, Vista-PRO axial, Vista-MPX axial and Liberty Series II axial models	110665200
Bracket for mounting Sturman-Masters spray chamber	715/725/735 radial, Vista-PRO radial and early axial, Vista-MPX radial models and Liberty Series II radial and early axial models	410298400
	710/720/730 axial, Vista-PRO axial, Vista-MPX axial and Liberty Series II axial models	410328600
Bracket for mounting MSIS with axial and radial ICP	All 700 Series axial and radial models	110868000
O-ring for nebulizer inlet of single- and double-pass cyclonic spray chamber		6910001200
Double-pass glass cyclonic spray chamber with ball joint outlet for 5100 ICP-OES Includes Helix nebulizer seal and UniFit drain outlet	For use with organic solvents, high matrix or high TDS samples	G8010-60256
Single-pass glass cyclonic spray chamber with ball joint outlet for 5100 ICP-OES Includes Helix nebulizer seal and UniFit drain outlet	For use with aqueous and low matrix samples where best sensitivity and lowest LODs are required	G8010-60271
Inert PTFE single-pass cyclonic spray chamber with ball joint outlet for 5100 ICP-OES Includes Helix nebulizer seal and UniFit drain outlet	For use with HF digests and low TDS samples	G8000-70008
Inert PTFE double-pass cyclonic spray chamber with ball joint outlet for 5100 ICP-OES Includes Helix nebulizer seal and UniFit drain outlet	For use with HF digests and high TDS samples	G8010-80034
UniFit drain connector for 5100 ICP-OES spray chamber, 2.0 mm od x 0.86 mm id x 480 mm capillary tubing, 3/pk Connects the peristaltic pump tubing for the waste line to the spray chamber outlet		G8010-80036



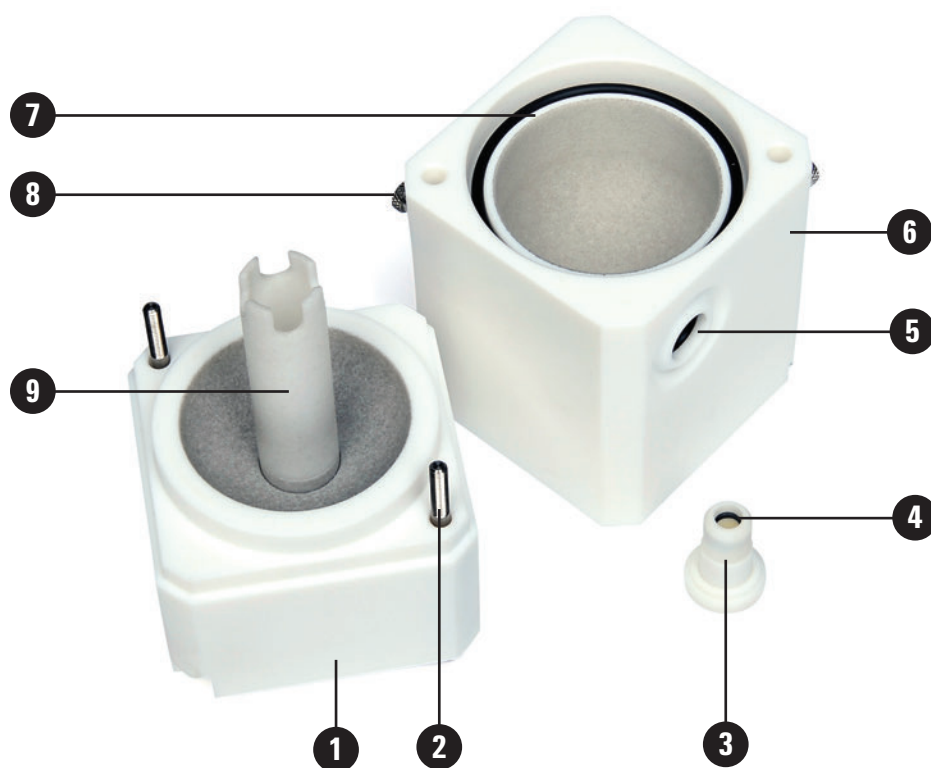
Double-pass glass cyclonic spray chamber,
7910043700



Sturman-Masters spray chamber, 110593190



Inert PTFE double-pass cyclonic spray chamber
with ball joint outlet for 5100 ICP-OES,
G8010-80034



Item Sturman-Masters Spray Chamber Supplies

Item	Description	Part No.
1	Spray chamber top section, Ertalyte	1610114500
2	Thumbscrew, ICP spray chamber	1510188100
3	Nebulizer holder, Ertalyte Required to install a 6 mm od concentric nebulizer	810128100
4	O-ring for inside of nebulizer holder 11/16 inch id x 13/16 inch od x 1/16 inch nitrile rubber	6910006000
5	O-ring to seal nebulizer holder in spray chamber body 7/16 inch id x 5/8 inch od x 3/32 inch nitrile rubber	6910019800
6	Spray chamber base (lower section), Ertalyte	1610114700
7	O-ring for spray chamber body Seals top section to the base 2 + 3/16 inch id x 2 + 3/8 inch od x 3/32 inch nitrile rubber	6910017400
8	Retaining nut for spray chamber	1510188200
9	Internal baffle for spray chamber	1610114600
	Drain fitting assembly for spray chamber	110593000
	Outlet bung for sample aerosol outlet to torch (top of spray chamber)	1610114800
	O-ring for drain and aerosol outlet 11/16 inch id x 13/16 inch od x 1/16 inch nitrile rubber	6910006000

Operating Supplies Kits for 5100 Dual View ICP-OES

Description	Part No.
<p>Operating supplies kit for 5100 SVDV/VDV ICP-OES</p> <p>Includes EasyFit demountable torch, outer tube sets (2), peristaltic pump tubes for sample (2/pk) and waste (4/pk), tubing and connectors for internal standard, U-series SeaSpray nebulizer, UniFit sample inlet fittings (0.75 mm id), EzyLok gas connectors for nebulizer, double-pass glass cyclonic spray chamber with spare nebulizer seal, UniFit connectors for spray chamber drain, clamp, windows for axial and radial view, capillary tubing for nebulizer, barb connectors (2), PFA nebulizer gas tubing, drain tubing for spray chamber, and sample tray</p>	G8010-67001
<p>Operating supplies kit for 5100 RV ICP-OES</p> <p>Includes EasyFit demountable torch, outer tube sets (2), peristaltic pump tubes for sample (2/pk) and waste (4/pk), tubing and connectors for internal standard, U-series SeaSpray nebulizer, UniFit sample inlet fittings (0.75 mm id), EzyLok gas connectors for nebulizer, double-pass glass cyclonic spray chamber with spare nebulizer seal, UniFit connectors for spray chamber drain, clamp, pre-optic window, capillary tubing for nebulizer, barb connectors (2), PFA nebulizer gas tubing, drain tubing for spray chamber, and sample tray</p>	G8012-67001

Nebulizers and Accessories

- Manufactured to fine tolerances for reproducible and stable sample uptake
- Tight specifications deliver fine droplets for best signal intensity and optimum signal-to-noise
- Fewer repeats means less downtime and improved productivity



Concentric glass nebulizer (SeaSpray),
2010096400

Nebulizers and Accessories

Description	Application	Part No.
OneNeb inert concentric nebulizer Includes sample connector and quick release gas connector	Ideal for routine analysis of samples up to 25% TDS with good precision and better sensitivity than a SeaSpray; inert construction makes it suitable for most solution types	2010126900
U-series concentric glass nebulizer (SeaSpray) for 5100 ICP-OES Includes UniFit sample connector (0.75 mm id x 700 mm) and EzyLok gas connector	Routine analysis of samples to 20% TDS	G8010-60255
Concentric glass nebulizer (SeaSpray) for 700 Series and Vista Series ICP-OES Includes EzyFit sample connector (0.75 mm id x 700 mm) and EzyLok gas connector	Routine analysis of samples to 20% TDS	2010096400
U-series concentric glass nebulizer (Conikal) for 5100 ICP-OES Includes UniFit sample connector (0.75 mm id x 700 mm) and EzyLok gas connector	Routine analysis of organic solvents and samples to 5% TDS	G8010-60270
K-style (Conikal) concentric glass nebulizer for 700 Series and Vista Series ICP-OES Includes Ezyfit sample connector (0.75 mm id x 700 mm) and EzyLok gas connector	Routine analysis of organic solvents and samples to 5% TDS	2010106800
Low-flow concentric glass nebulizer (MicroMist), 0.4 mL/min uptake Includes UniFit sample connector (0.5 mm id x 700 mm) and EzyLok gas connector	Small sample volumes for 700 Series and Vista Series ICP-OES	2010126000

(Continued)



OneNeb inert concentric nebulizer, 2010126900



K-style (Conikal) nebulizer, 2010106800

Nebulizers and Accessories

Description	Application	Part No.
Concentric glass nebulizer (SeaSpray) 2 mL/min at 1 L/min Includes EzyFit sample connector (0.75 mm id x 700 mm) and EzyLok gas connector	Routine analysis of samples to 20% TDS	CP959366
Low-flow concentric glass nebulizer (MicroMist) 0.2 mL/min uptake Includes EzyFit sample connector (0.75 mm id x 700 mm) and EzyLok gas connector	Small sample volumes	190064300
Inert V-groove nebulizer for use with Sturman-Masters spray chamber Includes tubing and fittings	Samples with hydrofluoric acid, fusions, slurries, or >20% TDS	9910057400
Mira Mist PTFE concentric type nebulizer Includes 0.5 m sample capillary (0.044 inch od x 0.018 inch id) and gas connector	Routine analysis of samples to 20% TDS including aggressive acids and organic solvents	CP913246
Mira Mist PEEK concentric type nebulizer Includes 0.5 m sample capillary (0.044 inch od x 0.018 inch id) and gas connector	Routine analysis of samples to 20% TDS (not recommended for aggressive acids or organic solvents)	CP914506
Concentric glass slurry nebulizer Includes EzyFit sample connector (0.75 mm id x 700 mm)	Slurry samples with particles to 150 µm or >20% TDS	2010097600
High flow concentric glass slurry nebulizer for Liberty Series II axial systems Includes EzyFit sample connector (0.75 mm id x 700 mm) and EzyLok gas connector	Slurry samples or those >20% TDS	2010097700
High flow K-style (Conikal) concentric glass nebulizer for Liberty Series II axial systems Includes EzyFit sample connector (0.75 mm id x 700 mm) and EzyLok gas connector	Routine analysis of samples to 5% TDS	2010081600
Sample inlet (UniFit) fitting for U-series concentric glass nebulizer used with 5100 ICP-OES, 0.75 mm id x 1.3 mm od capillary tubing, 10/pk		G8010-80035
Sample inlet (UniFit) fitting for U-series concentric glass nebulizer used with 5100 ICP-OES, 0.5 mm id x 1.3 mm od capillary tubing, 10/pk		G3266-80012
Sample inlet (EzyFit) fitting for concentric glass nebulizer on axial ICP-OES, 0.75 mm id x 1.3 mm od capillary tubing, 10/pk		9910107700

(Continued)



Inert V-groove nebulizer, 9910057400



Sample inlet (EzyFit) fitting, 9910107700

Nebulizers and Accessories

Description	Application	Part No.
Sample inlet (EzyFit) fitting for concentric glass nebulizer on radial ICP-OES, 0.75 mm id x 1.6 mm od capillary tubing, 10/pk	Suitable for SVS 1 accessory	1610136400
Gas inlet connector (EzyLok) for concentric glass nebulizer Includes Ezylok connector, tubing adaptor, and tubing clamp	Suitable for 700 Series and Vista Series ICP-OES	9910127800
Sample inlet connector for Mira Mist nebulizer Includes 0.5 m sample capillary (0.044 inch od x 0.018 inch id)		CP913777
Y-piece connector for online addition of internal standard/ionization buffer		1610132400
Nebulizer cleaner	Suitable for conventional concentric nebulizer	G3266-80020
Nebulizer bung O-ring, 7/32 inch id x 11/32 inch od		6910008200
Helix seal for spray chamber used with 5100 ICP-OES, 4/pk	Suits any ICP spray chamber that uses the Helix fitting to secure the nebulizer in the side arm	G8010-80042
Helix locking screw for spray chamber used with 5100 ICP-OES	Suits any ICP spray chamber that uses the Helix fitting to secure the nebulizer in the side arm	G8010-80043
PFA tubing for gas supply to nebulizer used with 5100 ICP-OES, 3 mm id x 4 mm od		0890-2603
Barb connector, 1/16 inch id to 1/8 inch id	Used to connect the peristaltic pump tubing for the waste line of the 5100 ICP-OES to the drain tubing	1610088600
Tubing, 1/8 inch id x 1/4 inch od x 1/16 inch wall, per m	Connects argon supply to nebulizer with 700 Series and Liberty ICP-OES	3710031500
Nebulizer gas connector	Connects nebulizer gas supply tubing to gas outlet connector on instrument with 700 Series and Vista Series ICP-OES	1610085300
Auxiliary gas connector	Connects auxiliary gas supply tubing to gas outlet connector on instrument with 700 Series and Vista Series ICP-OES	1610085600
Speedy clamp	Secures gas supply tubing to nebulizer or auxiliary gas connector (2 required per length of tubing). Suits 700 Series and Vista Series ICP-OES	810103200



Gas inlet connector (EzyLok), 9910127800



Y-piece connector, 1610132400

TIPS & TOOLS

The OneNeb universal nebulizer can be used with HF, high dissolved solids, organic solvents, and low-flow applications. It provides improved sensitivity too. See OneNeb application note, Evaluation of a novel nebulizer using an ICP-OES (publication number 5990-8340EN)





Torches

- Ignite easily and stay lit, reducing downtime
- Even and stable plasma delivers reproducible results
- Guard your instrument warranty to protect your investment

Torches for 5100 SVDV/VDV ICP-OES

Description	Application	Part No.
One-piece Easy-fit torch (standard torch) Features a 1.8 mm id injector with an extended outer tube with slot for radial viewing		G8010-60228
Demountable Easy-fit torch Features a 1.8 mm id injector with replaceable extended outer tube with slot for radial viewing		G8010-60236
Easy-fit demountable high solids torch Features a 2.4 mm id injector with replaceable extended outer tube with slot for radial viewing	Recommended for high TDS samples	G8010-60232
Easy-fit demountable torch for semi-volatile organic solvents Features a 1.4 mm id injector with replaceable extended outer tube with slot for radial viewing	Recommended for semi-volatile organic solvents	G8010-60233
Easy-fit inert demountable torch for HF digests Features a ceramic 1.8 mm id injector with replaceable extended outer tube with slot for radial viewing. Supplied with ball joint connection for torch base	Recommended for HF digests	G8010-60231
Quartz outer tube set for demountable Easy-fit torch for 5100 DV ICP-OES Comprises extended outer tube with slot for radial viewing, intermediate tube (integrated into assembly), and top seal		G8010-60263

Torches for 5100 RV (Radial) ICP-OES

Description	Application	Part No.
One-piece Easy-fit torch (standard torch) Features a 1.4 mm id injector with shorter outer tube (no slot) for dedicated radial viewing		G8012-60000
Demountable Easy-fit torch Features a 1.4 mm id injector with replaceable shorter outer tube (no slot) for dedicated radial viewing		G8010-60237
Easy-fit demountable torch for volatile organic solvents Features a 0.8 mm id injector with replaceable shorter outer tube (no slot) for dedicated radial viewing	Recommended for volatile organic solvents	G8010-60235
Easy-fit inert demountable torch for HF digests Features a ceramic 1.8 mm id injector with replaceable shorter outer tube (no slot) for radial viewing. Supplied with ball joint connection for torch base	Recommended for HF digests	G8010-60234
Quartz outer tube set for demountable Easy-fit torch for 5100 RV ICP-OES Comprises shorter outer tube (no slot) for radial viewing, intermediate tube (integrated into assembly), and top seal		G8010-60264
Torch clamp Secures ball joint socket between spray chamber and torch on 5100 ICP-OES NOT suitable for use with the inert demountable torch		G8000-64140
Torch clamp for inert demountable torch Secures ball joint socket between inert spray chamber and inert torch for 5100 ICP-OES NOT suitable for the standard demountable torch		G8010-60227



Torch clamp, G8000-64140

Torches for 700 Series, Vista Series, and Liberty ICP-OES

One Piece Axial Torches

Description	Application	Part No.
Low-flow quartz torch with 2.4 mm id injector tube	Routine analysis of aqueous samples <10% TDS	2010090400
Low-flow quartz torch with 0.8 mm id injector tube	Routine analysis of volatile organic solvents, e.g. gasoline	2010104700
Low-flow quartz torch with 1.4 mm id injector tube	Routine analysis of organic solvents, e.g. kerosene, xylene, and white spirit	2010104800
High solids torch with Agilent injector design, 2.4 mm id	Routine analysis of samples to 25% TDS	2010094800
Extended length high solids torch with Agilent injector design, 2.4 mm id	Routine analysis of samples to 25% TDS	2010104600
Sheath gas high solids torch with Agilent injector design, 2.4 mm id Used with the AGM 1 oxygen addition accessory (p/n G8473A) for better performance than the extended high solids torch	Routine analysis of samples to 25% TDS	2010122400

One Piece Radial Torches

Description	Application	Part No.
Low-flow quartz torch with 1.4 mm id injector tube	Routine analysis of aqueous samples <10% TDS	2010069690
Low-flow quartz torch with 0.8 mm id injector tube, annealed for greater strength	Routine analysis of volatile organic solvents, e.g. gasoline	2010117400
Low-flow quartz torch with 1.4 mm id injector tube, annealed for greater strength	Routine analysis of organic solvents, e.g. kerosene, xylene, and white spirit	2010117500
High solids torch with Agilent injector design, 1.8 mm id	Routine analysis of samples to 25% TDS	2010095000



Low-flow axial quartz torch with 2.4 mm id injector tube, 2010090400



High solids axial torch with Agilent injector design, 2010094800



Sheath gas high solids torch for axial ICP, 2010122400



Low-flow quartz torch for radial ICP, 2010069690



High solids torch with Agilent injector design for radial ICP, 2010095000

Torch Spares

Description	Part No.
Spare quartz torch bonnet for radial ICP-OES	2010070790
GazFit fittings 6 mm id for one-piece and semi-demountable ICP-OES torches, 4/pk	9910107100
GazFit fittings 8 mm id for ICP-OES torches, 2/pk	CP959924
Transfer tube FEP cyclone spray chamber for radial ICP	7910051290
Transfer tube FEP Sturman-Masters spray chamber for radial ICP	7910051490
Transfer tube FEP for axial ICP (suitable for cyclone and Sturman-Masters spray chambers)	7910051590
Silicon pump tubing, 3/16 inch id x 5/16 inch od, per m	2410023800
Connects the torch plasma and auxiliary gas lines to the argon supply with the 700 Series, Vista Series, and Liberty ICP-OES	
Tubing, 1/4 inch id, spray chamber to torch, per m	3710033400



Spare quartz torch bonnet, 2010070790



Transfer tube FEP for axial ICP, 7910051590

Cones for Dual View and Axial ICP-OES

Description	Part No.
Finger nut for cone	1510220200
Pre-optics cone for 5100 SVDV/VDV ICP-OES	G8010-68109
Pre-optics cone for Vista/700 Series axial ICP-OES	3610007300
Pre-optics cone for Liberty Series axial ICP-OES	3610006200
Esteele cleaning powder	8110002800
For cleaning interface cone on axially-viewed ICP-OES	



Pre-optics cone for Vista/700 Series axial ICP-OES, 3610007300

Miscellaneous Supplies for 5100 Dual View ICP-OES

Description	Part No.
Work coil for 5100 Dual View ICP-OES	G8010-68103
Strainer for cooling water	G1833-66024
Replacement glass (quartz) for the axial view pre-optics window	G8010-68014
O-ring for the axial view pre-optics window	G8010-68018
Replacement glass (calcium fluoride) for the radial view pre-optics window	G8010-68015
Washer for the radial view pre-optics window	G8010-68017



Semi-demountable inert axial torch assembly kit,
9910084700



Semi-demountable inert radial torch assembly kit,
9910056800



Fully demountable axial torch assembly kit,
9910106300



Fully demountable radial torch assembly kit,
9910106400

Semi-demountable and Fully Demountable Torches

Description	Part No.
Semi-demountable inert axial torch assembly kit Also requires 1 m length of transfer tubing to connect the spray chamber to the torch, p/n 3710033400	9910084700*
Semi-demountable inert radial torch assembly kit Also requires 1 m length of transfer tubing to connect the spray chamber to the torch, p/n 3710033400	9910056800*
Fully demountable axial torch assembly kit Includes torch and bracket kit	9910106300
Fully demountable radial torch assembly kit Includes torch and bracket kit	9910106400

*Application: Samples with free HF when used with an inert alumina injector (p/n 2410067590); for volatile organic solvents, use narrow bore 0.8 mm id quartz injector (p/n 2010077500)

Spares for Semi-demountable Torches

Description	Part No.
Spare semi-demountable quartz torch body for axial ICP-OES	2010083400
Spare semi-demountable quartz torch body for radial ICP-OES	2010072900
Injector holder kit Includes O-rings	9910057300
Alumina injector tube, 1.8 mm	2410067590
Quartz injector tube, 1.8 mm, 3/pk	9910057000
Quartz injector tube, 0.8 mm id	2010077500



Spare semi-demountable quartz torch body,
2010072900



Injector holder kit, 9910057300

Alumina injector tube, 2410067590

Quartz injector tube, 0.8 mm id, 2010077500



Spare fully demountable radial torch body,
7910044500



Quartz intermediate tube, axial and radial,
2010095300



Quartz outer tube, radial, 2010095500



Alumina injector, 1.8 mm id, axial or radial,
2010095900

Spares for Fully Demountable Torches

Description	Part No.
Spare fully demountable axial torch body	7910044400
Spare fully demountable radial torch body	7910044500
Quartz outer tube, axial	2010095200
Quartz outer tube for high solids, axial	2010120300
Quartz intermediate tube, axial and radial	2010095300
Quartz outer tube, radial	2010095500
Ceramic outer tube, radial	2010095800
O-ring kit	9910108200
Alumina injector, tapered, 1.8 mm id, axial or radial	2010095900
Quartz injector, tapered, 1.8 mm id, axial or radial	2010101800
Quartz injector, 1.0 mm id, radial	2010096000
Quartz injector, 1.5 mm id, radial	2010095600
Quartz injector, 2.4 mm id, axial	2010095400
Ceramic injector, 2.4 mm id, axial or radial	2010101700

Tubing

Peristaltic Pump Tubing

Peristaltic Pump Tubing Chemical Compatibility

Tubing	Recommendations
Standard PVC tubes	Suitable for all aqueous solutions, medium-concentrated acids and bases
Solvent flexible (Solvaflex)	Suitable for kerosene, white spirit, alcohols, medium-highly concentrated acids and bases
Viton	Suitable for gasoline, naphtha, toluene, xylene (aromatic hydrocarbons), highly concentrated acids and bases
Marprene	Suitable for ketone-based solvents including MIBK and DIBK



Peristaltic pump tubing, 3710034400

Common Peristaltic Pump Tubing Dimensions

Bridge Colors	Inner Diameter (mm)	Inner Diameter (in)
Orange/Red	0.19	0.0075
Orange/Blue	0.25	0.010
Orange/Green	0.38	0.015
Orange/Yellow	0.51	0.020
Orange/White	0.64	0.025
Black/Black	0.76	0.030
Orange/Orange	0.89	0.035
White/White	1.03	0.040
Red/Red	1.14	0.045
Gray/Gray	1.30	0.050
Yellow/Yellow	1.42	0.055
Yellow/Blue	1.52	0.060
Blue/Blue	1.65	0.065
Green/Green	1.85	0.070
Purple/Purple	2.06	0.080
Purple/Black	2.29	0.090
Purple/Orange	2.54	0.100

Length 16 in (406 mm), bridge interval 6 in (152 mm)

Standard pump tubing sizes used with Agilent ICP-OES systems for aqueous samples

Dual View and Axial ICP-OES*

Sample	White/White
Drain	Blue/Blue
Internal Standard	Orange/White

*For organic solvents and high matrix samples, the sample pump tube used should be smaller in diameter, e.g. black/black

Radial ICP-OES*

Sample	Gray/Gray
Drain	Blue/Blue
Internal Standard	Orange/White

*For organic solvents and high matrix samples, the sample pump tube used should be smaller in diameter, e.g. black/black

PVC Tubing for Aqueous Samples



Peristaltic pump tubing, 3710034400

Description	Part No.
Pump tubing, orange/green, 12/pk	3710068200
Pump tubing, orange/green, flared ends, 12/pk	3710068300
Peristaltic pump tubing, orange/white, 12/pk	3710046900
Peristaltic pump tubing, black/black, 12/pk	3710027200
Peristaltic pump tubing, orange/orange, 12/pk	3710068800
Peristaltic pump tubing, white/white, 12/pk	3710034400
Peristaltic pump tubing, gray/gray, 12/pk	3710034500
Peristaltic pump tubing, blue/blue, 12/pk	3710034600
Peristaltic pump tubing, purple/black, 12/pk	3710027300
Peristaltic pump tubing, black/white, 12/pk	3710068900

Replacement Tubing for Aqueous Samples

Drain tubing spray chamber to peri-pump waste line (glass cyclonic spray chamber) and 5100 spray chamber waste, 0.12 inch id x 0.062 inch thick	3710024600
Tubing, spray chamber to torch and 5100 sample tray drain, 1/4 inch id x 1/16 inch od, per m	3710033400
Clip to secure the drain tubing to the 5100 ICP-OES sample tray	G8010-40026
Tubing, spray chamber to peri-pump waste line (Sturman-Masters spray chamber), per m	3710033900
Nebulizer capillary tubing, per m	2410020500

PVC Solvaflex Tubing for Low Volatile Organic Samples

Description	Part No.
Peristaltic pump tubing, orange/green, 12/pk	3710068000
Peristaltic pump tubing, orange/green, flared ends, 6/pk	3710068100
Peristaltic pump tubing, black/black, 12/pk	3710034800
Peristaltic pump tubing, white/white, 12/pk	3710035000
Peristaltic pump tubing, gray/gray, 12/pk	3710035200
Peristaltic pump tubing, blue/blue, 12/pk	3710067900
Peristaltic pump tubing, purple/black, 12/pk	3710047000

Replacement Tubing for Low Volatile Organic Samples

Tubing, spray chamber to torch, per m	3710037800
Tubing, spray chamber to peri-pump waste line (Sturman-Masters spray chamber), per m	3710035300
Tubing, spray chamber to peri-pump waste line (glass cyclonic spray chamber), per m	3710035400
Nebulizer capillary tubing, per m	2410020500

Marprene Tubing for Ketone-Based Organic Samples

Description	Part No.
Peristaltic pump tubing, orange/green, 12/pk	3710068400
Peristaltic pump tubing, orange/green, flared ends, 12/pk	3710068500
Peristaltic pump tubing, orange/yellow, 12/pk	3710044000
Peristaltic pump tubing, black/black, 6/pk	3710044100
Peristaltic pump tubing, black/black, 12/pk	3710041900
Peristaltic pump tubing, orange/orange, 6/pk	9910075900
Peristaltic pump tubing, white/white, 12/pk	3710044200
Peristaltic pump tubing, gray/gray, 12/pk	3710044300
Peristaltic pump tubing, yellow/yellow, 12/pk	3710041800
Peristaltic pump tubing, blue/blue, 12/pk	3710044400

Replacement Tubing for Ketone-Based Organic Samples

Tubing, spray chamber to torch, per m	3710037800
Tubing, spray chamber to peri-pump waste line (Sturman-Masters spray chamber), per m	3710035300
Tubing, spray chamber to peri-pump waste line (glass cyclonic spray chamber), per m	3710035400
Nebulizer capillary tubing, per m	2410020500



Peristaltic pump tubing, 3710047000



Peristaltic pump tubing, 3710044100



Peristaltic pump tubing, 3710043600

Viton Tubing for Aromatic Organic Samples

Description	Part No.
Peristaltic pump tubing, orange/green, 12/pk	3710068600
Peristaltic pump tubing, orange/green, flared ends, 12/pk	3710068700
Peristaltic pump tubing, orange/yellow, 12/pk	3710043500
Peristaltic pump tubing, black/black, 12/pk	3710043600
Peristaltic pump tubing, white/white, 12/pk	3710043700
Peristaltic pump tubing, gray/gray, 12/pk	3710043800
Peristaltic pump tubing, blue/blue, 12/pk	3710043900
Peristaltic pump tubing, orange/yellow, 6/pk	3710053500
Peristaltic pump tubing, black/black, 6/pk	3710053600
Peristaltic pump tubing, white/white, 6/pk	3710053700
Peristaltic pump tubing, gray/gray, 6/pk	3710053800
Peristaltic pump tubing, yellow/yellow, 12/pk	3710041700
Peristaltic pump tubing, blue/blue, 6/pk	3710053900



Internal standard kit 2 with orange/white tubing, 9910124100

Internal Standard Kit

The Internal Standard Kit enables online addition of internal standard. It includes:

- One pack standard PVC pump tubing
- One pack EzyFit sample inlet connectors, 10/pk
- Five Y-piece connectors
- Connecting tubing

Internal Standard Kit

Description	Part No.
Internal standard kit 1 with black/black pump tubing	9910124000
Internal standard kit 2 with orange/white pump tubing	9910124100

Tubing Kits for 700 Series, Vista Series, and Liberty ICP-OES

Aqueous Samples and High Dissolved Solids

The ICP-OES tubing kit for aqueous samples and high dissolved solids includes:

- Two packs standard PVC peristaltic pump tubing, 12/pk (one each blue/blue and white/white for the axial ICP kits, and one each gray/gray and blue/blue for the radial ICP kits)
- One FEP transfer tube (spray chamber to torch)
- Drain tubing, 1 m
- Tubing for waste line from spray chamber, 1 m
- One pack EzyFit sample inlet connectors, 10/pk
- Nebulizer capillary tubing, 2 m
- Barb connectors for joining tubing (5 ea 1/16 to 1/8 in id and 5 ea 1/16 to 1/16 in id)
- Connecting tubing, 0.5 m

Aqueous Samples and High Dissolved Solids

Description	Use With	Part No.
Aqueous tubing kit 1 – axial	OneNeb/SeaSpray/K-style nebulizers and double- or single-pass cyclonic spray chamber	9910123600
Aqueous tubing kit 1 – radial	OneNeb/SeaSpray/K-style nebulizers and double- or single-pass cyclonic spray chamber	9910123700
Aqueous tubing kit 2 – axial	OneNeb/V-groove nebulizer and Sturman-Masters spray chamber	9910123800
Aqueous tubing kit 2 – radial	OneNeb/V-groove nebulizer and Sturman-Masters spray chamber	9910123900



Aqueous tubing kit 1 for axial ICP-OES,
9910123600



Organics tubing kit 1 for radial ICP-OES,
9910124300

Low Volatile Organic Solvents

The ICP-OES tubing kit for low volatile organic solvents includes:

- Two packs PVC Solvaflex peristaltic pump tubing, 12/pk (one each black/black and white/white)
- One FEP transfer tube (spray chamber to torch)
- Drain tubing, 1 m
- Tubing for waste line from spray chamber, 1 m
- Nebulizer capillary tubing, 2 m
- Barb connectors for joining tubing (5 ea 1/16 to 1/8 in id and 5 ea 1/16 to 1/16 in id)

Low Volatile Organic Solvents

Description	Use With	Part No.
Organics tubing kit 1 – axial	OneNeb/SeaSpray nebulizer and double-pass cyclonic spray chamber	9910124200
Organics tubing kit 1 – radial	OneNeb/SeaSpray nebulizer and double-pass cyclonic spray chamber	9910124300
Organics tubing kit 2 – axial	OneNeb/V-groove nebulizer and Sturman-Masters spray chamber	9910124400
Organics tubing kit 2 – radial	OneNeb/V-groove nebulizer and Sturman-Masters spray chamber	9910124500

Aromatic Organic Solvents

The ICP-OES tubing kit for aromatic organic solvents includes:

