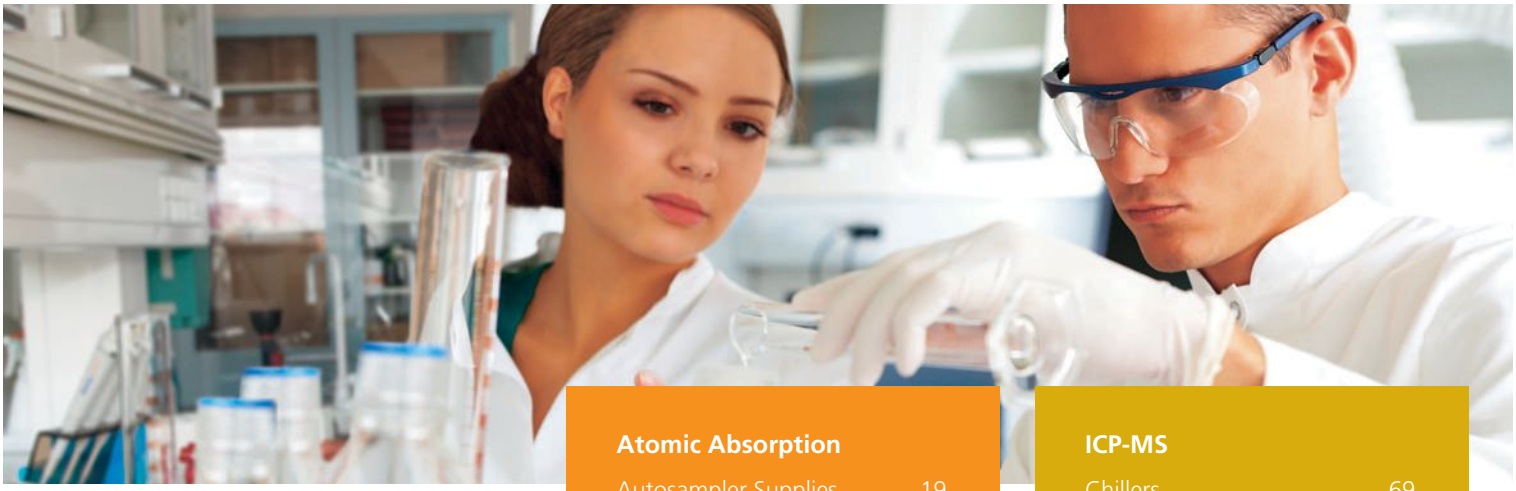


ATOMIC SPECTROSCOPY

PerkinElmer is the world leader in atomic spectroscopy solutions for atomic absorption (AA), inductively coupled plasma optical emission spectroscopy (ICP-OES) and inductively coupled plasma mass spectrometry (ICP-MS). With instruments that are the industry standard worldwide, PerkinElmer accessories, consumables, methods and application support meet the most demanding requirements and are the preferred choice in thousands of laboratories globally.

We invest heavily in testing and validating our complete portfolio of solutions to ensure that you receive accurate, repeatable results, on-time, every time throughout the lifetime of your instrument. From Lumina hollow cathode lamps that allow automatic setup and provide long lamp lifetime to our pure standards that have been analyzed and certified to yield reliable, accurate results, you'll be able to relax knowing you have the best. We also offer a complete portfolio of specialized consumables that deliver reliable performance, control operating costs and maximize the uptime of your instrument.

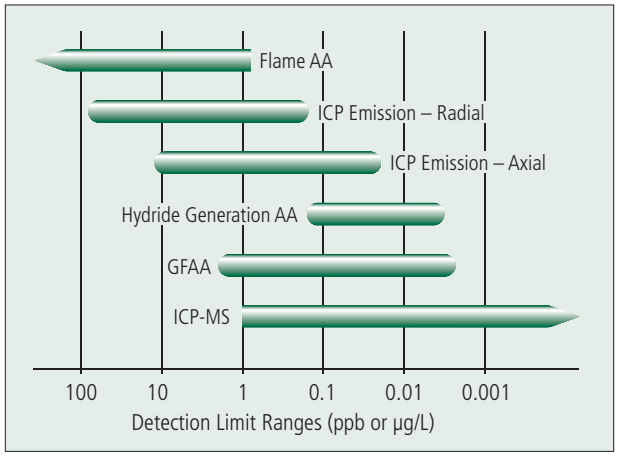
When you order our precision-designed, genuine Atomic Spectroscopy PerkinElmer consumables and supplies, you'll get the results you need - accurately and on time.

WORLD LEADER IN AA, ICP-OES AND ICP-MS

AAnalyst 200/400 Atomic Absorption Spectrometers

Whether you choose the AAnalyst™ 200 or AAnalyst 400, you'll discover an easy, affordable and reliable flame atomic absorption (AA) solution. We've simplified the process of AA analysis, from sample introduction to results. We've made it easy for anyone with a basic understanding of AA to get fast, reliable results every time, and we've made the quality and reliability of PerkinElmer available to everyone with these affordable systems.

Easy to use, easy to own, and featuring many of the advances that have made PerkinElmer the market leader, the AAnalyst 200 and 400 are the perfect choice for any laboratory needing a reliable, trouble-free solution for flame AA analysis.



Typical detection limit ranges for the major atomic spectroscopy techniques.

PinAAcle 900 Atomic Absorption Spectrometers

The PinAAcle™ series of atomic absorption (AA) spectrometers brings AA performance to new heights. Engineered with an array of exciting technological advances, it offers a variety of configurations and capabilities to deliver exactly the level of performance you need:

- Flame only, furnace only, or space-saving stacked designs featuring both
- Flame, furnace, flow injection, FIAS-furnace and mercury/hydride capabilities on a single instrument
- Choice of Deuterium or longitudinal Zeeman background correction
- TubeView™ color furnace camera simplifies autosampler tip alignment and sample dispensing
- Proven WinLab32™ software offering both ease-of-use and exceptional flexibility

And no matter which model you select (900F, 900Z, 900H, 900T), you'll discover an intuitive, highly efficient system capable of simplifying your journey from sample to results – even with the most difficult matrices.

PinAAcle 900 nebulizers are adjustable for optimized performance and include easily replaceable capillary assemblies and venturis for simple, reduced cost maintenance.

Optima 8x00 ICP-OES Spectrometers

With its groundbreaking features and expanded capabilities, the Optima™ 8x00 series is more than just an evolution of the world's most popular ICP-OES… it's a revolution. Built around the proven design of the Optima platform, the 8x00 series delivers breakthrough performance through a series of cutting-edge technologies that optimize sample introduction, enhance plasma stability, simplify method development and dramatically reduce operating costs:

- Adjustable Torch Cassette - makes it easy to optimize performance - even with the most difficult samples and offers simple maintenance.
- Flat Plate™ Plasma Technology – with a patented, maintenance-free RF generator uses half the argon of traditional systems dramatically reducing operating costs.
- PlasmaCam™ Viewing Camera – offers continuous viewing of the plasma, simplifying method development and enabling remote diagnostic capabilities for maximum uptime.

Quick-change adjustable torch mount

NexION ICP-MS Spectrometers

Engineered to deliver a level of stability, flexibility and performance never before seen in an ICP-MS instrument, the NexION® 300 systems represent the first truly significant and revolutionary industry advancement in recent memory.

For the first time ever, a single ICP-MS instrument offers both the simplicity and convenience of a collision cell and the exceptional detection limits of a true reaction cell.

With this patented Universal Cell Technology™ (UCT), analysts can now choose the most appropriate technique for a specific sample or application. No restrictions on which gases you can use. No limits on your mass range. No compromises on how you choose to work. And no hassles switching from one mode to another. Just the promise of superior accuracy and detection limits, faster analysis times, and an easier, more customizable operator experience than with any other instrument on the market.

Signal responses are kept stable hour after hour by a unique Triple Cone Interface and Quadrupole Ion Deflector. Designed to remove an unprecedented level of un-ionized material (and preventing it from entering the Universal Cell), this innovative ion path keeps the instrument clean, minimizing drift and completely eliminating the need for cell cleanings.

Triple cone interface produces the most tightly focused ion beam in the industry, reducing build-up on internal components so maintenance and cleaning are minimized.

DESIGNING AND MANUFACTURING EXPERTISE

PERKINELMER HAS 40 YEARS OF EXPERTISE DESIGNING AND MANUFACTURING HOLLOW CATHODE LAMPS.

Features and Benefits

- Long Life: PerkinElmer's larger lamp volume results in longer lamp lifetime
- Automation: PerkinElmer coded lamps allow automatic setup
- Easy Installation: It's as simple as sliding the lamp into the instrument's lamp bracket or turret
- Complete Compatibility: Lumina hollow cathode lamps can be used with PerkinElmer's entire range of atomic absorption spectrometers
- Testing: Every lamp is thoroughly tested before leaving the factory
- Quality: Carefully selected materials used in the manufacturing of our lamps avoid spectral interference
- Design: Our design provides you with the low detection limits needed for your most difficult determinations
- Selection: PerkinElmer offers a wide selection of single-element and multi-element lamps
- Easy To Order: It's easy to find the right lamp for your analytical needs — simply use the selection charts on this page or visit our website for a complete listing
- Warranty: The performance of every PerkinElmer lamp is fully warranted*

Lumina Single-Element Hollow Cathode Lamps

Element Name	Element Symbol	Lumina Lamp Part No.	Lumina Lamp with Intensitron® Adapter Part No.
Aluminum	Al	**N3050103**	**N3050303**
Antimony	Sb	**N3050170**	**N3050370**
Arsenic	As	**N3050105**	**N3050305**
Barium	Ba	**N3050109**	**N3050309**
Beryllium	Be	**N3050110**	**N3050310**
Bismuth	Bi	**N3050111**	**N3050311**
Boron	B	**N3050108**	**N3050308**
Cadmium	Cd	**N3050115**	**N3050315**
Calcium	Ca	**N3050114**	**N3050314**
Chromium	Cr	**N3050119**	**N3050319**
Cobalt	Co	**N3050118**	**N3050318**
Copper	Cu	**N3050121**	**N3050321**
Dysprosium	Dy	**N3050122**	**N3050322**
Erbium	Er	**N3050123**	**N3050323**
Europium	Eu	**N3050124**	**N3050324**
Gadolinium	Gd	**N3050129**	**N3050329**
Gallium	Ga	**N3050128**	**N3050328**
Germanium	Ge	**N3050130**	**N3050330**
Gold	Au	**N3050107**	**N3050307**
Hafnium	Hf	**N3050133**	**N3050333**
Holmium	Ho	**N3050135**	**N3050335**
Indium	In	**N3050137**	**N3050337**
Iridium	Ir	**N3050138**	**N3050338**
Iron	Fe	**N3050126**	**N3050326**
Lanthanum	La	**N3050141**	**N3050341**
Lead	Pb	**N3050157**	**N3050357**
Lithium	Li	**N3050142**	**N3050342**
Magnesium	Mg	**N3050144**	**N3050344**
Manganese	Mn	**N3050145**	**N3050345**
Mercury	Hg	**N3050134**	**N3050334**
Molybdenum	Mo	**N3050146**	**N3050346**
Neodymium	Nd	**N3050150**	**N3050350**
Nickel	Ni	**N3050152**	**N3050352**
Niobium	Nb	**N3050149**	**N3050349**
Palladium	Pd	**N3050158**	**N3050358**
Phosphorus	P	**N3050155**	**N3050355**
Platinum	Pt	**N3050162**	**N3050362**
Potassium	K	**N3050139**	**N3050339**
Praseodymium	Pr	**N3050161**	**N3050361**
Rhenium	Re	**N3050165**	**N3050365**
Rhodium	Rh	**N3050166**	**N3050366**

Chart continues on next page

Element Name	Element Symbol	Lumina Lamp Part No.	Lumina Lamp with Intensitron® Adapter Part No.
Samarium	Sm	**N3050174**	**N3050374**
Scandium	Sc	**N3050171**	**N3050371**
Selenium	Se	**N3050172**	**N3050372**
Silicon	Si	**N3050173**	**N3050373**
Silver	Ag	**N3050102**	**N3050302**
Sodium	Na	**N3050148**	**N3050348**
Strontium	Sr	**N3050176**	**N3050376**
Tantalum	Ta	**N3050177**	**N3050377**
Tellurium	Te	**N3050180**	**N3050380**
Terbium	Tb	**N3050178**	**N3050378**
Thallium	Tl	**N3050183**	**N3050383**
Thulium	Tm	**N3050184**	**N3050384**
Tin	Sn	**N3050175**	**N3050375**
Titanium	Ti	**N3050182**	**N3050382**
Tungsten	W	**N3050187**	**N3050387**
Vanadium	V	**N3050186**	**N3050386**
Ytterbium	Yb	**N3050190**	**N3050390**
Yttrium	Y	**N3050189**	**N3050389**
Zinc	Zn	**N3050191**	**N3050391**
Zirconium	Zr	**N3050192**	**N3050392**

PERKINELMER EXCLUSIVE 6/24 WARRANTY*

Lumina™ Hollow Cathode Lamps

1. We warrant that during the first six months or after 5,000 milliampere-hours of operation, whichever comes first, from initial date of shipment, the lamps will meet or exceed the intensity and absorption specifications to which all new lamps are tested.
2. All our hollow cathode lamps are warranted to light and emit the spectra of the element indicated for two years or 5,000 milliampere-hours of operation from the date of the shipment, whichever comes first.
3. If any lamp fails before the expiration of the warranty period, it will be replaced free of charge.