- Two packs viton peristaltic pump tubing, 12/pk (one each black/black and white/white)
- One FEP transfer tube (spray chamber to torch)
- Drain tubing, 1 m
- Tubing for waste line from spray chamber, 1 m
- Nebulizer capillary tubing, 2 m
- Barb connectors for joining tubing (5 ea 1/16 to 1/8 in id and 5 ea 1/16 to 1/16 in id)



Organics tubing kit 3 for radial ICP-OES,
9910124700

Aromatic Organic Solvents

Description	Use With	Part No.
Organics tubing kit 3 – axial	OneNeb/SeaSpray nebulizer and double-pass cyclonic spray chamber	9910124600
Organics tubing kit 3 – radial	OneNeb/SeaSpray nebulizer and double-pass cyclonic spray chamber	9910124700
Organics tubing kit 4 – axial	OneNeb/V-groove nebulizer and Sturman-Masters spray chamber	9910124800
Organics tubing kit 4 – radial	OneNeb/V-groove nebulizer and Sturman-Masters spray chamber	9910124900

Ketone-Based Organic Solvents

The ICP-OES tubing kit for ketone-based organic solvents includes:

- Two packs Marprene peristaltic pump tubing, 6/pk (one each black/black and white/white)
- One FEP transfer tube (spray chamber to torch)
- Drain tubing, 1 m
- Tubing for waste line from spray chamber, 1 m
- One pack EzyFit sample inlet connectors, 10/pk
- Nebulizer capillary tubing, 2 m
- Barb connectors for joining tubing (5 ea 1/16 to 1/8 in id and 5 ea 1/16 to 1/16 in id)



Organics tubing kit 6 for radial ICP-OES,
9910125300

Ketone-Based Organic Solvents

Description	Use With	Part No.
Organics tubing kit 5 – axial	OneNeb/SeaSpray nebulizer and double-pass cyclonic spray chamber	9910125000
Organics tubing kit 5 – radial	OneNeb/SeaSpray nebulizer and double-pass cyclonic spray chamber	9910125100
Organics tubing kit 6 – axial	OneNeb/V-groove nebulizer and Sturman-Masters spray chamber	9910125200
Organics tubing kit 6 – radial	OneNeb/V-groove nebulizer and Sturman-Masters spray chamber	9910125300

Volatile Organic Samples

The ICP-OES tubing kit for volatile organic samples includes:

- Two packs Viton peristaltic pump tubing, 6/pk (one each black/black and white/white)
- Transfer tube (spray chamber to torch), 1 m
- Drain tubing, 1 m
- Tubing for waste line from spray chamber, 1 m
- One pack EzyFit sample inlet connectors, 10/pk
- Nebulizer capillary tubing, 2 m
- Barb connectors for joining tubing (5 ea 1/16 to 1/8 in id and 5 ea 1/16 to 1/16 in id)
- Connecting tubing, 1 m

Volatile Organic Samples

Description	Use With	Part No.
Volatile organics tubing kit – axial	OneNeb/SeaSpray nebulizer, cooled spray chamber and full-length torch	9910125400
Volatile organics tubing kit – radial	OneNeb/SeaSpray nebulizer, cooled spray chamber and annealed (organics) torch or semi-demountable torch	9910125500



Volatile organics tubing kit – radial, 9910125500

Applications Kits

Spare Sample Introduction Kits for 5100 Dual View ICP-OES

5100 SVDV/VDV ICP-OES

Description	Nebulizer, Spray Chamber	Part No.
Inert sample introduction kit for use with HF digests and high TDS samples	Inert double-pass spray chamber with ball joint socket, OneNeb nebulizer, inert demountable Easy-fit torch with ceramic injector (1.8 mm id), torch clamp for inert torch and Solvaflex peristaltic pump tubes for sample (black/black tabs) and waste (gray/gray tabs)	G8010-68007
Semi-volatile organic solvent sample introduction kit for use with semi-volatile organic solvents including MIBK	Double-pass glass cyclonic spray chamber with ball joint socket, Conikal nebulizer, demountable Easy-fit torch with 1.4 mm id injector, solvent resistant drain tubing and Marprene peristaltic pump tubes for sample (white/white tabs) and waste (blue/blue tabs)	G8010-68009
Volatile organic solvent sample introduction kit for use with volatile organic solvents including gasoline	Conikal nebulizer, demountable Easy-fit torch with 0.8 mm id injector, solvent resistant drain tubing and Viton peristaltic pump tubes for sample (white/white tabs) and waste (blue/blue tabs). Requires but does NOT include a cooled spray chamber. The IsoMist peltier cooled spray chamber is recommended.	G8010-68005

5100 RV (Radial) ICP-OES

Description	Nebulizer, Spray Chamber	Part No.
Inert sample introduction kit for use with HF digests and high TDS samples	Inert double-pass spray chamber with ball joint socket, OneNeb nebulizer, inert demountable Easy-fit torch with ceramic injector (1.8 mm id), torch clamp for inert torch and Solvaflex peristaltic pump tubes for sample (black/black tabs) and waste (gray/gray tabs)	G8010-68006
Semi-volatile organic solvent sample introduction kit for use with semi-volatile organic solvents including MIBK	Double-pass glass cyclonic spray chamber with ball joint socket, Conikal nebulizer, demountable Easy-fit torch with 1.4 mm id injector, solvent resistant drain tubing and Marprene peristaltic pump tubes for sample (white/white tabs) and waste (blue/blue tabs)	G8010-68008
Volatile organic solvent sample introduction kit for use with volatile organic solvents including gasoline	Conikal nebulizer, demountable Easy-fit torch with 0.8 mm id injector, solvent resistant drain tubing and Viton peristaltic pump tubes for sample (white/white tabs) and waste (blue/blue tabs). Requires but does NOT include a cooled spray chamber. The IsoMist peltier cooled spray chamber is recommended.	G8010-68004

Spare Sample Introduction Kits for 700 Series, Vista Series, and Liberty ICP-OES

These sample introduction kits include:

- Nebulizer
- Spray chamber
- Mounting bracket
- FEP transfer tube (spray chamber to torch)
- Nebulizer gas connector with connecting tubing and 2 tubing clamps

Axial ICP-OES

Description	Nebulizer, Spray Chamber	Part No.
Aqueous samples kit	SeaSpray nebulizer, single-pass glass cyclonic spray chamber	9810039790
High sensitivity kit for aqueous samples	OneNeb nebulizer, single-pass glass cyclonic spray chamber	9810046690
Flexible kit for use with high solids or organic solvents	OneNeb nebulizer, double-pass glass cyclonic spray chamber	9810046590
Common organic solvents kit	Conikal (K style) nebulizer, single-pass glass cyclonic spray chamber	9810039890
Volatile organic solvents kit	SeaSpray nebulizer, double-pass glass cyclonic spray chamber	9810039690

Radial ICP-OES

Description	Nebulizer, Spray Chamber	Part No.
High solids kit	SeaSpray nebulizer, double-pass glass cyclonic spray chamber	9810039590
High sensitivity kit for high solids	OneNeb nebulizer, double-pass glass cyclonic spray chamber	9810046490
Inert high solids kit (use with HF/fusions)	V-groove nebulizer, Sturman-Masters double-pass cyclonic spray chamber	9810039490
Inert high sensitivity kit for high solids (use with HF/fusions)	OneNeb nebulizer, Sturman-Masters double-pass cyclonic spray chamber	9810046390

High Dissolved Solids

The application kits for high dissolved solids include:

- Nebulizer
- Spray chamber
- Mounting bracket
- Agilent high-solids torch (unless otherwise stated)
- Argon saturator accessory
- ICP-OES tubing kit. Includes two packs peristaltic pump tubing (12/pk), FEP transfer tube (spray chamber to torch), drain tubing (1 m), tubing for waste line from spray chamber (1 m), one pack Ezyfit sample inlet connectors (10/pk), nebulizer capillary tubing (2 m), barb connectors for joining tubing (5 ea 1/16 to 1/8 in id and 5 ea 1/16 to 1/16 in id) and connecting tubing (0.5 m).



High solids kit 2 – radial, 9910125900

High Dissolved Solids

Description	Nebulizer, Spray Chamber	Part No.
High solids kit 1 – axial	SeaSpray nebulizer, double-pass glass cyclonic spray chamber	9910125600
High solids kit 1 – radial	SeaSpray nebulizer, double-pass glass cyclonic spray chamber	9910125700
High solids kit 2 – axial	V-groove nebulizer, Sturman-Masters spray chamber	9910125800
High solids kit 2 – radial	V-groove nebulizer, Sturman-Masters spray chamber	9910125900
High solids kit 3 – axial	V-groove nebulizer, Sturman-Masters spray chamber, sheath gas high-solids torch with Agilent injector design (2.4 mm id), AGM 1 auxiliary gas module for flow control over sheath gas flow	9910141000

Inert Sample Introduction Systems

The inert sample introduction systems kit is for solutions with free HF and includes:

- V-groove nebulizer
- Double-pass Sturman-Masters spray chamber
- Mounting bracket
- Semi-demountable torch with 1.8 mm id alumina injector
- ICP-OES tubing kit. Includes two packs peristaltic pump tubing (12/pk), FEP transfer tube (spray chamber to torch), drain tubing (1 m), tubing for waste line from spray chamber (1 m), one pack Ezyfit sample inlet connectors (10/pk), nebulizer capillary tubing (2 m), barb connectors for joining tubing (5 ea 1/16 to 1/8 in id and 5 ea 1/16 to 1/16 in id) and connecting tubing (0.5 m).



Inert kit – radial, 9910126100

Inert Sample Introduction Systems

Description	Nebulizer, Spray Chamber	Part No.
Inert kit – axial	V-groove nebulizer, Sturman-Masters spray chamber	9910126000
Inert kit – radial	V-groove nebulizer, Sturman-Masters spray chamber	9910126100
Inert kit – radial	Excludes spray chamber, nebulizer and mounting bracket	9910126200



Organics kit 6 – radial, 9910127400

Ketone-Based Organic Solvents

The application kits for ketone-based organic solvents include:

- Nebulizer
- Spray chamber
- Mounting bracket
- One-piece torch with 1.4 mm id injector
- ICP-OES tubing kit. Includes two packs peristaltic pump tubing (6/pk), FEP transfer tube (spray chamber to torch), drain tubing (1 m), tubing for waste line from spray chamber (1 m), one pack Ezyfit sample inlet connectors (10/pk), nebulizer capillary tubing (2 m), barb connectors for joining tubing (5 ea 1/16 to 1/8 in id and 5 ea 1/16 to 1/16 in id) and connecting tubing (0.5 m).

AGM 1 oxygen accessory (p/n G8473A) is recommended when analyzing organic solvents on axial ICP-OES.

Ketone-Based Organic Solvents

Description	Nebulizer, Spray Chamber	Part No.
Organics kit 5 – axial	Glass concentric (Conikal) nebulizer, double-pass glass cyclonic spray chamber	9910127100
Organics kit 5 – radial	Glass concentric (Conikal) nebulizer, double-pass glass cyclonic spray chamber, annealed torch	9910127200
Organics kit 6 – axial	V-groove nebulizer, double-pass Sturman-Masters spray chamber	9910127300
Organics kit 6 – radial	V-groove nebulizer, double-pass Sturman-Masters spray chamber, annealed torch	9910127400

Volatile Organics

The volatile organics kit reduces vapor pressure that can destabilize the plasma and lead to signal loss. The kit includes:

- Glass concentric (Conikal) nebulizer
- Water-cooled spray chamber
- Mounting bracket
- One-piece torch with 0.8 mm id injector
- ICP-OES tubing kit. Includes two packs peristaltic pump tubing (6/pk), transfer tube (spray chamber to torch) 1 m, drain tubing (1 m), tubing for waste line from spray chamber (1 m), one pack Ezyfit sample inlet connectors (10/pk), nebulizer capillary tubing (2 m), barb connectors for joining tubing (5 ea 1/16 to 1/8 in id and 5 ea 1/16 to 1/16 in id) and connecting tubing (0.5 m).

AGM 1 oxygen accessory (p/n G8473A) is recommended when analyzing volatile organic solvents. Cooled spray chamber requires a refrigerated, water recirculator able to cool fluid down to -10 °C for analysis of volatile organic solvents such as gasoline and naphtha.



Volatile organics kit – radial, 9910127600

Volatile Organics

Description	Nebulizer, Spray Chamber	Part No.
Volatile organics kit – axial	Glass concentric (Conikal) nebulizer, water-cooled spray chamber	9910127500
Volatile organics kit – radial	Glass concentric (Conikal) nebulizer, water-cooled spray chamber, annealed torch	9910127600



Organics kit 1 – radial, 9910126400

Common Organic Solvents

The application kits for common organic solvents include:

- Nebulizer
- Spray chamber
- Mounting bracket
- One-piece torch with 1.4 mm id injector
- The ICP-OES tubing kit. Includes two packs of peristaltic pump tubing (12/pk), FEP transfer tube (spray chamber to torch), drain tubing (1 m), tubing for waste line from spray chamber (1 m), one pack Ezyfit sample inlet connectors (10/pk), nebulizer capillary tubing (2 m), barb connectors for joining tubing (5 ea 1/16 to 1/8 in id and 5 ea 1/16 to 1/16 in id) and connecting tubing (0.5 m).

AGM 1 oxygen accessory (p/n G8473A) is recommended when analyzing organic solvents on axial ICP-OES.

Common Organic Solvents

Description	Application	Nebulizer, Spray Chamber	Part No.
Organics kit 1 – axial	Common, low volatility organic solvents, e.g. kerosene, xylene, and white spirit	Glass concentric (Conikal) nebulizer, double-pass glass cyclonic spray chamber	9910126300
Organics kit 1 – radial	Common, low volatility organic solvents, e.g. kerosene, xylene, and white spirit	Glass concentric (Conikal) nebulizer, double-pass glass cyclonic spray chamber, annealed torch	9910126400
Organics kit 2 – axial	High particulate samples dissolved in common, low volatility organic solvents, e.g. kerosene, xylene, and white spirit	V-groove nebulizer, double-pass Sturman-Masters spray chamber	9910126500
Organics kit 2 – radial	High particulate samples dissolved in common, low volatility organic solvents, e.g. kerosene, xylene, and white spirit	V-groove nebulizer, double-pass Sturman-Masters spray chamber, annealed torch	9910126600

SVS 1 and SVS 2 Switching Valves for ICP-OES

The SVS 1/SVS 1+ and SVS 2/SVS 2+ Switching Valve Systems are innovative sample introduction systems for ICP-OES that improve productivity and reduce memory effects by rinsing while the next sample is introduced. Excess sample is diverted away from the spray chamber, reducing sample carry-over. The SVS 2/SVS 2+ doubles ICP-OES productivity by loading the next solution into a sample loop during the rinse phase, using a high speed pump.

SVS 1 Supplies

Description	Part No.
Replacement 4-port valve. Replace every 4-6 months, depending on usage	3610010100
Flangeless fittings (4 required)	1610136500
Ferrules (4 required)	1610136600
Sample inlet (EzyFit) fitting for concentric glass nebulizer on radial ICP-OES	1610136400
Capillary tubing, PFA, 0.0625 inch x 0.02 inch id	3710052400



SVS 2 (left) and SVS 1 (right)



Replacement 4-port valve, 3610010100



Flangeless fittings, 1610136500



Ferrules (4 required), 1610136600



SVS 2 sample loop, 1.0 mL, 9910143400



SVS 2 tubing kit, 7910063800

Tubing kit for SVS 2 Fast Uptake Pump,
3710066700

SVS 2 Supplies

Description	Part No.
Nebulizer EzyFit connector for SVS 0.75 mm id x 1.6 mm od tubing (10/pk)	1610146100
Replacement triple-stack 4-port valve Replace every 12 months, depending on usage. Includes valve assembly with rotor, mounting plate, mixing tee, thrust washer, and stator.	3610020400
SVS 2 sample loop, 0.25 mL	9910143200
SVS 2 sample loop, 0.5 mL	9910143300
SVS 2 sample loop, 1.0 mL	9910143400
SVS 2 sample loop, 1.5 mL	9910143500
SVS 2 sample loop, 2.0 mL	9910143600
SVS 2 sample loop, 2.5 mL	9910143700
SVS 2 sample loop, 3.0 mL	9910143800
SVS 2 sample loop, 3.5 mL	9910143900
SVS 2 sample loop, 4.0 mL	G8485-60518
SVS 2 tubing kit Includes SVS 2 carrier/rinse tubing, 300 mm (blue), SVS 2 internal standard tubing, 300 mm (yellow), loop link, 80 mm (green/green), SVS 2 internal standard link, 120 mm (gray/brown), SVS 2 sample loop – 1.0 mL (black/black) and 2 x 1/4 inch – 28 super flangeless fittings plus 2 x 1/16 inch super flangeless ferrules	7910063800
Replacement wiper seal kit for SVS 2 Fast Uptake Pump Replace every 12 months, depending on usage. Requires pump seal installation tool, p/n 7910064600	7910064500
Tubing kit for SVS 2 Fast Uptake Pump Includes PVC 2.5 mm id waste tubing, 1.5 m, PVC 2.5 mm id inlet tubing, 50 mm, valve waste tubing, 320 mm (red), bubble injector tubing, 400 mm, bubble injector T-piece and bubble injector 1-way valve	3710066700
Capillary transfer line, connects SVS 2 to UniFit nebulizer fitting, 50 mm	G8010-60834

Multi-Mode Sample Introduction System (MSIS)

The MSIS provides simultaneous vapor generation of environmentally sensitive elements including As, Se and Hg with low $\mu\text{g/L}$ detection limits. It provides better performance than conventional nebulization through thin film hydride technology, while offering a choice of three modes that eliminates changeover and allows routine and hydride elements to be determined using the same setup.

For best performance when determining environmentally sensitive elements such as As, Se and Hg, it is recommended to use the conventional vapor generation technique using the VGA 77.



Multi-Mode Sample Introduction System (MSIS)

Multi-Mode Sample Introduction System (MSIS)

Description	Part No.
Multi-Mode Sample Introduction System (MSIS)	G8000-63003

MSIS Accessory Kits for 700 and Vista Series ICP-OES

Description	Part No.
Accessory kit to adapt the MSIS for use with axial ICP-OES	G8479-68000
Accessory kit to adapt the MSIS for use with radial ICP-OES	G8479-68001
Each kit includes mounting bracket with screws and washers, glass transfer tube with ball joint connection, clamps for ball joint and torch with ball joint connection.	

MSIS Supplies

Description	Part No.
Torch one piece for axial ICP Features ball joint sample inlet and 2.3 mm id injector	7910050700
Glass transfer tube for axial ICP Links to torch with ball joint sample inlet Includes retaining clamp	7910052800
Torch one piece for radial ICP Features ball joint sample inlet and 1.4 mm id injector	7910052900
Glass transfer tube for radial ICP Links to torch with ball joint sample inlet Includes retaining clamp	7910052700
Peristaltic pump tubing, black/black, 12/pk Required to pump reagents to MSIS	3710027200
Peristaltic pump tubing, black/white, 12/pk Required to pump waste from MSIS	3710068900
Bracket for mounting MSIS with axial and radial ICP	110868000



Argon Gas and Air Filters

Description	Part No.
Filters for 700 and Vista Series ICP-OES	
Small argon filter, charcoal (for detector gas purge line)	6810008600
Drierite filter (for detector gas purge line)	6810008700
Large argon filter, charcoal (externally mounted – for polychromator gas purge line)	6810010000
Filters for 5100 Dual View ICP-OES	
Argon gas inlet filter. Requires annual replacement. Customer replaceable	G8010-60136
Inlet cooling air filter	G8000-68002
Replacement filter element for the cooling air inlet on instruments fitted with the "dusty environment air inlet filter" option	G8010-60189



ICP-MS Supplies

As ICP-MS has evolved to become the premier technique for trace metal analysis, Agilent has been at the forefront of development and design, introducing many important innovations. With the 8800 Triple Quadrupole ICP-MS, the innovative MS/MS operation provides precise control of reaction processes in the collision/reaction cell, ensuring better performance than conventional reaction cell ICP-MS. This new technology delivers unrivaled flexibility for solving difficult applications.



7900 ICP-MS

ICP-MS Maintenance Schedule

Item	Actions/Comments	Typical Schedule*
Argon gas	Check argon gas pressure and volume	Daily (check before starting work and over the course of daily analysis)
Drain vessel	Check, empty if required	
Peristaltic pump tubing	Check for damage/deterioration	
Sampling cone, skimmer cone	Check orifice for foreign matter, deformation and enlargement Clean if required	Weekly
Foreline pump (rotary pump)	Check oil level and color Check mist filter for presence of oil	Monthly
Nebulizer	Run nebulizer test, take appropriate action as indicated	
Cooling water	Check water level and condition	
Extraction/Omega lenses	Clean	Periodically as needed
Shield contact	Replace	
Octopole	Replace when necessary	
Other ion lenses	Clean	
Foreline pump (rotary pump)	Change oil	6 Months
Rotary pump oil mist filter	Check/replace mist filter	Annually
Penning gauge (7500 Series)	Clean and replace when necessary	
Water strainer	Check and clean	
Cooling fluid	Replace	Periodically
Sample introduction area, e.g. spray chamber, end cap	Clean	
Torch	Clean and replace when necessary	
Electron multiplier	Evaluate and replace when necessary	
Plasma gas, auxiliary gas tubing	Check and replace when necessary	
Argon gas filter	Check and replace when necessary	
Graphite gasket for interface cone	Replace when surface or shape is damaged	

*Maintenance frequency is highly dependent on lab conditions, sample throughput, and sample type. Components should be checked periodically (as indicated), and appropriate action taken.

Sample Introduction Supplies

Sample Line Supplies

Description	Specifications	Use	Unit	77/79/8800	7500
				Part No.	Part No.
Peri-pump sample tubing, white/white, Tygon	1.02 mm id, 40 cm, 3 tabs	Standard for sample introduction	12/pk	G1833-65569	G1833-65569
Peri-pump sample tubing, PVC, black/black, flared ends	0.76 mm id, 40 cm, 3 tabs	Recommended for high matrix samples	12/pk	5064-8101	5064-8101
Peri-pump tubing for ISTD, flared end, 2 stopper, blue/orange	0.25 mm id	Standard for 7700/8800 Series	12/pk	G3280-67047	G3280-67047
Peri-pump tubing for ISTD, flared end, 2 stopper, red/orange	0.19 mm id	Standard for 7500 Series	12/pk	G3280-67008	G3280-67008
Peri-pump tubing, Fluran, 3 stopper, yellow/blue	1.52 mm id	For xylene analysis	1/pk	5042-4799	5042-4799
Peri-pump tubing, silicone	1.02 mm id, 16 inch		6/pk	G1820-65217	G1820-65217
Peri-pump ISTD tubing, Tygon	0.19 mm id, 40 cm		12/pk		G1833-65571
Peri-pump drain tubing, Ismaprene	1.52 mm id, 0.75 wall, 40 cm		12/pk	G1833-65570	G1833-65570

(Continued)



Peri-pump sample tubing, Tygon, G1833-65569

Sample Line Supplies

Description	Specifications	Use	Unit	77/79/8800	7500
				Part No.	Part No.
Sample tubing, PFA	0.5 mm id, 1.6 mm od, 5 m		1/pk	G1820-65105	G1820-65105
	0.2 mm id, 1.6 mm od, 70 cm		3/pk	G1833-65573	G1833-65573
	0.15 mm id, 1.6 mm od, 70 cm		3/pk	G1833-65572	G1833-65572
Sample tubing with PEEK guide, PFA	0.3 mm id, 1.6 mm od, 70 cm		5/pk	G1820-65531	G1820-65531
	0.2 mm id, 1.6 mm od, 70 cm		5/pk	G1820-65527	G1820-65527
	0.15 mm id, 1.6 mm od, 70 cm		5/pk	G1820-65526	G1820-65526
ISTD tubing, PFA	0.3 mm id, 1.6 mm od, 3 m	For online ISTD addition	1/pk	G1820-65478	G1820-65478
Online ISTD addition kit			1/pk	G3280-60590	G1833-65071
Plastic tubing cutter			1/pk	8710-1930	8710-1930
Sample tray		For 7700/8800 ICP-MS	1/pk	G3280-40103	
Sample tray		For 7900 ICP-MS	1/pk	G8400-40113	
Plug for cross joint			3/pk	G3138-65129	G3138-65129
PTFE nut for cross joint		For 1.6 mm od tubing	10/pk	5064-8023	5064-8023
Front and back ferrule		For 1.6 mm od tubing	10/pk	5064-8024	5064-8024
Stator arm tape for peristaltic pump			3/pk	G3280-60568	G3280-60568
Stator arm tape for peristaltic pump, 30 m roll			1/pk	5043-0030	5043-0030



Sample tubing, PFA, G1820-65105



Plastic tubing cutter, 8710-1930

Nebulizers and Supplies

Description	Specifications	Use	Unit	77/79/8800	7500
				Part No.	Part No.
MicroMist nebulizer, U-series	Borosilicate glass with UniFit sample connector	Standard on 7900 Suitable for most sample types except those containing HF or suspended particulates.	1/pk	G3266-80004	
UniFit sample inlet fitting	0.5 mm id, 700 mm with connector	For U-Series MicroMist nebulizer with Unifit sample connector	10/pk	G3266-80012	
UniFit sample inlet fitting	0.25 mm id, 700 mm with connector	For U-Series MicroMist nebulizer with Unifit sample connector	10/pk	G3266-80013	
MicroMist nebulizer	Borosilicate glass with Ezyfit sample connector	Standard on 7700x/e, 8800 and 7500cx/ce Suitable for most sample types except those containing HF or suspended particulates. When ordered for the 7500a, the spray chamber end cap (p/n G1833-65475) is also required.	1/pk	G3266-65003	G3266-65003
Sample inlet (EzyFit) fitting	0.25 mm id, 700 mm with connector	For MicroMist nebulizer with EzyFit sample connector	10/pk	G3266-80010	G3266-80010
Sample inlet (EzyFit) fitting	0.5 mm id, 700 mm with connector	For MicroMist nebulizer with EzyFit sample connector	10/pk	G3266-80011	G3266-80011
Carrier gas connector		For MicroMist nebulizer	1/pk	G3266-80015	G3266-80015

(Continued)



MicroMist nebulizer, G3266-65003



Sample tubing, G3266-80010



Carrier gas connector, G3266-80015

Nebulizers and Supplies

Description	Specifications	Use	Unit	77/79/8800	7500
				Part No.	Part No.
Nebulizer cleaner		Suitable for conventional concentric nebulizer	1/pk	G3266-80020	G3266-80020
MicroFlow nebulizer	PFA, 200 µL/min	For analysis of high purity and HF samples	1/pk	G3139-65100	G3139-65100
MicroFlow nebulizer with I-AS probe	PFA, 200 µL/min	Standard on 7700s, 8800 semicon configuration and 7500s. For analysis of high purity and HF samples when using the Integrated Autosampler (sample uptake tube terminates as a sampling probe).	1/pk	G3139-65102	G3139-65102
MicroFlow nebulizer	PFA, 20-50 µL/min		1/pk	G3139-65106	G3139-65106
MicroFlow nebulizer with I-AS probe	PFA, 20-50 µL/min		1/pk	G3139-65108	G3139-65108
Carrier gas line connector		For MicroFlow nebulizer	2/pk	G1833-65583	G1833-65583
Mira Mist nebulizer	PTFE	For high solids applications such as environmental, geological, etc. Not for semiconductor use since it does not self-aspirate. When ordered for the 7500a, the spray chamber end cap (p/n G1833-65475) is also required (included with 7500cx/cs).	1/pk	G3161-80000	G3161-80000
Mira Mist nebulizer	PEEK	For high solids applications such as environmental, geological, etc. Not for semiconductor use since it does not self-aspirate. When ordered for the 7500a, the spray chamber end cap (p/n G1833-65475) is also required (included with 7500cx/cs).	1/pk	G3161-80001	G3161-80001
Sample inlet connector for Mira Mist nebulizer	Includes 0.5 m sample capillary (0.044 inch od x 0.018 inch id)		10/pk	CP913777	

(Continued)



Nebulizer cleaner, G3266-80020



MicroFlow nebulizer with I-AS probe, G3139-65102



Carrier gas line connector, G1833-65583

Nebulizers and Supplies

Description	Specifications	Use	Unit	77/79/8800	7500
				Part No.	Part No.
Babington nebulizer	Includes Viton O-ring, PTFE sample tubing, and connector	For samples with high matrix and high total salts. Clean when contaminated or when orifices are clogged.	1/pk		G1820-60453
End cap for Babington nebulizer, polypropylene	Includes Viton O-rings	Replace when memory effects do not disappear after cleaning. Insert nebulizer in middle of end cap all the way through. Attach end cap to spray chamber with "TOP" mark facing up.	1/pk		G1833-65476
Babington nebulizer removal tool			1/pk		G1820-65345
C-Flow PFA concentric nebulizer	PFA 200 µL/min	All PFA nebulizer recommended for ultra-trace analysis. Alternative to the MicroFlow nebulizer.	1/pk	G3285-80000	
C-Flow PFA concentric nebulizer with I-AS probe	PFA 200 µL/min	All PFA nebulizer recommended for ultra-trace analysis. Alternative to the MicroFlow nebulizer.	1/pk	G3285-80001	
C-Flow PFA concentric nebulizer	PFA 50 µL/min	Recommended for VPD and high matrix semiconductor, specifically Si matrixes above 100 mg/L, and for H ₃ PO ₄ . Use in free-aspiration mode.	1/pk	G3285-80002	
C-Flow PFA concentric nebulizer with I-AS probe	PFA 50 µL/min	Recommended for VPD and high matrix semiconductor, specifically Si matrixes above 100 mg/L, and for H ₃ PO ₄ . Use in free-aspiration mode.	1/pk	G3285-80003	
Concentric nebulizer, Pyrex	Use with p/n G1820-65052 Argon gas connector, p/n G1820-60160 connector kit, p/n G1820-65121 end cap	Use with clean samples only. Not resistant to hydrochloric acid. Clean with a 5% HNO ₃ (v/v) bath; do not use ultrasonic bath.	1/pk	G1820-65030	G1820-65030
Concentric nebulizer, quartz	Use with p/n G1820-65337 Quartz spray chamber, p/n G1820-80237 Quartz connecting pipe	Recommended for trace analysis of clean samples. Lower contamination level than Pyrex. Clean using 5% HNO ₃ (v/v) bath; do not use ultrasonic bath.	1/pk	G1820-65138	G1820-65138
Connector for carrier gas line, polypropylene	4 mm tubing, includes ferrule and O-ring	For gas line connection to concentric nebulizer	1/pk	G1820-65052	G1820-65052
Sample tubing with connector, PTFE	Tool included	For Babington nebulizer, replace when heavily contaminated by high matrix samples.	1/pk		G1820-65276

(Continued)



Polypropylene connector, G1820-65052

Nebulizers and Supplies

Description	Specifications	Use	Unit	77/79/8800	7500
				Part No.	Part No.
Sample line connector	Includes Viton O-ring	Connects concentric nebulizer with sample line. Port with large hole connects to nebulizer; smaller port connects with sample tubing.		G1820-60160	G1820-60160
Union fitting	4 mm tubing	For PFA concentric nebulizer	1/pk	5064-8078	5064-8078
Ferrule and Viton O-ring kit for carrier gas line connector		For Babington/concentric nebulizer	1/pk	G1820-65533	G1820-65533
End cap for concentric nebulizer, PTFE	Includes Viton O-rings	Connects the concentric nebulizer (Pyrex or quartz) with the spray chamber. For MicroMist, MicroFlow, and other concentric nebulizers.	1/pk		G1833-65475
O-rings for Babington nebulizer, Viton		Used to create seal between Babington nebulizer and end cap	4/pk		G1820-65199
O-ring kit for concentric nebulizer, Viton	2 sizes, 10 ea		10 ea	G1820-65491	G1820-65491
O-rings for concentric nebulizer, for organic solvents (3 types)			4/pk	G1820-65520	G1820-65520
O-rings for end cap, Viton		Use for the end cap of the Babington nebulizer, CrossFlow nebulizer, and concentric nebulizer	5/pk		G1820-65198
O-rings for end cap, for organic solvents			2/pk		G1820-65518
CrossFlow nebulizer	Includes bushing, carrier gas line connector, blend gas line connector, sample tubing, and gas line tubings with inner sleeves	Standard nebulizer for the inert kit. Resistant to hydrofluoric acid. Set carrier gas pressure to 500 kPa (5 kg/cm ²). Clean with 5% HNO ₃ (v/v) bath. Replace when memory effects remain after cleaning.			G1833-65462
O-ring A for concentric nebulizer	Perfluoro, 1.07 mm id		5/pk	G3280-67115	
O-ring B for concentric nebulizer	Perfluoro, 3.8 mm id		5/pk	G3280-67116	



Ferrule and Viton O-ring kit
for carrier gas line connector, G1820-65533

Spray Chambers

Description	Use	Unit	77/79/8800 Part No.	7500 Part No.
Spray chamber, double-pass design, quartz	Standard for 7700/8800 and 7500 Series Also suits 7900 if Ultra HMI capability is not required		G3280-80008	G1820-65337
Spray chamber, double-pass design, quartz	For 7900 only Required when using Ultra HMI capability		G8400-67150	
End cap for spray chamber			G3280-60008	
End cap retainer (secures end cap to spray chamber body)	For 7700/8800 and 7500 Series		G3280-67091	G3280-67091
End cap retainer (secures end cap to spray chamber body)	For 7900 only (p/n G8400-67150)		G8400-40200	
Connector for gas line at end cap			5042-4775	
Plug for make-up gas connector			G3270-20067	
End cap nut for nebulizer connection			0535-1082	
Drain tubing assembly			G3280-60555	
Drain tubing	Tubing between peri-pump tubing and drain tank		G1820-65515	G1820-65515
Drain tubing, Tygon, 3/32 x 5/32 inch, 5 m			G3160-67000	
Drain tank, polyethylene, 4 L			5042-4769	5042-4769
Drain tank with PVC connector, 1 L			G1820-65016	G1820-65016
Drain tank for organic solvents			G1820-65505	G1820-65505
Drain tubing kit Includes 2 connectors, 1 bushing, 1 tubing (4 mm id, 12 cm)			G3280-60555	G1833-65411

(Continued)



Spray chamber, quartz,
G3280-80008



End cap for spray chamber,
G3280-60008



Connector for gas line at end cap,
5042-4775



Drain tubing assembly,
G3280-60555

Spray Chambers

Description	Use	Unit	77/79/8800 Part No.	7500 Part No.
Bushing at spray chamber drain, Viton		5/pk		G1820-65482
Bushing at spray chamber drain, for organic solvents	For use with organic solvents			G1820-65504
Connector for spray chamber drainage, polypropylene				G1820-65503
Spray chamber	For ultra-trace B analysis		G3280-80503	G3270-80300
Connector, quartz	Between spray chamber and torch			G1833-65426
Connector, polypropylene	Between spray chamber and torch			G1833-65464
T-connector for optional gas introduction, quartz	Between spray chamber and torch			G1833-65427
O-rings for polypropylene connector, Viton		10/pk		G1833-65480
Clamps for ball joint connector between spray chamber and torch, 77/8800 ICP-MS	Used to secure ball joint connectors on spray chamber, connector tube and torch. For 77/8800 ICP-MS	2/pk	G1833-65430	G1833-65430
Clamp for ball joint connector between spray chamber and torch, 7900 ICP-MS	Used to secure ball joint connectors on spray chamber, connector tube and torch. For 7900 ICP-MS	1/pk	G8400-60327	
Tygon tubing, 3 m	For drain to drain tank		G3280-60077	G3280-60077
Organic solvent introduction kit			G3280-60580	
<p>Replaces the standard quartz torch, sample introduction and drain parts with those suitable for analysis of volatile organic solvents. Includes quartz torch with 1.5 mm id injector (1.0 mm id torch is not supplied, but is available for volatile organics), sample tubing with guide (5 pcs 0.15 mm id x 70 cm and 5 pcs 0.2 mm id x 70 cm), sample tubing (0.3 mm id x 3 m) peristaltic pump tubing for drain (30 pcs) and organic solvent warning label. A quartz concentric nebulizer is also recommended (not supplied). A Pt sampling cone is also required, when O₂ carrier gas is added to allow analysis of organic solvents.</p>				



PFA inert kit, sapphire, 2.5 mm id, G4912-68000



Connector tube with gas port, G4912-80016

PFA Inert Sample Introduction Kit Supplies

The PFA inert sample introduction kits replaces the standard quartz sample introduction parts with those suitable for the analysis of high purity and HF samples. Kit includes end cap (PFA), spray chamber (PFA), connecting pipe, demountable torch with PFA base and torch injector (either Pt or sapphire). The kit with the sapphire injector is recommended for volatile organic solvents. The kit with the Pt injector is recommended for semiconductor applications. Requires but does not include a nebulizer. The PFA nebulizer is recommended and should be ordered separately.