*The lamp warranty is void for lamps which sustain physical damage or are operated at power levels substantially above or below the power level recommended on the lamp label. The lamp warranty may vary in different countries.

Lumina Multi-Element Hollow Cathode Lamps

Element Name	Element Symbol	Lumina Lamp Part No.	Lumina Lamp with Intensitron® Adapter Part No.
Two-element Lamps			
Silver, Gold	Ag, Au	**N3050201**	**N3050401**
Calcium, Magnesium	Ca, Mg	**N3050202**	**N3050402**
Calcium, Zinc	Ca, Zn	**N3050203**	**N3050403**
Potassium, Sodium	K, Na	**N3050204**	**N3050404**
Platinum, Ruthenium	Pt, Ru	**N3050205**	**N3050405**
Tin, Tellurium	Sn, Te	**N3050206**	**N3050406**
Three-element Lamps			
Calcium, Magnesium, Zinc	Ca, Mg, Zn	**N3050208**	**N3050408**
Copper, Iron, Nickel	Cu, Fe, Ni	**N3050209**	**N3050409**
Four-element Lamps			
Copper, Iron, Manganese, Zinc	Cu, Fe, Mn, Zn	**N3050212**	**N3050412**
Five-element Lamps			
Silver, Chromium, Copper, Iron, Nickel	Ag, Cr, Cu, Fe, Ni	**N3050213**	**N3050413**
Cobalt, Chromium, Copper, Manganese, Nickel	Co, Cr, Cu, Mn, Ni	**N3050214**	**N3050414**
Six-element Lamps			
Cobalt, Chromium, Copper, Iron, Manganese, Nickel	Co, Cr, Cu, Fe, Mn, Ni	**N3050217**	**N3050417**
Seven-element Lamps			
Aluminum, Calcium, Copper, Iron, Magnesium, Silicon, Zinc	Al, Ca, Cu, Fe, Mg, Si, Zn	**N3050218**	**N3050418**

MAXIMUM INTENSITY, LONG LIFE

EDLS PROVIDE GREATER LIGHT OUTPUT AND LONGER LIFE THAN CORRESPONDING HCLS

For certain elements such as Arsenic and Selenium, EDLs will also provide improved sensitivity and lower detection limits. System 2 electrodeless discharge lamps provide the optimized spectral output needed to get the maximum performance from PerkinElmer atomic absorption spectrometers.

ELECTRODELESS DISCHARGE LAMPS FOR GREATER BRIGHTNESS

EDLs are typically much brighter and, in some cases, provide better sensitivity than comparable HCLs. EDLs are preferred for certain volatile elements. They offer better precision and lower detection limits for analyses that are "noisy" due to weak hollow cathode emission. PerkinElmer System 2 EDLs consist of the element or a salt of the element sealed in a quartz bulb containing an inert gas atmosphere. When an RF field of sufficient power is applied, the inert gas is ionized and the coupled energy vaporizes the element and excites the atoms inside the bulb, resulting in the emission of the characteristic spectrum.

PerkinElmer's System 2 EDLs consist of two major components: a dual-channel power supply with matched dual RF driver assemblies, which allows simultaneous, independent operation of two EDLs, and the interchangeable lamp sleeves. The lamp sleeve contains the pre-aligned bulb for the element of interest. The sleeve has the same exterior dimensions as the PerkinElmer HCLs, allowing System 2 EDLs to be used in the same lamp mounts and turrets.

To ensure operator safety, a built-in interlock prevents lamp operation if the lamp is not properly installed.

Electrodeless Discharge Lamps are an ideal source for determining volatile elements.

Electrodeless Discharge Lamps

Element Name	Element Symbol	System 2 EDL Part No.	AAnalyst Coded Intensitron® Adapter Part No.
Antimony	Sb	**N3050670**	**N3050869**
Arsenic	As	**N3050605**	**N3050860**
Bismuth	Bi	**N3050611**	**N3050861**
Cadmium	Cd	**N3050615**	**N3050862**
Cesium	Cs	**N3050620**	**N3050863**
Germanium	Ge	**N3050630**	**N3050864**
Lead	Pb	**N3050657**	**N3050867**
Mercury	Hg	**N3050634**	**N3050865**
Phosphorus	P	**N3050655**	**N3050866**
Rubidium	Rb	**N3050664**	**N3050868**
Selenium	Se	**N3050672**	**N3050870**
Tellurium	Te	**N3050680**	**N3050872**
Thallium	Tl	**N3050683**	**N3050873**
Tin	Sn	**N3050675**	**N3050871**
Zinc	Zn	**N3050691**	**N3050874**

Features and Benefits

- Brightness: EDLs are much brighter and, in some cases, provide better sensitivity than comparable hollow cathode lamps
- Precision: EDLs offer lower detection limits and are preferred for analyses that are "noisy" due to weak hollow cathode emission
- Long Life: System 2 EDLs are long-lived for exceptional cost-effectiveness
- Automation: PerkinElmer coded lamps allow automatic set-up on systems with automated turret
- Quality: Carefully selected materials used in the manufacturing of our lamps avoid spectral interference
- Testing: Every lamp is thoroughly tested
- Design: Our design provides you with the low detection limits needed for your most difficult determinations
- Warranty: The performance of every PerkinElmer lamp is fully warranted*

THE PERKINELMER EXCLUSIVE WARRANTY*

System 2 Electrodeless Discharge Lamps

1. We warrant that during the first six months or after 500 hours of operation, whichever comes first, from initial date of shipment, the lamps will meet or exceed the intensity and absorption specifications to which all new lamps are tested.
2. All our Electrodeless Discharge Lamps are warranted to light and emit the spectra of the element indicated for two years or 1,000 hours of operation from the initial date of shipment, whichever comes first.
3. If any lamp fails before the expiration of the warranty period, it will be replaced free of charge.

* The lamp warranty is void for lamps that sustain physical damage or are operated at power levels substantially above or below the power level recommended on the lamp label. The lamp warranty may vary in different countries.

EDL ASSEMBLIES AND COMPONENTS

EDL Driver Assemblies

Description	Part No.
For AAnalyst™ 200/400	**N3150131**
For PinAAcle™ 900, AAnalyst 600/700/800, For use with all that do not contain built-in EDL power supplies (short cable)	**03030997**
For all models except AAnalyst 600/700/800, For use with all that do not contain built-in EDL power supplies (long cable)	**03030793**

EDL Driver Components

Description	Part No.
Driver Assembly Adapter Cable Allows System 2 EDL Drivers (03030793 and 03030997) to be used on an AAnalyst 200/400	**N3150303**
Extension Cable Converts cable on the PinAAcle 900, AAnalyst 600/700/800, for Short Cable	**03030998**

1.5 INCH LAMPS DESIGNED FOR NON-PERKINELMER INSTRUMENTS

ATOMAX™ 1.5" AA LAMPS FROM PERKINELMER, THE WORLD LEADER IN ATOMIC ABSORPTION

Atomax 1.5" hollow cathode lamps are crafted to the same high standards that have made PerkinElmer 2" Lumina™ hollow cathode lamps the best in the industry. Drawing on more than 40 years of HCL design and manufacturing expertise, Atomax lamps now offer laboratories around the world a dependable, top-quality lighting source, regardless of the brand of AA instruments used.

Value-Priced and Fully Compatible with 1.5" Format AA Instruments

PerkinElmer Atomax lamps are designed to fit most commercially available atomic absorption instruments including Varian, Thermo, Shimadzu, GBC, Analytic Jena, Hitachi and many more. Combining affordability and industry-wide compatibilty allows users of other brands of AAs to benefit from PerkinElmer's proven lamp performance. Each lamp is thoroughly tested to ensure that it will stand up to the most demanding requirements. Atomax lamps represent an exceptional value, and our money-back guarantee means you can order with complete confidence.

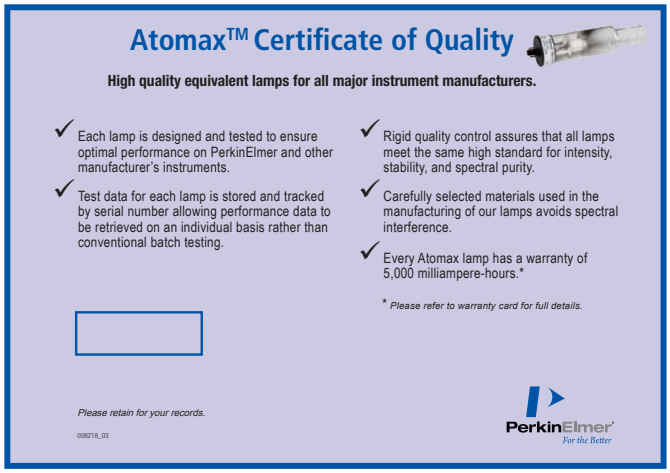
Tested and Validated for Highest Quality Performance

All 1.5" Atomax hollow cathode lamps are thoroughly tested to ensure maximum light output and spectral purity. Comparative results show that Atomax lamps provide equal or better performance than other AA lamps in the market. Precision engineered for high sensitivity, stable light output, low noise, and long life, you can rely on Atomax lamps for the accurate results you need.

Features and Benefits

- Experts: Expertise designing and manufacturing quality lamps for over 40 years. A brand you can trust
- Compatibility: Compatible with other manufacturer's instruments — tested and approved
- Lifetime: Long lifetime and performance. As the world's leading AA supplier, we know how to build lamps that provide maximum light output and spectral purity for optimum performance
- Quality: Every lamp ships with Certificate of Quality
- Testing: Lamps are thoroughly tested before leaving the factory
- Raw Materials: Carefully selected materials used in the manufacturing of our lamps avoid spectral interference
- Clean: Lamps are built to stringent specifications in a state-of-the-art lamp manufacturing facility. Great quality every time
- Design: Our design provides you with the low detection limits needed for your most difficult determinations
- Value: Equivalent or better performance than your current lamp at a great price

Every Atomax lamp includes a certificate of quality, our promise of outstanding performance levels from the leader in AA.



Atomax™ Certificate of Quality

High quality equivalent lamps for all major instrument manufacturers.

- ✓ Each lamp is designed and tested to ensure optimal performance on PerkinElmer and other manufacturer's instruments.
- ✓ Test data for each lamp is stored and tracked by serial number allowing performance data to be retrieved on an individual basis rather than conventional batch testing.
- ✓ Rigid quality control assures that all lamps meet the same high standard for intensity, stability, and spectral purity.
- ✓ Carefully selected materials used in the manufacturing of our lamps avoids spectral interference.
- ✓ Every Atomax lamp has a warranty of 5,000 milliampere-hours.*

* Please refer to warranty card for full details.

Please retain for your records.

008218_03

PerkinElmer® For the Better

PERKINELMER EXCLUSIVE 6/24 WARRANTY*

ATOMAX™ HOLLOW CATHODE LAMPS

1. We warrant that during the first six months or after 5,000 milliampere-hours of operation, whichever comes first, from initial date of shipment, the lamps will meet or exceed the intensity and absorption specifications to which all new lamps are tested.
2. All of our hollow cathode lamps are warranted to light and emit the spectra of the element indicated for two years or 5,000 milliampere hours of operation from the date of the shipment, whichever comes first.
3. If any lamp fails before the expiration of the warranty period, it will be replaced free of charge.