PFA Inert Sample Introduction Kit Supplies

Description	77/79/8800 Part No.	7500 Part No.
PFA inert kit, sapphire, 2.5 mm id Torch included	G4912-68000	
PFA inert kit, platinum, 2.5 mm id Torch included	G4912-68001	
PFA inert kit, sapphire, 1.5 mm id Torch included	G4912-68002	
PFA inert kit, platinum, 1.5 mm id Torch included	G4912-68003	
Inert sample introduction kit, sapphire, 2.5 mm id Torch not included		G3285-80014
Inert sample introduction kit, platinum, 2.5 mm id Torch not included		G3285-80015
Inert sample introduction kit, sapphire, with O ₂ port, 1.5 mm id Torch not included		G3285-80016
Inert sample introduction kit, platinum, with O ₂ port, 1.5 mm id Torch not included		G3285-80017

PFA Inert Sample Introduction Kit Supplies

Description	77/79/8800	7500
	Part No.	Part No.
End cap	G3285-80020	G3285-80020
Spray chamber	G3285-80021	G3285-80021
Drain tube	G4912-80014	G3285-80022
Long connector tube	G3285-80024	G3285-80024
Connector tube with gas port	G4912-80016	G3285-80023
O-ring for injection assembly, 10/pk	G3285-80085	G3285-80085
Sapphire injector for PFA inert kit, 2.5 mm id injector	G3285-80034	G3285-80034
Platinum injector for PFA, 2.5 mm id	G3285-80035	G3285-80035
Sapphire injector for PFA inert kit, 1.5 mm id injector	G4912-80010	
Sapphire injector for PFA inert kit with O ₂ port, 1.5 mm id		G3285-80036
Platinum injector for PFA inert kit, 1.5 mm id injector	G4912-80011	G3285-80037
Demountable torch (no injector)	G4912-80013	G4912-80013



End cap, G3285-80020



Sapphire injector for PFA inert kit, 2.5 mm id injector, G3285-80034

PP Inert Sample Introduction Kit Supplies for 7500 Series

Description	7500 Part No.
Spray chamber, polypropylene (sapphire tube)	G1833-65463
Inert torch, quartz, without injector	G1833-65422
Platinum injector for inert torch, 2.5 mm id	G1833-65415
Platinum injector for inert torch, 2.0 mm id	G1833-65409
Platinum injector for inert torch, 1.5 mm id	G1833-65416

HMI Kit Supplies for 7500 Series

Description	Part No.
Plug for make-up gas connector	G3270-20067
Inner sleeve	5022-1703
Gas connector	5042-4774
End cap assembly	G3270-60207
Torch, 2.5 mm, 2 projections	G3270-80043
Quartz connector tube with dilution port for HMI	G3270-80024
Quartz connector tube (straight)	G3270-80025
Connector rod, oxygen	G3270-80026



Connector rod, dilution, G3270-80024

Torches and Components

Description	Specifications	Use	77/79/8800 Part No.	7500 Part No.
Torch, quartz	2.5 mm id	Standard torch for most applications Not suitable for samples containing hydrofluoric acid	G3280-80053	G3270-80043
Torch, quartz	1.5 mm id, taper type	For use with organic solvents. Not suitable for samples containing hydrofluoric acid	G3280-80080	G1833-65424
Torch, quartz	1.0 mm id, taper type	For use with organic solvents. Not suitable for samples containing hydrofluoric acid	G3280-80081	G1833-65425
Shield plate, long life		Use with the bonnet	G1833-65419	G1833-65419
Bonnet (quartz ring for shield torch)		Use with shield plate (p/n G1833-65419)	G1833-65421	G1833-65421
Quartz connector tube (straight)			G3270-80025	G3270-80025
Quartz connector tube with dilution port for HMI		For 7500/7700/8800 ICP-MS	G3270-80024	G3270-80024
Clamps for ball joint connector, 2/pk		Used to secure ball joint connectors on spray chamber, connector tube and torch	G1833-65430	G1833-65430
Clamp for ball joint connector, 1/pk		Used to secure ball joint connectors on spray chamber, connector tube and torch. For 7900 ICP-MS	G8400-60327	
RF coil for 7700/8800 ICP-MS			G3280-60638	G1833-65432
Alignment plate for RF coil			G1833-66011	G1833-66011
RF coil for 7900 ICP-MS			G8400-60434	

See PFA Inert Sample Introduction Kit Supplies table for the torch for inert kit on pages 82-83



Torch, quartz, G3280-80053



Bonnet for shield torch, G1833-65421



Connector rod, dilution, G3270-80024

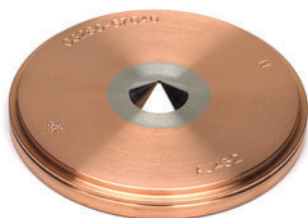
TIPS & TOOLS

The torch must be completely dried before installing and igniting the plasma. Replace if chipped, cracked, or distorted.



Interface Cones and Ion Lenses

Interface Cone Guide for Agilent 7700/7900 Series and 8800 Triple Quadrupole ICP-MS



Sampling cone, nickel, G3280-67040



Platinum sampling cone, G3280-67036

Description	Part No.	7700x/e and 8800	7700s and 8800 semicon	7900
Sampling cone				
Nickel sampling cone	G3280-67040	Std	✓	Std with x-lens
Platinum sampling cone	G3280-67036	✓	Std	Std with s-lens
Nickel plated sampling cone	G3280-67061	✓	✓	✓
Platinum sampling cone, 18 mm insert	G3280-67056	✓	✓	✓
Skimmer cones for 7700/8800				
Nickel skimmer cone	G3280-67041	Std		
Platinum skimmer cone	G3280-67060	✓		
Platinum skimmer cone, nickel base	G3280-67063	✓		
Platinum skimmer cone, copper base	G3280-67064		Std	Std with s-lens
Nickel skimmer cone	G3280-67066		✓	✓
Platinum skimmer cone, nickel base	G3280-67065		✓	✓
Copper skimmer cone	G3280-67067		✓	✓
Skimmer cones for 7900				
Nickel skimmer cone for x-lens	G8400-67200			Std
Platinum skimmer cone, nickel base for x-lens	G8400-67202			✓
Platinum skimmer cone, copper base for x-lens	G8400-67201			✓
Skimmer bases for 7700/8800				
Skimmer base, stainless steel	G3280-60608	Std		
Skimmer base, brass	G3280-60621	✓		
Skimmer base, brass	G1833-65590		Std	
Skimmer base, stainless steel	G1833-65591		✓	
Skimmer base (offset), brass, for special application	G3280-60381		✓	
Skimmer bases for 7900				
Skimmer base, stainless steel for x-lens	G8400-60624			Std with x-lens
Skimmer base, brass for x-lens	G8400-60625			✓
Skimmer base, brass for s-lens	G8400-60626			Std with s-lens
Skimmer base, stainless steel for s-lens	G8400-60627			✓
Skimmer base (offset), brass, for special application	G8400-60628			✓

TIPS & TOOLS

If you plan to do cool plasma measurements using your ICP-MS, you should have "s lenses" (semicon lenses) fitted to your interface.



Key

✓: Compatible Part

Std: Fitted as standard when instrument shipped from factory

Recommendations on What Cone to Use

Type of Cone	For Which Model?	Recommended Application
Nickel (Ni) sample/skimmer cones	Standard on 7700x/e, 7900 with x-lens, and 8800	Suitable for most common applications. Provides most economical operation
Ni-plated sampling cone		For samples containing > 0.5% HCl, or for routine operation with HMI with max. aerosol dilution ratio
Platinum sample/skimmer cones	Standard on 7700s, 7900 with s-lens, and 8800 semicon configuration. Optional for other models	Required for analysis of aggressive acids (esp. HF) and when O ₂ /Ar option gas is used for analysis of organic solvents
Pt skimmer with Ni base		Recommended for organics analysis. Requires the brass skimmer base
Pt skimmer with Cu base	Standard on 7700s, 7900 with s-lens, and 8800 semicon	Recommended for the lowest LODs and for higher matrix samples. Requires the brass skimmer base



Skimmer cone, nickel, G3280-67041



Platinum skimmer cone, G3280-67060



Skimmer base, stainless steel, G3280-60608

TIPS & TOOLS

Did you know you can save money and help the environment by returning your used Agilent platinum ICP-MS cones? Find out more about the trade-in credits on used Pt cones for the 7700/7900/8800/7500 ICP-MS at www.agilent.com/chem/ptcone



Interface Cone Guide for Agilent 7500 Series

Description	Part No.	7500a	7500i	7500s	7500c	7500ce/cx	7500cs	T-mode
Sampling cone								
Nickel sampling cone	G1820-65238	Std	Std	✓	Std	Std	✓	
Platinum sampling cone, 10 mm insert	G1820-65239	✓	✓	Std	✓	✓	Std	
Platinum sampling cone, 18 mm insert	G1820-65360	✓	✓	✓	✓	✓	✓	
Nickel sampling cone for T-mode	G1820-65480	T-mode	T-mode	T-mode				✓
Skimmer cone								
Nickel skimmer cone	G1820-65050	Std	Std	✓				
Nickel skimmer cone	G3270-65024					Std		
Nickel skimmer cone	G1833-65497				Std		✓	
Platinum skimmer cone	G1820-65237	✓	✓	Std				
Platinum skimmer cone	G1833-65092				✓			
Platinum skimmer cone	G1833-65132						Std	
Platinum skimmer cone (Ni base)	G3270-60106					✓	✓	
Copper skimmer cone	G3270-60643						✓	
Nickel skimmer cone for T-mode	G1820-65481	T-mode	T-mode	T-mode				✓
Skimmer base								
Stainless steel base for nickel skimmer	G1833-65407	Std	Std	✓				✓
Stainless steel base for nickel skimmer	G1833-65591					Std	✓	
Stainless steel base for nickel skimmer	G1833-65498				Std			
Brass base for platinum skimmer	G1833-65408	✓	✓	Std				
Brass base for platinum skimmer	G1833-65505				✓			
Brass base for platinum skimmer	G1833-65590					✓	Std	

Key

✓: Compatible Part

Std: Fitted as standard when instrument shipped from factory

NOTES:

- 18 mm Pt cone insert is recommended for measuring H₂SO₄ above 2%
- Pt T-mode cones are not available
- T-mode is not used with ORS models

Sampling and Skimmer Cone Supplies

Description	77/79/8800 Part No.	7500 Part No.
Interface wrench for sampling cone	G3280-01507	G1833-65405
Retaining ring for sampling cone	G3280-20504	
Graphite gasket for sampling cone, 3/pk	G3280-67009	
Interface wrench for skimmer cone removal	G3280-60502	G1833-65079
Screws for skimmer base, 4/pk	G1820-65435	G1820-65435
Cone cleaning detergent, 1 gallon	5188-5359	5188-5359
Alumina powder, abrasive, 1 kg	8660-0791	8660-0791
Cotton swab, ultra-fine cone bud shape, both ends, 100/pk	9300-2574	9300-2574
O-ring for sampling cone, Viton		G1820-65025



Interface wrench for sampling cone, G3280-01507



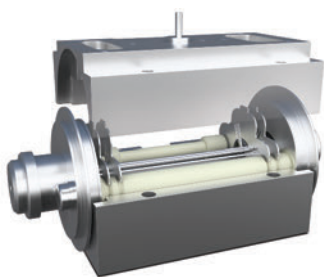
Retaining ring for sampling cone, G3280-20504

Ion Lens System Components for 7900

Description	Part No.
7900 with x-lens	
Extraction-omega lens assembly	G8400-67001
Extraction lens 1	G8400-60215
Extraction lens 2	G8400-60216
Omega bias lens	G8400-00240
Omega lens	G8400-60217
Screw and spacer kit for x-lens	G8400-67003
7900 with s-lens	
Extraction-omega lens assembly	G8400-67002
Extraction lens 1	G8400-60218
Extraction lens 2	G8400-60219
Omega bias lens	G3280-20646
Omega lens	G3280-20653
Screw and spacer kit for s-lens	G3280-67038



Extraction-offset lens assembly, G3280-67039



Reaction cell assembly, G3280-60650

Ion Lens System Components for 7700/8800 Series

Description	Part No.
7700x/e and 8800	
Extraction-offset lens assembly	G3280-67039
Extraction lens 1	G3280-60612
Extraction lens 2	G3280-60613
Omega bias lens	G3280-01650
Omega lens	G3280-60609
Screw and spacer kit for x-lens	G3280-67037
Spacer (deflect/plated b), 4/pk	G3280-67110
7700s and 8800 semicon configuration	
Extraction-omega lens assembly	G3280-67035
Extraction lens 1	G1833-65592
Extraction lens 2	G1833-65593
Omega bias lens	G3280-20646
Omega lens	G3280-20653
Screw and spacer kit for s-lens	G3280-67038
7700x/s/e and 8800 series	
Reaction cell assembly	G3280-60650
Octopole	G3280-67045
Cell focus lens	G3280-20633
Cell entrance lens	G3280-20618
Cell exit lens	G3280-20664
Screw/spacer/O-ring for cell	G3280-67044
Tubing for cell gas	G3280-20663
Deflect lens	G3280-20628
Plate bias	G3280-60615
Polishing paper kit	G1833-65404
Waterproof sheets, #400 and #1200, 5 of each	
Manual vent valve	G3280-67046
Offset skimmer tool	G3280-60671

Ion Lens System Components for 7500 Series

Description	Part No.
7500a/i/s/c/cs	
Plate bias (for Eagle Q-pole)	G1833-65494
Plate bias (for Slim ring Q-pole)	G1833-65444
Polishing paper kit	G1833-65404
Waterproof sheets, #400 and #1200, 5 of each	
7500a/i/s	
Extraction lens 1	G1833-65417
Extraction lens 2	G1833-65413
Omega lens assembly	G1833-65418
Screw kit for extraction lens	G1833-65024
Screw kit for omega lens	G1833-65025
7500c	
Einzel lens 1	G1833-65500
Einzel lens 2	G1833-65501
Einzel lens 3	G1833-65502
Extraction lens	G1833-65499
Octopole	G1833-65094
Octopole assembly (includes cell entrance/exit without O-ring)	G1833-65503
Screw and spacer kit for extraction Einzel lens	G1833-65578
Screw kit for reaction cell	G1833-65088
Tubing for reaction gas, 2/pk	G1833-65089

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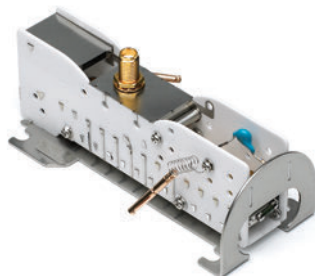
Extraction lens 1, G1833-65417



Extraction lens 2, G1833-65413

Ion Lens System Components for 7500 Series

Description	Part No.
7500ce/cx	
O-ring for reaction cell	G1833-66035
Extraction-Omega lens assembly	G3270-65023
Extraction lens 1	G3270-65028
Extraction lens 2	G3270-65029
Omega lens	G3270-65030
Omega bias lens	G3270-65031
Screw and spacer kit for extraction and Omega lens	G3270-60639
7500cs	
Extraction lens 1	G1833-65592
Extraction lens 2	G1833-65593
Extraction-Omega lenses assembly	G1833-65596
Omega bias lens	G1833-65594
Omega lens	G1833-65595
Screw and spacer kit for ion lens	G1833-65125
Cell entrance lens	G1833-65598
Cell exit lens	G1833-66000
Cell focus lens	G1833-65597
7500cs/ce/cx	
Focus lens for Q-pole	G1833-65599
Octopole	G1833-65133
Octopole assembly (includes cell focus, cell entrance/exit, and QP focus)	G1833-65134
Reaction cell assembly	G1833-66001
Screw and spacer kit for reaction cell	G1833-65138
Plate bias for S/N JP14100050 – JP14100313	G1833-65513
Plate bias for S/N JP14100314 or later	G1833-65562
Reaction cell assembly, stainless steel	G3270-65060
O-ring for reaction cell, 2/pk	G3270-65036



Electron multiplier, 5190-0108

Electron Multipliers

Description	8800 Part No.	7900 Part No.	7700 Part No.	7500 Part No.
Electron multiplier (ETP)				5184-1983
Electron multiplier (HPK)				G1833-65575
Electron multiplier	5190-0123	G8400-60258	5190-0108	

Vacuum System Supplies

- When plasma is ON, check pump oil level every month
- Maintain oil level between max and min levels on the gauge
- Standard frequency for changing the oil is approximately every six months

Vacuum System Supplies

Description	Unit	7900 Part No.	7700/8800 Part No.	7500 Part No.
Inland 45 pump oil, 1 gallon	1 gal	6040-0798	6040-0798	6040-0798
Foreline pump (rotary pump) oil, Inland 45, 1 L	1 liter	6040-0834	6040-0834	6040-0834
Foreline pump fluid (Fomblin 06/6) 2 kg for use with strong acid samples	2 kg		5069-4478	
Oil mist filter element for DS402 rotary vane pump			9499342M002	
Oil mist filter kit for DS402 rotary vane pump			9499392M004	
Remote drain oil kit for DS402 rotary vane pump			9499375M003	
DS oil return system kit			9499376	9499376
Oil mist filter element for E2M18			1535-4970	1535-4970
Oil mist filter element for MS40+		9499201		
Odor element for oil mist filter for E2M18	5/pk		5063-9153	5063-9153
Oil mist filter kit for E1M18/E2M28			3162-1056	3162-1056
Electrode kit for penning gauge for 7500				G1820-81013
Tube AIM gauge for 7500				G1820-81012
O-rings for vent valve, Viton	2/pk	G1833-65332	G1833-65332	G1833-65332
O-ring for vacuum chamber, Viton		5042-4790	5042-4790	5042-0901
Manual vent valve, includes O-ring, for 77/79/88		G3280-67046	G3280-67046	



WARNINGS & CAUTION

Be careful when changing oil because it may have absorbed dangerous substances. The oil in the foreline pump (rotary pump) on the interface side of an ICP-MS equipped with a hydrofluoric acid resistant introduction system is especially dangerous.

DO NOT TOUCH THE OIL WITH BARE HANDS.



Oil mist filter element for E2M18, 1535-4970



Odor element for oil mist filter, 5063-9153



Autosampler Supplies

The Integrated Autosampler is ideal for ultra-trace analysis and small sample volumes (as low as 0.5 mL). It features a pumped rinse station and offers flexible rack configurations with a maximum capacity of 89 vials, plus three rinse vials.

Integrated Autosampler(I-AS) Supplies

Description	Unit	Common Part No.
Tray A, 89-position for 6 mL vials, polypropylene		G3160-80060
Tray B, 53-position for 18 mL vials, polypropylene		G3160-80061
Tray C, 18-position for 50 mL vials, polypropylene		G3160-80062
Tray D, 79 x 2 mL + 10 x 18 mL positions, polypropylene		G3160-80063
Tray E, 79 x 6 mL + 10 x 18 mL positions, polypropylene		G3160-80064
Tray F, 15-position for use in special semiconductor applications, holds 15 vials of up to 48 mm od x 55 mm high, polypropylene		G3160-80065
PFA vials, 1.5 mL, for use with Tray D	10/pk	G3160-65317
6 mL polypropylene vials, for use with Tray A and E	200/pk	G3160-65303
18 mL polypropylene vials, for use with Tray B, D, and E	55/pk	G3160-65304
50 mL polypropylene vials, for use with Tray C	20/pk	G3160-65305
2 mL polyethylene vial, for use with Tray D	200/pk	G3160-65315
PFA needle, 0.3 mm id, standard probe		G3160-65306
Rinsing bottle, 100 mL	6/pk	G3160-65307
Tray cover		G3160-65321
Rinse fluid inlet/outlet tubing (for I-AS with diaphragm pump)		G3160-65320
PFA needle, 0.8 mm id, for use with the ISIS		G3160-65324
Tubing holder, PEEK, for use with MicroFlow nebulizer (without a sampling probe) and 2 mL vials		G3160-65325
Needle holder		G3160-80041
Holder for carry tray cover		G3160-60015
Peristaltic pump tubing set with connectors	1 set	G3160-65326
Peristaltic pump tubing set with connectors	5/pk	G3160-65327
Drain tubing, Tygon, from peristaltic pump to rinse bottle or drain bottle	2 pieces	G3160-65328
Serial-USB converter cable for use with G7201A MassHunter		G3160-80200
I-AS table for 7900		G3160-60016



Tray B, 53-position for 18 mL vials, polypropylene,
G3160-80061



Peristaltic pump tubing set with connectors,
G3160-65326

ASX-500 Series Autosampler Supplies

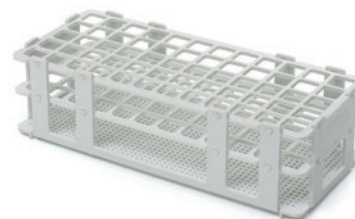
The ASX-500 Series Autosampler is fully automated, making it ideal for medium to high sample throughput applications. It features a pumped rinse station and offers flexible rack configurations with a maximum capacity of four racks providing up to 360 vial positions with 5 x 250 mL bottle positions and bottles for rinse and tune solutions.

ASX-500 Series Autosampler Supplies

Description	Common Part No.
Sample rack, 21-position, 50 mL vials	G3286-80103
Sample rack, 24-position, 30 mL vials	G3286-80104
Sample rack, 40-position, 20 mL vials	G3286-80105
Sample rack, 60-position, 14 mL vials	G3286-80106
Sample rack, 90-position, 8 mL vials	G3286-80107
Sample probe, 0.8 mm id (red band)	G3286-80100
Sample probe, 0.3 mm id (black band)	G3286-80101
Sample probe, 0.5 mm id (blue band)	G3286-80102
Carbon fiber sample probe, 0.8 mm id (red band)	G3286-80110
Carbon fiber sample probe, 0.3 mm id (black band)	G3286-80111
Carbon fiber sample probe, 0.5 mm id (blue band)	G3286-80112
Carbon fiber sample probe, 1.0 mm id (2 blue bands)	G3286-80119
For use with G3286-80300 Z-drive assembly	
Rinse/drain tubing hookup kit	G3286-80117
Drain pump tubing and connector kit (Tygon)	G3286-80118
Z-axis drive assembly with PEEK cable, anti-kink	G3286-80330
Rinse station	G3286-80224
USB 2.0 cable (10 feet) for use with G7201A MassHunter	G1680-63720



ASX-520 Autosampler



Sample rack, 60-position, G3286-80106



Sample probe, G3286-80102



Drain pump tubing and connector kit (Tygon), G3286-80118



Rinse station, G3286-80224



Agilent Integrated Sample Introduction System (ISIS)

Peripherals Supplies

The Agilent Integrated Sample Introduction System (ISIS) provides the highest sample throughput, using either high-speed uptake with constant flow nebulization or discrete sampling using a six-port valve and sample loop with time-resolved acquisition. This allows for advanced sample handling and sample delivery options for advanced applications. The ISIS also simplifies handling of high matrix samples by reducing interface exposure to sample matrix. This means less signal drift and improved precision plus less frequent cone cleaning.

ISIS Supplies

Description	Specifications	Unit	7700/8800 Part No.	7500 Part No.
Comprehensive spares for ISIS			G4911-67001	
A complete set of spare sample lines and connectors, plus fittings, mixing coil, block adapters, clamps and tray.				
Sample tubing (0.5 mm id x 5 m, 0.3 mm id x 3 m, 2.0 mm id x 5 m, 0.8 mm id x 5 m), peristaltic pump tubing (0.89 mm id, 3 stoppers, Tygon, 12/pk), peristaltic pump tubing (flared end, Tygon, 2 stopper (blue/orange), 0.25 mm id, 12/pk), peristaltic pump tubing (1.02 mm id, 2 stoppers, Tygon, 12/pk), tubing adapter 2/pk, 2 x tag for tubing identification (10/pk), T-joint, cross joint, union joint, PTFE nut for 3 mm od tubing (10/pk), front and back ferrules for 3 mm od tubing (10/pk), PTFE nut for 1.6 mm od tubing (10/pk), front and back ferrules for 1.6 mm od tubing (10/pk) and tubing clamp (small, 10/pk, large, 5/pk), spiral tubing, 5 m				
Preconfigured tubing kit for auto dilution			G4911-68201	
Includes set of sample lines and connectors for auto-dilution				
Preconfigured tubing kit for discrete sampling			G4911-68202	G3138-65025
Includes set of sample lines and connectors for discrete sampling				
Peristaltic pump tubing, Tygon	0.89 mm id, 3 stops	12/pk	5064-8014	5064-8014
Peristaltic pump tubing	0.25 mm id, 2 stops, flared end	12/pk	G4911-67000	
Peristaltic pump tubing, Tygon	0.25 mm id, 3 stops	12/pk		5064-8034
Peristaltic pump tubing, Tygon	0.25 mm id, 2 stops	12/pk		5064-8015
Peristaltic pump tubing, Tygon	1.02 mm id, 2 stops	12/pk	5064-8028	5064-8028
Peristaltic pump tubing, Tygon	2.29 mm id, 2 stops	12/pk	5043-0010	5043-0010
Peristaltic pump tubing adapter		2/pk	5064-8026	5064-8026
Peristaltic pump tubing adapter	2.29 mm id		G4911-20021	

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ISIS Supplies

Description	Specifications	Unit	7700/8800 Part No.	7500 Part No.
Sample tubing, PTFE	0.8 mm id, 1.6 mm od		5064-8016	5064-8016
Sample tubing, PTFE	2 mm id, 3 mm od		5064-8020	5064-8020
Sample tubing, PFA	0.5 mm id, 1.6 mm od, 5 m	1/pk		G1820-65105
ISTD tubing, PFA	0.3 mm id, 1.6 mm od, 3 m	1/pk		G1820-65478
T-joint			5064-8017	5064-8017
T-joint with earth block			G3280-67062	
Cross joint			5064-8018	5064-8018
Union joint			5064-8019	5064-8019
PTFE nut	For 3 mm od tubing	10/pk	5064-8021	5064-8021
Front and back ferrule	For 3 mm od tubing	10/pk	5064-8022	5064-8022
PTFE nut for cross joint	For 1.6 mm od tubing	10/pk	5064-8023	5064-8023
Front and back ferrule	For 1.6 mm od tubing	10/pk	5064-8024	5064-8024
Tubing adapter				G3138-65158
Tubing clamp			5064-8027	5064-8027
Spiral tubing, 5 m			5064-8029	5064-8029
Wrench for valve maintenance			5064-8032	5064-8032
Tag for tubing identification		10/pk	5064-8033	5064-8033
APG remote cable			5182-2581	5182-2581
Joint holder				G3138-65102
Joint holder for nebulizer pump			G4911-01201	
Joint holder for ISIS Pump			G3138-65103	G3138-65103
Sample line connector				G3138-65104
Rotor seal for valve			G3138-65117	G3138-65117
Nut for valve		6/pk	G3138-65118	G3138-65118
Ferrule for valve		6/pk	G3138-65119	G3138-65119
Mixer			G3138-65121	G3138-65121
Sample loop, 100 µL			G3138-65122	G3138-65122
Plastic tray				G3138-65125
Tray for ISIS			G4911-60011	



Front and back ferrule, 5064-8024

ISIS Hydride Generation Accessory Supplies for 77/8800

Description	Specifications	Unit	Common Part No.
Hydride generation kit for 7700/8800 Series with ISIS (enables hydride generation analysis with improved sensitivity with hydride forming elements such as As, Se, and Sb, and for Hg using the vapor-generation technique)			G4911-68210
Gas/liquid separator set			G3138-65130
Includes separator gas chamber, membrane filter O-ring, separator holder, exclusive concentric nebulizer, O-ring for nebulizer, cyclone chamber, and membrane filters (5/pk)			
Separator gas chamber			G3138-65131
O-ring for filter			G3138-65132
Membrane filter		10/pk	G3138-65137
Separator holder			G3138-65133
Exclusive concentric nebulizer			G3138-65134
O-ring for nebulizer		2/pk	G3138-65135
Cyclone chamber			G3138-65136
Peristaltic pump tubing, PharMed	2.54 mm id, 2 stops	6/pk	G3138-65128
Tubing for gas line	3 mm id, 4 mm od, 5 m		G3138-65138
Plug for cross joint		3/pk	G3138-65129
Reducing union connector	8 x 4 mm		G3138-65144
Reducing union connector	6 x 3 mm		G3138-65139
Reducing union connector	6 x 4 mm		G3138-65140
Plug for carrier gas connector	4 mm od	3/pk	G3138-65141
Y connector for pump tubing	2.5 mm id	5/pk	G3138-65143



Separator gas chamber, G3138-65131



Membrane filter, G3138-65137

Integrated Sample Introduction System (ISIS 3) for 7900

The ISIS 3 dramatically increases the productivity of the Agilent 7900 ICP-MS while also allowing high matrix samples to be run for extended periods of time. With its fast uptake piston pump and close-coupled 7-port valve located close to the nebulizer, the ISIS 3 enables reduced sample uptake and rinse times with discrete sampling (DS). The ISIS 3 delivers unmatched productivity for high sample matrix analysis in high-throughput laboratories.