** The lamp warranty is void for lamps which sustain physical damage or are operated at power levels substantially above or below the power level recommended on the lamp label. The lamp warranty may vary in different countries.*

Element	Symbol	Part No.
Aluminum	Al	**N2025301**
Antimony	Sb	**N2025347**
Arsenic	As	**N2025302**
Barium	Ba	**N2025305**
Beryllium	Be	**N2025306**
Bismuth	Bi	**N2025307**
Boron	B	**N2025304**
Cadmium	Cd	**N2025309**
Calcium	Ca	**N2025308**
Cesium	Cs	**N2025312**
Chromium	Cr	**N2025311**
Cobalt	Co	**N2025310**
Copper	Cu	**N2025313**
Dysprosium	Dy	**N2025314**
Erbium	Er	**N2025315**
Europium	Eu	**N2025316**
Gadolinium	Gd	**N2025319**
Gallium	Ga	**N2025318**
Germanium	Ge	**N2025320**
Gold	Au	**N2025303**
Hafnium	Hf	**N2025321**
Holmium	Ho	**N2025323**
Indium	In	**N2025324**

Element	Symbol	Part No.
Iridium	Ir	**N2025325**
Iron	Fe	**N2025317**
Lanthanum	La	**N2025327**
Lead	Pb	**N2025339**
Lithium	Li	**N2025328**
Lutetium	Lu	**N2025329**
Magnesium	Mg	**N2025330**
Manganese	Mn	**N2025331**
Mercury	Hg	**N2025322**
Molybdenum	Mo	**N2025332**
Neodymium	Nd	**N2025335**
Nickel	Ni	**N2025336**
Niobium	Nb	**N2025334**
Osmium	Os	**N2025337**
Palladium	Pd	**N2025340**
Phosphorus	P	**N2025338**
Platinum	Pt	**N2025342**
Potassium	K	**N2025326**
Praseodymium	Pr	**N2025341**
Rhenium	Re	**N2025344**
Ruthenium	Ru	**N2025346**
Rhodium	Rh	**N2025345**
Rubidium	Rb	**N2025343**

Element	Symbol	Part No.
Samarium	Sm	**N2025351**
Scandium	Sc	**N2025348**
Selenium	Se	**N2025349**
Silicon	Si	**N2025350**
Silver	Ag	**N2025300**
Sodium	Na	**N2025333**
Strontium	Sr	**N2025353**
Tantalum	Ta	**N2025354**
Terbium	Tb	**N2025355**
Tellurium	Te	**N2025356**
Thallium	Tl	**N2025359**
Thorium	Th	**N2025357**
Thulium	Tm	**N2025360**
Tin	Sn	**N2025352**
Titanium	Ti	**N2025358**
Tungsten	W	**N2025362**
Vanadium	V	**N2025361**
Ytterbium	Yb	**N2025364**
Yttrium	Y	**N2025363**
Zinc	Zn	**N2025365**
Zirconium	Zr	**N2025366**

EXPERIENCE OPTIMAL EFFICIENCY

An efficient burner system is essential for obtaining optimal performance from your AA instrument, and proper maintenance is required to obtain precise and accurate determinations.

Features & Benefits

- 100% titanium burner heads, an exclusive PerkinElmer feature that provides maximum corrosion resistance when analyzing any type of sample
- Burner chambers constructed of inert, wettable plastic to allow for proper drainage of excess sample and to prevent burner carryover of previous analyses
- Multivaned flow spoilers remove large sample droplets from the nebulized spray and reduce susceptibility to analytical interference
- Gaskets designed for use with aqueous and organic samples. Choose from rubber O-rings for aqueous solutions or Corkprene or KALREZ® gaskets for organic solutions
- PinAAcle uses the same Burner Heads as AAnalyst series. The latest design has a hole on the rim for ease of rotation during operation. The handle is provided with the instrument.

Single-slot Nitrous Oxide-acetylene 5 cm

The 5 cm nitrous oxide burner head is required for nitrous oxide-acetylene operation. This burner head can also be used with air-acetylene or rotated to provide reduced sensitivity.

Description	Part No.
Single-slot Nitrous Oxide-acetylene 5 cm	**N0400100**

Single-slot Air-acetylene 10 cm

The 10 cm burner head is designed to be used with the air-acetylene flame. Because of its long burner path length, it provides the best sensitivity for air-acetylene elements.

Description	Part No.
Single-slot Air-acetylene 10 cm	**N0400102**

Single-slot Air-acetylene 5 cm

A 5 cm air-acetylene burner head is available for applications in which reduced sensitivity is required. It can be rotated to provide further sensitivity reduction, and it has a wide slot to prevent clogging.

Description	Part No.
Single-slot Air-acetylene 5 cm	**N0400101**

Three-slot Air-acetylene 10 cm

The three-slot burner head is designed to be used when analyzing samples with high concentrations of dissolved solids. The three-slot burner head is not compatible with some older gas control systems.

Description	Part No.
Three-slot Air-acetylene 10 cm	**N0400103**

Single-slot Nitrous Oxide-acetylene 5 cm

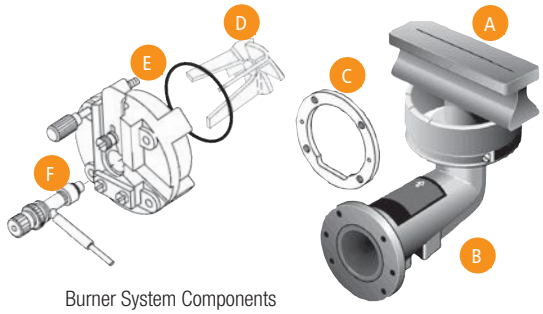
Single-slot Air-acetylene 5 cm

Single-slot Air-acetylene 10 cm

Three-slot Air-acetylene 10 cm

Burner System Components

- A Burner Head
- B Burner Mixing Chamber
- C Clamping Ring
- D Flow Spoiler
- E End Cap O-Ring
- F End Cap Assembly



Burner System Components

Burner Heads

Description	Length	Flame Type	*PinAAcle 900* Part No.	*AAnalyst 100/200/300/400/700/800* Part No.
Single-slot	5 cm	Nitrous Oxide-Acetylene	**N0400100**	**N0400100**
Single-slot	10 cm	Air-Acetylene	**N0400102**	**N0400102**
Three-slot	10 cm	Air-Acetylene	**N0400103**	**N0400103**
Single-slot	5 cm	Air-Acetylene	**N0400101**	**N0400101**

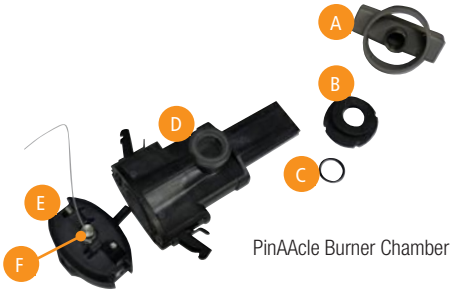
Burner System Components

Description	*PinAAcle 900* Part No.	*AAnalyst 100/200/300/400/700/800* Part No.
Burner Head Viton O-Ring		**09902219**
Burner Mixing Chamber Assembly	**N3160106**	**00570948**
End Cap Latch Assembly	**N3160107**	
Burner Head Assembly	**N3161034**	
Clamping Ring		**N0401171**
Flow Spoiler	**00572561**	**00572561**
End Cap O-Ring 0.312 x 0.070	**09200253**	
End Cap Viton O-Ring Standard	**09902147**	**09902147**
End Cap O-Ring Organics (Corkprene)		**00472014**
End Cap O-Ring Organics/Aqueous (KALREZ®)		**09921044**
End Cap Assembly (for use with metal body nebulizers)	**N3160102**	**00570984**
End Cap Assembly (for use with plastic body nebulizers)	**N3160111**	**N0370392**
Burner Gasket Kit for End Cap Assembly 00570984 Contains 00472014(5), 09902147(3), 09902219(1), 09902236(3), 09902240(3)		**00470988**
Burner Head O-Ring 0.984 x 0.139	**09200079**	
Drain Tubing - Tygon Tubing with FEP lining		**02507987**
Seal Plug Pyrex Impact Bead used with (00570984) end cap Part No. 00572615		**00572624**
O-Ring (¼ in 6 mm i.d.) for end cap assembly 00570984		**09902240**
O-Ring (⅛ in 3 mm i.d.) for Seal plug in end cap 00570984		**09902236**
Burner Drain Assembly for Organic Solutions	**N3150232*** **	**N3150230***
Burner Drain Assembly (includes tubing and drain interlock, drain bottle 09904991 not included)		**N2011074***
Burner Drain Assembly (includes tubing and drain interlock, drain bottle 09904991 not included)	**N0400058**	**N0400058****
Burner Head Cleaning Tool	**03031573**	**03031573**
Burner Head Adjustment Tool for burner heads with adjustment tool hole	**N3161040**	**N3161040**

*For AAnalyst 700/800 **For AAnalyst 200/400 ***For AAnalyst 100/200/300/400

PinAAcle Burner Chamber Assembly

- A Burner Head
- B Retaining Ring
- C Burner Head O-Ring
- D Burner Chamber
- E End Cap Assembly
- F Stainless Steel Nebulizer

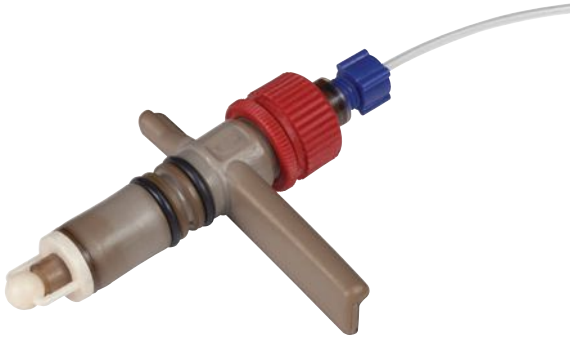


PinAAcle Burner Chamber Assembly

WIDE VARIETY OF HIGH PERFORMANCE NEBULIZERS

PinAAcle 900 Removable Burner Assembly allows switching between analytical techniques in a matter of seconds on flame/furnace combination instruments

High-Sensitivity Nebulizer with Pt/Ir Capillary



PinAAcle High-Sensitivity Nebulizer
Part No. N3160144

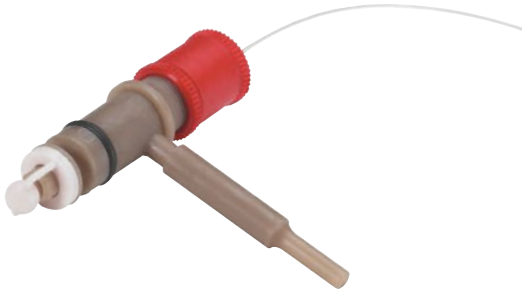
THE NEBULIZER IS ONE OF THE MOST IMPORTANT COMPONENTS IN A FLAME AA SPECTROMETER

Sample solutions, with differing physical properties, must be converted into an aerosol of small, similarly-sized droplets. This places great demands on the design of the nebulizer.

All PerkinElmer nebulizer assemblies are adjustable for optimized performance and include easily-interchanged capillary assemblies for simple, reduced-cost maintenance. PerkinElmer nebulizers are manufactured to exacting tolerances to provide maximum sensitivity. Universal, or, "standard" nebulizers are less expensive than the corresponding high-sensitivity nebulizers and provide a lower level of sensitivity. The universal, or, "standard" nebulizers typically provide better precision and reduced "carryover" interference when used with solutions that contain high dissolved solids content of higher analyte concentrations.

HIGH-SENSITIVITY NEBULIZER WITH PT/IR CAPILLARY

Our high-precision nebulizer maximizes stability and sensitivity, even for the toughest matrices. The nebulizer is adjustable so a wide variety of sample matrices — aqueous or organic, acid or base, diluted or concentrated — can be analyzed under optimum conditions. This high-sensitivity nebulizer is fabricated entirely of inert plastic materials for maximum performance and corrosion resistance.



High-Sensitivity Nebulizer

- Provides maximum sensitivity, precision and freedom from analytical interferences
- The high-sensitivity nebulizer with platinum/iridium capillary is for most solutions, but not for precious metal samples containing aqua regia
- High-sensitivity nebulizer with tantalum capillary used for solutions containing aqua regia

Metal Body Corrosion-Resistant Nebulizers

- For all solutions containing hydrofluoric acid or aqua regia
- For all solutions containing high concentrations of dissolved solids
- All internal components in contact with solutions are constructed of plastic to resist corrosion from concentrated acids
- Reduced performance compared with stainless steel or platinum/rhodium nebulizers

Metal Body Platinum Alloy Nebulizers

- Recommended for most concentrated acids containing >5% acid
- Includes a platinum alloy needle assembly and a tantalum venturi
- Provides maximum chemical resistance
- Not suitable for use with aqua regia or hydrofluoric acid

Plastic Body GemTip™ Nebulizers

- Corrosion-resistant and can be used to aspirate almost all solutions, even those solutions containing a high percentage of acids
- Designed to obtain optimum sensitivity, detection limits and precision with flame atomic absorption for both air-acetylene and nitrous oxide-acetylene flames

Metal Body Stainless Steel Nebulizers

- For most solutions containing <5% acid, providing exceptional performance and durability
- Excellent performance (precision and signal-to-noise ratio)

Plastic Body Nebulizers

Description	PinAAcle 900 Part No.	AAnalyst 200/400 Part No.	AAnalyst 100/300/700/800 Part No.
High-Sensitivity Nebulizer with Pt/Ir Capillary			
Nebulizer Assembly	**N3160144**	**N3150188***	**B0505480**
Impact Bead	**B0505086**	**B0505086**	**B0505086**
O-Ring	**09902015**	**09902015**	**B0190672**
O-Ring	**B0507708**	**09926126**	**B0506143**
O-Ring 9.25 X 1.78			**B0174378**
Needle Assembly	**03030354**		
Spring	**09920483**	**09920483**	**B0165332**
End Cap	**N3160111**	**N0370392**	**N0370392**
High-Sensitivity Nebulizer with Tantalum Capillary			
Nebulizer Assembly			**B0505590**
Impact Bead			**B0505086**
O-Ring 1.78 X 1.02			**B0190672**
O-Ring 4.47 X 1.78			**B0506143**
O-Ring 9.25 X 1.78			**B0174378**
Spring			**B0165332**
End Cap			**N0370392**
GemTip™ Nebulizers			
GemTip Nebulizer Assembly			**N0370394**
High-Sensitivity Nebulizer Assembly			**N0370393**
Impact Bead			**B0505086**
Spring			**09902473**
End Cap			**N0370392**

*May also be used with AAnalyst 100/300/700/800

Metal Body Nebulizers

Description	PinAAcle 900 Part No.	AAnalyst 200/400 Part No.	AAnalyst 100/300/700/800 Part No.
Stainless Steel Nebulizer			
Nebulizer Assembly	**N3160143**	**03030352**	**03030352**
Capillary Assembly	**N3160113**	**03030354**	**03030354**
O-Ring Kit (Includes O-Rings in Neb Assembly)		**N9300065**	**N9300065**
O-Ring 0.176 ID x 0.070 WD	**09902005**		
O-Ring 0.364 ID x 0.070 WD	**09902015**		
O-Ring 0.208 ID x 0.070 WD	**09902239**		
Spring	**03031806**	**03031806**	**03031806**
End Cap	**N3160102**	**00570984**	**00570984**
Corrosion-Resistant Nebulizer			
Nebulizer Assembly		**03030404**	**03030404**
Capillary Assembly		**03030402**	**03030402**
O-Ring Kit (Includes O-Rings in Neb Assembly)		**N9300065**	**N9300065**
Spring		**03031806**	**03031806**
End Cap		**00570984**	**00570984**
Platinum Alloy Nebulizer			
Nebulizer Assembly		**03030299**	**03030299**
Capillary Assembly		**03030433**	**03030433**
O-Ring Kit (Includes O-Rings in Neb Assembly)		**N9300065**	**N9300065**
Spring		**03031806**	**03031806**
End Cap		**00570984**	**00570984**

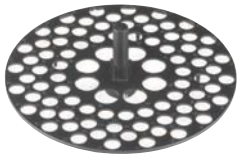
Nebulizer Accessories

Description	Part No.
Capillary Tubing	**09908265**
Nebulizer Cleaning Wires Pkg. 5	**03030135**
Nebulizer Grease	**03030405**

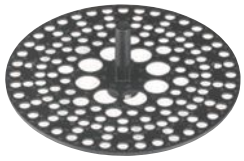

Nebulizer Capillary Tubing


Nebulizer Cleaning Wires


Nebulizer Grease



88-Position Tray



148-Position Tray

Autosampler Trays

For a quick change to another series of samples, a second sample tray is recommended.

For Model AS-800/AS-900

Description	Part No.
88-Position Tray, Polypropylene 80 sample locations for 2.0, 2.5 or 3.5 mL sample cups. Each sample tray also has eight positions for 7.0 mL reagent containers.	**B3001507**
148-Position Tray, Polypropylene 132 sample locations for 1.2 mL sample cups and eight locations for 2.5 or 3.5 mL sample cups. Each sample tray also has eight positions for 7.0 mL reagent containers. One is provided with the autosampler.	**B3001506**
Cover	**B3001505**
Arm	**B3002046**

Sampling Capillaries

Made of PTFE, these are capable of pipetting a variety of corrosive matrices and organic solutions.

Features and Benefits

- Works well with solvent and acid-resistant sampling components
- PTFE pipette tips and capillaries reduce contamination
- Easy replacement

Description	Part No.
For Models AS-60/AS-70/AS-71/AS-72/AS-800/AS-900	**B0129258**

Reagent Containers

For blank solutions, reagent solutions or matrix modifiers.

Description	Part No.
Round Reagent Containers For Models AS-40/AS-60/AS-70/AS-71/AS-72. 25 mL polypropylene. Suitable for organic solutions.	**B0101164**
30 mL Polystyrene – Not for organic solutions.	**B0102332**
Cloverleaf-shaped Reagent Containers For Models AS-60/AS-70/AS-71/AS-72. 30 mL polypropylene.	**B0132799**

GRAPHITE FURNACE AUTOSAMPLER CUPS

Sample cups are of heavy-duty construction to prevent cracking or tipping. Their conical design allows for use of nearly the entire sample.

Your choice of materials:

- **Polystyrene** – Clear, recommended for use with most aqueous solutions
- **Polyethylene** – Translucent, low-density, recommended for use with most aqueous and organic solutions
- **Teflon®** – Recommended for use with most concentrated acids including HF, and for analyses where the lowest detection levels are required
- **Polypropylene** – Translucent; preferred for most solvents

Volume	Compostition	Qty.	Part No.
1.2 mL*	Polypropylene	2,000	**B0510397**
2.5 mL	Polypropylene	1,000	**B3001566**
7.0 mL**	Polypropylene	100	**B3001567**
2.0 mL	Polyethylene	1,000	**B0087056**
2.0 mL	Polystyrene	1,000	**B0119079**
3.5 mL	Polystyrene	100	**B0129303**
2.0 mL	Teflon®	30	**B0087600**

* For use with AS-71/72/800/900 ** For use with AS-800/AS-900

Pliers

Description	Part No.
For 1.2 mL sample cups.	**B0510398**

EXCLUSIVE DESIGN
ENSURES EVEN HEATING

STANDARD THGA GRAPHITE TUBES

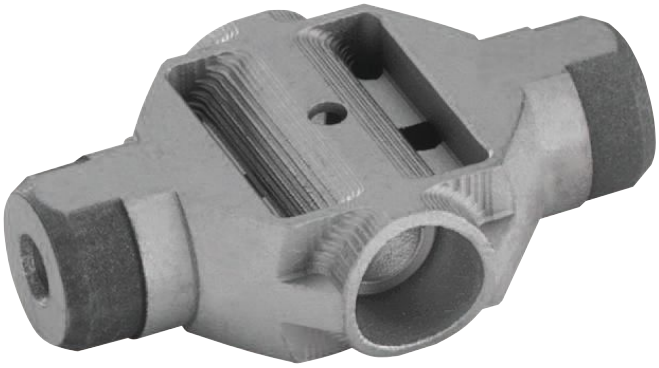
Today's analysts expect exceptional analytical performance from their graphite furnace atomic absorption spectrometers. That performance must be reproducible from day to day with respect to sensitivity (characteristic mass), accuracy and precision.

The graphite tube, the heart of the graphite furnace, plays a vital role in the overall stability of an analysis. In order to assure stable analytical conditions from one atomization cycle to the next, and from graphite tube to graphite tube, all graphite parts — contacts, tubes and platforms — must be subject to strict quality control by both the instrument manufacturer and the graphite manufacturer.

PerkinElmer's unique, transversely-heated graphite tube includes an integrated platform. The exceptionally uniform temperature distribution obtained with transverse heating significantly reduces or eliminates condensation of the sample matrix components and "memory" effects, and improves the atomization efficiency for refractory elements.

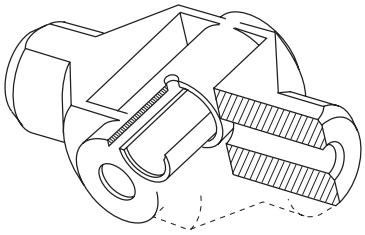
Standard THGA Graphite Tubes

Description	Part No.
5-pack	**B3000641**
20-pack	**B0504033**
100-pack	**N3110147**



Standard THGA Graphite Tubes with End Caps

For improved characteristic mass with volatile and medium refractory elements such as Ag, As, Cd, Co, Cr, Cu, Pb, Se and Tl, the THGA graphite tubes with end caps are recommended. Note: THGA graphite tubes with end caps are not recommended for refractory elements such as V or Ba.



Features and Benefits

- Improved detection limits for volatile and medium refractory elements
- Faster drying for complex matrices due to enlarged dosing hole

Standard THGA Graphite Tubes with End Caps

Description	Part No.
5-pack	**B3000653**
20-pack	**B3000655**

UltraClean THGA Graphite Tubes

For the lowest possible detection limits, residual contaminant levels may not be low enough to meet your requirements. For the most demanding analyses, PerkinElmer offers UltraClean THGA graphite tubes — delivering exceptionally low levels of contamination due to advanced high-temperature gas-phase cleaning procedures. UltraClean graphite tubes offer unmatched analytical advantages for special applications such as the determination of extremely low traces of Na, Ca, Fe, Cr and Ni in ultra-clean reagents used in the semiconductor industry, and ultra-trace analyses of environmental, clinical, or food samples.

Features and Benefits

- UltraClean THGA graphite tubes have the lowest possible contamination levels due to extensive high-temperature gas-phase cleaning procedures
- UltraClean THGA graphite tubes are tested and specified for blank levels of Cr, Ni, V, Mo, Ti (<0.003 integrated absorbance units) and Na, Fe, Al, Si, Ca (<0.0005 integrated absorbance units)

UltraClean THGA Graphite Tubes

Description	Part No.
5-pack	**B3140361**
20-pack	**B3140362**

THGA Instrument Mirror

Used to optimize drying temperatures and times.

Description	Part No.
THGA Instrument Mirror	**B0851900**

THGA Contact Cylinders

These graphite contact cylinders are engineered for a precise fit so that variations in electrical contact — which might affect the analytical performance — are reduced to a minimum. Contact cylinders with a modified injection port area help to minimize condensation and improve analytical performance with difficult matrices.

Standard THGA Graphite Contact Cylinders

Description	Part No.
1 pair	**B0504035**
5 pairs	**B0504036**

Modified THGA Contact Cylinders

Description	Part No.
1 pair	**B3002103**
5 pairs	**B3002102**

Accessories and Spare Parts

Description	Part No.
O-Ring (behind Contact Cylinder, front and back)	**B0500748**
Contact Cylinder Removal Tools	**B3120405**
THGA Filter Cartridge qty. 50.	**B0509065**
Spare Graphite Tip for fume extraction system	**B0506722**

Matrix Modifiers for Graphite Furnace AA

PerkinElmer provides you with the maximum performance and the lowest possible detection limits with our high-quality matrix modifiers.

PerkinElmer matrix modifiers thermally stabilize the analyte, allowing higher pyrolysis temperatures to be used, reducing background absorption, and eliminating potential interferences.

Features and Benefits

- High-purity compounds minimize the risk of contamination
- Optimum graphite furnace program can be used due to reduced analyte volatility
- Convenient, ready to use

Matrix Modifiers

Modifiers	Concentration	Volume	Part No.
$Mg(NO_3)_2$	1% Mg (as nitrate)	100 mL	**B0190634**
Pd	1% Pd (as nitrate)	50 mL	**B0190635**
$NH_4H_2PO_4$	10% $NH_4H_2PO_4$	100 mL	**N9303445**

MANUFACTURED TO THE HIGHEST QUALITY SPECIFICATIONS

The production of high-quality graphite components requires stringent quality control. To ensure high quality and consistency, a specific grade of high-density base graphite material has been developed for PerkinElmer's exclusive use. This base graphite material is used for the manufacturing of all PerkinElmer graphite tubes.

Selection and careful control of raw materials are extremely important. The composition and the microstructure of the base graphite material determine the specific resistivity of the tube and its heating characteristics.

When you purchase graphite supplies from PerkinElmer, you get the results of our many years of experience with quality graphite parts.

The proper performance, maintenance, and serviceability of our graphite furnace systems can be assured only through the use of genuine PerkinElmer graphite components.