ISIS 3 Supplies

Description	Unit	Part No.
Tubing and Fittings for ISIS 3		
PFA sample tubing 1.0 mm id, 1/16 inch od, 5 m		G8411-67117
PFA sample tubing 2.18 mm id, 1/8 inch od, 5 m		G8411-67118
Flangeless tube end fitting 1/16 inch Includes polypropylene nut with orange collapsible CTFE ferrule	5/pk	5023-1519
Flangeless tube end fitting 1/16 inch Includes polypropylene nut with purple collapsible CTFE ferrule	5/pk	5023-1520
Flangeless tube end fitting 1/16 inch Includes polypropylene nut with yellow collapsible CTFE ferrule	5/pk	5023-1521
Flangeless tube end fitting 1/16 inch Includes polypropylene nut with white collapsible CTFE ferrule	5/pk	5023-1522
Flangeless tube end fitting 1/16 inch Includes polypropylene nut with black collapsible CTFE ferrule	5/pk	5023-1523
Flangeless tube end fitting 1/16 inch Includes polypropylene nut with blue collapsible CTFE ferrule	5/pk	5023-1524
Flangeless tube end fitting 1/16 inch Includes polypropylene nut with green collapsible CTFE ferrule	5/pk	5023-1525

(Continued)

ISIS 3 Supplies

Description	Unit	Part No.
Tubing and Fittings for ISIS 3		
Flangeless tube end fitting 1/8 inch Includes polypropylene nut with red collapsible CTFE ferrule	5/pk	5023-1526
Flangeless tube end fitting 1/8 inch Includes polypropylene nut with black collapsible CTFE ferrule	5/pk	5023-1527
Replacement collapsible CTFE ferrules, for 1/16 inch tubing	10/pk	5043-0054
Replacement collapsible CTFE ferrules, for 1/8 inch tubing	10/pk	5043-0055
Fitting, male to barb, 1/4-28UNF-ID 3.2 mm, PEEK, natural		5023-1517
Preconfigured kit for discrete sampling with the ISIS 3 Includes a set of sample lines and connectors		G8411-68201
ISIS 3 Valve Supplies		
Rotor seal replacement kit for ISIS valve		G8411-67111
ISIS valve assembly kit		G8411-67113
Gas tubing kit for valve of ISIS 3	3/pk	G8411-67002
ISIS 3-way valve assembly kit		G8411-67114
ISIS 3 Pump Supplies		
Piston pump seal replacement kit		G8411-67115
Piston pump seal installation tool kit		G8411-67116
ISIS piston pump		G8411-80115
PEEK nut for pump of ISIS 3	1/pk	G8400-80119

Parts and Supplies Kits for 7700/7900 and 8800 Series

Description	Kit Contents	Part No.
Basic consumables kit for 7700/7900, and 8800 ICP-MS fitted with x-lens	Peristaltic pump tubes for sample, Tygon, 3-stop, white/white, 12/pk (G1833-65569), peristaltic pump tubes for waste, Ismaprene, 3-stop, yellow/blue (G1833-65570), peristaltic pump tubes for internal standard, Tygon, 2-stop, blue/orange, 12/pk (G3280-67047), PFA sample tubing, 0.5 mm id, 1.6 mm od, 5 m (G1820-65105), graphite gaskets for sampling cone, 3/pk (G3280-67009), rough pump oil, Inland 45, 1 quart (6040-0834), and torch, quartz, 2.5 mm id (G3280-80053)	G3280-67003
Comprehensive spares for 7700x/e and 8800 ICP-MS fitted with x-lens	Peristaltic pump tubes for sample, Tygon, 3-stop, white/white (2 x 12/pk), peristaltic pump tubes for waste, Ismaprene, 3-stop, yellow/blue, peristaltic pump tubes for internal standard, Tygon, 2-stop, blue/orange (2 x 12/pk), PFA sample tubes, 0.5 mm id, 1.6 mm od, 5 m, sample inlet tubing (0.5 mm id) for MicroMist nebulizer, online internal standard addition kit, drain tube assembly, spray chamber, spray chamber drain tubing, connector tube with dilution port, dilution gas connector, nebulizer carrier gas connector, dilution gas port plug, spray chamber clamps (2/pk), carrier gas tubing, torch with 2.5 mm id injector, long-life shield plate, bonnet for shield torch, plasma/auxiliary gas tubing with inner sleeve, gas line connector, RF coil, graphite gaskets for sampling cone, 3/pk, Ni sampling cones (2), Ni skimmer cones (2), screw and spacer kit for x-lens, screw and spacer O-ring, PTFE tubing for internal reaction gas line, octopole assembly, polishing paper kit for ion lens (5 sheets No. 400+1200), oil mist filter element and rotary pump oil (2 x 1 quart)	G3280-67004
Comprehensive spares for 7700s and 8800 semi-conductor ICP-MS fitted with s-lens	Peristaltic pump tubes for sample, Tygon, 3-stop, white/white (2 x 12/pk), peristaltic pump tubes for waste, Ismaprene, 3-stop, yellow/blue, peristaltic pump tubes for internal standard, Tygon, 2-stop, blue/orange (2 x 12/pk), PFA sample tubes, 0.5 mm id, 1.6 mm od, 5 m, online internal standard addition kit, drain tube assembly, spray chamber, spray chamber drain tubing, connector tube with dilution port, dilution gas connector, nebulizer carrier gas connector, dilution gas port plug, spray chamber clamps (2/pk), carrier gas tubing, torch with 2.5 mm id injector, long-life shield plate, bonnet for shield torch, plasma/auxiliary gas tubes with inner sleeve, gas line connector, RF coil, graphite gaskets for sampling cone (3/pk), Pt sampling cone, Pt skimmer cone, screw and spacer kit for s-lens, screw and spacer O-ring, PTFE tubing for internal reaction gas line, octopole assembly, polishing paper kit for ion lens (5 sheets No. 400+1200), oil mist filter element, and rotary pump oil (2 x 1 quart)	G3280-67007
Comprehensive spares for 7700e ICP-MS	Peristaltic pump tubes for sample, Tygon, 3-stop, white/white (2 x 12/pk), peristaltic pump tubes for waste, Ismaprene, 3-stop, yellow/blue, peristaltic pump tubes for internal standard, Tygon, 2-stop, blue/orange (2 x 12/pk), PFA sample tubes, 0.5 mm id, 1.6 mm od, 5 m, sample inlet tubing (0.5 mm id) for MicroMist nebulizer, online internal standard addition kit, drain tube assembly, spray chamber, spray chamber drain tubing, connector rod, nebulizer carrier gas connector, spray chamber clamps (2/pk), carrier gas tubing, torch with 2.5 mm id injector, long-life shield plate, bonnet for shield torch, plasma/auxiliary gas tubes with inner sleeve, gas line connector, RF coil, graphite gaskets for sampling cone (3/pk), Ni sampling cones (2), Ni skimmer cones (2), screw and spacer kit for x-lens, screw and spacer O-ring, PTFE tubing for internal reaction gas line, octopole assembly, polishing paper kit for ion lens (5 sheets No. 400+1200), oil mist filter element, and rotary pump oil (2 x 1 quart)	G3280-67085

Configurable Supplies Kits for 7700/8800 Series

Description	Kit Contents	Part No.
For 7700/8800 ICP-MS systems fitted with x-lens	Peristaltic pump tubes for sample, Tygon, 3-stop, white/white (2 x 12/pk), peristaltic pump tubes for waste, Ismaprene, 3-stop, yellow/blue (2 x 12/pk), peristaltic pump tubes for internal standard, Tygon, 2-stop, blue/orange, 12/pk, PFA sample tubing, 0.5 mm id, 1.6 mm od, 5 m, EzyFit sample inlet, 0.5 mm id, 10/pk, online internal standard addition kit, drain tubing assembly, spray chamber, tubing for drainage (4.0 mm id, 2.5 m), quartz connector tube with dilution port, gas connector for dilution gas port, nebulizer EzyLok gas connector, plug for dilution port (4 mm), clamps for spray chamber (2/pk), carrier/make-up/dilution gas tubing, torch quartz 2.5 mm id, long-life Pt shield plate, bonnet for shield torch, plasma/auxiliary gas tubing with inner sleeve, connectors for plasma/auxiliary gas, RF coil, graphite gaskets for sampling cone (3/pk), screw and spacer kit for x-lens, screw/spacer/O-ring for cell, PTFE tubing for reaction cell gas, octopole assembly, polishing paper kit for ion lens (5 sheets No. 400+1200), oil element for EMF20 outlet mist filter, exhaust replacement cartridge, and rough pump oil, Inland 45 (2 x 1 quart)	G3690A

Then select your preferred skimmer and sampling cones, and ion lenses to suit your application needs by adding one each of the 2 following options.

Option One

Part No.	Description
G3690A#100	Adds Ni sampling cone (G3280-67040)
G3690A#101	Adds Ni plated sampling cone (G3280-67061)
G3690A#102	Adds Pt sampling cone (G3280-67036)

Option Two

Part No.	Description
G3690A#200	Adds Ni skimmer cone (G3280-67041)
G3690A#201	Adds Pt sampling cone (G3280-67060)*

*Requires the brass skimmer base (G3280-60621) which is not included in the kit

Configurable Supplies Kits for 7900 Series

Description	Kit Contents	
For 7900 ICP-MS systems fitted with x- or s-lens	Peristaltic pump tubes for sample, Tygon, 3-stop, white/white (2 x 12/pk), peristaltic pump tubes for waste, Ismaprene, 3-stop, yellow/blue, peristaltic pump tubes for internal standard, Tygon, 2-stop, blue/orange (2 x 12/pk), PFA sample tubing, 0.5 mm id, 1.6 mm od, 5 m, online internal standard addition kit, drain tubing assembly, spray chamber for UHMI, tubing for drainage (4.0 mm id, 2.5 m), straight quartz connector tube, gas connector for dilution gas port, dilution nozzle for UHMI, plug for dilution port (4 mm), clamp, torch ball joint connector (2), carrier/make-up dilution gas tubing, torch, quartz, 2.5 mm id, long-life Pt shield plate, bonnet for shield torch, low impurity gas tubing kit, connectors for plasma/auxiliary gas, work coil assembly, graphite gaskets for sampling cone (3/pk), screw/spacer/O-ring for cell, tubing for reaction cell gas, octopole assembly, polishing paper kit for ion lens (5 sheets No. 400+1200), exhaust filter, and rough pump oil, Inland 45 (2 x 1 quart)	G1131A

Then select the mandatory option and your preferred skimmer/sampling cones, and ion lenses to suit your application needs by adding one each of the 3 following options.

Option One

Part No.	Description
G1131A#100	Mandatory option for a 7900 with x-lens (adds UniFit sample connector, 0.5 mm id, 10/pk (G3266-80012), nebulizer EzyLok gas connector (G3266-80015), Screw + spacer kit for x-lens (G8400-67003))
G1131A#101	Mandatory option for a 7900 with s-lens (adds carrier gas line connector for MicroFlow nebulizer (G1833-65583), and screw and spacer kit for s-lens (G3280-67038))

Option Two

Part No.	Description
G1131A#200	Adds Ni sampling cone (G3280-67040)
G1131A#201	Adds Ni plated sampling cone (G3280-67061)
G1131A#202	Adds Pt sampling cone (G3280-67036)
G1131A#203	Adds Pt sampling cone with 18 mm insert (G3280-67056)

Option Three

Part No.	Description
G1131A#300	Adds Ni skimmer cone for 7900 with x-lens (G8400-67200)
G1131A#301	Adds Pt skimmer cone with Cu base (G8400-67201) and brass skimmer base (G8400-60625) for 7900 with x-lens
G1131A#302	Adds Pt skimmer cone with Ni base (G8400-67202) and brass skimmer base (G8400-60625) for 7900 with x-lens
G1131A#303	Adds Pt sampling cone (G3280-67064) for 7900 with s-lens
G1131A#304	Adds Ni skimmer cone (G3280-67066) and stainless steel skimmer base (G8400-60627) for 7900 with s-lens

GC Interface Supplies for 7500 Series

Description	Part No.
Injector assembly	G3158-65001
Torch	G3158-65007
Stainless steel pipe (Sulfinert) for GC-ICP-MS interface, 1/16 inch	G3158-65003

GC Interface Supplies for 77/7900 and 8800 Series

Description	Part No.
Transfer line for GC interface	G3158-80060
Injector assembly for GC interface	G3158-80050
Torch for GC interface	G3158-80074
Pre-heating pipe with connector, stainless steel, 1/16 inch	G3158-80080
Stainless steel pipe, 1/16 inch (Sulfinert, 1.05 m)	G3158-80081
Polyimide/graphite reducing ferrule (1/8 to 1/16 inch, VG1, 10/pk)	0100-1344
Polyimide/graphite ferrule (1/4 inch, VG1, 10/pk)	0100-1331
Polyimide/graphite ferrule for 320 µm columns (0.5 mm, VG1, 10/pk)	5062-3506
Polyimide/graphite ferrule (1/16 inch, VG2, 10/pk)	0100-1379
PFA tubing, 1/8 inch, 2 m	G3158-60010
3-way manual valve	G3158-80024
Swagelok plug, stainless steel, 1/8 inch	0100-0071
Nut with pipe	G3158-80009
Stainless steel tee for O ₂ gas mix, 1/8 inch	0100-0542

Speciation Columns and Supplies

Description	Notes	Part No.
As speciation column for drinking water		G3154-65001
As speciation column for urine		G3288-80000
As speciation guard column		G3154-65002
Cr speciation column for drinking water		G3268-80001*
Comprehensive LC connection kit	Suitable for LC-ICP-MS applications other than Cr in water and As in water/urine. This is a comprehensive pack of tubing and connectors required to set up LC-ICP-MS. Includes sample tubing (5 x PFA 0.15 mm id x 0.7 m, PTFE 0.8 mm id x 0.5 m, PTFE 2.0 mm id x 5 m), peri-pump tubing (Tygon, 3-stop, 0.89 mm id, 12/pk), 2 x T-joint, 5 x union joint, PTFE nut for 3 mm od tubing (10/pk), front and back ferrules for 3 mm od tubing (10/pk), PTFE nut for 1.6 mm od tubing (10/pk), front and back ferrules for 1.6 mm od tubing (10/pk), 2 x peri-pump tubing adapters, APG remote cable, gender changer connector D9S-FF, and manual/setup guide	G1833-65200
Basic LC connection kit	Includes sample tubing (PFA, 0.3 mm id, 1.6 mm od, 3 m), 2 union joints, 3 x PEEK finger-tight fitting, 1/16 inch x 10-32 male nut (2/pk), APG remote cable, and gender changer connector D9S-FF	G1820-65541
Total consumption nebulizer for capillary LC interface		G3280-80602
Single-pass spray chamber for capillary LC interface		G3280-80603

*Cr speciation handbook, p/n G3268-90001



Strainer for cooling water, G1833-66024

Miscellaneous Supplies

Description	Part No.
7700 maintenance video DVD	G3280-60910
Cooling water hose, 10 m	G1833-65429
Strainer for cooling water	G1833-66024
Poly-clear fluid for G3292A chiller	G3292-80010
Fluid filter for G3292A chiller	G3292-80109
Air filter for G3292A chiller	G3292-80112
Filter for cooling water for 7500 Series	G1820-65018
Water filter connector for 7500 Series	G1820-80430
O-ring for water filter cartridge for 7500 Series	G1833-66042

Gas Line Supplies

Gas Line Supplies

Description	Specifications	Use	Unit	77/79/8800 Part No.	7500 Part No.
Plasma/aux tubing with inner sleeve	0.2 m	For 7700 only	2/pk	G3280-67023	
Plasma/aux tubing with inner sleeve	0.2 m	For 7900/8800 Series	2/pk	G3660-67040	
Connectors for plasma/aux gas lines, PTFE	6 mm and 4 mm	For gas line connection to torch	1/ea	G1820-65027	G1820-65027
Inner sleeve for carrier/aux/blend gas line	CTFE	For gas line connection to connector	5/pk		5042-0922
Inner sleeve for plasma gas line	CTFE	For gas line connection to connector	5/pk		5042-0923
Carrier/make-up/dilution gas tubing				G3280-67022	
Gas connector for dilution gas port		For dilution gas line connection to dilution port		0100-2583 (77/8800)	
Gas connector for dilution gas port		For dilution gas line connection to dilution port		0100-2703 (7900)	
Dilution nozzle for Ultra HMI port		For 7900 ICP-MS only		G8400-67026	

(Continued)



Plasma/aux tubing with inner sleeve,
G3280-67023



Connectors for plasma/aux, G1820-65027



Carrier/make-up/dilution gas tubing, G3280-67022

Gas Line Supplies

Description	Specifications	Use	Unit	77/79/8800	7500
				Part No.	Part No.
Argon gas tubing kit	1/4 inch od, 5 m, inner sleeve, connector	For external line			G1820-65023
Tubing for carrier/blend gas, PTFE	3 mm id, 4 mm od, 35 cm	For gas line connection to nebulizer	2/pk		G1833-65414
Plasma and auxiliary gas line tubing	3.17 mm id, 6.35 mm od, 35 cm (plasma) 2.38 mm id, 3.96 mm od, 35 cm (aux)	For gas line connection to torch	2/pk		G3270-65021
Argon humidifier for 75/77/8800 Series				G3270-80029	G3270-80029
Argon humidifier bottle for 7900				G8400-60700	
Tubing kit for Argon Humidifier used with 7900				G8400-60710	
Argon gas filter				G1820-80341	G1820-80341
Argon clean gas filter		For semicon applications		5064-8092	5064-8092
Argon gas tubing kit for 7700x/e and 7900	Includes nylon tubing (5 m) with fittings and connector, p/n 5063-9132, and fiber membrane gas filter, p/n G1820-80341	For external line		G3280-60160	
Argon gas tubing kit for 7700s, 8800 and 7900 with semi-conductor option	Includes PTFE tubing (5 m) with fittings and connector, p/n 5063-9132, and Ar gas clean filter, p/n 5064-8092	For external line		G3280-60163	
Stainless steel tubing	1/8 inch od, 6 m	For external cell gas line		G3270-65035	G3270-65035

Ultra Clean ICP-MS Traps

Description	Part No.
Replacement Agilent Gas Clean carrier gas filter, CP17973	CP17973
Viton O-rings, two sets	CP7983

Gas Regulators – US only

Description	Part No.
Regulator for helium 2-stage regulator with brass body, stainless steel diaphragms and PTFE seal. CGA580 inlet with maximum inlet pressure 3000 psi. Maximum delivery pressure 15 psi with 0-30 psi outlet gauge and 1/8 inch Swagelok outlet fitting.	0101-1536
Regulator for hydrogen 2-stage regulator with brass body, stainless steel diaphragms and PTFE seal. CGA350 inlet with maximum inlet pressure 3000 psi. Maximum delivery pressure 15 psi with 0-30 psi outlet gauge and 1/8 inch Swagelok outlet fitting.	0101-1537
Regulator for oxygen 2-stage regulator with brass body, stainless steel diaphragms and PTFE seal. CGA540 inlet with maximum inlet pressure 3000 psi. Maximum delivery pressure 15 psi with 0-30 psi outlet gauge and 1/8 inch Swagelok outlet fitting.	0101-1535



Replacement Agilent Gas Clean carrier gas filter,
CP17973

High Purity Gas Regulators – US only

Description	Part No.
Regulator for helium 2-stage regulator with stainless steel body and stainless steel diaphragms. Maximum inlet pressure 3000 psi. Maximum delivery pressure 15 psi with 0-30 psi outlet gauge and 1/8 inch compression tube fitting outlet. Supplied with wall mounting bracket including 36 inch stainless steel lined pigtail with check valve and CGA580 cylinder connection.	0101-1398
Regulator for hydrogen 2-stage regulator with stainless steel body and stainless steel diaphragms. Maximum inlet pressure 3000 psi. Maximum delivery pressure 15 psi with 0-30 psi outlet gauge and 1/8 inch compression tube fitting outlet. Supplied with wall mounting bracket including 36 inch stainless steel lined pigtail with check valve and CGA350 cylinder connection.	0101-1399
Regulator for argon 2-stage regulator with stainless steel body and stainless steel diaphragms. Maximum inlet pressure 3000 psi. Maximum delivery pressure 100 psi with 0-200 psi outlet gauge and 1/4 inch FPT outlet. Supplied with wall mounting bracket including 36 inch stainless steel lined pigtail with check valve and CGA580 cylinder connection.	0101-1400
Regulator for NH ₃ /He 2-stage regulator with stainless steel body and stainless steel diaphragms. Maximum inlet pressure 3000 psi. Maximum delivery pressure 15 psi with 0-30 psi outlet gauge and 1/4 inch FPT outlet. Supplied with wall mounting bracket including 36 inch stainless steel lined pigtail with check valve and CGA705 cylinder connection.	5188-5374

Gas Line Connectors for 7500 Series

Description	Specifications	Use	7500 Part No.
Connector for end cap and gas line		For gas line connection to nebulizer	5063-5263
Connectors for plasma/aux gas lines, PTFE	6 mm and 4 mm	For gas line connection to torch	G1820-65027
Connector for carrier gas line, PTFE	4 mm tubing, includes ferrule and O-ring	For gas line connection to Babington nebulizer	G1820-65214
Connector for carrier gas line, polypropylene	4 mm tubing, includes ferrule and O-ring	For gas line connection to concentric nebulizer	G1820-65052
Connector for blend gas line, polypropylene, 2/pk	4 mm tubing	For gas line connection to CrossFlow/Babington nebulizer	G1820-65119
Connector for make-up gas line, polypropylene	4 mm tubing, Luer type	For gas line connection to CrossFlow/Babington nebulizer	G1833-65477
Union fitting	4 mm tubing	For PFA concentric nebulizer	5064-8078



Polypropylene connector, G1820-65052



PTFE connector, G1820-65214



Connector for blend gas line, G1820-65119



4200 Microwave Plasma-Atomic
Emission Spectrometer

MP-AES Supplies

Agilent has revolutionized atomic spectroscopy with the introduction of an instrument that doesn't just redefine a category – it creates a new one.

The Agilent 4200 Microwave Plasma-Atomic Emission Spectrometer runs entirely on air, which means your lab can eliminate flammable and expensive gases. It's safer and more cost efficient than other spectrometers. The 4200 MP-AES enables superior detection and can perform unattended multi-element analyses.

Agilent provides all of the supplies and accessories you need for the 4100/4200 MP-AES.



Easy-fit torch for 4200 MP-AES, G8003-70000



Easy-fit torch for 4100 MP-AES, G8000-70002



Torch clamp, G8000-64140



Concentric nebulizer, G8000-70004



Nebulizer gas connector, G8000-64142



OneNeb inert concentric nebulizer, 2010126900

Agilent 4100/4200 MP-AES Supplies

MP-AES Torch Supplies

Description	Part No.
Easy-fit torch for 4200 MP-AES, with a blue base for easy identification. Suitable for the 4200 MP-AES only	G8003-70000
Easy-fit torch for 4100 MP-AES	G8000-70002
Torch clamp	G8000-64140

MP-AES Nebulizers and Supplies

Description	Part No.
Concentric nebulizer for use with aqueous solutions and normal digests	G8000-70004
Nebulizer gas connector Connects to gas outlet on instrument	G8000-64142
OneNeb inert concentric nebulizer for use with higher TDS levels, HF solutions and organic solvents	2010126900

MP-AES Spray Chambers and Supplies

Description	Part No.
Single-pass glass cyclonic spray chamber	G8000-70006
Double-pass glass cyclonic spray chamber for use with higher TDS levels and organic solvents	G8000-70007
Drain tube kit	G8000-64143
Inert single-pass cyclonic spray chamber for use with HF solutions	G8000-70008



Single-pass glass cyclonic spray chamber, G8000-70006

MP-AES Peristaltic Pump Tubing

Description	Unit	Part No.
Pump tubing, PVC, white/white, for aqueous samples	12/pk	3710034400
Pump tubing, PVC, orange/green, for aqueous and high TDS samples	12/pk	3710068200
Pump tubing, PVC, orange/green, flared ends, for aqueous and high TDS samples	12/pk	3710068300
Pump tubing, PVC, blue/blue, for spray chamber waste with aqueous samples	12/pk	3710034600
Peristaltic pump tubing, blue/blue, for spray chamber waste with organic solvents	12/pk	3710067900
Peristaltic pump tubing, orange/green, for organic solvents and high TDS samples	12/pk	3710068000
Pump tubing, Solvaflex, orange/green, flared ends, for organic solvents and high TDS samples	6/pk	3710068100
Organic peristaltic pump tubing kit for MP-AES		G8003-67003
Includes PVC Solvaflex pump tubing – 1/pk with orange/green tabs for sample inlet and 1/pk with blue/blue tabs for waste line. Suitable for low volatile organic solvents		



Double-pass spray chamber, G8000-70007

Application Kits for 4200 MP-AES

Description	Part No.
Routine aqueous sample introduction kit Recommended for routine analysis of aqueous or acidic samples. Includes single-pass glass cyclonic spray chamber, Conikal nebulizer, and PVC peristaltic pump tubing with white/white tabs.	G8003-67001
High sensitivity sample introduction kit for routine aqueous samples with MP-AES Recommended for high sensitivity analysis of aqueous or acidic samples. Includes single-pass glass cyclonic spray chamber, concentric nebulizer, and PVC peristaltic pump tubing with white/white tabs.	G8003-67000



Inlet cooling air filter, G8000-68002

MP-AES Miscellaneous Supplies

Description	Part No.
Pre-optic window	G8000-64112
Inlet cooling air filter	G8000-68002
Onboard argon bottle for plasma ignition	G8000-70001
Air inlet filter kit for Agilent 4107 Nitrogen Generator Includes replacement filter elements, large 5 µm particle filter (white filter element), small 1 µm particle filter (blue filter element), and activated carbon filter (mesh filter element).	G8001-64004
Drain tubing for aqueous solutions	
Tubing, 1/8 inch id x 1/4 inch od x 1/16 inch wall, per m Connects spray chamber to peri-pump waste line	3710031500
Tubing, 1/4 inch id x 1/16 inch od, per m Connects sample tray to waste container	3710033400
Drain tubing for organic solvents	
Tubing, 1/8 inch id x 1/4 inch od, per m Connects spray chamber to peri-pump waste line	3710035400
Tubing, 6.4 mm id x 1.6 mm wall, per m Connects sample tray to waste container	3710037800

Multi-Mode Sample Introduction System (MSIS)

The MSIS provides simultaneous vapor generation of environmentally sensitive elements including As, Se and Hg with low $\mu\text{g/L}$ detection limits. It provides better performance through thin-film hydride technology, while offering a choice of three modes that eliminates changeover and allows routine and hydride elements to be determined using the same setup.



Multi-Mode Sample Introduction System (MSIS)

Description	Part No.
Multi-Mode Sample Introduction System (MSIS)	G8000-63003
Peristaltic pump tubing, black/white, 12/pk	3710068900
Required to pump waste from MSIS	

External Gas Control Module (EGCM)

Add the EGCM to enable determination of organic solvents and sulfur. The EGCM injects air into the plasma, minimizing carbon buildup and reducing background noise.



External Gas Control Module (EGCM)

Description	Part No.
External Gas Control Module (EGCM)	G8000-63005

Organics Kit for 4100 MP-AES

The MP-AES Organics Kit includes all items required to adapt the 4100 for determination of organic solvents.

Description	Part No.
MP-AES Organics Kit	G8000-68004
Includes External Gas Control Module (EGCM), OneNeb nebulizer, and solvent resistant tubing	

AA/MP-AES, ICP-OES & ICP-MS Standards

Agilent offers a comprehensive range of single and multi-element standards, ionization buffers, and environmental standards for atomic spectroscopy. With the assurance of NIST traceability, Agilent standard mixes offer accurate, reliable calibrations at great value.

All Agilent atomic spectroscopy standards are prepared to exacting specifications that ensure consistency. Every solution is manufactured using high purity starting materials, which are regularly tested in accordance with NIST guidelines to provide traceability.

- Give you confidence in your AAS, ICP-OES or ICP-MS, and MP-AES results
- Standards shipped from stock to maximize uptime
- Supplied with a Material Safety Data Sheet (MSDS) and Certificate of Analysis for complete assurance
- All standards packaged in pre-leached HDPE bottles, secured with a tamper-evident seal

AA, MP-AES and ICP-OES Standards



Wavelength calibration solution for ICP-OES and MP-AES, 6610030100

Wavelength Calibration Solutions for 700 Series and Vista Series ICP-OES and MP-AES

Description	Part No.
Wavelength calibration solution for ICP-OES and MP-AES: 500 mL, contains 50 mg/L Al, As, Ba, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Se, Sr, Zn and 500 mg/L K in 5 % HNO ₃ Dilute 10 times prior to use	6610030000
Wavelength calibration solution for ICP-OES and MP-AES: 500 mL, contains 5 mg/L Al, As, Ba, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Se, Sr, Zn and 50 mg/L K in 5 % HNO ₃ Ready to use	6610030100
Calibration blank solution for ICP-OES and MP-AES: 500 mL 0 ppm, contains pure ASTM Type 1A water with 5% HNO ₃ Suitable for use as a calibration blank or for dilution of the wavelength calibration concentrate. Ready to use	5190-7001

Multi-Element Calibration Standards

Description	Part No.
Calibration mix 1: 125 mL, contains 100 mg/L Sb, Mo, Sn and Tl in 2 % HNO ₃ + 0.5 % HF	6610030500
Calibration mix 2: 125 mL, contains 100 mg/L Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, Se, Ti, Th, U, V and Zn in 5 % HNO ₃	6610030600
Calibration mix majors: 125 mL, contains 500 mg/L Ca, Fe, K, Mg and Na in 5 % HNO ₃	6610030700
Calibration mix 3, organic: 125 mL, contains 500 mg/kg Ag, Al, B, Ba, Ca, Cd, Cr, Cu, Fe, Mg, Mn, Mo, Na, Ni, P, Pb, Si, Sn, Ti, V and Zn in mineral oil	6610030200

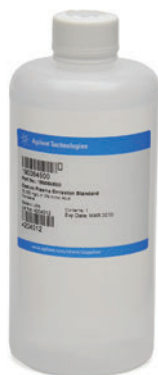
Single Element Standards for AA/MP-AES

Supplied in 100 mL bottles. Concentration = 1,000 mg/L (0.1%). One mL of solution contains 1 mg of metal.