PYROCOATED GRAPHITE TUBES

Grooved Pyrocoated Graphite Tubes

Internally grooved to accept L'vov platforms. Does not include platform

Description	Part No.
5-pack	**B0137111**
10-pack	**B0121092**
20-pack	**B3001254**
50-pack	**B0109322**
100-pack	**N3110146**

Pyrocoated Graphite Tubes*

Description	Part No.
5-pack	**B0105197**
10-pack	**B0135653**
20-pack	**B3000342**
20-pack (Forked Platform)	**B0505057**
50-pack	**B0091504**

*Not compatible with L'vov platforms

PYROCOATED GRAPHITE TUBES WITH INTEGRATED PLATFORMS

Proven in labs throughout the world, graphite tubes with integrated platforms provide superior performance and are easy to use. Graphite tubes with integrated platforms are machined from one piece of graphite and are totally pyrocoated, providing exceptional tube-to-tube reproducibility. The spherically-shaped platform accommodates up to 50 µL of sample.

Features and Benefits

- Provide STPF conditions for volatile and nonvolatile refractory elements due to the significantly higher heating rates of tube and platform, which can be used for all elements
- Offer an extra measure of convenience versus manually inserting a separate platform
- Provide longer life with many aggressive sample matrices, such as concentrated acids

Pyrocoated Graphite Tubes with Integrated Platforms

Description	Part No.
5-pack	**B3001262**
20-pack	**B3001264**
40-pack	**N9300651**

Uncoated Graphite Tubes*

Description	Part No.
5-pack	**B0137113**
20-pack	**B3001253**
50-pack	**B0070699**

*Not compatible with L'vov platforms

L'VOV PLATFORMS

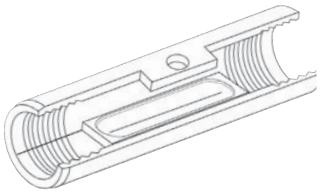
The L'vov platform is a small plate of solid pyrocoated graphite that is inserted into the graphite tube. It has a slight depression in the center, which can accommodate up to 50 µL of solution. The function of the L'vov platform is to isolate the sample from the tube walls to allow more reproducible atomization of the sample through indirect heating. The platform heats primarily by the radiation given off from the tube walls. Sample vaporization and atomization occur after the tube reaches a steady-state temperature.

Use of the L'vov platform provides:

- Vaporization into a higher temperature gas atmosphere producing more free atoms, which reduce interferences
- Longer tube life because aggressive samples are only in contact with the solid pyrolytic graphite platform

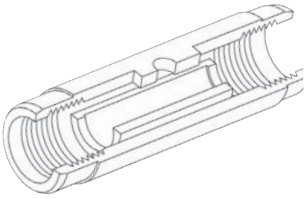
Description	Part No.
5-pack	**B0137112**
10-pack	**B0121091**
20-pack	**B3001256**
50-pack	**B0109324**
100-pack	**N3110145**

Pyrocoated Graphite Tube with L'vov Platform



Cross-section of the PerkinElmer HGA graphite tube with manually inserted L'vov platform shown.

Pyrocoated Graphite Tube with Integrated Platforms



Cross-section of the PerkinElmer HGA graphite tube with integrated platform shown.

CONTACT CYLINDERS

The graphite contact cylinders used in the HGA Graphite Furnace are engineered for a precise fit so that variations in electrical contact — which might affect the analytical performance — are reduced to a minimum. The graphite contacts are shaped so that they completely encase the graphite tube. Thus, the graphite tube is located in a defined inert environment, which ensures uniform heating conditions and long tube lifetime.

Contact Cylinders

For HGA-900/850/800/700/600/300 Furnaces

- Includes left-hand Contact, right-hand Contact, Shield Ring

Description	Part No.
1 set	**B0128495**
5 sets	**B3130086**

For Zeeman Furnaces

- Includes left-hand Contact, right-hand Contact

Description	Part No.
1 set	**B0116823**
5 sets	**B0180361**

Matrix Modifiers for Graphite Furnace AA

PerkinElmer provides you with the maximum performance and the lowest possible detection limits with our high-quality matrix modifiers.

PerkinElmer matrix modifiers thermally stabilize the analyte, allowing higher pyrolysis temperatures to be used, reducing background absorption, and eliminating potential interferences.

Modifiers	Concentration	Volume	Part No.
$Mg(NO_3)_2$	1% Mg (as nitrate)	100 mL	**B0190634**
Pd	1% Pd (as nitrate)	50 mL	**B0190635**
$NH_4H_2PO_4$	10% $NH_4H_2PO_4$	100 mL	**N9303445**

ENSURE INSTRUMENT REPRODUCIBILITY

Pump Tubing

PerkinElmer offers a wide range of high-quality peristaltic pump tubing for all of your Atomic Spectroscopy applications. Remember to replace your tubing frequently and always keep spares on hand.

2-Stop Peristaltic Pump Tubing

i.d. (mm)	Stop Colors	Part No.
Standard PVC (Pkg. 12)		
0.19	Orange - Red	**N0695476**
0.25	Orange - Blue	**N0773117**
0.38	Orange - Green	**N0777110**
0.64	Orange - White	**N8122012**
0.76	Black - Black	**09908587**
1.14	Red - Red	**09908585**
1.42	Yellow - Yellow	**N0777521**
1.52	Yellow - Blue	**09923536**
1.85	Green - Green	**N0777518**
2.06	Purple - Purple	**N0777561**
Flared PVC (Pkg. 12)		
0.19	Orange - Red	**N0773111**
0.25	Orange - Blue	**N0773112**
0.38	Orange - Green	**N0777042**
0.44	Green - Yellow	**N0773113**
0.51	Orange - Yellow	**N0777476**
0.64	Orange - White	**N0777711**
0.76	Black - Black	**N0777043**
Solvent Flex (Pkg. 12)		
0.38	Orange - Green	**N8145211**
0.76	Black - Black	**00473550**
1.14	Red - Red	**09923037**
2.79	Purple - White	**02508080**

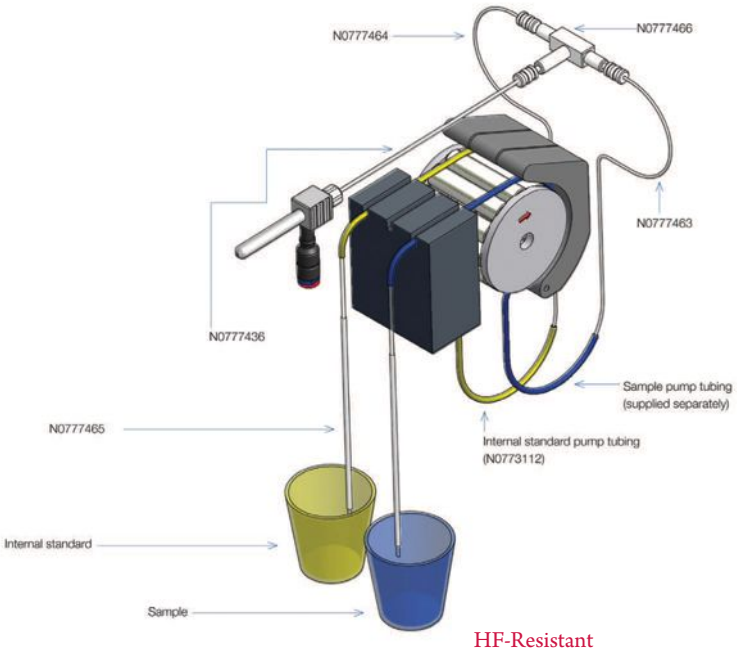
i.d. (mm)	Stop Colors	Part No.
Viton® (Pkg. 12)		
0.51	Orange - Yellow	**N0777446**
0.76	Black - Black	**N0773118**
1.02	White - White	**N0777442**
1.14	Red - Red	**N0773115**
1.30	Gray - Gray	**N0777445**
1.65	Blue - Blue	**N0777447**
Santoprene® (Pkg. 12)		
1.14	Red - Red	**N0773119**
1.30	Gray - Gray	**N0777444**
1.85	Green - Green	**N0773116**
Silicone (Pkg. 6)		
0.76	Black - Black	**00473552**
1.02	White - White	**N0777441**
1.14	Red - Red	**N0691595**
1.30	Gray - Gray	**N0777443**
2.79	Purple - White	**09923448**

3-Stop Peristaltic Pump Tubing

i.d. (mm)	Stop Colors	Part No.
Standard PVC (Pkg. 12)		
0.76	Black - Black	**B0506058**
1.14	Red - Red	**B0193160**
1.52	Yellow - Blue	**B0193161**
2.06	Purple - Purple	**B0199034**
3.18	Black - White	**B0508310**

Internal Standard Kits

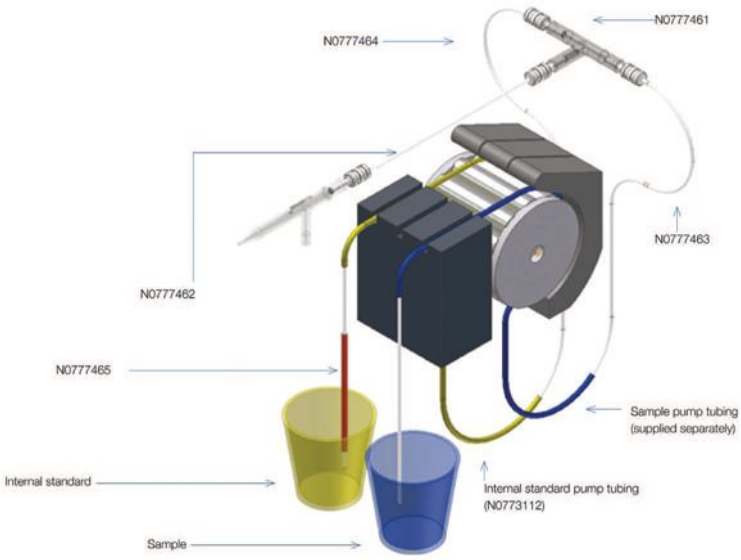
In-line Standard Additions kits, one which includes a glass mixing chamber/combiner for solutions which do not contain HF and another which includes an inert mixing chamber/combiner. Both kits are completely modular so that damaged or worn components can easily be replaced. The heart of the kit is the mixing chamber/combiner. It is designed for zero dead volume on the input ends which accommodate the sample and addition lines. The output end is designed with a small mixing chamber so that the sample and added reagent are intimately mixed prior to introduction to the nebulizer. All connections to the mixing chamber/combiner use EzyFit connectors. A sampling probe for the reagent addition bottle is included so that it remains well anchored in the bottle. Inline addition of internal standards and ionization buffers provides an efficient means of accurately and precisely dosing all of your samples without extra effort or the risk of error or contamination. Internal standardization is often used to compensate for physical and mass-space interferences in ICP spectrometry. In many cases, it also enhances short-term and long-term reproducibility.



HF-Resistant
Internal Standard Kit

HF-Resistant Internal Standard Kit

Description	Part No.
HF-Resistant Internal Standard Kit	**N0774067**
Kit Includes:	
HF Mixing T-piece	**N0777466**
Internal Standard Sample Probe	**N0777465**
EzyFit Sample Tube 0.5 mm ID	**N0777463**
EzyFit with 1/16 inch OD x 0.50 mm ID x 700 mm Long Sample Tube	**N0777436**
EzyFit with 1/16 inch OD x x 0.25 mm ID x 700 mm Long Sample Tube	**N0777437**
Vitex® Gripper Paper	
Orange-Blue Flared End PVC Tubing 0.25 i.d. - Pkg 12	**N0773112**



Non HF-Resistant
Internal Standard Kit

Non HF-Resistant Internal Standard Kit

Description	Part No.
Non HF-Resistant Internal Standard Kit	**N0774068**
Kit Includes:	
EzyFit Glass Mixing T-piece	**N0777461**
Internal Standard Sample Probe	**N0777465**
EzyFit Sample Tube - Twin	**N0777462**
EzyFit with 1/16 inch OD x 0.50 mm ID x 700 mm Long Sample Tube	**N0777436**
EzyFit with 1/16 inch OD x x 0.25 mm ID x 700 mm Long Sample Tube	**N0777437**
Vitex® Gripper Paper	
Orange-Blue Flared End PVC Tubing 0.25 i.d. - Pkg 12	**N0773112**

AUTOSAMPLER PROBES AND COMPONENTS

S10 Autosampler

AS-90/90A/90*plus*/91/93*plus*/S10 Sampling Probe Assemblies

Stainless Steel

Description	Part No.
Flame Sampling Probe Assembly, 0.6 mm i.d. Includes Stainless Steel Sampling Probe and Screw Fitting (B3000152) and Flame Capillary (B3000157 – replaces B0196963) Tubing Assembly.	**B3000159**
FIAS™ Sampling Probe Assembly, 0.6 mm i.d. Includes Stainless Steel Sampling Probe and Screw Fitting (B3000152) and FIAS Capillary Tubing Assembly (B3000158 – replaces B0196966).	**B3000160**
FIAS Standard Sampling Probe Assembly, 1.0 mm i.d. Includes Stainless Steel Sampling Probe and Screw Fitting (B3000152) and FIAS Capillary Tubing Assembly (B0191060 – replaces B0501044).	**B3000161**

Corrosion-Resistant

Corrosion-resistant probes are suitable for inorganic acids and most organic solvents, except NMP.