Description	Part No.	Description	Part No.
Aluminum	8200200001	Manganese	8200203101
Antimony	8200200101	Mercury	8200203201
Arsenic	8200200201	Molybdenum	8200203301
Barium	8200200301	Nickel	8200203501
Beryllium	8200200401	Palladium	8200203801
Bismuth	8200200501	Platinum	8200203901
Boron	8200200601	Potassium	8200204001
Cadmium	8200200701	Selenium	8200204801
Calcium	8200200801	Silver	8200205001
Cesium	8200201001	Sodium	8200205101
Chromium	8200201101	Strontium	8200205201
Cobalt	8200201201	Silicon	8200205301
Copper	8200201301	Tellurium	8200205401
Europium	8200201601	Thallium	8200205601
Gold	8200202001	Tin	8200205901
Indium	8200202301	Titanium	8200206001
Iron	8200202501	Tungsten	8200206101
Lead	8200202701	Vanadium	8200206301
Lithium	8200202801	Zinc	8200206601
Magnesium	8200203001	Zirconium	8200206701



Copper, 8200201301



Cesium buffer solution – 1%, 190064500



Palladium nitrate, 190024300

Buffers/Ionization Suppressant for Flame AA

Supplied in 500 mL bottles

Description	Part No.
Cesium buffer solution – 1% 10,000 mg/L Cs in 2-5% nitric acid	190064500
Lanthanum buffer solution – 10% 100,000 mg/L La in 2-5% HNO ₃	8200206901
Potassium buffer solution – 10% 100,000 mg/L K in 2-5% HNO ₃	8200206801
Strontium buffer solution – 10% 100,000 mg/L Sr in 2-5% HNO ₃	8200207001

Matrix Modifiers for Graphite Furnace AA

Supplied in 100 mL bottles

Description	Part No.
Ammonium nitrate 5% ammonium nitrate in 2% nitric acid	190024000
Ammonium phosphate 40% ammonium dihydrogen phosphate in water	190024100
Nickel nitrate 5,000 mg/L nickel in 5% nitric acid	190024200
Palladium nitrate 2,000 mg/L palladium in 2-5% nitric acid	190024300
Triton X-100 surfactant	CP3418

Single Element Standards for ICP-OES/MP-AES

Supplied in 100 mL bottles. Concentration = 10,000 mg/L (1.0 %). One mL of solution contains 10 mg of metal.

Description	Part No.	Description	Part No.
Aluminum	190026401	Mercury	190026421
Antimony	190026402	Molybdenum	190026422
Arsenic	190026403	Nickel	190026423
Barium	190026404	Phosphorus	190026424
Beryllium	190026405	Platinum	190026425
Bismuth	190026406	Potassium	190026426
Boron, 5,000 mg/L	190026407	Selenium	190026428
Cadmium	190026408	Silicon	190026429
Calcium	190026409	Silver	190026430
Cesium	190026410	Sodium	190026431
Chromium	190026411	Strontium	190026432
Cobalt	190026412	Sulfur	190026433
Copper	190026413	Thallium	190026435
Gold	190026414	Tin	190026436
Iron	190026415	Titanium	190026437
Lead	190026417	Vanadium	190026439
Lithium	190026418	Yttrium	190026449
Magnesium	190026419	Zinc	190026440
Manganese	190026420	Zirconium	190026441



Calcium, 190026409

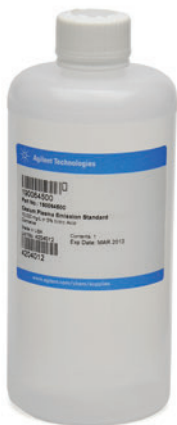
Environmental Standards for ICP-OES

Supplied in 500 mL bottles

Description	Application	Part No.
INTF-A quality control standard Contains Al, Ca & Mg at 5,000 mg/L; Fe at 2,000 mg/L	Interference check standard, for preparation of US EPA CLP standards ICSA and ICSAB	190064800
ICV-7 quality control standard Contains Ca, Mg, K & Na at 5000 mg/L; Al & Ba at 200 mg/L; Fe at 100 mg/L; Sb at 60 mg/L; Co & V at 50 mg/L; Ni at 40 mg/L; Cu at 25 mg/L; Zn at 20 mg/L; Mn at 15 mg/L; As, Cr, Ag & Tl at 10 mg/L; Be, Cd, Pb & Se at 5 mg/L	Initial/continuing calibration verification standard, for US EPA CLP analyses	190064900
QCSTD-27 quality control standard Contains Al, Sb, As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Si, Ag, Sr, Na, Ti, Tl, V & Zn at 100 mg/L	Quality control standard, for environmental analyses	190065000
ANALT-B quality control standard Contains Cd, Ni, Pb, Ag & Zn at 100 mg/L; Ba, Be, Co, Cr, Cu, Mn & V at 50 mg/L	Interference check standard, for preparation of US EPA CLP standard ICSAB	190065100

Internal Standard/Ionization Suppressant for ICP-OES/MP-AES

Description	Unit	Part No.
Cesium buffer solution – 1% 10,000 mg/L Cs in 2-5% nitric acid	500 mL bottle	190064500
Cesium buffer solution – 10% 100,000 mg/L Cs in 2-5% nitric acid	500 mL bottle	190064600
Yttrium solution – 1% 10,000 mg/L Also used for instrument optimization	500 mL bottle	190064700
ICP internal standard Contains 100 mg/L ⁶ Li, Sc, Y, In, Tb and Bi in 5 % HNO ₃	125 mL bottle	6610030400



Cesium buffer solution – 1%, 190064500

ICP-MS Standards

Installation and Checkout Standards

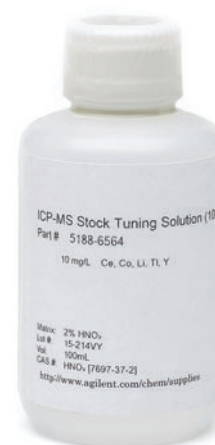
Description	Part No.
ICP-MS checkout solutions for 7700/8800 series and 7500 ce/cx/cs system installation kit Contains tuning solution, dual mode (1), dual mode (2), wash, and water blank solutions	5185-5850
ICP-MS checkout solutions for 7500s system installation kit Contains tuning solution, dual mode (1), dual mode (2), abundance sensitivity (1), abundance sensitivity (2), detection limit solution, high sensitivity tune, wash, and water blank solutions	5184-3564
ICP-MS checkout solutions for 7500a/i/c system installation kit Contains tuning solution, dual mode (1), dual mode (2), wash, and water blank solutions	5184-3565

Tuning Solutions

Description	Part No.
PA tuning solution kit: Tuning 1: 20 mg/L each of Zn, Be, Cd, As; 10 mg/L each of Ni, Pb, Mg; 5 mg/L each of Tl, Na, Al, U, Cu, Th, Ba, Co, Sr, V, Cr, Mn, ⁶ Li, Sc, In, Lu, Bi; 2.5 mg/L each of Y, Yb; matrix 2-5% HNO ₃ Tuning 2: 10 mg/L each of Mo, Sb, Sn, Ge, Ru, Pd; 5 mg/L of Ti, Ir; matrix 10% HCl and 1% HNO ₃ with trace amounts of HF	5188-6524
Stock tuning solution: Li, Y, Ce, Tl and Co; 100 mL, 10 mg/L; matrix 2% HNO ₃	5188-6564
Stock tuning solution: Li, Mg, Y, Ce, Tl and Co; 100 mL, 10 mg/L; matrix 2% HNO ₃	5190-0465
Tuning solution: Li, Y, Ce, Tl and Co; 2 x 500 mL, 10 µg/L; matrix 2% HNO ₃	5184-3566
Tuning solution: Li, Mg, Y, Ce, Tl, Co; 2 x 500 mL, 1 µg/L; matrix 2% HNO ₃	5185-5959

Multi-Element Calibration Standards

Description	Part No.
Multi-element calibration standard-1, 100 mL: 10 mg/L of Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sc, Sm, Tb, Th, Tm, Y, Yb; matrix 5% HNO ₃	8500-6944
Multi-element calibration standard-2A, 2 x 100 mL: 1 bottle: 10 mg/L of Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cs, Cu, Fe, Ga, K, Li, Mg, Mn, Na, Ni, Pb, Rb, Se, Sr, Tl, U, V, Zn; matrix 5% HNO ₃ 2 bottles: 10mg/L Hg in 5% HNO ₃	8500-6940
Multi-element calibration standard-3, 100 mL: 10 mg/L of Sb, Au, Hf, Ir, Pd, Pt, Rh, Ru, Te, Sn; matrix 10% HCl/1% HNO ₃	8500-6948
Multi-element calibration standard-4, 100 mL: 10 mg/L of B, Ge, Mo, Nb, P, Re, S, Si, Ta, Ti, W, Zr; matrix HNO ₃ /trace HF	8500-6942



Stock tuning solution, 5188-6564

Single Element Standards

Description	Part No.
Bismuth, 100 mL, 10 mg/L	8500-6936
Cobalt, 100 mL, 10 µg/L	8500-6947
Gold, 100 mL, 100 mg/L	8500-7000
Indium, 100 mL, 10 mg/L	8500-6946
Mercury, 100 mL, 10 mg/L	8500-6941
Rhodium, 100 mL, 10 mg/L	8500-6945

Interference Check Mixes

Description	Part No.
6020 interference check solution A, 100 mL: 20,000 mg/L of Cl; 3,000 mg/L of Ca; 2,500 mg/L each of Fe, Na; 2,000 mg/L of C; 1,000 mg/L each of Al, Mg, P, K, S; 20 mg/L each of Ti, Mo; matrix 5% HNO ₃ with trace amounts of HF	5188-6526
6020 interference check solution B, 100 mL: 20 mg/L each of Cr, Co, Cu, Mn, Ni, V; 10 mg/L each of As, Cd, Se, Zn; 5 mg/L of Ag; matrix 5% HNO ₃	5188-6527

Environmental Standards

Description	Part No.
Environmental calibration standard, 100 mL: 1,000 mg/L of Fe, K, Ca, Na, Mg; 10 mg/L of Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Ti, V, Zn, Th, U; matrix 5% HNO ₃ with trace amounts of tartaric acid	5183-4688
Initial calibration verification standard, 100 mL: 1,000 mg/L of Fe, K, Ca, Na, Mg; 100 mg/L of Sr; 10 mg/L of Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Ti, V, Zn, Th, U; matrix 5% HNO ₃ with trace amounts of tartaric acid	5183-4682
Internal standard mix, 100 mL: 100 mg/L of ⁶ Li, Sc, Ge, Rh, In, Tb, Lu, Bi; matrix 10% HNO ₃	5188-6525
Internal standard mix, 100 mL: 10 mg/L of ⁶ Li, Sc, Ge, Y, In, Tb, Bi; matrix 5% HNO ₃	5183-4681
Environmental spike mix, 100 mL: 1,000 mg/L of Fe, K, Ca, Na, Mg; 100 mg/L of Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Ti, V, Zn, U; matrix 5% HNO ₃	5183-4687

Agilent 8453/8454 UV-Vis & Cary UV-Vis-NIR Supplies

Agilent 8453/8454 UV-Vis and Cary UV-Vis and UV-Vis-NIR spectrophotometers are synonymous with excellence and high performance. Our range of consumables for these products includes high quality cuvettes and flow cells, fiber optic probes, lamps and detectors.

The genuine Agilent cells, tubing, fittings and supplies in this section have been tested with the Agilent 8453/8454 and Cary range for reliable and repeatable results. Agilent UV-Vis cells and supplies are manufactured in an EN ISO 9001:2000/EN ISO 14001:2004 certified environment. Additionally, Agilent UV-Vis cells are individually checked and certified to be within specifications, so you can be confident that it will conform to stringent protocols such as NIST, GLP, GMP and NAMAS.

This section will help you identify the cells that fit your unique applications. You will also learn how to enhance your lab's productivity by choosing the correct spectrophotometer equipment, tubing, fittings, and dissolution testing supplies.



UV-Vis and UV-Vis-NIR Flow Cells and Cuvettes

Cell Materials

Cells are available in four materials. Select the cell material depending on the wavelength range of your measurements.

For applications with a wavelength range of interest in the visible range, either use our economical single use cuvettes or our lower priced Agilent optical quality glass cells, made from exceptionally pure raw materials. Alternatively, if your application requires measurement in the UV range, select our quartz cuvettes, which give transmission values of >80% between 200 nm and 2,500 nm for an empty cell. Optical glass gives transmission values of >80% between 330 nm and 2,500 nm for an empty cell. To extend the measurement range into the NIR range, select the Infrasil quartz cells (made from Suprasil 300 material).

Material	Wavelength (nm)
Quartz	170 to 2,700
Infrasil quartz (NIR)	220 to 3,800
Optical glass	334 to 2,500
Polystyrene (disposable)	340 to 800

Cell Shapes

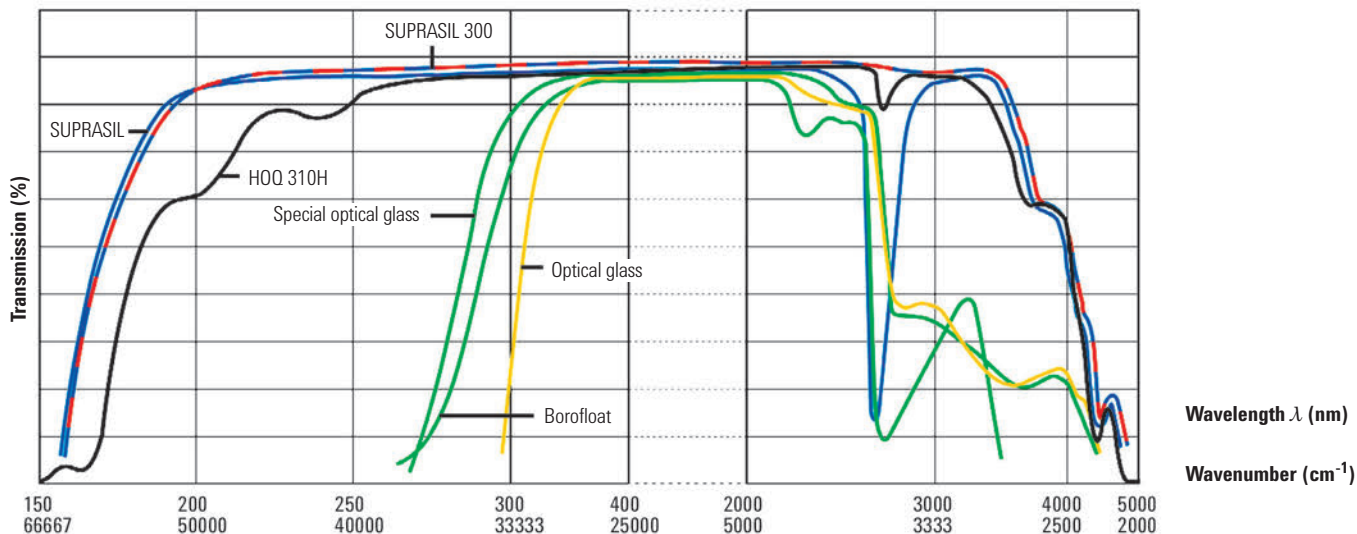
Rectangular Cells

Rectangular cells are the most commonly used cell type and vary in shape from square to longer rectangles, depending on the cell pathlength. We offer standard cells, semi-micro cells with about 40% of the volume of a standard cell of the same pathlength, microcells with about 20% of the volume of a standard cell, sub-micro and ultra-micro cells that have microliter volumes, and disposable cells. Semi-micro cells can be used with all Cary 100/300/4000/5000/6000 multicell holders and with all standard single cell holders. In addition, they can be used with the Temperature Probe Accessory for cell temperature monitoring.

Cells sold as matched pairs are used for most UV-Vis and UV-Vis-NIR routine analyses. Matched pairs ensure these cells will give a similar absorbance or transmission reading when empty or filled with water.

Long pathlength cells are ideal for use when extra sensitivity is needed for low concentration samples. These cells must be used with the long pathlength rectangular cell holder.

Transmission of empty cells made of different materials



Cell Volumes

Macro Cells

The macro cell, which is defined by DIN 58963 as a rectangular cell with an inner width greater than 5 mm, has emerged as the standard for spectrophotometry. The most widely used macro cell is a rectangular cell with typical outer dimensions of 45 x 12.5 mm (height x width). The length of the cell is dependent on the desired pathlength. Macro or standard cells have about the same wall thickness on all sides, and are used for most liquid UV-Vis and UV-Vis-NIR measurements. They require the largest sample size for a given pathlength.



Cell tray, 5063-6577

Semi-micro Cells

Semi-micro cells have an inner width of 4 mm to 2 mm. The thickness of the base is typically 9 mm. Semi-micro cells also have thicker side walls to reduce the volume to about 40% of the volume of a standard cell of the same pathlength. These cells are useful when only small sample volumes are available for testing. Cells that are black self-masking are listed with their aperture size. The aperture is located at the correct Z-height for both Agilent 8453/8454 and the Cary UV-Vis and UV-Vis spectrophotometers – but note that the 8453/8454 uses a different Z-height, so check compatibility. Semi-micro cells can be used with Cary 100/300 and 4000/5000/6000 multicell holders and with all standard single cell holders. They can also be used with the Temperature Probe Accessory for cell temperature monitoring. The semi-micro cell, with a stirring well for a magnetic stirring bar, is suitable for all Cary 100/300 and 4000/5000/6000 series Peltier thermostatted multicell and single cell holders.

Microcells

Microcells have thicker sidewalls to reduce the volume to about 20% of the volume of a standard cell of the same pathlength. These cells are useful when limited sample volumes are available for testing.

Ultra-micro Cells

Ultra-micro cells are specifically designed for use in the μL range (with typical volumes in the 5 to 135 μL range). They fit into any standard cell holder and have the advantage of requiring much smaller sample volumes – so they're ideal for highly concentrated samples, highly absorbing solvents, or when sample volumes are very limited. These quartz cells offer low volume, short pathlength, and excellent heat transfer. They are ideal for temperature-controlled work, and all except the 1 mm pathlength cell can be used with the Temperature Probe. Cells that are black self-masking are listed with their aperture size. The cells are constructed so that filling and emptying can be easily accomplished with commonly available pipette tips. Ultra-micro cells with Eppendorf pipette filling/emptying are designed to handle extremely small volumes. When only a minimum amount of sample is available, these cells provide a filling volume only slightly larger than the measuring chamber volume.



Macro cell with PTFE lid



Macro cell with PTFE lid, 6610000800

Macro Cells

Macro Cells with PTFE Lid

Path Length (mm)	Ext. Dimensions (H x W x T (mm))	Int. Dimensions (H x W (mm))	Volume (µL)	Part No. Glass	Part No. Quartz
Use with 8453/8454 UV-Vis					
1	45 x 12.5 x 3.5	43.5 x 9.5	350	5063-6546**	5061-3384**
2	45 x 12.5 x 4.5	43.5 x 9.5	700	5063-6547**	5061-3385**
5	45 x 12.5 x 7.5	43.5 x 9.5	1750	5063-6548**	5061-3386**
10	45 x 12.5 x 12.5	43.5 x 9.5	3500	5063-6549	5061-3387
10	45 x 12.5 x 12.5	43.5 x 9.5	3500	5063-6550*	1000-0544*
20	45 x 12.5 x 22.5	43.5 x 9.5	7000	5063-6551	5063-6553
50	45 x 12.5 x 52.5	43.5 x 9.5	17500	5063-6552	5063-6554
Use with Cary 50/60/100/300/4000/5000/6000i					
10	45 x 12.5 x 12.5	43.5 x 9.5	3500	6610008800*	6610000800* 6618000100 (Infrasil quartz)
20	45 x 12.5 x 22.5	43.5 x 10	7000		6610016200
50	45 x 12.5 x 52.5	43.5 x 9.5	17500	6610016400	6610016100
100	45 x 12.5 x 102.5	43.5 x 9.5	35000		6610016000 6610016300

**Spacers are required for cells with an outer thickness of less than 12.5 mm to hold them securely in the cell holder.

*Matched pair

Macro Cells with PTFE Stopper

Path Length (mm)	Ext. Dimensions (H x W x T (mm))	Int. Dimensions (H x W (mm))	Volume (µL)	Part No. Glass	Part No. Quartz
Use with 8453/8454 UV-Vis					
5	46 x 12.5 x 7.5	44.5 x 9.5	1750		5063-6557**
10	46 x 12.5 x 12.5	44.5 x 9.5	3500	5063-6556	5062-2477
Use with Cary 50/60/100/300/4000/5000/6000i					
10	46 x 12.5 x 12.5	44.5 x 9.5	3500		6610001100*

**Spacers are required for cells with an outer thickness of less than 12.5 mm to hold them securely in the cell holder.

*Matched pair



Macro cell with PTFE stopper



Agilent high-precision cells are individually tested to meet the highest optical standards. Every Agilent cell is certified to confirm that the following areas have been tested and are within specifications:

- Homogeneity of the raw material
- Dimensional and angle tolerances of the component parts
- Flatness and finish of the optical surfaces
- Transmission of the cells

Test equipment is calibrated regularly using standards certified by PTB (Physikalisch Technische Bundesanstalt) and/or National Institute of Standards and Technology.



Quartz Block Inserts

Description	Part No.
1.0 or 5.0 mm insert	190029200
1.0 or 2.0 mm insert	190029201
1.0 or 0.5 mm insert	190029202
1.0 or 0.05 mm insert	190029203

Inserts are used with standard rectangular 10 mm pathlength cells when a reduced pathlength is required. This avoids the need for a specialized cell. Each insert provides two different pathlengths as indicated, by rotating through 90 degrees.



Spacer for 2 mm pathlength cell, 5061-3389



Spacer for 5 mm pathlength cell, 5061-3390

Spacers*

Description	Part No.
Spacer for 1 mm pathlength cell	5061-3388
Spacer for 2 mm pathlength cell	5061-3389
Spacer for 5 mm pathlength cell	5061-3390

*Spacers are required to hold cells with an outer thickness of less than 12.5 mm in the cell holder, where there is no pathlength adjustment facility on the cell holder.

TIPS & TOOLS



The number on the top of the spacer indicates the pathlength of the cuvette it should be used with. For example, a #1 spacer is to be used with a 1 mm pathlength cuvette; a #2 spacer is to be used with a 2 mm pathlength cuvette.

To ensure the correct orientation of the spacer, the engraved number located on top of the spacer should be readable to the operator.

The spacer can be located before or after the cuvette in the light path because the light is collimated.



Disposable Polystyrene Cells

Disposable polystyrene cells are useable from 340 to 800 nm, are economical, can be used with magnetic stirrers, but cannot be used at elevated temperatures.

Disposable Cells

Description	Cell Type	Cell Material	Volume (mL)	Path Length (mm)	Sample Chamber Width (mm)	Unit	Part No.
Standard cell	Rectangular	Polystyrene	3.5	10	10	500/pk	6610018800
Microcell	Rectangular	Polystyrene	1.5	10	4	500/pk	6610018700



Standard cell, disposable, 6610018800



Microcell, polystyrene, 6610018700



Semi-micro cell with PTFE lid



Semi-micro cell with PTFE stopper



Cary 50 flow cell, 6610021100

Semi-micro Cells

Semi-micro Cells with PTFE Lid

Path Length (mm)	Ext. Dimensions (H x W x T (mm))	Int. Dimensions (H x W (mm))	Volume (µL)	Part No. Glass	Part No. Quartz
Use with 8453/8454 UV-Vis					
10	45 x 12.5 x 12.5	41.8 x 2	700		5061-3391
		36 x 4	1000	5063-6558	
					5063-6559

Semi-micro Cells with PTFE Stopper

Path Length (mm)	Ext. Dimensions (H x W x T (mm))	Int. Dimensions (H x W (mm))	Volume (µL)	Part No. Glass	Part No. Quartz
Use with 8453/8454 UV-Vis					
10	46 x 12.5 x 12.5	42.8 x 4	1400	5063-6560	
					5063-6561
Use with Cary 50/60/100/300/4000/5000/6000i					
Self masking black walls					
5	48 x 12.5 x 12.5	39 x 4	450		6610019800*
2	48 x 12.5 x 12.5	39 x 4	180		6610019700*
1	48 x 12.5 x 12.5	39 x 4	90		6610019600*
10	45 x 12.5 x 12.5	42.5 x 4	1400		6610001800
	48 x 12.5 x 12.5	45.5 x 4	1800		6610015400**
	48 x 12.5 x 12.5	39 x 4	900		6610012700*
Use with Cary 50/60 only					
Top section features two black walls and two translucent side walls					
10	45 x 12.5 x 12.5	3 x 4.5	135		6610021100

*Matched pair

**Designed for use with a magnetic stir bar. Includes a circular recess in the base for the stir bar. Use with magnetic stirrer bars (p/n 6610018900)

Sub-micro Cells

Sub-micro Cells

Path Length (mm)	Ext. Dimensions (H x W x T (mm))	Int. Dimensions (H x W (mm))	Volume (μ L)	Part No. Quartz
Use with Cary 50/60/100/300/4000/5000/6000i				
5	45 x 12.5 x 12.5	4 x 2	40	6610024000***
10	45 x 12.5 x 12.5	4 x 2	80	6610024100***
	45 x 12.5 x 12.5	2.5 x 2	50	6610010400***
	45 x 12.5 x 12.5	4 x 2	80	6610014900*
Use with Cary 50/60 only				
Top section features two black walls and two translucent side walls				
10	45 x 12.5 x 12.5	2 x 2	40	6610019500

***Low head space design for thermal melt applications

*Matched pair

Features 2 black walls and 2 translucent side walls



Sub-micro cell, black wall

Ultra-micro Cells

Ultra-micro Cells with PTFE Stopper



Ultra-micro cell with PTFE stopper

Path Length (mm)	Ext. Dimensions (H x W x T (mm))	Aperture (H x W (mm))	Center Height (mm)	Volume (μL)	Filling Volume (μL)	Part No. Quartz
Use with 8453/8454 UV-Vis						
2	45 x 12.5 x 12.5	2.5 x 2	15	10	1/ea	5062-2497
10	45 x 12.5 x 12.5	2.5 x 2	15	50	1/ea	5062-2496
Use with Cary 50/60/100/300/4000/5000/6000i						
1	45 x 12.5 x 12.5	4 x 2	20	8		6610023900***
10	48 x 12.5 x 12.5	1 x 1	20	10		6610013800

***Low head space design for thermal melt applications



Ultra-micro cell with Eppendorf filling

Ultra-micro Cells with Eppendorf Pipette Filling/Emptying

Path Length (mm)	Ext. Dimensions (H x W x T (mm))	Aperture (H x W (mm))	Center Height (mm)	Volume (μL)	Filling Volume (μL)	Part No. Quartz
Use with 8453/8454 UV-Vis						
0.1	40 x 12.5 x 12.5	5 x 1	15	0.5	5	5063-6562
1	40 x 12.5 x 12.5	5 x 1	15	5.0	10	5063-6563
5	40 x 12.5 x 12.5	0.8 round	15	2.5	5	5063-6564
10	40 x 12.5 x 12.5	0.8 round	15	5.0	10	5063-6565

TrayCell

The micro-volume TrayCell is a fiber-optic ultra-micro cell designed for the UV/Vis analysis of DNA/RNA and proteins. The dimensions of the TrayCell are equivalent to a standard cuvette, ensuring compatibility with most spectrophotometers. The TrayCell allows simple, rapid absorbance and transmission measurements in ultra-low volumes using the Cary 50/60 UV-Vis spectrophotometer.

The TrayCell consists of a measuring cell and a cap with an integrated mirror. The sample drop is pipetted onto the measuring window, then the cap is applied. The distance between the window and the mirror in the cap ensures a defined light path. The internal optics in the TrayCell, which incorporate an internal prism and optical fiber, ensure the light is transmitted through the sample and to the detector.

Specifications

Volume capacity	0.5-10 μL
Pathlength	0.2-2.0 mm
Maximum temperature	50 $^{\circ}\text{C}$
Wavelength range	190-800 nm

Single cell holder with optimum tilt and height adjustment

TrayCell

Description	Part No.
Micro-volume TrayCell with 1.0 mm lid for volumes less than 5 μL	G6871A
Add 0.2 mm pathlength lid for volumes 4 μL or less	G6871A#100
Add 2.0 mm pathlength lid	G6871A#200
Add 0.1 mm pathlength lid for highly concentrated samples	G6871A#300



Micro-volume TrayCell, G6871A



Cylindrical cell with PTFE stoppers, 6610002300

Cylindrical Cells

A cylindrical cell is a cell with plane-parallel optical surfaces whose inner volume is cylindrical in shape, and has a longitudinal axis parallel to the direction of the radiation beam. They are recommended when sample volume is not a limitation and when very short to long pathlengths are needed. All cylindrical cells can be used with the cylindrical cell holder or the thermostatted cylindrical cell holder. Cylindrical cells are available as standard cells, long pathlength cells for extra sensitivity when measuring low concentrations, and microcells, suitable for concentrated samples, or to overcome solvent absorbance, e.g. water in the NIR or low UV regions.

Cylindrical Cells with 2 PTFE Stoppers

Path Length (mm)	Ext. Dimensions (L x OD (mm))	Int. Dimensions (ID mm)	Volume (mL)	Part No. Glass	Part No. Quartz
Use with 8453/8454 UV-Vis					
100	102.5 x 22	19	28	5063-6566	5061-3392
Use with Cary 50/60/100/300/4000/5000/6000i					
10	12.5 x 22	19	2.8		6618000600*
50	52.5 x 22	19	14		6610002200
100	102.5 x 22	19	28		6610002300

*Has only a single PTFE stopper

Flow-through Cells

Flow cells allow the sample to pass through the cell and are connected to the sample source via tubing. Flow cells require the use of a pump to ensure sample is pumped into the cell for measurement and out again afterwards. This can improve productivity - but care needs to be taken to ensure there is no carryover from one sample to another and to ensure there are no bubbles in the cell during measurement. Long pathlength flow cells are useful for low concentration samples and require the long pathlength rectangular cell holder. They can be used with a Cary 100/300 Series Routine Sampler Accessory or a Cary 50/60 Series Sipper. Sub-micro flow cells are suitable for use with the Cary 100/300 Series Routine Sampler Accessory.

Until recently, flow-through cells had measuring chambers that were either rectangular or circular in shape. These shapes were dictated by limitations in the manufacturing process and did not offer the best geometry for clean flushing and reduction of contamination. Agilent has developed oval aperture cells that combine low volume with excellent flow characteristics. These oval flow cells are strongly recommended for automated analyses such as dissolution testing. Black quartz is used in the vicinity of the aperture to ensure that no light passes through the side walls of the cell.



Round aperture flow cell

Flow-through Cells with Round Aperture and Screw Fitting Connection

Path Length (mm)	Ext. Dimensions (H x W x T (mm))	Aperture Diameter (mm)	Center Height (mm)	Volume (µL)	Part No. Quartz
Use with 8453/8454 UV-Vis					
10	35 x 12.5 x 12.5	2	15	30	0100-1224
	35 x 12.5 x 12.5	3	15	70	0100-1225
Use with Cary 50/60/100/300/4000/5000/6000i					
10	40 x 12.5 x 12.5	3	20	70	6610008900*

*Supplied with inlet and outlet PTFE tubing (1.6 mm od) fitted with M6 threaded connectors.

NOTES:

Flow-through cells do not include tubing/fittings (unless indicated otherwise).





Rectangular aperture flow cell

Flow-through Cells with Rectangular Aperture and Screw Fitting Connection

Path Length (mm)	Ext. Dimensions (H x W x T (mm))	Aperture (H x W (mm))	Center Height (mm)	Volume (µL)	Part No. Quartz
Use with 8453/8454 UV-Vis					
0.1	35 x 12.5 x 12.5	17.5 x 3.5	15	6.2	5188-8003
0.2	35 x 12.5 x 12.5	17.5 x 3.5	15	12.4	5188-8004
0.5	35 x 12.5 x 12.5	17.5 x 3.5	15	31	5188-8005
1	35 x 12.5 x 12.5	17.5 x 3.5	15	62	5061-3396
2	35 x 12.5 x 12.5	17.5 x 3.5	15	124	5061-3397
5	35 x 12.5 x 12.5	12.5 x 3.5	15	230	5065-9918
10	35 x 12.5 x 12.5	11 x 3.5	15	390	5061-3398
10	35 x 12.5 x 12.5	8 x 2	15	160	5062-2476
Use with Cary 50/60/100/300/4000/5000/6000i					
10	35 x 12.5 x 12.5	11 x 4	20	450	6610012600*
50	35 x 12.5 x 12.5	6 x 3	20	1000	6610010000*
100	45 x 12.5 x 12.5	6 x 3	20	2100	6610010100*
Use with Cary 50/60 only					
1	40 x 12.5 x 12.5	11 x 6.5	20	113	6610019900*
2	40 x 12.5 x 12.5	11 x 6.5	20	227	6610020000*
5	40 x 12.5 x 12.5	11 x 6.5	20	568	6610020100*
10	40 x 12.5 x 12.5	11 x 6.5	20	715	6610020200*
Use with Cary 100, 300					
1	40 x 12.5 x 12.5	11 x 6.5	20	113	6610014100*
2	40 x 12.5 x 12.5	11 x 6.5	20	227	6610014200*
10	40 x 12.5 x 12.5	11 x 6.5	20	715	6610015200*

*Supplied with inlet and outlet PTFE tubing (1.6 mm od) fitted with M6 threaded connectors.



Oval aperture flow cell

Flow-through Cells with Oval Aperture and Screw Fitting Connection

Path Length (mm)	Ext. Dimensions (H x W x T (mm))	Aperture (H x W (mm))	Center Height (mm)	Volume (µL)	Part No. Quartz
Use with 8453/8454 UV-Vis					
1	39 x 12.5 x 12.5	10 x 2	15	40	5063-6570
1	39 x 12.5 x 12.5	8 x 3	15	40	5065-9907
2	39 x 12.5 x 12.5	10 x 2	15	80	5063-6571
5	39 x 12.5 x 12.5	10 x 2	15	200	5063-6572
10	39 x 12.5 x 12.5	10 x 2	15	430	5063-6573

Miscellaneous

Description	Unit	Part No.
UV convenience kit Includes 2 open top UV quartz cell, 10 mm, 3.0 mL volume, tray for 16 cells, lens cleaning paper, lint free, and multi-function tool.		5067-4666
Magnetic stirring bar*	2/pk	9301-1161
Magnetic stirrer bar, PTFE, star type		7418000400
Magnetic stirrer bars, 6 mm long x 3 mm diameter, PTFE coated Suitable for use with spectrophotometer cells designed specifically to accommodate magnetic stir bars (includes p/n 6610015400)	10/pk	6610018900
Cell cleaning solution An alkaline liquid concentrate which is mixed with water to a concentration of 2% to yield an effective cleaning solution for all quartz and glass cells. It is also suitable for cleaning other sensitive optical components made of glass, quartz, sapphire, and porcelain.	1 L	5190-0530
Lens cleaning paper, lint-free	50/pk	9300-0761
Tray for 16 cells	10 mm	5063-6577

*For use with Agilent 89054A cell-stirring multicell transport and Agilent 89090A Peltier temperature controller. Stirring bars are used with cells having internal dimensions of 10 x 10 mm (W x D) and cell holders with magnetic stirring capability.



Magnetic stirring bar, 9301-1161



Magnetic stirrer bars, 6610018900



Cell cleaning solution, 5190-0530

TIPS & TOOLS

The best way to clean quartz or glass cuvettes is to soak in a dilute 2% solution of cell cleaning solution (p/n 5190-0530).

This is suitable for use with glass, quartz, sapphire, porcelain, ceramics, plastics, and ferrous metals.

The use of demineralized water improves the cleaning characteristics.



Lens cleaning paper, lint-free, 9300-0761



Cell tray, 5063-6577

TIPS & TOOLS

Never use an ultrasonic bath for cleaning cuvettes. This can permanently damage the cuvette, especially if the cuvette is placed on the bottom of the cleaning chamber.



Cell Holders and Accessories



Standard cell holder, 08451-60104



Long pathlength cell holder, 89076C



Thermostatable cell holder, 89054A



Cell stirring module, 89055A



Cell base, 110648190



Cell holder base, 110716190



Cary 50/60 cell holder, spare, 110645090

Cell Holders and Bases

Description	Use With	Part No.
Standard cell holder	8453/8454	08451-60104
Long pathlength cell holder Holds cylindrical and rectangular cells with up to 10 cm pathlength. Includes stops at 1, 2 and 5 cm.	8453/8454	89076C
Thermostatable cell holder A jacketed cell holder for standard 1 cm cuvettes with provisions for connecting a water bath (not supplied) to temperature regulate the cells during measurement.	8453/8454	89054A
Cell stirring module for thermostatable cell holder Provides cell stirring capability with the thermostatable cell holder. Stirrer is driven by circulating water from water bath (not included).	8453/8454	89055A
Cell base	Cary 50/60	110648190
Cell holder, spare	Cary 50/60	110645090
Cell holder base	Cary 400 and 500	10048100
Cell holder base	Cary 4000/5000/6000i	110716190

(Continued)

Cell Holders and Bases

Description	Use With	Part No.
Standard cell holder, 10 mm Includes cell lifter and cell height adjustment screw. Supplied as standard with Cary 100/300 and Cary 5000/6000i	All Cary	110260190
Standard cell holder, 10 mm, with Z-height adjustment from 0-20 mm, lifter, and ball bearing cuvette stabilizer Supplied as standard with Cary 4000	All Cary except Cary 50/60	110721900
Test tube holder allows use of 16 mm od test tubes in the sample compartment instead of conventional cuvettes	Cary 50/60	7910033500
Long pathlength rectangular cell holder Holds 20, 50 and 100 mm rectangular cells and rectangular flowcells	All Cary	110059900
Variable pathlength cell holder For use with rectangular cells of 5, 10, 20, 30, 40 and 50 mm pathlength and a solid sample holder. Must be fitted in slide-mount solid sample holder kit in Cary 50/60 (p/n 10072300) or Cary 100/300 (p/n 10046500).	All Cary	210125300
Variable pathlength cell holder For use with rectangular cells up to 100 mm pathlength and a solid sample holder. Must be fitted in slide-mount solid sample holder kit in Cary 50/60 (p/n 10072300) or Cary 100/300 (p/n 10046500).	All Cary	6610014000
Dual rectangular thermostatable cell holder Allows thermostating of standard 10 mm pathlength cuvettes with height 45 mm. Requires the extended sample compartment and an external water bath.	All Cary	10046800
Cylindrical single cell holder, ambient Allows use of cylindrical cells with up to 100 mm pathlength	All Cary	110026900
Dual cylindrical thermostatable cell holder Allows use of cylindrical cells with up to 100 mm pathlength. Requires extended sample compartment and an external water bath.	All Cary	10046700



Standard cell holder, 10 mm, 110260190



Standard cell holder, 110721900



Variable pathlength cell holder, 210125300



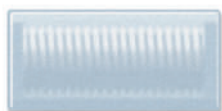
Cylindrical single cell holder, ambient, 110026900



Cary 8454 UV-Visible Spectrophotometer

Agilent 8453/8454 UV-Vis Supplies

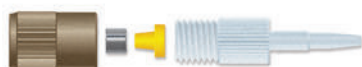
8453/8454 Tubings and Fittings



Union, 5022-2155



Cell fittings (black), 5022-2156



Conical adapter kit, 5022-2157



PTFE nuts, 5022-2158



PEEK fittings and ferrules, 5042-1337

Description	Unit	Part No.
PTFE tubing, 1.6 mm od	10 m	5041-2191
Pump tubing, 2.06 mm id	12/pk	5041-2166
Pump tubing, 1.3 mm id	12/pk	5041-2184
Pump tubing, 2.8 mm id	12/pk	5041-2185
Tefzel ferrules and stainless steel lock rings, 1/16 inch	10/pk	5022-2154
Union, 1/4-28 thread, polypropylene	10/pk	5022-2155
Cell fittings, black (4 short and 4 long)	8/pk	5022-2156
Replacement fittings used to connect the tubing to the flow cell used with the Sipper system for the 8453/8454 Includes 4 headless PPS M6 nuts and 4 short PEEK M6 nuts		
Conical adapter kit	2/pk	5022-2157
Replacement fittings for the flow cell-pump tubing used with the Sipper system for the 8453/8454 Includes 2 conical PTFE adapters, 2 PTFE female nuts, and 2 PTFE ferrules		
PTFE nuts for 1/16 inch od tubing	10/pk	5022-2158
Tubing, heat exchanger, FEP	12 cm	5042-1336
1/16 inch PEEK fittings and ferrules for 8-port valve	10/pk	5042-1337
Mounting tool for flangeless nut		0100-1710

Instrument Parts and Supplies

Spectrophotometer Lamps

Description	Part No.
Deuterium lamp assembly	2140-0605
Tungsten lamp assembly	G1103-60001



Deuterium lamp assembly, 2140-0605

G1120A 8-Position Multicell Transport Supplies

Description	Part No.
Optical filter kit	G1120-68707
Set of three optical filters to prevent photosensitive samples from being irradiated by UV light (265 and 295 nm cut-off and UV roll-off filter)	
Stirring module kit	G1120-60006
Stirrer is driven by circulating water from water bath (not included)	
Magnetic stirring bar for use with 10 x 10 mm (W x D) cells, 2/pk	9301-1161
Multicell transport adjustment tool	89075-23800
Plastic cover kit	G1120-68708



Tungsten lamp assembly, G1103-60001



Optical filter kit, G1120-68707



Stirring module kit, G1120-60006



Tubing, heat exchanger, FEP, 5042-1336



Needle, beveled edge for G1811A, G1811-23200



Sipper tubing kit, 5042-1333



Autosampler tubing and fittings kit, 5042-1334



Cassette, fixed pressure, 5041-2167



Cassette, variable pressure, 5042-1356

89090A Peltier Temperature Controller Supplies

Description	Part No.
Union, cell holder	5021-1870
Flow cell, 10 mm, 8 x 2 mm aperture, 160 µL	5062-2476
Quartz cuvette, 10 mm, with PTFE stopper	5062-2477
Tubing, heat exchanger, FEP	5042-1336
Magnetic stirring bar	9301-1161

Autosampler Supplies

Description	Part No.
Needle, beveled edge for G1811A	G1811-23200
Test tubes, 12 x 100 mm, 250/pk	5022-6531
Autosampler tubing and fittings kit	5042-1334

Sipper Supplies

Description	Part No.
Sipper tubing kit	5042-1333
Includes inlet tubing (1.5 m), inlet to flow cell tubing (0.35 m), flow cell to pump tubing (0.35 m), flow cell to pump tubing (0.5 m), flow cell to waste tubing (1.5 m) with fittings and connectors.	
Flow cell, 10 mm, 80 µL	0100-1225
Cassette, fixed pressure	5041-2167
Cassette, variable pressure	5042-1356



Dissolution Testing Supplies

Dissolution Testing Supplies for 8453/8454

Description	Part No.
Multicell system tubing kit	5042-1330
Valve tubing kit for one bath	5042-1331
Dissolution probes kit, 0.9 mm id, tubes with fittings	5042-1332
1/16 inch PEEK fittings and ferrules for 8-port valve, 10/pk	5042-1337
8-port valve for dissolution system	5063-6575
Rotor seal for 5063-6575 valve (UV-Vis) dissolution system	5067-1539
Dissolution filters for 1/8 inch probe, 45 µm pore size, 1,000/pkg	5181-1246



Multicell tubing kit, 5042-1330



Valve tubing kit, 5042-1331



Dissolution probes kit, 5042-1332



PEEK fittings and ferrules, 5042-1337



8-port valve for dissolution system, 5063-6575



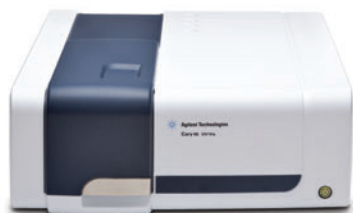
Dissolution filters for 1/8 inch probe, 5181-1246



Cary 5000 UV-Vis-NIR Spectrophotometer

Agilent Cary UV-Vis & UV-Vis-NIR Supplies

Cary Fiber Optic Probes



Cary 60 UV-Vis Spectrophotometer



Fiber optic dip probe, Torlon, body only, 7910032600

Fiber Optic Probes

Use With	Description	Part No.
Cary 50/60 Wavelength range 200-1100 nm	Fiber optic dip probe, stainless steel, body only Requires stainless steel tip, see the section on Replaceable Tips for compatible tips see page 146	7910035700
	Fiber optic dip probe, stainless steel, fixed 10 mm path tip	7910036400
	Fiber optic dip probe, stainless steel, replaceable 10 mm path tip	7910036500
	Fiber optic dip probe, Torlon probe, 7.9 mm in diameter x 159 mm	7910029900
	Fiber optic dip probe, Torlon, body only Probe is 7.9 mm in diameter by 144 mm (excluding tip). Not recommended for use with solutions that attack epoxy, requires Torlon tip, see the section on Replaceable Tips for compatible tips see page 146	7910032600
	Fiber optic dip probe, 7.9 mm in diameter x 159 mm, Torlon, replaceable 10 mm path tip (tip can be exchanged for other pathlengths)	7910035100
	Fiber optic dip probe, 12.7 mm in diameter x 70 mm, quartz construction, for use with corrosive samples, fixed 10 mm pathlength	7910030300
	Fiber optic stainless steel micro probe, 3.05 mm in diameter x 140 mm, fixed 10 mm pathlength. Not recommended for use with strong acids.	7910035600
	Hand-held fiber optic remote read probe, 6.35 mm in diameter x 104 mm, stainless steel, replaceable 10 mm path tip	7910030200

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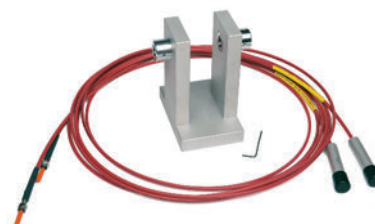


Fiber Optic Probes

Use With	Description	Part No.
Cary 100/300	Hand-held fiber optic probe, quartz, long body 265 mm, 10 mm pathlength. Suitable for use up to 150 °C and with corrosive acids.	7910032100
	UV-Vis reflectance probe and probe holder for measuring total reflectance from a sample surface. Illumination area is 1 mm.	7910036200
	Absorbance dip probe with switch, stainless steel, 10 mm pathlength	9910085000
	Absorbance dip probe with switch and coupler, stainless steel, 10 mm pathlength	9910085100
	UV-Vis reflectance probe	7910035500
Cary 50/60/100/300	Hand-held stainless steel fiber optic probe, 6.35 mm diameter x 104 mm, 10 mm pathlength, 3 m fiber. Includes light shield	9910076600
	Hand-held fiber optic probe, quartz, corrosion resistant, 12.7 mm diameter, 10 mm pathlength	9910080800
	Transmission probe and holder. Suitable for transmission measurements on thin (<5 mm thick) solid translucent materials, e.g. glass	9910076700
	Versi remote read fiber optics probe with replaceable quartz tips. Can be hand held or mounted on the Cary Fiber Optic Dip Probe Coupler. Ideally suited for samples that are corrosive, toxic, radioactive or cross contamination.	190055700
Cary 4000/5000/6000i	UV-Vis reflectance probe, 2 m, for measuring total reflectance from a sample surface. Illumination area is 2 mm.	9910069300
	UV-Vis absorption probe, stainless steel, 2.5 m, 10 mm pathlength	9910069400
	UV-Vis transmission probe and holder, 4 x 3 m fibers	9910069600
	UV-Vis & Vis-NIR transmission probes and holder kit, 4 x 3 m fibers	9910076500
	UV-Vis-NIR transmission probe and holder, 2 x 3 m fibers	9910076400
	UV-Vis-NIR absorption probe, stainless steel, 3 m, 10 mm pathlength	9910069500



Hand-held fiber optic probe with replaceable tip, 9910076600



Transmission probe and holder, 9910076700

Replaceable Tips and Miscellaneous Supplies



Replaceable tip, stainless steel, 10 mm pathlength,
7910035800

The stainless steel probe tips are suitable for use with the two stainless steel dip probes – either the stainless steel probe body (p/n 7910035700) or the stainless steel probe with the replaceable tip (p/n 7910036500).

The Torlon probe tips are suitable for use with the Torlon probe body (p/n 7910032600) or the Torlon fiber optic dip probe with the replaceable tip (p/n 7910035100). They feature a single arm design to reduce bubble formation. The tip is 7.9 mm in diameter and is suitable for operation in temperatures up to 85 °C.



Replaceable tip, Torlon, 20 mm pathlength,
7910034600

Replaceable Tips and Miscellaneous Supplies

Use With	Description	Part No.
Cary 50/60	Replaceable tip, stainless steel, 2 mm pathlength	7910036000*
	Replaceable tip, stainless steel, 5 mm pathlength	7910035900*
	Replaceable tip, stainless steel, 10 mm pathlength	7910035800*
	Replaceable tip, stainless steel, 40 mm pathlength	7910036100*
	Replaceable tip, Torlon, 2 mm pathlength	7910032800**
	Replaceable tip, Torlon, 5 mm pathlength	7910032900**
	Replaceable tip, Torlon, 10 mm pathlength	7910033000**
	Replaceable tip, Torlon, 20 mm pathlength	7910034600**
	Replaceable tip, Torlon, 40 mm pathlength	7910034500**
All Cary	10 mm pathlength tips to suit the Versi remote fiber optics probe, p/n 190055700	190055900
	Fiber optic alignment loop	7910027200
	Fiber optic probe light shield. Provides light immunity for fiber optic probes used with Cary 100/300	7910028900
	UV-Vis reflectance probe holder, spare	9910068500

*For use with stainless steel dip probe body p/n 7910035700 or 7910036500

**For use with Torlon probe body p/n 7910032600 or 7910035100

Kits and Supplies for UV-Vis and UV-Vis-NIR Accessories

Accessory Supplies

Description	Part No.
Temperature Probe Accessory Supplies	
Probe holder	9910066800
Includes 4 rectangular end probes, suitable for use in standard 10 mm rectangular cuvettes	
Probe holder, tapered end	9910066900
Includes 4 tapered end probes, suitable for use in microcells	
Short extension lead for probe holder	110381100
Required for mounting the probe inside the sample compartment	
Long extension lead for probe holder	110380500
Required for mounting the probe outside the sample compartment	
Cary 50/60 Solid Sample Holder Accessory Supplies	
End holder	810137000
Side mounting support for the solid sample holder for Cary 50/60 Used to position the polarizer/depolarizer or other accessories	
Solid sample holder spares kit #2	9910056200
Includes 2 x V plate 3 x 45 mm, 2 x V plate 6 x 45 mm, plus assorted screws and nuts for fixing samples onto the sliding plates on the sample holder	
Cary 100/300 Solid Sample Holder Accessory Supplies	
Film holder spares kit #1	9910064600
Includes 4 x magnetic strips, 20 x V plates, gel-boat holders, 2 x resting plates, 8 x masks, and 4 x clamps	
Solid sample holder spares kit #1	9910059400
Includes 10 mm aperture sample slide holder, 5 mm aperture sample slide holder, 1 mm aperture sample slide holder, 2 x V plate 3 x 45 mm, 2 x V plate 6 x 45 mm, plus assorted screws and nuts for fixing samples onto the sliding plates on the sample holder	
Solid sample holder spares kit #2	9910056200
Includes 2 x V plate 3 x 45 mm, 2 x V plate 6 x 45 mm, plus assorted screws and nuts for fixing samples onto the sliding plates on the sample holder	

(Continued)



Cary temperature probe accessory



Cary 100/300 diffuse reflectance accessory

Accessory Supplies

Description	Part No.
Cary 4000/5000/6000 Solid Sample Holder Accessory Supplies	
Film holder spares kit #1 Includes 4 x magnetic strips, 20 x V plates, gel-boat holders, 2 x resting plates, 8 x masks, and 4 x clamps	9910064600
Solid sample end support Solid sample mount for the attachment of polarizers, depolarizers or apertures to the standard solid sample mounting accessory for the Cary 4000/5000/6000	5810008100
Solid sample masking aperture, 1 mm Replacement aperture plate with 1 mm hole	410204100
Solid sample masking aperture, 5 mm Replacement aperture plate with 5 mm hole	410204300
Solid sample masking aperture, 10 mm Replacement aperture plate with 10 mm hole	410203900
Solid sample mounting plate Provides attachment points for solid sample supports	410204500
Solid sample holder spares kit #1 Includes 10 mm aperture sample slide holder, 5 mm aperture sample slide holder, 1 mm aperture sample slide holder, 2 x V plate 3 x 45 mm, 2 x V plate 6 x 45 mm, plus assorted screws and nuts for fixing samples onto the sliding plates on the sample holder	9910059400
Solid sample holder spares kit #2 Includes 2 x V plate 3 x 45 mm, 2 x V plate 6 x 45 mm, plus assorted screws and nuts for fixing samples onto the sliding plates on the sample holder	9910056200
Diffuse Reflectance Accessory (DRA) Supplies	
Cary 100/300 Internal DRA Supplies	
Powder cell holder kit Includes a pre-packed PTFE powder cell for use as a reflectance standard and powder cell holder. Quartz window covers sample so holder can be positioned at port of sphere.	7910036600
10 mm pathlength cuvette holder for DRA-CA-30I Suitable for positioning 10 mm pathlength cells in the transmittance port	7910028200
50 mm pathlength cuvette holder for DRA-CA-30I Suitable for positioning 50 mm pathlength cells in the transmittance port	7910028300
Fabric sample holder for DRA-CA-30 I Includes UG11 filter	7910027900
Light trap (for performing 0% T baseline correction)	7910028100
Transmittance sample holder for DRA-CA-30I	7910028000
Calibrated 1 inch diameter 99% Spectralon reflectance standard for DRA-CA-30I	7910036900

(Continued)



Accessory Supplies

Description	Part No.
Diffuse Reflectance Accessory (DRA) Supplies	
Cary 100/300 External DRA Supplies	
Powder cell holder kit for DRA-CA-30	7910037000
Includes a pre-packed PTFE powder cell for use as a reflectance standard and powder cell holder. Quartz window covers sample so holder can be positioned at port of sphere.	
Transmission cuvette holder for DRA-CA-30	7910037100
Suitable for positioning 10 mm pathlength cells in the transmittance port	
Reflectance cuvette holder for DRA-CA-30	7910037200
Suitable for positioning 10 mm pathlength cells in the reflectance port	
Variable angle center mount sample holder, clip type	7910037400
Allows samples to be positioned at the center of the DRA for measurement. The clip style holder is suitable for mounting thin and flexible samples. The holder incorporates a rotating dial so the user can quickly set the desired incidence angle to the nearest degree.	
Variable angle center mount sample holder, jaw type	7910037300
Allows samples to be positioned at the center of the DRA for measurement. The jaw style holder is suitable for mounting rigid, opaque samples such as mirrors and painted samples. The holder incorporates a rotating dial so the user can quickly set the desired incidence angle to the nearest degree.	
Variable angle center mount cuvette holder	7910037500
Suitable for mounting a standard 10 mm pathlength cuvette inside the sphere. The holder incorporates a rotating dial so the user can quickly set the desired incidence angle to the nearest degree.	
Cary 4000/5000/6000 Internal DRA Supplies	
Small reference disk	410198890
PTFE packed diffuse reflectance disk 2 inches in diameter	
Cuvette holder	210187900
Suitable for both transmission and reflectance measurements using 10 mm pathlength cells	
Powder cell kit	9910111400
Includes a pre-packed PTFE powder cell for use as a reflectance standard, powder cell holder, funnel, and small sample holder	

(Continued)



Cary 4000/5000/6000 solid sample holder



Cary 4000/5000/6000
diffuse reflectance accessory

Accessory Supplies

Description	Part No.
Diffuse Reflectance Accessory (DRA) Supplies	
Cary 4000/5000/6000 External DRA Supplies	
Large reference disk	410143990
PTFE packed diffuse reflectance disk, 2 inches in diameter	
Center mount cuvette holder	7910038700
Suitable for mounting a standard 10 mm pathlength cuvette inside the sphere normal to the incident beam. Ideal for measuring turbid samples such as proteins and other biological solutions.	
External mount cuvette holder	7910038300
Suitable for measuring the transmission or absorbance of liquid samples using standard 10 mm pathlength cuvettes. Mounts on the transmission holder and can be positioned in either the sample or reference beams.	
Center mount holder, clip type	7910047600
Allows samples to be positioned at the center of the DRA for measurement. The clip style holder is suitable for mounting thin and flexible samples. Incorporates a rotating dial so the user can quickly set the desired incidence angle to the nearest degree.	
Center mount holder, jaw type	7910047500
Allows samples to be positioned at the center of the DRA for measurement. The jaw style holder is suitable for mounting rigid, opaque samples such as mirrors and painted samples. Incorporates a rotating dial so the user can quickly set the desired incidence angle to the nearest degree.	
Powder cell holder	7910047700
Allows reflectance measurements of powdered samples and samples. Mounts on the standard sample holder against the reflectance port. Includes a pre-packed PTFE powder cell for use as a reflectance standard and an empty powder cell holder for sample. Sample is retained by a plunger.	
Small spot kit	7910047200
Includes iris, mirror assembly, and 3 lenses	
Variable angle transmittance holder	7910047400
Allows transmittance measurements of solid samples at various incident angles. The sample can be positioned through 360 degrees to the incident beam and is selectable to 1 degree. Suitable for rigid samples such as mirrors and glasses.	
Miscellaneous Accessory Supplies	
Powder cell holder for reflectance accessory	110374900
Stainless steel cell with removable quartz window for containing loose powders for diffuse reflectance measurements	
Aperture mask kit for the variable angle specular reflectance accessory	9910064700
Contains 2 each of the 2, 10, and 20 mm sample holder, and 2 x 1 inch disk holder	
Attenuation filter kit with neutral density screens and blue filter for use with the variable angle specular reflectance accessory. Used for high levels of attenuation from 0.5 Abs to 3.1 Abs.	9910047700

Cary Source Lamps

Agilent offers high quality lamps that produce top level performance for your Cary spectrophotometer.

Source Lamps

Description	Use With	Part No.
Deuterium UV lamp	Cary 100/300	G9820-80000
Visible source lamp	Cary 100/300	5610021700
Xenon lamp module	Cary 50/60	110639690
UV source lamp, less than 190 nm	Cary 400	5610135500
Deuterium UV lamp	Cary 4000 to 7000	110713990
Visible QI lamp	Cary 4000 to 7000	5610013900
Mercury lamp Used for UV-Vis wavelength validation	Cary 4000 to 7000	5610136300



Deuterium lamp, for Cary 100/300 UV,
G9820-80000



Visible source lamp, for Cary 100/300 UV,
5610021700



Xenon lamp module, 110639690



Deuterium lamp, for Cary 4000 to 7000,
110713990



Visible QI lamp, for Cary 4000 to 7000,
5610013900

Cary Tubing

Tubing

Description	Part No.
Silicon pump tubing, 3/16 inch id x 5/16 inch od, per m Tubing only, no connectors	2410023800
Peristaltic pump tubing replacement kit for the Routine Sampler Accessory. Includes silicon pump tubing and fittings	9910052900
PTFE tubing (to sample) for Routine Sampler Accessory, per m	3710030800
Silicon tubing, used to connect Routine Sampler Accessory to flow cells, per m	3710026400
Dissolution tubing spares kit, Cary 50/60	6610020500
Dissolution tubing spares kit, Cary 100/300	6610020600



Photometric linearity neutral density filter kit,
9910056100

UV Filters, Standards and Reagents

Optical Filters

Description	Part No.
Attenuator filter kit with neutral density screens and blue filter, for use with Cary 100/300/4000/5000/6000i. Used for high levels of attenuation from 0.5 Abs to 3.1 Abs. Filters mount in filter holders supplied. Filter holders mount onto liquid sample holder base. Two filter holders (V-Holders) are supplied with three neutral density mesh filters (0.5 Abs, 1.1 Abs and 1.5 Abs). Also supplied are three blue glass filters for attenuation at visible wavelengths or for demonstration of system photometric range.	9910047700
Holmium oxide filter	118020790
Holmium oxide/didymium glass filter kit Includes holmium oxide and didymium glass filters in a 10 mm rectangular cell holder	10030200
Certified holmium glass filter Holmium glass filter mounted in a 10 mm rectangular holder, with certificate	2010094300
Certified didymium glass filter Didymium glass filter mounted in a 10 mm rectangular holder, with certificate	2010094400
Photometric linearity neutral density filter kit Contains tandem cell holder and two each neutral density filters of 0.3, 0.5, 1.0, and 1.5 Abs	9910056100

Standards & Reagents

Our chemical standards and accessory kits provide an inexpensive and time-saving solution for operational qualification and performance verification (OO/PV) of UV-Vis spectrophotometers. The kits are designed for analysts who need to conform closely to both quality and regulatory requirements when performing UV-Vis measurements.

The chemical kits can be used with any UV-Vis spectrophotometer and consist of pre-prepared solutions in sealed ampoules. The solutions are traceable to NIST standards and specified by the European Pharmacopeia (EP) and include holmium oxide for wavelength accuracy measurement, potassium dichromate for photometric accuracy measurement, sodium nitrite, sodium iodide and potassium chloride for stray light measurements at 340, 220 and 198 nm, and toluene in hexane for resolution measurement. Each standard includes a Certificate of Analysis for traceability.

8453/8454 Certified Calibration Standards and Accessory Kits

Description	Part No.
OO/PV chemical standards kit I (for photometric accuracy, stray light and resolution measurements)	5063-6503
Contains 12 ampoules 10 mL each including 4 potassium dichromate in sulfuric acid (2 each of 60 and 600 mg/L), 2 sulfuric acid (blank), sodium nitrite, sodium iodide, potassium chloride, toluene in hexane and 2 hexane	
OO/PV chemical standards kit II (for wavelength accuracy)	5063-6521
Contains 2 ampoules 10 mL each of perchloric acid (blank) and holmium oxide in perchloric acid	
OO/PV hardware kit	5063-6523
Contains 2 flow cells, cell passivating fluid, tubing kit, MCT adjustment tool, temperature sensor support, syringes, and OO/PV manual	
Tubing kit for UV-Vis OO/PV test	5063-6522
Contains tubings, fittings and adapter to flush flow cell	
Caffeine OO/PV sample for dissolution test, 150 mg/L caffeine in water, 500 mL	5042-6476

8453/8454 Checkout Samples

Description	Part No.
Test sample for UV-Vis (caffeine solution, 10 µg/mL in water)	5063-6524



OO/PV chemical standards kit I, 5063-6503



OO/PV chemical standards kit II, 5063-6521



OO/PV hardware kit, 5063-6523



Tubing kit for UV-Vis OO/PV test, 5063-6522



Caffeine OO/PV sample for dissolution test, 5042-6476

Cary Standards

Description	Notes	Part No.
Calibrated solution standards kit	Solution validation test kit for testing performance of a UV spectrophotometer (wavelength accuracy, photometric linearity, stray light, etc). Includes potassium dichromate 60 mg/L, 600 mg/L plus perchloric acid blank for photometric accuracy tests, holmium perchlorate 4% in 10% perchloric acid for wavelength accuracy tests, potassium chloride solution 12 g/L, sodium nitrite solution 50 g/L, sodium iodide - 1% solution plus water blank for stray light tests, 0.02% toluene in hexane plus a hexane blank for resolution tests. Each solution is sealed in a quartz cuvette. A certificate of traceability and performance is included for each solution.	9910085200
Holmium perchlorate 4% in perchloric acid, sealed in a quartz cuvette	Includes certificate of traceability and performance.	6610022100
Toluene in hexane resolution test kit	Includes 2 x 10 mL ampoules of 0.02% toluene in n-hexane and 6 x 10 mL ampoules of n-hexane.	9910101000
Certified standard, for specular reflectance at 7 degree angle of incidence	Features Al coating on 40 mm diameter Pyrex substrate. Covers range 250-2500 nm with >80% reflectance >250 nm and >85% reflectance >800 nm. Includes NIST traceable certification at 10 nm intervals (250-1100 nm) and 25 nm intervals (1100-2500 nm).	G6874-80000
Calibrated 2 inch diameter 99 pct Spectralon reflectance standard for diffuse reflectance	PTFE diffuse reflectance standard which has typical reflectance value of 99% and is spectrally flat over the UV-VIS-NIR spectrum in the range from 250-2500 nm. Reflective area 2 inch diameter. Supplied with complete diffuse reflectance data from 250-2500 nm. Housed in a durable Delrin holder with a protective cover. For use with the Cary 7000/UMA when performing scattering measurements that need to be referenced (ratioed) to a scattering material.	7910037700
Calibrated color standard, 2 inch od, 4 per set	Includes four colored standards with values traceable to NIST. Certified values are in 10 nanometer increments from 380-830 nm.	9910084300
Certified diffuse reflectance wavelength and wave number standard	PTFE diffuse reflectance standard which has typical reflectance value of 99% and is spectrally flat over the UV-VIS-NIR spectrum in the range from 250-2500 nm. Reflective area 2 inch diameter. Supplied with complete diffuse reflectance data in both wavelength and wavenumbers, directly traceable to NIST. Housed in a durable Delrin holder with a protective cover.	9910081100
Certified diffuse reflectance wavelength standard	PTFE diffuse reflectance standard which has typical reflectance value of 99% and is spectrally flat over the UV-VIS-NIR spectrum in the range from 250-2500 nm. Reflective area 1.25 inch diameter. Supplied with complete diffuse reflectance data from 250-2500, every 50 nm, directly traceable to NIST. Housed in a durable Delrin holder with a protective cover.	9910080900
Certified diffuse reflectance wavenumber standard	PTFE diffuse reflectance standard which has typical reflectance value of 99% and is spectrally flat over the UV-VIS-NIR spectrum in the range from 250-2500 nm. Reflective area 2 inch diameter. Supplied with complete diffuse reflectance data in wavenumbers, directly traceable to NIST. Housed in a durable Delrin holder with a protective cover.	9910081000
Certified reference standard for certification of UV instruments to USP requirements	Includes 0.006% potassium dichromate plus perchloric acid blank and neutral density filters of 0.25, 0.5 + 1.0 Abs. for photometric accuracy tests. Also includes 4% holmium perchlorate in 10% perchloric acid for wavelength accuracy tests. Each solution is sealed in a quartz cuvette. A certificate of calibration with NIST traceability is included for each solution/filter.	190034200
Certified Neutral Density standards, set of 3	Set of three neutral density glass filters required for the determination of photometric accuracy. Traceable to NIST.	190032100

Agilent Cary Eclipse Fluorescence Supplies

Agilent fluorescence spectrophotometers are augmented by a wide range of accessories and supplies, including a fast filter accessory, solid sample holder, 96- and 384-well microplates, and fiber optic probes and couplers.