Description	Part No.
Flame Sampling Probe Assembly, 0.6 mm i.d.* Includes Sampling Probe with FEP Tube and Screw Fitting (B3000055) and Capillary Tubing Assembly (B3000157).	**B3001770**
FIAS Sampling Probe Assembly, 0.6 mm i.d.* Includes Sampling Probe with FEP Tube and Screw Fitting (B3000055) and FIAS Capillary Tubing Assembly (B3000158).	**B3001771**
FIAS Standard Sampling Probe Assembly, 1.0 mm i.d.* Includes Sampling Probe with FEP Tube and Screw Fitting (B3001769) and Capillary Tubing Assembly (B0191060).	**B3001772**

*This probe cannot be used with AS-90s, which have the older sampling probe holder.

Used Oil Autosampler Probe

Autosampler probe for the AS-90plus, AS-93plus and S10 Autosamplers. The probe includes a particulate filter on the tip to remove fibers.

Description	Part No.
Used Oil Autosampler Probe	**N0771529**

Sampling Probe Assembly Components

Description	Part No.
Stainless Steel Sampling Probe with Screw Fitting Requires, but does not include, one of the capillary tubing assemblies described below.	**B3000152**
Flame Capillary Tubing Assembly 1 m length, 0.6 mm i.d., one fitting	**B3000157**
FIAS Capillary Tubing Assembly 1 m length, 0.6 mm i.d., two fittings	**B3000158**
FIAS Capillary Tubing Assembly 1 m length, 1.0 mm i.d., two fittings	**B0191060**

ESI Autosampler Probes

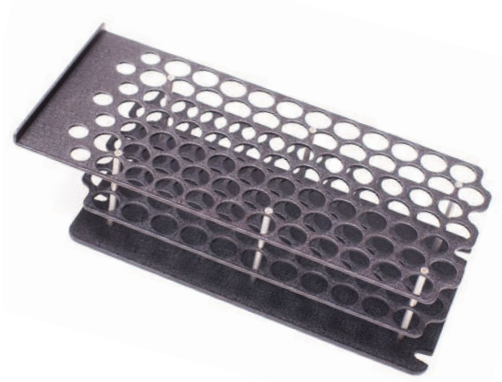
Description	Part No.
Autosampler Probes	
Autosampler Probe, 0.15 mm	**N0777221**
Autosampler Probe, 0.20 mm	**N0777222**
Autosampler Probe, 0.25 mm	**N0777223**
Autosampler Probe, 0.30 mm	**N0777224**
Autosampler Probe, 0.50 mm	**N0777225**
Autosampler Probe, 0.80 mm	**N0777226**
Sample Probes	
High Flow, Carbon Fiber Support, 0.8 mm i.d. (blue)	**N0777285**
Low Flow, Carbon Fiber Support, 0.8 mm i.d. (blue)	**N0777266**
Sample Probe Line Holder	**N0777227**
Carrier Probes	
High Flow, Carbon Fiber Support, 0.5 mm i.d. (orange)	**N0777286**
Low Flow, Carbon Fiber Support, 0.5 mm i.d. (orange)	**N0777267**

Cetac Autosampler Probes

Description	Part No.
Cetac Autosampler Probe, 12 inch length, 0.5 mm i.d.	**N0774088**
Cetac Stainless Steel Sample Probe with Filter Tip	**N0777146**

Accessories

Description	Part No.
Cleaning Wire	**B0505962**
S10 Dust Cover	**N2020045**



Sample Trays

AS-90/90A/90*plus* Sample Trays

Description/Capacity	Sample Vessel Size	Part No.
Tray A – 144	4.5 mL, 6 mL, 8 mL	**B3000133**
Tray B – 98*	15 mL, 16 mL	**B3000132**
Tray C – 36	50 mL	**B3000135**
Blank Tray		**B0501056**

*Polypropylene sample tray.

AS-91 Sample Trays

Description/Capacity	Sample Vessel Size	Part No.
Tray E – 218	4.5 mL, 6 mL, 8 mL	**B0509554**
Tray F – 152	15 mL, 16 mL	**B0509555**
Tray G – 55	50 mL	**B0508520**

Trays A, C, E, F and G are powder-coated, corrosion-resistant aluminum.

AS-93*plus*/S10 Sample Tray

Description/Capacity	Sample Vessel Size	Part No.
Tray F – 9/29	50 mL/15 mL	**B3001647**
Tray E – 90	4.5 mL, 6 mL, 8 mL	**B3140617**
Tray F – 60	15 mL, 16 mL	**B3140618**
Tray G – 30	50 mL	**B3140621**

AS-93plus sample trays are polypropylene.

AS-93*plus*/S10 Rinsing Kit

Description/Capacity	Part No.
AS-93*plus* Rinsing Kit	**B3140236**
Spare Parts	
Rinsing Port	**B3140622**
Adapter M	**B0507919**
Pump Tube – 2.79 mm i.d. (pkg. 6)	**B3140721**
Pump Tube – 1.14 mm i.d. (pkg. 6)	**B3140730**
Tygon® Drain Tube – 2 m	**B0509650**
PVC Rinse Liquid Feed Tube – 2 m	**B0048139**
Connector	**B3140715**

Cetac Autosampler Supplies

Racks

Rack	Vial Size	Part No.
21-Position	50 mL	**N0777152**
24-Position	30 mL	**N0777151**
40-Position	20 mL	**N0777150**
40-Position	20 mL	**N0777169**
40-Position/Gilson 29	20 mL	**N0777155**
45-Position/120 cc Sample Rack (oils)		**N0777298**
60-Position	14 mL	**N0777149**
80-Position Collection Metal for Oil		**N0774085**
90-Position	8 mL	**N0777148**
90-Position (Round Hole)	8 mL	**N0777153**
90-Position Collection Metal for Oil		**N0777154**

ESI Autosampler Supplies

Racks and Rack Covers

Description	Size	Diameter	Part No.
Standard Racks			
10-Position		28 mm	**N0777228**
24-Position	4 x 6	14 mm	**N0777234**
Adapter Plate**			**N0777235**

**For Gemetec/Cetac ASX-100's racks

Micro Racks			
21-Position	3 x 7	14 mm	**N0777229**
40-Position	4 x 10	14 mm	**N0777230**
60-Position	5 x 12	8 mm	**N0777231**
90-Position	5 x 12		**N0777232**
Cover for Micro Racks			**N0777233**
Large Racks			
21-Position	3 x 7	30 mm	**N0777242**
40-Position	4 x 10	20 mm	**N0777243**
60-Position	5 x 12	16 mm	**N0777244**
90-Position	6 x 15	13 mm	**N0777245**
Super Racks			
10-Position***	2 x 5	61 mm	**N0777253**
12-Position	2 x 6	50 mm	**N0777252**
21-Position	3 x 7	22 mm	**N0777251**
21-Position	3 x 7	28 mm	**N0777250**
21-Position	3 x 7	30 mm	**N0777249**
27-Position	3 x 9	28 mm	**N0777248**
80-Position	5 x 16	16 mm	**N0777247**
120-Position	6 x 20	13 mm	**N0777246**

***Holds 205 mL bottles.

Polypropylene Autosampler Tubes for AA, ICP-OES and ICP-MS

Standard Tubes with Screw Caps and Printed Graduations

Translucent polypropylene tubes are designed to provide you with excellent chemical resistance.

Capacity	Size	Description	Qty/Pack	Qty/Case	Part No.
15 mL Conical	17 mm x 120 mm	50/Bag, 10 Bags/Case	50	500	**B0193233**
50 mL Conical/Freestanding	28 mm x 115 mm	25/Bag, 20 Bags/Case	25	500	**B0193234**

Autosampler Tubes with Round Bottom

Capacity	Size	Type	Qty/Pack	Part No.
5 mL Round Bottom	12 mm x 75 mm	Round Bottom	500	**B0193235**
8 mL Round Bottom	13 mm x 100 mm	Round Bottom	1,200	**N0777156**
8 mL Round Bottom	13 mm x 100 mm	Round Bottom/Bulk	1,000	**B0508901**
8 mL Round Bottom	13 mm x 100 mm	Round Bottom	250	**N0777159**
15 mL Round Bottom	17 mm x 100 mm	Round Bottom	1,200	**N0777167**
		Plug for 15 mL Vials (Part No. N0777167)	1,200	**N0777599**
15 mL Round Bottom	17 mm x 100 mm	Round Bottom	250	**N0777168**
16 mL Round Bottom	17 mm x 100 mm	Round Bottom/Packs of 125	1,000	**N9301205**
50 mL Round Bottom	30 mm x 115 mm	Round Bottom/Bulk	500	**N0777158**
50 mL Round Bottom	30 mm x 115 mm	Round Bottom/50 Tubes per bag	500	**N0777164**

SuperClear™ Tubes with Printed Graduations

SuperClear tubes are made from a unique medical grade resin that is far more durable than commodity grade resins used in most other brands of tubes. Tubes are available with either a flat cap with a two stage seal, or a plug style cap that includes a very deep sealing area.

Capacity	Size	Description	Qty/Pack	Qty/Case	Part No.
15 mL SuperClear Tubes with Flat Caps					
15 mL Conical	17 mm x 118 mm	50/Bag, 10 Bags/Case	50	500	**N0777701**
15 mL Conical	17 mm x 118 mm	25/Rack, 2 Racks/Pkg, 10 Pkg/Cs	50	500	**N0777702**
15 mL Conical	17 mm x 118 mm	Bulk, Tubes & Caps in Separate Bags	500	500	**N0777703**
50 mL SuperClear Tubes with Flat Caps					
50 mL Conical	29 mm x 115 mm	50/Bag, 10 Bags/Case	50	500	**N0777691**
50 mL Conical	29 mm x 115 mm	25/Rack, 20 Racks/Case	25	500	**N0777692**
50 mL Conical	29 mm x 115 mm	Bulk, Tubes & Caps in Separate Bags	500	500	**N0777693**

PerformR™ Freestanding Tubes with Printed Graduations

Freestanding 50 mL Tubes are available for use in those applications where a rack is not available. They include a large white solvent resistant writing area and black graduations. Available with either a flat cap or a plug style cap. Certified to IATA 95kPa Standard.

Capacity	Size	Description	Qty/Pack	Qty/Case	Part No.
Freestanding 50 mL Tubes with Flat Caps					
50 mL Conical/Freestanding	29 mm x 115 mm	50/Bag, 10 Bags/Case	50	500	**N0777697**
50 mL Conical/Freestanding	29 mm x 115 mm	Bulk, Tubes & Caps in Separate Bags	500	500	**N0777698**

CONSUMABLE APPLICATION PACKS

We've taken the guesswork out of ordering. Everything you need to run your analysis – from lamps and standards to application notes – in one, easy-to-order pack.

PinAAcle 900Z Application Pack for Blood Lead Determination (Part No. N0770885)

Centers for Disease Control (CDC) require action for blood-lead level concentration above the 10 µg/dL guideline. Validated applications to determine whole blood levels are possible with PinAAcle 900Z with application pack.

Includes: Lamps, Standards, Graphite Tubes, and Sample Cups*.

PinAAcle 900 Application Pack for Trace Metals in Water by GFAAS (Method 200.9) (Part No. N0770886)

PinAAcle 900 with application pack helps analyze several trace elements – including arsenic, cadmium, lead, selenium and thallium – that are recognized as toxic or carcinogenic in drinking water.

Includes: Lamps, Standards, Graphite Tubes, and Sample Cups*.

PinAAcle 900 Application Pack for Toxic and Trace Elements in Food (Part No. N0770887)

Ingesting of trace elements from food can be linked to nutrition, disease, and even physiological development. PinAAcle 900 with application pack helps determine the presence of these elements.

Includes: Lamps, Standards, Burner Head, Graphite Tubes, and Sample Cups*.

Optima 8x00 Application Pack for Toxicity Characteristic Leaching Procedure (TCLP) Extracts by Method 6010 (Part No. N0770888)

This application pack contains all the consumables to run TCLP, the most quantitative test required by the EPA to determine the toxicity levels and disposal regulations for unknown materials.

Includes: Autosampler Tubes and Standards*.

Optima 8300 Application Pack for Multi-element Analysis of Rocks and Sediment (Part No. N0770889)

Optima 8300 with application pack can be used to determine if soils are deficient in micronutrients or if they contain toxic heavy metal contamination.