The Agilent Cary Eclipse
fluorescence spectrophotometer

Kits and Supplies for Fluorescence Accessories

Fast Filter Accessory Supplies

The Fast Filter Accessory quickly adapts the Cary Eclipse to a filter based instrument for measurement of rapid intracellular ion movements into and out of cells using ratiometric fluorescent probes. Such measurements are used in processes exhibiting fast kinetics that cannot be measured using high-speed scanning monochromators. A pair of bandpass filters appropriate to the fluorophore under investigation must be mounted in the fast filter accessory. Agilent offers filter pairs appropriate for measurement of the calcium binding dyes Fura-2 and Indo-1. The filters are 25 mm in diameter and are mounted in a black anodized aluminum ring.

Fast Filter Accessory Supplies

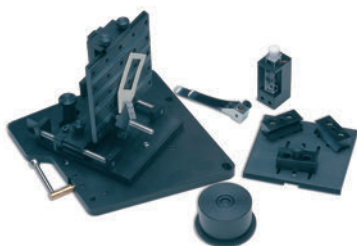
Description	Part No.
Fura-2 filters for Ca ⁺⁺ measurements (340 and 380 nm bandpass filters, 20 nm SBW) Requires fast filter accessory (p/n G9804A)	7910043800
Indo-1 filters for Ca ⁺⁺ measurements (405 and 495 nm bandpass filters, 20 nm SBW) Requires fast filter accessory (p/n G9804A)	7910043900



Fura-2 filters for Ca⁺⁺ measurements,
7910043800



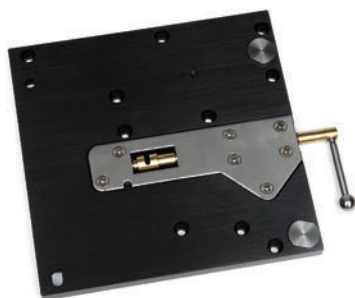
Indo-1 filters for Ca⁺⁺ measurements,
7910043900



Cary Eclipse solid sample holder

Cary Eclipse Fluorescence Accessory Supplies

Description	Part No.
Solid Sample Holder Accessory Supplies	
Edge mounting sample holder Used with solid sample holder accessory. Allows measurement of optical components including optical filters and other samples that cannot be mounted using the standard solid sample holder kit. Consists of an adjustable sample clamp plate, 2 additional sample brackets, a sliding bracket, ball driver, and positioning screws (4 ea)	9910102900
Powder cell and single crystal holder Used with solid sample holder accessory. Allows measurement of powders and a variety of small crystals, gems and rocks. Consists of a mounting bracket, positioning screws (4 ea), cylindrical powder holder shell and powder holder lid, sample cups (2 ea), silica disks, and a crystal holder bracket	9910103000
Cuvette sample holder Used with solid sample holder accessory. Allows measurement of liquid samples located in traditional cuvettes. Consists of a cuvette holder for standard 10 mm pathlength cuvettes and mounting screws (2 ea) to secure the cuvette holder to the solid sample holder mounting plate. Allows for flexible front face cuvette measurements at a variety of angles for highly scattering or absorbing samples	9910103100
Temperature Probe Accessory Supplies	
Probe holder Rectangular end probes (4 ea) are supplied, suitable for use in standard 10 mm rectangular cuvettes	9910066800
Probe holder, tapered end Tapered end probes (4 ea) are supplied, suitable for use in microcells	9910066900
Short extension lead for probe holder Required for mounting the probe inside the sample compartment	110381100
Long extension lead for probe holder Required for mounting the probe outside the sample compartment	110380500



Base plate for custom accessories, fluorescence, 210167490

Base Plate for Custom Accessories

This base plate incorporates locating holes and the Cary Eclipse rapid lockdown mechanism common to most Eclipse accessories. It can be used to mount custom accessories in the Eclipse sample compartment.

Base Plate for Custom Accessories

Description	Part No.
Base plate for custom accessories, fluorescence	210167490

Fluorescence Cuvettes and Flow Cells

Rectangular cells are the most commonly used cell type. We offer standard cells, sub-micro cells with about 40% of the volume of a standard cell of the same pathlength, and microcells with about 20% of the volume of a standard cell. Low-volume triangular cells that fit directly into the standard 10 mm cuvette holder are also available. The microcell cuvettes are ideal for use when you have only a small amount of sample. All the listed cuvettes have the optimum Z-height (the distance between the base of the cell and the center of the light beam) for the Cary Eclipse fluorescence spectrophotometer.



Flow cell, 2 x 2 mm emission window, 6610023700

Cuvettes and Flow Cells

Cell Type	Description	Cell Material	Volume	Path Length (mm)	Part No.
Flow Cell	Flow cell, 2 x 2 mm emission window	Far UV quartz	40 µL	10	6610023700
Rectangular	Fluorescence cell, open top, pair	Far UV quartz	3.5 mL	10	6610000900*
	Fluorescence cell, stoppered, pair	Far UV quartz	3.5 mL	10	6610001200*
	Fluorescence cell, anaerobic	Far UV quartz	3 mL	10	6610021400
	Fluorescence cell, two sides mirrored with black-backed mirrored sides	Far UV quartz	3 mL	10	6610023500
	Sub-micro cell, 4 x 10 mm window	Far UV quartz	400 µL	10	6610021500
	Sub-micro cell, 2 x 2 mm window	Far UV quartz	40 µL	10	6610021600
	Sub-micro cell, low head space, stoppered	Far UV quartz	40 µL	10	6610024200
Triangular	Microcell, stoppered, square base	Far UV quartz	1.7 mL	10	6610021200
	Microcell, open top, square base	Far UV quartz	1.7 mL	10	6610021300

*Matched pair

Cell Holder and Base

Description	Part No.
Cell holder, fluorescence	110664700
Cell holder base, fluorescence	210167200



Triangular microcell, stoppered, square base, 6610021200



Triangular microcell, open top, square base, 6610021300



Cell holder, fluorescence, 110664700



Cell holder base, fluorescence, 210167200

Microplates

Our microplates are available in white for best overall well-to-well reproducibility, or black for the lowest background signal levels. Both types have high binding surfaces that bind medium and large biomolecules (greater than 10 kDa) that have hydrophobic and/or ionic groups. These microplates are recommended for the Cary Eclipse Microplate Reader Accessory.



96-well microplate, 6610022300

96-well Microplates

Surface Treatment	Sterile	Color	Unit	Part No.
High binding	No	White	10/pk	6610022400
High binding	No	Black	10/pk	6610022500
High binding	No	White	100/pk	6610022800
High binding	No	Black	100/pk	6610022900
Untreated	Yes	White	10/pk	6610022300

384-well Microplates

Surface Treatment	Sterile	Color	Unit	Part No.
High binding	No	White	10/pk	6610022600
High binding	No	Black	10/pk	6610022700
High binding	No	White	50/pk	6610023000
High binding	No	Black	50/pk	6610023100

Fiber Optic Probes and Couplers

Fiber Optic Probes and Couplers

Description	Notes	Part No.
Fiber optic dip probe coupler accessory, fluorescence	Allows a fiber optic dip probe to be connected using SMA 906 connectors. Includes a remote read connection to enable read triggering from the probe mounting arm. Requires the fiber optic dip probe (p/n 7910043100)	10076800
Fiber optic coupler accessory, fluorescence	Allows a remote read fiber optic probe to be connected using SMA 906 connectors. Allows remote sample measurement. Requires the remote read fiber optic probe (p/n 7910043000)	10076700
Fiber optic dip probe, fluorescence	Stainless steel fiber optic dip probe. For use with fiber optic dip probe coupler accessory. Probe tips must be ordered separately. Select from the fluorescence fiber optic liquid tips kit for quantitative work and the fluorescence fiber optic probe tip for solids.	7910043100
Fiber optic remote read 2 m probe, fluorescence	Hand-held stainless steel fiber optic probe with remote read switch. For use with fiber optic coupler accessory. Probe tips must be ordered separately. Select from the fluorescence fiber optic liquid tips kit for quantitative work and the fluorescence fiber optic probe tip for solids.	7910043000

Tips for Fiber Optic Probes

Description	Kit Contents	Part No.
Fluorescence fiber optic liquid tips kit	Includes two stainless steel liquid probe tips with black quartz base, angled to minimize back-scattering. 10 and 20 mm pathlengths.	9910104500
Fluorescence fiber optic solid tip kit	Includes stainless steel probe tip for solids designed to bring the light into the sample at 30 degrees to minimize back-scattered excitation	7910043200



Fiber optic dip probe coupler accessory, fluorescence, 10076800



Transmission probe and holder, 10076700



Fiber optic remote read 2 m probe, fluorescence, 7910043000



Fluorescence fiber optic solid tip kit, 7910043200



Fluorescence fiber optic liquid tips kit, 9910104500

Standards and Reference Materials



Silica diffuser, spare, 110674800



Rhodamine B, concentrated solution sealed in triangular cuvette, 6610021700



Fluorescence samples, set of six hydrocarbons in polymer blocks, 6610010300

Standards and Reference Materials

Description	Part No.
Water-filled fluorescence cuvette, sealed Used for signal-to-noise measurements of Raman band of water	6610021800
Silica diffuser, spare	110674800
Neutral density attenuator 1.5 Abs, spare	110677500
Rhodamine B in polymer block	6610021900
Europium in polymer block	6610022200
Rhodamine B, concentrated solution sealed in triangular cuvette	6610021700
Saturated rhodamine B solution in triangle cell for collecting excitation correction factors	
Holmium perchlorate 4% in perchloric acid, sealed in a quartz cuvette	6610022100
Sealed cell used to measure wavelength accuracy on the emission monochromator. Requires cell holder p/n 110678600. Includes certificate of traceability and performance.	
Cell holder for holmium perchlorate cuvette	110678600
Special cell holder for mounting a cuvette before the standard cell holder. This accessory is used for mounting the holmium perchlorate for the wavelength accuracy test. This allows the diffuser to be positioned in the standard cell holder and the perchlorate cell to be positioned in this cell holder. Required for Cary Eclipse wavelength accuracy test using holmium perchlorate solution.	
Fluorescence samples, set of six hydrocarbons in polymer blocks	6610010300
Four have broad fluorescence bands for 300-700 nm, and two have sharp emission bands for wavelength calibration and bandpass checking; Samples include anthracene/naphthalene, ovalene, p-terphenyl, tetraphenyl butadiene, compound 610, and rhodamine B in PMMA block.	
Fluorescence demonstration kit	9910101900
Includes europium in polymer block, ovalene in polymer block, a sealed water cuvette, and an empty 10 x 10 mm fluorescence cuvette	

Agilent Cary Series FTIR Supplies

The Agilent world-renowned Cary product line encompasses handheld, portable and inlab routine and research grade FTIR, in addition to the traditional UV-Vis and UV-Vis-NIR and fluorescence techniques. Agilent Cary FTIR microscopes and chemical imaging systems represent the latest in cutting-edge performance, delivering unparalleled spatial resolution and sensitivity. Agilent FTIR products are engineered to help you discover, characterize, and test a variety of solid, liquid, organic and inorganic materials. Take advantage of powerful analysis routines for reliable results with built-in ease-of-use to ensure your productivity. Our range of consumables for these products includes desiccant, replacement windows and sources, filters, crystals, and high quality reference sources, such as polystyrene test films.



Agilent Cary 670 FTIR shown with the Cary 620 FTIR imaging system

Cary Series FTIR Instrument Supplies and Sources

Cary Series FTIR Instrument Supplies and Sources

Description	Part No.
Replacement desiccant cartridge for spectrometer	899-1794
Used to prevent water vapor diffusing into the spectrometer enclosure. Replace when the indicator crystals turn pink.	
Funnel for liquid nitrogen	013-4422
Used for pouring liquid nitrogen when cryogenically cooled detectors (MCT or InSb) are installed	
Sample compartment filter kit	9910141100
Includes 12.5%, 25%, and 50% filters	
KBr window assembly for sample compartment	110834990
KBr window assembly, pair - spare only	210228390
Window retaining ring	810207300
KRS5 window assembly for sample compartment	110835000
KRS5 window assembly, pair, for 640 FTIR	210228490
Simple polystyrene test card (uncertified)	883-9120
Source assembly, Mid-IR	110805990
Assembly source element, NIR, FTS 7000	013-3243
Source element, FTIR, FTS 4060	013-3300
NIR source lamp	5610136500



Replacement desiccant cartridge for spectrometer, 899-1794



Funnel for liquid nitrogen, 013-4422



KBr window assembly for sample compartment, 110834990



Window retaining ring, 810207300



NIR source lamp, 5610136500



Agilent Cary 630 FTIR



Replacement infrared source with purge fitting,
G8043-67400



KBr window with removal tool and purge fitting,
G8043-67402

Agilent Cary 610/620 FTIR Imaging Supplies

Description	Part No.
Replacement Ge crystal for slide-on ATR accessory	099-1925-1
Replacement diamond crystal for slide-on ATR accessory	099-1925-3

Agilent Cary 630 FTIR System Supplies

Description	Part No.
Replacement infrared source with purge fitting	G8043-67400
Replacement dessicant cartridge with purge fitting	G8043-67401
KBr window with removal tool and purge fitting	G8043-67402
ZnSe window with removal tool and purge fitting	G8043-67403
Polystyrene disks for diffuse reflectance sampling accessory	G8043-67404
Polystyrene film for Diamond ATR/Transmission sampling accessory	G8043-67405
Polystyrene film for Tumbler/DialPath sampling accessory	G8043-67406
Replacement flat tip for Diamond ATR	G8043-67483
Replacement pellet tip for Diamond ATR	G8043-67484

Agilent 4200 FlexScan FTIR System Supplies

Description	Part No.
Diffuse gold reflectance reference cap for diffuse reflectance	0023-300
Polystyrene frequency reference cap for diffuse reflectance	0023-301
Diffuse gold reflectance reference cap for external reflectance	0023-304
Polystyrene frequency reference cap for external reflectance	0023-305
Mirrored stainless steel reflectance reference cap for external reflectance	0023-307



Agilent 4500 FTIR for Oil Analysis

Description	Part No.
Surfactant kit, water in oil Includes surfactant blend 1/2 gallon, pipette and tips, sample syringes, vials, and instructions	0020-900
Surfactant refill kit, water in oil Includes surfactant blend 1/2 gallon	0020-901
Oil in water detection kit Hardware required to perform the oil in water method. Includes filtration apparatus, forceps, filters, pipette tips, and oil stabilizer.	0020-903
Oil in water refill kit Includes filters and oil stabilizer	0020-904
Biodiesel reference standards kit Test standards for 4500/5500 series biodiesel in diesel method. Contains 12 sets of a 3 standard kit: blank, 0.05%, and 0.5% biodiesel in diesel. 2 yr shelf life	0020-905

Agilent 4100 ExoScan FTIR System Supplies

Description	Part No.
Interface cable for 4100 ExoScan FTIR Includes Y-Interface cable for AC power and USB	0023-200



4300 Handheld FTIR

Agilent 4300 Handheld FTIR System Supplies

Description	Part No.
Reference cap, gold, coarse, for 4300 Handheld FTIR	G8180-67560
Reference cap, mirror, stainless steel, for 4300 Handheld FTIR	G8180-67562
Reference cap, diffuse, coarse, for 4300 Handheld FTIR	G8180-67563
Reference cap, mirror, gold, for 4300 Handheld FTIR	G8180-67564
Reference sample, polystyrene, for 4300 Handheld FTIR	G8180-67300
Retro-reflector, mercury cadmium telluride (MCT), for 4300 Handheld FTIR	G8180-67610
Retro-reflector, deuterated triglycine sulfate (DTGS), for 4300 Handheld FTIR	G8181-67611

Agilent Handheld FTIR Miscellaneous Supplies

Description	Part No.
SoMo 655 PDA upgrade replacement package, for 4100/4200/4500 FTIR	800-2020
SoMo 655 PDA, for 4100/4200/4500 FTIR	800-2022

Replacement Batteries and Power Supplies for Handheld FTIR Systems

Description	Part No.
Handheld PC battery Used with Agilent 4100 ExoScan, 4200 FlexScan, and 4500 Series Portable FTIR systems	800-2004
Lithium-ion battery Used with Agilent 4100 ExoScan and 4200 FlexScan FTIR systems	800-2005
Replacement battery, for 4300 Handheld FTIR	G8180-67147
Battery charger, for 4300 Handheld FTIR	G8180-67000
Power supply, 15 V DC, for 4300 Handheld FTIR	G8180-67135
Socket charger kit, for SoMo 655 PDA, used with 4100/4200/4500 FTIR	800-2023
Socket replacement mount, for SoMo 655, used with 4100/4200/4500 FTIR	800-2024

Agilent Oil Analyzer Supplies

Description	Part No.
24-bottle autosampler rack Holds bottles of up to 2 inch diameter in a 3 row x 8 column configuration	697-5392-1
40-bottle autosampler rack Holds bottles of up to 1 5/8 inch diameter in a 4 row x 10 column configuration	697-5392-2
55-bottle autosampler rack Holds bottles of up to 1 1/16 inch diameter in a 5 row x 11 column configuration	697-5392-3
Replacement ZnSe sample cell assembly	013-5353
Polystyrene card	884-2829
Replacement pump head, easy load	899-1599
Viton pump tubing	815-0631
Tygon fuel tubing	815-0639
PTFE tubing	815-0616
Tool/parts kit for oil analyzer Includes 2 x 400 mesh stainless steel filters, 2 feet of 3/32 inch x 5/32 inch PTFE tubing, 2 feet of Viton pump tubing, 4 feet of Tygon fuel tubing, wash bottle, 3 x 1 gallon capacity plastic bottle, 2 x 3/8 inch id Viton O-rings, wrenches for filter holder and probe fittings	013-4825-1
Bypass valve assembly for the oil sample cell used with the FTIR Oil Sampling Accessory, 1/pk	013-4975-1

FTIR Standards

Description	Part No.
Polystyrene test film, NIST traceable Set of 2 polystyrene test films each mounted to 2 inch x 4 inch cardstock holder that fit in the universal slide mount. Includes certificate of traceability to five NIST 1921b frequencies	925-0128
KBr powder, spectroscopic grade, 100 g	HARRICK-KBR-100



Replacement ZnSe sample cell assembly, 013-5353



Viton pump tubing, 815-0631



Polystyrene test film, NIST traceable, 925-0128

Product Index

Atomic Absorption

ACT-80 Atom Concentrator Tube	17
Flame Atomization System	
Mark 7 Flame Atomization System	
Burners	21
Impact Beads	21
Nebulizers	18-19, 21
Operating Kit	20
Spray Chambers	18-19
Mark VI Flame Atomization System	
Operating Kit	22
Spray Chambers	23
Graphite Furnace	
GTA 100/GTA 110 Furnace Systems Kits	33
GTA 120 Furnace System Kits	32
GTA 120 Zeeman Furnace System Kits	32-33
Graphite Electrodes	35
Graphite Furnace Tools	36
Graphite Shrouds	36
Graphite Tubes and Platforms	34
Programmable Sample Dispensers (PSD)	37
Hollow Cathode Lamps	
Background Correction	17
Coded Multi-Element	14
Coded Single Element	12
High Intensity UltrAA Coded Multi-Element	16
High Intensity UltrAA Coded Single Element	15
High Intensity UltrAA Uncoded Multi-Element	16
Uncoded Multi-Element	14
Uncoded Single Element	13
SIPS 10/20	
Maintenance Supplies	
Constant Pressure Head Bottles	28
Pump Tubing	28
T-Piece Assemblies	28
Operating Supplies Kit	28
SPS 3 Autosampler	
Accessories	24
Digestion Tubes	25
Diluter Spares & Supplies	27
Probes	25
Racks	26
Start-up and Operating Supplies Kit	24
Test Tubes	25
Tubing	27
Standards	
Buffers/Ionization Suppressant	
for Flame AA	118
Matrix Modifiers for Graphite Furnace AA	118
Multi-Element Calibration	116
Single Element Calibration	117

VGA-76/77	
Absorption Cells	29
Gas-liquid Separators	31
Hydride Modules	29
Miscellaneous Supplies	30
Operating Supplies Kit	29
Reagents	31
Tubing	30

FTIR

4100 ExoScan FTIR	163
4200 FlexScan FTIR	162
4500 FTIR for Oil Analysis	163
Cary 610/620 FTIR Imaging	162
Cary 630 FTIR System	162
Handheld FTIR	
4300 System Supplies	164
Miscellaneous Supplies	164
Replacement Batteries and Power Supplies	164
Oil Analyzer	165
Sources	161
Standards	165

Fluorescence

Base Plate for Custom Accessories	156
Cell Holder and Base	157
Cuvettes and Flow Cells	157
Fast Filter Accessory	155-156
Fiber Optic Probes and Couplers	159
Microplates	
384-well Microplates	158
96-well Microplates	158
Standards	160

ICP-MS

Autosampler	
ASX-500 Series Autosampler	95
Integrated Autosampler(I-AS)	94
Gas Line	
Connectors	107-111
Regulators	109-110
Supplies	107-108
Ultra Clean Traps	109
Interface Cones and Ion Lenses	
Electron Multipliers	92
Interface Cone Guide	
7500 Series ICP-MS	88
7700/7900 Series ICP-MS	86-87
8800 Triple-Quad ICP-MS	86-87

Ion Lens System Components	
7500 Series ICP-MS	91-92
7700/8800 Series ICP-MS	90
7900 Series ICP-MS	89
Sampling and Skimmer Cones	89-90
Maintenance Schedule	73
Peripherals	
Configurable Kits for 7700/8800 Series	102
Configurable Kits for 7900 Series	103
GC Interface Supplies	104
ISIS Hydride Generation Accessory	98
Integrated Sample Introduction System	
(ISIS 3) for 7900	99-100
Integrated Sample Introduction System	
(ISIS)	96-97
Kits for 7700/7900, and 8800 Series	101
Miscellaneous	106
Speciation Columns	105
Sample Introduction	
HMI Kit	84
Nebulizers and Supplies	76-79
Babington	76-79
Concentric	76-79
CrossFlow	76-79
MicroFlow	76-79
MicroMist	76-79
Mira Mist	76-79
PFA Concentric	76-79
PFA Inert Sample Introduction Kit	82-83
PP Inert Sample Introduction Kit	84
Sample Line	74-75
Peri-pump tubing	74-75
Sample tubing	74-75
Spray Chambers	80-81
Torches	85
Standards	
Environmental	122
Installation and Checkout	121
Interference Check Mixes	122
Multi-Element Calibration	121
Single Element	122
Tuning Solutions	121
Vacuum System	
Foreline Pump Oil	93
Oil Mist Filter	93

ICP-OES

Application Kits	
Common Organic Solvents	68
High Dissolved Solids	64
Inert Sample Introduction Systems	65

Ketone-Based Organic Solvents66
 Spare Sample Introduction Kits.....62-63
 5100 RV (Radial) ICP-OES62
 5100 SVDV/VDV ICP-OES62
 Axial ICP-OES63
 Radial ICP-OES63
 Volatile Organics67
 Multi-Mode Sample Introduction System (MSIS)
 Accessory Kits71
 Argon Gas and Air Filters72
 Supplies71
 Nebulizers and Accessories43-45
 Sample Compartment Spray Chambers
 and Brackets
 5100 Dual View ICP-OES Operating
 Supplies Kits42
 700 Series and Liberty ICP-OES Operating
 Supplies Kits39
 Brackets39-40
 Sample Compartment Kits38
 Spray Chambers39-40
 Sturman-Masters Spray Chamber Supplies41
 Standards
 Environmental120
 Internal Standard/Ionization Suppressant120
 Multi-Element Calibration116
 Single Element Calibration119
 Wavelength Calibration116
 Switching Valves
 SVS 169-70
 SVS 269-70
 Torches
 5100 Dual View Supplies49
 5100 RV (Radial)47
 5100 SVDV/VDV46
 Cones for Dual View and Axial ICP-OES49
 Fully Demountable50-52
 One Piece Axial48
 One Piece Radial48
 Semi-demountable50-52
 Spares49
 Tubing
 Internal Standard Kit56
 Peristaltic Pump Tubing53-54
 Marprene55
 PVC54-55
 Viton56
 Tubing Kits
 Aqueous Samples and High Dissolved
 Solids57
 Aromatic Organic Solvents59
 Ketone-Based Organic Solvents60
 Low Volatile Organic Solvents58
 Volatile Organic Samples61

MP-AES

Application Kits113
 External Gas Control Module (egCM)115
 Miscellaneous Supplies114
 Multi-Mode Sample Introduction System
 (MSIS)115
 Nebulizers112
 Organics Kit115
 Pump Tubing113
 Spray Chambers113
 Standards
 Internal Standard/Ionization Suppressant120
 Multi-Element Calibration116
 Single Element Calibration117, 119
 Wavelength Calibration116
 Torches112

Standards

Atomic Absorption
 Buffers/Ionization Suppressant for Flame
 AA118
 Matrix Modifiers for Graphite Furnace AA118
 Multi-Element Calibration116
 Single Element Calibration117
 FTIR165
 Fluorescence160

ICP-MS

Environmental122
 Installation and Checkout121
 Interference Check Mixes122
 Multi-Element Calibration121
 Single Element122
 Tuning Solutions121

ICP-OES

Environmental120
 Internal Standard/Ionization Suppressant120
 Multi-Element Calibration116
 Single Element Calibration119
 Wavelength Calibration116

MP-AES

Internal Standard/Ionization Suppressant120
 Multi-Element Calibration116
 Single Element Calibration117, 119
 Wavelength Calibration116

UV

8453/8454 Certified Calibration153
 8453/8454 Checkout Samples153
 Cary154

UV-Vis & UV-Vis-NIR.....

8453/8454 UV-Vis
 89090A Peltier Temperature Controller142
 Autosampler142
 Dissolution Testing143
 G1120A 8-Position Multicell Transport141
 Sipper142
 Spectrophotometer Lamps141
 Tubings and Fittings140
 Cary UV-Vis & UV-Vis-NIR
 Accessory Kits147-150
 Fiber Optic Probe Replaceable Tips146
 Fiber Optic Probes144-145
 Source Lamps151
 Tubing151
 Flow Cells and Cuvettes123
 Cell Holders and Accessories138-139
 Cell Materials123
 Cell Shapes124
 Cell Volumes125
 Cylindrical Cells134
 Disposable Polystyrene Cells129
 Flow-through Cells135-136
 Macro Cells126-127
 Miscellaneous137
 Quartz Block Inserts128
 Semi-micro Cells130
 Spacers128
 Sub-micro Cells131
 TrayCell133
 Ultra-micro Cells132
 Optical Filters152
 Standards
 8453/8454 Certified Calibration153
 8453/8454 Checkout Samples153
 Cary154

Part Number Index

00000001600L.....	25	110593190.....	40	190025200.....	29	190065200.....	24-25
0020-900.....	163	110611700.....	40	190025400.....	28	190065400.....	24
0020-901.....	163	110634490.....	19	190026401.....	119	190067900.....	32
0020-903.....	163	110637000.....	19	190026402.....	119	190068000.....	32
0020-904.....	163	110639690.....	151	190026403.....	119	2010069690.....	48
0020-905.....	163	110645090.....	138	190026404.....	119	2010070790.....	49
0023-200.....	163	110648190.....	138	190026405.....	119	2010072900.....	51
0023-300.....	162	110651090.....	28	190026406.....	119	2010077500.....	51
0023-301.....	162	110654990.....	30	190026407.....	119	2010081600.....	44
0023-304.....	162	110656800.....	17	190026408.....	119	2010081700.....	39
0023-305.....	162	110664700.....	157	190026409.....	119	2010083400.....	51
0023-307.....	162	110665200.....	40	190026410.....	119	2010090400.....	48
0100-0071.....	104	110674800.....	160	190026411.....	119	2010094300.....	152
0100-0542.....	104	110677500.....	160	190026412.....	119	2010094400.....	152
0100-1224.....	135	110678600.....	160	190026413.....	119	2010094800.....	48
0100-1225.....	135, 142	110713990.....	151	190026414.....	119	2010095000.....	48
0100-1331.....	104	110716190.....	138	190026415.....	119	2010095200.....	52
0100-1344.....	104	110721900.....	139	190026417.....	119	2010095300.....	52
0100-1379.....	104	110766690.....	28	190026418.....	119	2010095400.....	52
0100-1710.....	140	110805990.....	161	190026419.....	119	2010095500.....	52
0100-2583.....	107	110834990.....	161	190026420.....	119	2010095600.....	52
0100-2703.....	107	110835000.....	161	190026421.....	119	2010095800.....	52
0101-1398.....	110	110866890.....	19	190026422.....	119	2010095900.....	52
0101-1399.....	110	110868000.....	40, 71	190026423.....	119	2010096000.....	52
0101-1400.....	110	118020790.....	152	190026424.....	119	2010096400.....	43
0101-1535.....	109	1510188100.....	41	190026425.....	119	2010097600.....	44
0101-1536.....	109	1510188200.....	41	190026426.....	119	2010097700.....	44
0101-1537.....	109	1510220200.....	49	190026428.....	119	2010101700.....	52
013-3243.....	161	1510225000.....	19	190026429.....	119	2010101800.....	52
013-3300.....	161	1510226000.....	19	190026430.....	119	2010104600.....	48
013-4422.....	161	1510226500.....	19	190026431.....	119	2010104700.....	48
013-4825-1.....	165	1510226600.....	19	190026432.....	119	2010104800.....	48
013-4975-1.....	165	1510226700.....	19	190026433.....	119	2010106800.....	43
013-5353.....	165	1510226800.....	19	190026435.....	119	2010117400.....	48
0535-1082.....	80	1510267900.....	30	190026436.....	119	2010117500.....	48
08451-60104.....	138	1535-4970.....	93	190026437.....	119	2010120300.....	52
0890-2603.....	45	1610085300.....	45	190026439.....	119	2010122400.....	48
099-1925-1.....	162	1610085600.....	45	190026440.....	119	2010126000.....	43
099-1925-3.....	162	1610088600.....	45	190026441.....	119	2010126900.....	43, 112
1000-0544.....	126	1610094600.....	37	190026449.....	119	210125300.....	139
10030200.....	152	1610114500.....	41	190029200.....	128	210164000.....	19, 21
10046700.....	139	1610114600.....	41	190029201.....	128	210164100.....	19, 21
10046800.....	139	1610114700.....	41	190029202.....	128	210167200.....	157
10048100.....	138	1610114800.....	41	190029203.....	128	210167490.....	156
10076700.....	159	1610117390.....	19-20	190032100.....	154	210187900.....	149
10076800.....	159	1610118800.....	19	190034100.....	20	210190000.....	37
110026900.....	139	1610132400.....	45	190034200.....	154	210228390.....	161
110059900.....	139	1610136400.....	45, 69	190049700.....	24-25	210228490.....	161
110260190.....	139	1610136500.....	69	190055700.....	145	2140-0605.....	141
110351790.....	23	1610136600.....	69	190055900.....	146	2410020500.....	24, 54-55
110351990.....	23	1610146100.....	70	190064300.....	44	2410023800.....	49, 151
110374900.....	150	190024000.....	118	190064500.....	118, 120	2410067590.....	51
110375990.....	30	190024100.....	118	190064600.....	120	310046600.....	19
110380500.....	147, 156	190024200.....	118	190064700.....	120	3162-1056.....	93
110381100.....	147, 156	190024300.....	118	190064800.....	120	3610006200.....	49
110533590.....	28	190024800.....	22	190064900.....	120	3610007300.....	49
110585790.....	28	190024900.....	33	190065000.....	120	3610010100.....	69
110593000.....	41	190025000.....	33	190065100.....	120	3610020400.....	70

3710009200.....	19, 23, 30	410143990.....	150	5061-3387.....	126	5064-8029.....	97
3710011700.....	19, 23	410198890.....	149	5061-3388.....	128	5064-8032.....	97
3710024600.....	54	410203900.....	148	5061-3389.....	128	5064-8033.....	97
3710026390.....	30	410204100.....	148	5061-3390.....	128	5064-8034.....	96
3710026400.....	24, 27, 151	410204300.....	148	5061-3391.....	130	5064-8078.....	79, 111
3710027200.....	30, 54, 71	410204500.....	148	5061-3392.....	134	5064-8092.....	108
3710027300.....	30, 54	410298400.....	40	5061-3396.....	136	5064-8101.....	74
3710030800.....	151	410328600.....	40	5061-3397.....	136	5065-9907.....	136
3710031500.....	24, 27, 45, 114	410427590.....	30	5061-3398.....	136	5065-9918.....	136
3710033400.....	49, 54, 114	4610017400.....	19	5062-2476.....	136, 142	5067-1539.....	143
3710033900.....	54	4710002300.....	33, 37	5062-2477.....	127, 142	5067-4666.....	137
3710034400.....	54, 113	4710003000.....	27	5062-2496.....	132	5069-4478.....	93
3710034500.....	54	4710003100.....	33, 37	5062-2497.....	132	5181-1246.....	143
3710034600.....	54, 113	4710003200.....	32, 37	5062-3506.....	104	5182-2581.....	97
3710034800.....	55	5021-1870.....	142	5063-5263.....	111	5183-4681.....	122
3710035000.....	55	5022-1703.....	84	5063-6503.....	153	5183-4682.....	122
3710035200.....	55	5022-2154.....	140	5063-6521.....	153	5183-4687.....	122
3710035300.....	55	5022-2155.....	140	5063-6522.....	153	5183-4688.....	122
3710035400.....	55, 114	5022-2156.....	140	5063-6523.....	153	5184-1983.....	92
3710037800.....	55, 114	5022-2157.....	140	5063-6524.....	153	5184-3564.....	121
3710041700.....	56	5022-2158.....	140	5063-6546.....	126	5184-3565.....	121
3710041800.....	55	5022-6531.....	142	5063-6547.....	126	5184-3566.....	121
3710041900.....	55	5023-1517.....	100	5063-6548.....	126	5185-5850.....	121
3710043500.....	56	5023-1519.....	99	5063-6549.....	126	5185-5959.....	121
3710043600.....	56	5023-1520.....	99	5063-6550.....	126	5188-5359.....	89
3710043700.....	56	5023-1521.....	99	5063-6551.....	126	5188-5374.....	110
3710043800.....	56	5023-1522.....	99	5063-6552.....	126	5188-6524.....	121
3710043900.....	56	5023-1523.....	99	5063-6553.....	126	5188-6525.....	122
3710044000.....	55	5023-1524.....	99	5063-6554.....	126	5188-6526.....	122
3710044100.....	55	5023-1525.....	99	5063-6556.....	127	5188-6527.....	122
3710044200.....	55	5023-1526.....	100	5063-6557.....	127	5188-6564.....	121
3710044300.....	55	5023-1527.....	100	5063-6558.....	130	5188-8003.....	136
3710044400.....	55	5041-2166.....	140	5063-6559.....	130	5188-8004.....	136
3710046900.....	54	5041-2167.....	142	5063-6560.....	130	5188-8005.....	136
3710047000.....	55	5041-2184.....	140	5063-6561.....	130	5190-0108.....	92
3710049000.....	24, 27	5041-2185.....	140	5063-6562.....	132	5190-0465.....	121
3710051100.....	25	5041-2191.....	140	5063-6563.....	132	5190-0530.....	137
3710052000.....	27	5042-0901.....	93	5063-6564.....	132	5190-7001.....	116
3710052400.....	69	5042-0922.....	107	5063-6565.....	132	5410046300.....	37
3710053500.....	56	5042-0923.....	107	5063-6566.....	134	5410056900.....	37
3710053600.....	56	5042-1330.....	143	5063-6570.....	135-136	5610013900.....	151
3710053700.....	56	5042-1331.....	143	5063-6571.....	136	5610021700.....	151
3710053800.....	56	5042-1332.....	143	5063-6572.....	136	5610100100.....	12
3710053900.....	56	5042-1333.....	142	5063-6573.....	136	5610100200.....	12
3710057500.....	27	5042-1334.....	142	5063-6575.....	143	5610100300.....	12
3710066700.....	70	5042-1336.....	140, 142	5063-6577.....	137	5610100400.....	12
3710067900.....	55, 113	5042-1337.....	140, 143	5063-9153.....	93	5610100500.....	12
3710068000.....	55, 113	5042-1356.....	142	5064-8014.....	96	5610100600.....	12
3710068100.....	55, 113	5042-4769.....	80	5064-8015.....	96	5610100700.....	12
3710068200.....	54, 113	5042-4774.....	84	5064-8016.....	97	5610100800.....	12
3710068300.....	54, 113	5042-4775.....	80	5064-8017.....	97	5610100900.....	12
3710068400.....	55	5042-4790.....	93	5064-8018.....	97	5610101000.....	12
3710068500.....	55	5042-4799.....	74	5064-8019.....	97	5610101200.....	12
3710068600.....	56	5042-6476.....	153	5064-8020.....	97	5610101300.....	12
3710068700.....	56	5043-0010.....	96	5064-8021.....	97	5610101400.....	12
3710068800.....	54	5043-0030.....	75	5064-8022.....	97	5610101500.....	12
3710068900.....	54, 71, 115	5043-0054.....	100	5064-8023.....	75, 97	5610101600.....	12
3710069000.....	27	5043-0055.....	100	5064-8024.....	75, 97	5610101700.....	12
3710069100.....	27	5061-3384.....	126	5064-8026.....	96	5610101800.....	12
3710069200.....	27	5061-3385.....	126	5064-8027.....	97	5610101900.....	12
3710069300.....	27	5061-3386.....	126	5064-8028.....	96	5610102000.....	12

PART NUMBER INDEX

5610102100.....	12	5610109100.....	15	5610127700.....	13	6610002300.....	134
5610102200.....	12	5610109500.....	14	5610127800.....	13	6610008200.....	33, 37
5610102300.....	12	5610109600.....	14	5610128000.....	13	6610008800.....	126
5610102500.....	12	5610109700.....	14	5610128100.....	13	6610008900.....	135
5610102600.....	12	5610109800.....	14	5610128200.....	13	6610010000.....	136
5610102700.....	12	5610119200.....	14	5610128300.....	13	6610010100.....	136
5610102800.....	12	5610122000.....	13	5610128500.....	13	6610010300.....	160
5610102900.....	12	5610122100.....	13	5610128600.....	13	6610010400.....	131
5610103000.....	12	5610122200.....	13	5610128700.....	13	6610011600.....	30
5610103100.....	12	5610122300.....	13	5610128800.....	13	6610011800.....	24, 27
5610103200.....	12	5610122400.....	13	5610128900.....	13	6610012100.....	37
5610103300.....	12	5610122500.....	13	5610129000.....	14	6610012600.....	136
5610103400.....	12	5610122600.....	13	5610129100.....	14	6610012700.....	130
5610103500.....	12	5610122700.....	13	5610129200.....	14	6610013800.....	132
5610103600.....	12	5610122800.....	13	5610129300.....	14	6610014000.....	139
5610103700.....	12	5610122900.....	13	5610133400.....	15	6610014100.....	136
5610103800.....	12	5610123100.....	13	5610133500.....	14	6610014200.....	136
5610103900.....	12	5610123200.....	13	5610133600.....	16	6610014900.....	131
5610104000.....	12	5610123300.....	13	5610133700.....	15	6610015200.....	136
5610104100.....	12	5610123400.....	13	5610133900.....	15	6610015400.....	130
5610104200.....	12	5610123500.....	13	5610134000.....	15	6610016000.....	126
5610104300.....	12	5610123600.....	13	5610134100.....	15	6610016100.....	126
5610104400.....	12	5610123700.....	13	5610134200.....	15	6610016200.....	126
5610104500.....	12	5610123800.....	13	5610134300.....	15	6610016300.....	126
5610104600.....	12	5610123900.....	13	5610134500.....	16	6610016400.....	126
5610104700.....	12	5610124000.....	13	5610134600.....	16	6610018700.....	129
5610104800.....	12	5610124100.....	13	5610134900.....	16	6610018800.....	129
5610104900.....	12	5610124200.....	13	5610135000.....	16	6610018900.....	137
5610105000.....	12	5610124400.....	13	5610135100.....	16	6610019500.....	131
5610105100.....	12	5610124500.....	13	5610135200.....	16	6610019600.....	130
5610105200.....	12	5610124600.....	13	5610135300.....	16	6610019700.....	130
5610105300.....	12	5610124700.....	13	5610135400.....	16	6610019800.....	130
5610105400.....	12	5610124800.....	13	5610135500.....	151	6610019900.....	136
5610105500.....	12	5610124900.....	13	5610135700.....	15	6610020000.....	136
5610105600.....	12	5610125000.....	13	5610135800.....	15	6610020100.....	136
5610105700.....	12	5610125100.....	13	5610135900.....	15	6610020200.....	136
5610105800.....	12	5610125200.....	13	5610136300.....	151	6610020500.....	151
5610106000.....	12	5610125300.....	13	5610136500.....	161	6610020600.....	151
5610106100.....	12	5610125400.....	13	5810008100.....	148	6610021100.....	130
5610106200.....	12	5610125500.....	13	6040-0798.....	93	6610021200.....	157
5610106300.....	12	5610125600.....	13	6040-0834.....	93	6610021300.....	157
5610106500.....	12	5610125700.....	13	6210092090.....	19	6610021400.....	157
5610106600.....	12	5610125800.....	13	6210113000.....	38	6610021500.....	157
5610106700.....	12	5610125900.....	13	6310001100.....	34	6610021600.....	157
5610106800.....	12	5610126000.....	13	6310001200.....	34	6610021700.....	160
5610106900.....	12	5610126100.....	13	6310001300.....	34	6610021800.....	160
5610107000.....	14	5610126200.....	13	6310001600.....	33, 35	6610021900.....	160
5610107100.....	14	5610126300.....	13	6310001700.....	33, 35	6610022100.....	154, 160
5610107600.....	14	5610126400.....	13	6310001800.....	36	6610022200.....	160
5610107700.....	12	5610126500.....	13	6310001900.....	36	6610022300.....	158
5610108000.....	15	5610126600.....	13	6310003100.....	32, 36	6610022400.....	158
5610108100.....	15	5610126700.....	13	6310003400.....	32, 35	6610022500.....	158
5610108200.....	15	5610126800.....	13	6310003500.....	32, 35	6610022600.....	158
5610108300.....	15	5610126900.....	13	6310003600.....	32, 36	6610022700.....	158
5610108400.....	15	5610127000.....	13	6310003700.....	32-34	6610022800.....	158
5610108500.....	15	5610127100.....	13	6610000800.....	126	6610022900.....	158
5610108600.....	15	5610127200.....	13	6610000900.....	157	6610023000.....	158
5610108700.....	14	5610127300.....	13	6610001100.....	127	6610023100.....	158
5610108800.....	14	5610127400.....	13	6610001200.....	157	6610023500.....	157
5610108900.....	16	5610127500.....	13	6610001800.....	130	6610023700.....	157
5610109000.....	15	5610127600.....	13	6610002200.....	134	6610023900.....	132

6610024000	131	7910032800	146	810137000	147	8500-7000	122
6610024100	131	7910032900	146	810166900	26	8660-0791	89
6610024200	157	7910033000	146	810167000	26	8710-1930	75
6610025100	27	7910033500	139	810207300	161	883-9120	161
6610025400	26	7910034500	146	8110002800	49	884-2829	165
6610025500	26	7910034600	146	815-0616	165	89054A	138
6610025900	37	7910035100	144	815-0631	165	89055A	138
6610026000	26	7910035500	145	815-0639	165	89075-23800	141
6610026100	26	7910035600	144	8200200001	117	89076C	138
6610026400	26	7910035700	144	8200200101	117	899-1599	165
6610026500	26	7910035800	146	8200200201	117	899-1794	161
6610026600	24, 26	7910035900	146	8200200301	117	910245400	24
6610030000	116	7910036000	146	8200200401	117	925-0128	165
6610030100	116	7910036100	146	8200200501	117	9300-0761	137
6610030200	116	7910036200	145	8200200601	117	9300-2574	89
6610030400	120	7910036400	144	8200200701	117	9301-1161	137, 141-142
6610030500	116	7910036500	144	8200200801	117	9499201	93
6610030600	116	7910036600	148	8200201001	117	9499342M002	93
6610030700	116	7910036900	148	8200201101	117	9499375M003	93
6618000100	126	7910037000	149	8200201201	117	9499376	93
6618000600	134	7910037100	149	8200201301	117	9499392M004	93
6810008600	72	7910037200	149	8200201601	117	9810039490	63
6810008700	72	7910037300	149	8200202001	117	9810039590	63
6810010000	72	7910037400	149	8200202301	117	9810039690	63
6910000100	19	7910037500	149	8200202501	117	9810039790	63
6910001200	40	7910037700	154	8200202701	117	9810039890	63
6910006000	41	7910038300	150	8200202801	117	9810046390	63
6910008200	45	7910038700	150	8200203001	117	9810046490	63
6910009700	19	7910043000	159	8200203101	117	9810046590	63
6910009800	19	7910043100	159	8200203201	117	9810046690	63
6910010500	19	7910043200	159	8200203301	117	9910024400	21-22
6910012100	19	7910043700	40	8200203501	117	9910024500	21-22
6910013100	19	7910043800	155	8200203801	117	9910024700	21
6910013600	19	7910043900	155	8200203901	117	9910024800	20-22
6910015200	19	7910044400	52	8200204001	117	9910025700	19-21
6910017400	41	7910044500	52	8200204801	117	9910026500	22-23
6910018900	30	7910047200	150	8200205001	117	9910028200	32-33, 37
6910019800	41	7910047400	150	8200205101	117	9910031200	36
6910036800	19	7910047500	150	8200205201	117	9910032300	33, 37
6910036900	19	7910047600	150	8200205301	117	9910032700	37
6910037000	19	7910047700	150	8200205401	117	9910033300	36
697-5392-1	165	7910050700	71	8200205601	117	9910035200	21-22
697-5392-2	165	7910051290	49	8200205901	117	9910039900	30
697-5392-3	165	7910051490	49	8200206001	117	9910040000	29
7210018900	36	7910051590	49	8200206101	117	9910040200	31
7210027600	19	7910052700	71	8200206301	117	9910040700	29
7210027700	19	7910052800	71	8200206601	117	9910043500	21
7210034200	36	7910052900	71	8200206701	117	9910043700	21-22
7418000400	137	7910063800	70	8200206801	118	9910044000	21-22
7910027200	146	7910064500	70	8200206901	118	9910045700	23
7910027900	148	800-2004	164	8200207001	118	9910047700	150, 152
7910028000	148	800-2005	164	8210029100	31	9910049300	36
7910028100	148	800-2020	164	8500-6936	122	9910049800	19
7910028200	148	800-2022	164	8500-6940	121	9910050400	36
7910028300	148	800-2023	164	8500-6941	122	9910050700	30
7910028900	146	800-2024	164	8500-6942	121	9910052900	151
7910029900	144	810103200	45	8500-6944	121	9910053300	19, 21
7910030200	144	810128100	41	8500-6945	122	9910053900	20-22
7910030300	144	810133400	19	8500-6946	122	9910054200	37
7910032100	145	810134300	19	8500-6947	122	9910054400	17
7910032600	144	810134400	19	8500-6948	121	9910056100	152

PART NUMBER INDEX

9910056200	147-148	9910104500	159	9910141100	161	G1820-65527	75
9910056800	50	9910105400	38	9910143200	70	G1820-65531	75
9910056900	31	9910105800	19	9910143300	70	G1820-65533	79
9910057000	51	9910106300	50	9910143400	70	G1820-65541	105
9910057100	38	9910106400	50	9910143500	70	G1820-80341	108
9910057200	38	9910107100	49	9910143600	70	G1820-80430	106
9910057300	51	9910107700	44	9910143700	70	G1820-81012	93
9910057400	44	9910108200	52	9910143800	70	G1820-81013	93
9910059400	147-148	9910111400	149	9910143900	70	G1833-65024	91
9910061100	23	9910111900	24-25	CP17973	109	G1833-65025	91
9910061600	23	9910112000	25	CP3418	118	G1833-65071	75
9910061800	30	9910112600	39	CP7983	109	G1833-65079	89
9910061900	30	9910112700	39	CP913246	44	G1833-65088	91
9910062000	31	9910112800	39	CP913777	45, 77	G1833-65089	91
9910062100	29	9910113100	37	CP914506	44	G1833-65092	88
9910062200	29	9910115100	32, 37	CP959366	44	G1833-65094	91
9910062700	27	9910115600	32, 37	CP959924	49	G1833-65125	92
9910063100	23	9910116800	37	G1103-60001	141	G1833-65132	88
9910063200	23	9910116900	37	G1120-60006	141	G1833-65133	92
9910063600	22-23	9910120200	24	G1120-68707	141	G1833-65134	92
9910064600	147-148	9910123600	57	G1120-68708	141	G1833-65138	92
9910064700	150	9910123700	57	G1131A	103	G1833-65200	105
9910066800	147, 156	9910123800	57	G1680-63720	95	G1833-65332	93
9910066900	147, 156	9910123900	57	G1811-23200	142	G1833-65404	90-91
9910068500	146	9910124000	56	G1820-60160	79	G1833-65405	89
9910069300	145	9910124100	56	G1820-60453	78	G1833-65407	88
9910069400	145	9910124200	58	G1820-65016	80	G1833-65408	88
9910069500	145	9910124300	58	G1820-65018	106	G1833-65409	84
9910069600	145	9910124400	58	G1820-65023	108	G1833-65411	80
9910070400	39	9910124500	58	G1820-65025	89	G1833-65413	91
9910071100	31	9910124600	59	G1820-65027	107, 111	G1833-65414	108
9910075900	28, 55	9910124700	59	G1820-65030	78	G1833-65415	84
9910076100	28	9910124800	59	G1820-65050	88	G1833-65416	84
9910076400	145	9910124900	59	G1820-65052	78, 111	G1833-65417	91
9910076500	145	9910125000	60	G1820-65105	75, 97	G1833-65418	91
9910076600	145	9910125100	60	G1820-65119	111	G1833-65419	85
9910076700	145	9910125200	60	G1820-65138	78	G1833-65421	85
9910077600	28	9910125300	60	G1820-65198	79	G1833-65422	84
9910080800	145	9910125400	61	G1820-65199	79	G1833-65424	85
9910080900	154	9910125500	61	G1820-65214	111	G1833-65425	85
9910081000	154	9910125600	64	G1820-65217	74	G1833-65426	81
9910081100	154	9910125700	64	G1820-65237	88	G1833-65427	81
9910081400	38	9910125800	64	G1820-65238	88	G1833-65429	106
9910083100	27	9910125900	64	G1820-65239	88	G1833-65430	81, 85
9910084300	154	9910126000	65	G1820-65276	78	G1833-65432	85
9910084700	50	9910126100	65	G1820-65337	80	G1833-65444	91
9910085000	145	9910126200	65	G1820-65345	78	G1833-65462	79
9910085100	145	9910126300	68	G1820-65360	88	G1833-65463	84
9910085200	154	9910126400	68	G1820-65435	89	G1833-65464	81
9910091200	37	9910126500	68	G1820-65478	75, 97	G1833-65475	79
9910093000	19-21	9910126600	68	G1820-65480	88	G1833-65476	78
9910093100	19-20	9910127100	66	G1820-65481	88	G1833-65477	111
9910093400	19-20	9910127200	66	G1820-65482	81	G1833-65480	81
9910093500	19	9910127300	66	G1820-65491	79	G1833-65494	91
9910093600	19-20	9910127400	66	G1820-65503	81	G1833-65497	88
9910097500	38	9910127500	67	G1820-65504	81	G1833-65498	88
9910101000	154	9910127600	67	G1820-65505	80	G1833-65499	91
9910101900	160	9910127800	45	G1820-65515	80	G1833-65500	91
9910102900	156	9910130600	24	G1820-65518	79	G1833-65501	91
9910103000	156	9910130900	25	G1820-65520	79	G1833-65502	91
9910103100	156	9910141000	64	G1820-65526	75	G1833-65503	91

G1833-65505.....	88	G3158-65001.....	104	G3270-80024.....	84-85	G3280-67065.....	86
G1833-65513.....	92	G3158-65003.....	104	G3270-80025.....	84-85	G3280-67066.....	86
G1833-65562.....	92	G3158-65007.....	104	G3270-80026.....	84	G3280-67067.....	86
G1833-65569.....	74	G3158-80009.....	104	G3270-80029.....	108	G3280-67085.....	101
G1833-65570.....	74	G3158-80024.....	104	G3270-80043.....	84-85	G3280-67091.....	80
G1833-65571.....	74	G3158-80050.....	104	G3270-80300.....	81	G3280-67110.....	90
G1833-65572.....	75	G3158-80060.....	104	G3280-01507.....	89	G3280-67115.....	79
G1833-65573.....	75	G3158-80074.....	104	G3280-01650.....	90	G3280-67116.....	79
G1833-65575.....	92	G3158-80080.....	104	G3280-20504.....	89	G3280-80008.....	80
G1833-65578.....	91	G3158-80081.....	104	G3280-20618.....	90	G3280-80053.....	85
G1833-65583.....	77	G3160-60015.....	94	G3280-20628.....	90	G3280-80080.....	85
G1833-65590.....	86, 88	G3160-60016.....	94	G3280-20633.....	90	G3280-80081.....	85
G1833-65591.....	86, 88	G3160-65303.....	94	G3280-20646.....	89-90	G3280-80503.....	81
G1833-65592.....	90, 92	G3160-65304.....	94	G3280-20653.....	89-90	G3280-80602.....	105
G1833-65593.....	90, 92	G3160-65305.....	94	G3280-20663.....	90	G3280-80603.....	105
G1833-65594.....	92	G3160-65306.....	94	G3280-20664.....	90	G3285-80000.....	78
G1833-65595.....	92	G3160-65307.....	94	G3280-40103.....	75	G3285-80001.....	78
G1833-65596.....	92	G3160-65315.....	94	G3280-60008.....	80	G3285-80002.....	78
G1833-65597.....	92	G3160-65317.....	94	G3280-60077.....	81	G3285-80003.....	78
G1833-65598.....	92	G3160-65320.....	94	G3280-60160.....	108	G3285-80014.....	82
G1833-65599.....	92	G3160-65321.....	94	G3280-60163.....	108	G3285-80015.....	82
G1833-66000.....	92	G3160-65324.....	94	G3280-60381.....	86	G3285-80016.....	82
G1833-66001.....	92	G3160-65325.....	94	G3280-60502.....	89	G3285-80017.....	82
G1833-66011.....	85	G3160-65326.....	94	G3280-60555.....	80	G3285-80020.....	83
G1833-66024.....	49, 106	G3160-65327.....	94	G3280-60568.....	75	G3285-80021.....	83
G1833-66035.....	92	G3160-65328.....	94	G3280-60580.....	81	G3285-80022.....	83
G1833-66042.....	106	G3160-67000.....	80	G3280-60590.....	75	G3285-80023.....	83
G3138-65025.....	96	G3160-80041.....	94	G3280-60608.....	86	G3285-80024.....	83
G3138-65102.....	97	G3160-80060.....	94	G3280-60609.....	90	G3285-80034.....	83
G3138-65103.....	97	G3160-80061.....	94	G3280-60612.....	90	G3285-80035.....	83
G3138-65104.....	97	G3160-80062.....	94	G3280-60613.....	90	G3285-80036.....	83
G3138-65117.....	97	G3160-80063.....	94	G3280-60615.....	90	G3285-80037.....	83
G3138-65118.....	97	G3160-80064.....	94	G3280-60621.....	86	G3285-80085.....	83
G3138-65119.....	97	G3160-80065.....	94	G3280-60638.....	85	G3286-80100.....	95
G3138-65121.....	97	G3160-80200.....	94	G3280-60650.....	90	G3286-80101.....	95
G3138-65122.....	97	G3161-80000.....	77	G3280-60671.....	90	G3286-80102.....	95
G3138-65125.....	97	G3161-80001.....	77	G3280-60910.....	106	G3286-80103.....	95
G3138-65128.....	98	G3266-65003.....	76	G3280-67003.....	101	G3286-80104.....	95
G3138-65129.....	75, 98	G3266-80004.....	76	G3280-67004.....	101	G3286-80105.....	95
G3138-65130.....	98	G3266-80010.....	76	G3280-67007.....	101	G3286-80106.....	95
G3138-65131.....	98	G3266-80011.....	76	G3280-67008.....	74	G3286-80107.....	95
G3138-65132.....	98	G3266-80012.....	44, 76	G3280-67009.....	89	G3286-80110.....	95
G3138-65133.....	98	G3266-80013.....	76	G3280-67022.....	107	G3286-80111.....	95
G3138-65134.....	98	G3266-80015.....	76	G3280-67023.....	107	G3286-80112.....	95
G3138-65135.....	98	G3266-80020.....	45, 77	G3280-67035.....	90	G3286-80117.....	95
G3138-65136.....	98	G3268-80001.....	105	G3280-67036.....	86	G3286-80118.....	95
G3138-65137.....	98	G3270-20067.....	80, 84	G3280-67037.....	90	G3286-80119.....	95
G3138-65138.....	98	G3270-60106.....	88	G3280-67038.....	89-90	G3286-80224.....	95
G3138-65139.....	98	G3270-60207.....	84	G3280-67039.....	90	G3286-80330.....	95
G3138-65140.....	98	G3270-60639.....	92	G3280-67040.....	86	G3288-80000.....	105
G3138-65141.....	98	G3270-60643.....	88	G3280-67041.....	86	G3292-80010.....	106
G3138-65143.....	98	G3270-65021.....	108	G3280-67044.....	90	G3292-80109.....	106
G3138-65144.....	98	G3270-65023.....	92	G3280-67045.....	90	G3292-80112.....	106
G3138-65158.....	97	G3270-65024.....	88	G3280-67046.....	90, 93	G3660-67040.....	107
G3139-65100.....	77	G3270-65028.....	92	G3280-67047.....	74	G3690A.....	102
G3139-65102.....	77	G3270-65029.....	92	G3280-67056.....	86	G4911-01201.....	97
G3139-65106.....	77	G3270-65030.....	92	G3280-67060.....	86	G4911-20021.....	96
G3139-65108.....	77	G3270-65031.....	92	G3280-67061.....	86	G4911-60011.....	97
G3154-65001.....	105	G3270-65035.....	108	G3280-67062.....	97	G4911-67000.....	96
G3154-65002.....	105	G3270-65036.....	92	G3280-67063.....	86	G4911-67001.....	96
G3158-60010.....	104	G3270-65060.....	92	G3280-67064.....	86	G4911-68201.....	96

PART NUMBER INDEX

G4911-68202.....	96	G8010-68018.....	49	G8411-67118.....	99
G4911-68210.....	98	G8010-68103.....	49	G8411-68201.....	100
G4912-68000.....	82	G8010-68109.....	49	G8411-80115.....	100
G4912-68001.....	82	G8010-80034.....	40	G8411-80119.....	100
G4912-68002.....	82	G8010-80035.....	44	G8431-80000.....	17
G4912-68003.....	82	G8010-80036.....	40	G8479-68000.....	71
G4912-80010.....	83	G8010-80042.....	45	G8479-68001.....	71
G4912-80011.....	83	G8010-80043.....	45	G8480-80001.....	25
G4912-80013.....	83	G8012-60000.....	47	G8480-80002.....	25
G4912-80014.....	83	G8012-67001.....	42	G8485-60518.....	70
G4912-80016.....	83	G8043-67400.....	162	G9820-80000.....	151
G6871A.....	133	G8043-67401.....	162	HARRICK-KBR-100.....	165
G6874-80000.....	154	G8043-67402.....	162		
G8000-63003.....	115	G8043-67403.....	162		
G8000-63005.....	115	G8043-67404.....	162		
G8000-64112.....	114	G8043-67405.....	162		
G8000-64140.....	47, 112	G8043-67406.....	162		
G8000-64142.....	112	G8043-67483.....	162		
G8000-64143.....	113	G8043-67484.....	162		
G8000-68002.....	72, 114	G8180-67000.....	164		
G8000-68004.....	115	G8180-67135.....	164		
G8000-70001.....	114	G8180-67147.....	164		
G8000-70002.....	112	G8180-67300.....	164		
G8000-70004.....	112	G8180-67560.....	164		
G8000-70006.....	113	G8180-67562.....	164		
G8000-70007.....	113	G8180-67563.....	164		
G8000-70008.....	40, 113	G8180-67564.....	164		
G8001-64004.....	114	G8180-67610.....	164		
G8003-67000.....	113	G8181-67611.....	164		
G8003-67001.....	113	G8400-00240.....	89		
G8003-67003.....	113	G8400-40113.....	75		
G8003-70000.....	112	G8400-40200.....	80		
G8010-40026.....	54	G8400-60215.....	89		
G8010-60136.....	72	G8400-60216.....	89		
G8010-60189.....	72	G8400-60217.....	89		
G8010-60227.....	47	G8400-60218.....	89		
G8010-60228.....	46	G8400-60219.....	89		
G8010-60231.....	46	G8400-60327.....	81, 85		
G8010-60232.....	46	G8400-60434.....	85		
G8010-60233.....	46	G8400-60624.....	86		
G8010-60234.....	47	G8400-60625.....	86		
G8010-60235.....	47	G8400-60626.....	86		
G8010-60236.....	46	G8400-60627.....	86		
G8010-60237.....	47	G8400-60628.....	86		
G8010-60255.....	43	G8400-60700.....	108		
G8010-60256.....	40	G8400-60710.....	108		
G8010-60263.....	46	G8400-67001.....	89		
G8010-60264.....	47	G8400-67002.....	89		
G8010-60270.....	43	G8400-67003.....	89		
G8010-60271.....	40	G8400-67026.....	107		
G8010-60834.....	70	G8400-67150.....	80		
G8010-67001.....	42	G8400-67200.....	86		
G8010-68004.....	62	G8400-67201.....	86		
G8010-68005.....	62	G8400-67202.....	86		
G8010-68006.....	62	G8411-67002.....	100		
G8010-68007.....	62	G8411-67111.....	100		
G8010-68008.....	62	G8411-67113.....	100		
G8010-68009.....	62	G8411-67114.....	100		
G8010-68014.....	49	G8411-67115.....	100		
G8010-68015.....	49	G8411-67116.....	100		
G8010-68017.....	49	G8411-67117.....	99		

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20
15/16

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