Includes: Autosampler Tubes, Pump Tubing, Standards, Mixing Block, and Internal Standard probe*.

Description	Instrument	Part No.
Blood Lead Determination	PinAAcle 900Z	**N0770885**
Trace Metals in Water by GFAAS	PinAAcle 900	**N0770886**
Toxic and Trace Elements in Food	PinAAcle 900	**N0770887**
Toxicity Characteristic Leaching Procedure (TCLP) Extracts	Optima 8x00	**N0770888**
Multi-element Analysis of Rocks and Sediment	Optima 8300	**N0770889**

*** Please visit our website for complete details on what is included in each Application Pack.**

PIONEERED THE USE OF FLOW INJECTION TECHNIQUES

The use of flow injection saves time, money and manpower — while at the same time, extending your analytical flexibility and capabilities.

PerkinElmer carries a wide selection of genuine supplies and accessories for your FIMS-100, FIMS-400, FIAS-100 or FIAS-400. Keeping your system in good working order by using only the best replacement parts is the first step in assuring quality analytical performance. Regular maintenance and/or replacement of consumables such as tubing, connectors and adapters will maximize the lifetime and productivity of your PerkinElmer flow injection system.

Adapters with Internal Thread

¼ in (6.4 mm) Internal Screw Thread

Type*	Description	Part No.
A B	A 1.8 mm o.d. nipple	B0193342
	B 3.3 mm o.d. nipple	B0506716
C	4 mm o.d. nipple	B0196850
E	For the quartz cell	B0196857
F	0.7 mm o.d. Pt/Ir capillary nipple	B0193873
G	Two nipples to connect tubes to the pre-concentration accessory	B0501580

Connectors

Type*	Description	Part No.
IA	Connector with nipples for 1.7 to 3.2 mm i.d. tubes	B0199233
IB	Connector with nipples for 2.4 to 3.2 mm i.d. tubes	B0196882
II	Connector with 1/4 in (6.4 mm) internal screw thread	B0196704
IIIA	T-piece with nipples for 1.5 to 2.5 mm i.d. tubes	B0199035
IIIB	T-piece with nipples for 3.5 to 4.5 mm i.d. tubes	B0198201

Adapters with External Thread

¼ in (6.4 mm) External Screw Thread

Type*	Description	Part No.
K L	K 1.8 mm o.d. nipple	B0507918
	L 2.8 mm o.d. nipple	B0507920
M	4 mm o.d. nipple	B0507919
N	0.7 mm o.d. Pt/Ir capillary nipple	B0507949
	Screw Plug	B0507921

*Type designation refers to diagrams in instrument manuals.

Mixing/Separation Assembly

Complete modular unit, consisting of two mixing manifolds with tubing adapters, a gas liquid separator with a PTFE membrane, five spare PTFE membranes, one PTFE tube (110 mm long) and one PTFE tube (300 mm long).

Description	Part No.
Mixing/Separation Assembly	**B0507957**

Mixing Block

Modular "building block" type mixing manifold with one mixing channel and three connections, two inlet and one outlet. Made from chemically-resistant plastic. Several of these blocks can be "plugged" together easily to create a single unit with enhanced mixing capabilities.

Description	Part No.
Mixing Block	**B0507962**

Gas/Liquid Separator

Modular "building block" type gas-liquid separator made from chemically-resistant plastic. An exchangeable PTFE membrane in the screw cap of the separator prevents liquid from being carried into the quartz cell when working with strong foaming samples.

Description	Part No.
Gas/Liquid Separator	**B0507959**
Glass Gas/Liquid Separator	**B0193772**
Gas/Liquid Separator Holder for Glass Separator	**B0509479**
PTFE Membrane (pkg. 50)	**B0508306**
Mixing Manifold for Glass Gas/Liquid Separator	**B0187258**

Tool, Screw Connectors

Description	Part No.
Tool, Screw Connectors	**B0501315**

Flow Injection Furnace Supplies

Description	Part No.
FIAS-Furnace Sample Transfer Tube	**B0509612**
Quartz Pipette Tip/20 mm (pkg. 1)	**B0510032**
Silicone Tube	**B0029796**

Sample Loops

Description	Part No.
200 µL	**B0194048**
500 µL	**B0194049**
1,000 µL	**B0501000**

Tubing

Peristaltic pump tubing has a wall thickness of 0.84 mm.

3-Stop Peristaltic Pump Tubing Pkg. 12

Tubing i.d.	Color Code	Part No.
0.76 mm	Black/black	**B0506058**
1.14 mm	Red/red	**B0193160**
1.52 mm	Yellow/blue	**B0193161**
2.06 mm	Violet/violet	**B0199034**
3.18 mm	Black/white	**B0508310**

Peristaltic Pump Tubing, Solvent-Resistant

Tubing i.d.	Color Code	Part No.
1.14 mm	White/white	**B0507692**

PTFE Tubing

Tubing i.d.	Length	Part No.
0.35 mm	1 m	**B0506060**
0.5 mm	1 m	**B0507020**
0.7 mm	1 m	**B0507021**
1.0 mm	1 m	**B0029792**
1.75 mm	1 m	**B0017998**

PTFE Tubing Assemblies

Tubing i.d.	Screw Fittings Color	Length	Part No.
0.35 mm	White	60 mm	**B0501594**
1.0 mm	Blue	110 mm	**B0191058**
1.0 mm	Blue	300 mm	**B0198097**
1.0 mm	Blue	700 mm	**B0191059**
1.0 mm	Blue	1,000 mm	**B0191060**
1.75 mm	Black	250 mm	**B0198099**
1.75 mm	Black	450 mm	**B0198100**
3-dimensional reactor 0.35 mm (two flanged ends)			**B0501595**

PVC Tubing

Description	Part No.
3 mm i.d. with 1 mm wall thickness, no fittings	**B0048139**

Price per meter.

Silicone Tubing

Description	Part No.
1 m x 5 mm i.d., no fittings	**B0018283**
1 m x 3 mm i.d.	**B0070126**
For FIMS Cell Exhaust Outlet, 3 m	**B0046948**

Rinse Pump Tubing, Pharmed

Tubing i.d.	Color Code	Pkg	Part No.
1.14 mm	Red/red	6	**B3140730**
2.79 mm	Purple/white	6	**B3140721**

EXPERIENCE RELIABLE, ACCURATE RESULTS

Inorganic Aqueous Standards

PerkinElmer offers a complete selection of atomic spectroscopy aqueous standards. Each solution is supplied with a comprehensive Certificate of Analysis that documents the quality and reliability.

Pure Grade Standards for AA and ICP-OES

- Analyzed by ICP-OES
- Analyzed by Classical Wet Assay
- 32 trace impurities analyzed by ICP-MS of the final solution and reported on the certificate
- Impurities reported at ppm level
- All Standards are prepared and certified under ISO Guide 34 and ISO 17025 – certified by A2LA

Pure Plus Grade Standards for ICP-MS

- Analyzed by ICP-OES
- Analyzed by Classical Wet Assay
- 67 trace impurities analyzed by ICP-MS of the final solution and reported on the certificate
- Impurities reported at ppb level
- All Standards are prepared and certified under ISO Guide 34 and ISO 17025 – certified by A2LA

PerkinElmer Standards are compatible with other manufacturers' instruments

Single-Element Standards – 1,000 mg/L

Element	Symbol	Matrix	Pure Grade 125 mL Part No.	Pure Grade 500 mL Part No.	Pure Plus Grade 125 mL Part No.
Aluminum	Al	2% HNO_3	**N9300184**	**N9300100**	**N9303726**
Antimony	Sb	2% HNO_3	**N9300207**	**N9300101**	**N9303750**
Arsenic	As	2% HNO_3	**N9300180**	**N9300102**	**N9303727**
Barium	Ba	2% HNO_3	**N9300181**	**N9300103**	**N9303729**
Beryllium	Be	2% HNO_3	**N9300172**	**N9300104**	**N9303730**
Bismuth	Bi	10% HNO_3	**N9303761**	**N9300105**	**N9303731***
Boron	B	H_2O	**N9303760**	**N9300106**	
Cadmium	Cd	2% HNO_3	**N9300176**	**N9300107**	**N9303734**
Calcium	Ca	2% HNO_3	**N9303763**	**N9300108**	**N9303733**
Carbon	C	H_2O	**N9303762**	**N9300109**	
Cerium	Ce	2% HNO_3	**N9303765**	**N9300110**	
Cesium	Cs	2% HNO_3	**N9303767**	**N9300111**	
Chromium	Cr	2% HNO_3	**N9300173**	**N9300112**	**N9303736**
Cobalt	Co	2% HNO_3	**N9303766**	**N9300113**	**N9303735**
Copper	Cu	2% HNO_3	**N9300183**	**N9300114**	**N9303737**
Dysprosium	Dy	2% HNO_3	**N9303768**	**N9300115**	
Erbium	Er	2% HNO_3	**N9303769**	**N9300116**	
Europium	Eu	2% HNO_3	**N9303770**	**N9300117**	
Gadolinium	Gd	2% HNO_3	**N9303773**	**N9300118**	
Gallium	Ga	2% HNO_3	**N9303772**	**N9300119**	
Germanium	Ge	H_2O/0.16% F-	**N9303774**	**N9300120**	**N9303739***
Gold	Au	10% HCl	**N9303759**	**N9300121**	**N9303728****
Hafnium	Hf	2% HCl	**N9303775**	**N9300122**	
Holmium	Ho	2% HNO_3	**N9303776**	**N9300123**	
Indium	In	2% HNO_3	**N9303777**	**N9300124**	**N9303741***

Element	Symbol	Matrix	Pure Grade 125 mL Part No.	Pure Grade 500 mL Part No.	Pure Plus Grade 125 mL Part No.
Iridium	Ir	10% HCl	**N9303778**	**N9300125**	
Iron	Fe	2% HNO_3	**N9303771**	**N9300126**	**N9303738**
Lanthanum	La	2% HNO_3	**N9303780**	**N9300127**	
Lead	Pb	2% HNO_3	**N9300175**	**N9300128**	**N9303748**
Lithium	Li	2% HNO_3	**N9303781**	**N9300129**	
Lutetium	Lu	2% HNO_3	**N9303782**	**N9300130**	
Magnesium	Mg	2% HNO_3	**N9300179**	**N9300131**	**N9303743**
Manganese	Mn	2% HNO_3	**N9303783**	**N9300132**	**N9303744**
Mercury	Hg	10% HNO_3	**N9300174**	**N9300133**	**N9303740***
Molybdenum	Mo	H_2O	**N9303784**	**N9300134**	**N9303745**
Neodymium	Nd	2% HNO_3	**N9303787**	**N9300135**	
Nickel	Ni	2% HNO_3	**N9300177**	**N9300136**	**N9303747**
Niobium	Nb	H_2O/0.4% HF	**N9303786**	**N9300137**	
Palladium	Pd	10% HCl	**N9303789**	**N9300138**	
Phosphorus	P	H_2O	**N9303788**	**N9300139**	
Platinum	Pt	10% HCl	**N9303791**	**N9300140**	
Potassium	K	2% HNO_3	**N9303779**	**N9300141**	**N9303742**
Praseodymium	Pr	2% HNO_3	**N9303790**	**N9300142**	
Rhenium	Re	H_2O	**N9303793**	**N9300143**	
Rhodium	Rh	10% HCl	**N9303794**	**N9300144**	**N9303749***
Rubidium	Rb	2% HNO_3	**N9303792**	**N9300145**	
Ruthenium	Ru	10% HCl	**N9303795**	**N9300146**	
Samarium	Sm	2% HNO_3	**N9303800**	**N9300147**	
Scandium	Sc	2% HNO_3	**N9303798**	**N9300148**	**N9303751***
Selenium	Se	2% HNO_3	**N9300182**	**N9300149**	**N9303752**
Silicon	Si	H_2O	**N9303799**	**N9300150**	
Silver	Ag	2% HNO_3	**N9300171**	**N9300151**	**N9303725**
Sodium	Na	2% HNO_3	**N9303785**	**N9300152**	**N9303746**
Strontium	Sr	2% HNO_3	**N9303802**	**N9300153**	
Sulfur	S	H_2O	**N9303796**	**N9300154**	
Tantalum	Ta	H_2O/0.8% HF	**N9303803**	**N9300155**	
Tellurium	Te	5% HNO_3	**N9303805**	**N9300156**	
Terbium	Tb	2% HNO_3	**N9303804**	**N9300157**	**N9303753***
Tin	Sn	20% HCl	**N9303801**	**N9300161**	**N9303838**
Thallium	Tl	2% HNO_3	**N9300170**	**N9300158**	**N9303755**
Thorium	Th	2% HNO_3	**N9303842**		
Thulium	Tm	2% HNO_3	**N9303807**	**N9300160**	
Titanium	Ti	H_2O/tr 0.24% F-	**N9303806**	**N9300162**	**N9303754**
Tungsten	W	H_2O	**N9303809**	**N9300163**	
Uranium	U	2% HNO_3		**N9303844**	
Vanadium	V	2% HNO_3	**N9303808**	**N9300165**	**N9303756**
Ytterbium	Yb	2% HNO_3	**N9303811**	**N9300166**	
Yttrium	Y	2% HNO_3	**N9303810**	**N9300167**	**N9303757***
Zinc	Zn	2% HNO_3	**N9300178**	**N9300168**	**N9303758**
Zirconium	Zr	2% HNO_3	**N9303812**	**N9300169**	

* 10 mg/L ** 100 mg/L

Single-Element Standards – 10,000 mg/L

Element	Symbol	Matrix	Pure Grade 125 mL Part No.	Pure Grade 500 mL Part No.
Aluminum	Al	5% HNO_3	**N9304111**	**N9304110**
Calcium	Ca	5% HNO_3	**N0691581**	**N9303764**
Copper	Cu	5% HNO_3	**N9304112**	
Iron	Fe	5% HNO_3	**N9304113**	**N9307117**
Magnesium	Mg	5% HNO_3	**N0691745**	**N9304114**
Manganese	Mn	5% HNO_3	**N9304115**	
Nickel	Ni	5% HNO_3	**N9304117**	**N9304116**
Phosphorus	P	H_2O	**N9304119**	**N9304118**
Potassium	K	5% HNO_3	**N9304121**	**N9304120**
Silicon	Si	H_2O/4% HF	**N9304122**	
Sodium	Na	5% HNO_3	**N9304124**	**N9304123**
Sulfur	S	H_2O	**N9304126**	**N9304125**
Yttrium	Y	5% HNO_3	**N9304128**	**N9304127**
Zinc	Zn	5% HNO_3	**N9304129**	

Mixed Calibration Standards

Matrix	Contents	Volume	Part No.
Mixed Calibration Standard			
2% HNO_3	50 mg/L: As, K 10 mg/L: La, Li, Mn, Ni, Sr, Zn 1 mg/L: Ba, Mg	500 mL	**N0691579**
Mixed Calibration Standard 1			
2% HNO_3	500 mg/L: Pb 200 mg/L: Se 150 mg/L: Cd, Zn 100 mg/L: Mn 50 mg/L: Be	125 mL	**N9300200**
Mixed Calibration Standard 2			
5% HNO_3	10,000 mg/L: Fe 100 mg/L: Ba, Co, Cu, V	125 mL	**N9300201**
Mixed Calibration Standard 3			
2% HNO_3 /tr HF	500 mg/L: As 100 mg/L: Mo, Si	125 mL	**N9300202**
Mixed Calibration Standard 4			
5% HNO_3	1,000 mg/L: Ca 400 mg/L: K 200 mg/L: Al, Na 20 mg/L: Cr, Ni	125 mL	**N9300203**
Mixed Calibration Standard 5			
5% HNO_3 /tr Tartaric Acid/tr HF	1,000 mg/L: Mg 200 mg/L: Sb, Tl 100 mg/L: B 50 mg/L: Ag	125 mL	**N9300204**

Initial Calibration Verification Standards

Matrix	Contents	Volume	Part No.
5% HNO_3	500 mg/L: Ca, K, Mg, Na 200 mg/L: Al, Ba 100 mg/L: Fe 60 mg/L: Sb 50 mg/L: Co, V 40 mg/L: Ni 25 mg/L: Cu 20 mg/L: Zn 15 mg/L: Mn 10 mg/L: Ag, As, Cr, Tl 5 mg/L: Cd, Se 3 mg/L: Pb	500 mL	**N9300224**
5% HNO_3	Initial Calibration Verification Standard	125 mL	**N9303953**

Quality Control Standards

Matrix	Contents	Volume	Part No.
Quality Control Standard, 21 Elements Pure (Pure XVI)			
5% HNO_3 /tr Tartaric Acid/tr HF	100 mg/L: As, Be, Ca, Cd, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sr, Ti, Tl, V, Zn	125 mL	**N9300281**
Quality Control Standard, 21 Elements Pure Plus			
5% HNO_3 /tr Tartaric Acid/tr HF	100 mg/L: As, Be, Ca, Cd, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sr, Ti, Tl, V, Zn	125 mL	**N9303837**
Quality Control Standard, 7A Elements			
5% HNO_3 /tr HF	1,000 mg/L: K 500 mg/L: Si 100 mg/L: Al, B, Ba, Na 50 mg/L: Ag	125 mL	**N9300280**

Instrument Calibration Standards for CLP

Matrix	Contents	Volume	Part No.
Instrument Calibration Standard 1			
5% HNO_3	5,000 mg/L: Ca, K, Mg, Na	125 mL	**N9300218**
Instrument Calibration Standard 2			
5% HNO_3	400 mg/L: Ni 200 mg/L: Zn 150 mg/L: Mn 100 mg/L: Ag, Cr	125 mL	**N9300219**
Instrument Calibration Standard 3			
5% HNO_3	2,000 mg/L: Al, Ba 1,000 mg/L: Fe 500 mg/L: Co, V 250 mg/L: Cu 50 mg/L: Be	125 mL	**N9300220**
Instrument Calibration Standard 4			
5% HNO_3	100 mg/L: As, Tl 50 mg/L: Cd, Se 30 mg/L: Pb	125 mL	**N9300221**

Matrix Blanks

Matrix	Volume	Part No.
Water Blank		
ASTM® Type I Water, 18 megohm	125 mL	**N9303814**
ASTM® Type I Water, 18 megohm	250 mL	**N9303813**
Hydrochloric Acid Blank		
2% HCl in ASTM® Type I Water	125 mL	**N9303815**
2% Nitric Acid Blank		
2% HNO_3 in ASTM® Type I Water	125 mL	**N0773120**
2% HNO_3 in ASTM® Type I Water	500 mL	**N9308550**
1% Nitric Acid Blank		
1% HNO_3 in ASTM® Type I Water	125 mL	**N9303732**

GFAAS Mixed Standard

Matrix	Contents	Volume	Part No.
5% HNO_3 w/trace of HF	100 mg/L: Al, As, Pb, Sb, Se, Tl 50 mg/L: Ba, Co, Cu, Ni 20 mg/L: Cr, Fe, Mn 10 mg/L: Ag 5 mg/L: Be, Cd	125 mL	**N9300244**

AA Test Mix

Matrix	Contents	Volume	Part No.
2% HCl	50 mg/L: Ca, Cr, Cu, Fe, Ni 20 mg/L: K 10 mg/L: Na, Zn	125 mL	**02900540**

Contract Required Detection Limits (CRDL)

Matrix	Contents	Volume	Part No.
5% HNO_3 /tr Tartaric Acid/tr HF	120 mg/L: Sb 100 mg/L: Co, V 80 mg/L: Ni 50 mg/L: Cu 40 mg/L: Zn 30 mg/L: Mn 20 mg/L: Ag, As, Cr, Tl 10 mg/L: Be, Cd, Se 6 mg/L: Pb	125 mL	**N9300225**

Matrix Modifiers for Graphite Furnace AA

Matrix	Contents	Volume	Part No.
$Mg(NO_3)_2$	1% Mg $(HNO_3)_2$ (as nitrate)	100 mL	**B0190634**
Pd	1% Pd (as nitrate)	50 mL	**B0190635**
$NH_4H_2PO_4$	10% $NH_4H_2PO_4$	100 mL	**N9303445**

Reagents

Matrix	Volume	Part No.
Triton® X-100 Wetting Agent	100 mL	**N9300260**
Antifoaming Silicone Emulsion	500 mL	**B0507226**
Glycerol	1 L	**B3141064**

Instrument Check Standards

Matrix	Contents	Volume	Part No.
Instrument Check Standard 1			
2% HNO_3 /tr Tartaric Acid/tr HF	10 mg/L: Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, Sb, Se, Tl, V, Zn	125 mL	**N9303821**
Instrument Check Standard 3			
2% HNO_3	200 mg/L: Ca, Fe, K, Mg, Na	125 mL	**N9303822**
Instrument Check Standard 4			
2% HNO_3	10 mg/L: Mo, Th, U	125 mL	**N9303823**
Instrument Check Standard 5			
2% HNO_3 /tr HF	10 mg/L: Mo, Sn, Sr, Ti	125 mL	**N9303824**

Interference Check Standards

Matrix	Contents	Volume	Part No.
Interference Check Standard 1			
H_2O/tr HNO_3/0.6% Tartaric Acid	1,000 mg/L: Sb	125 mL	**N9300207**
Interference Check Standard 5			
5% HNO_3	6,000 mg/L: Ca 5,000 mg/L: Fe 3,000 mg/L: Mg 1,200 mg/L: Al 1,000 mg/L: Na	125 mL	**N9300208**
Interference Check Standard 18			
5% HNO_3	20,000 mg/L: K 1,000 mg/L: As, Pb, Tl 500 mg/L: Se 300 mg/L: Ag, Ba, Cd, Co, Cr, Cu, Ni, V, Zn 200 mg/L: Mn 100 mg/L: Be, Hg*	125 mL	**N9300205**
Interferents A			
5% HNO_3	5,000 mg/L: Al, Ca, Mg 2,000 mg/L: Fe	500 mL	**N9300226**
Alternate Interferents A			
5% HNO_3	1,000 mg/L: Cr, Cu, Mn, Ni, Ti, V	500 mL	**N9300228**
Analytes B			
5% HNO_3 /trTartaric Acid/tr HF	100 mg/L: Cd, Ni, Zn 60 mg/L: Sb 50 mg/L: Ba, Be, Co, Cr, Cu, Mn, V 20 mg/L: Ag 10 mg/L: As, Tl 5 mg/L: Pb, Se	125 mL	**N9300227**
Alternate Analytes B			
5% HNO_3 /tr Tartaric Acid/tr HF	100 mg/L: Al, As, B, Mo, Na, Sb, Se, Tl 10 mg/L: Ca, Fe, Mg, Si	125 mL	**N9300229**
Interference Check Standards			
H_2O/tr HNO_3/0.6% Tartaric Acid	1,000 mg/L: Sb	500 mL	**N9303797**
Interference Check Solution 1 (for SW-846 & ILM 05.2)			
5% HNO_3 /tr HF	10,000 mg/L: Cl 2,000 mg/L: C 1,000 mg/L: Al, Ca, Fe, K, Mg, Na, P, S 20 mg/L: Mo, Ti	125 mL	**N9303828**
Interference Check Solution 2 (for SW-846)			
2% HNO_3	10 mg/L: Ag, As, Cd, Co, Cr, Cu, Mn, Ni, Zn	125 mL	**N9303830**
Analytes C (for ILM 05.2)			
2% HNO_3 /tr Tartaric Acid/tr HF	2 mg/L: Ag, As, Ba, Be, Cd, Co, Cr, Cu, Hg*, Mn, Ni, Pb, Sb, Se, Tl, V, Zn	125 mL	**N9303831**

*Supplied in separate bottle.

Universal Data Acquisition Standards Kit

Matrix	Contents	Volume	Part No.
Solution Kit (Includes items listed)			**N9306225**
5% HNO_3	10 mg/L: Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sm, Sc, Tb, Th, Tm, Y, Yb	125 mL	**N9300232**
5% HNO_3	10 mg/L: Al, Ag, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cs, Cu, Fe, Ga, In, K, Li, Mg, Mn, Na, Ni, Pb, Rb, Se, Sr, Tl, U, V, Zn	125 mL	**N9300233**
10% HCl /1% HNO_3	10 mg/L: Au, Hf, Ir, Pd, Pt, Rh, Ru, Sb, Sn, Te	125 mL	**N9300234**
5% HNO_3	10 mg/L: Hg	125 mL	**N9300253**
H_2O/tr HF /tr HNO_3	10 mg/L: B, Ge, Mo, Nb, P, Re, S, Si, Ta, Tl, W, Zr	125 mL	**N9300235**

Water Pollutant Standards

Matrix	Contents	Volume	Part No.
Primary Drinking Water Metals			
2% HNO_3	100 mg/L: Ba 10 mg/L: Ag, As, Cr, Hg*, Pb 5 mg/L: Cd, Se	125 mL	**N9300216**
Secondary Drinking Water Metals			
2% HNO_3	500 mg/L: Zn 100 mg/L: Cu 30 mg/L: Fe 5 mg/L: Mn	125 mL	**N9300217**
Trace Metals I			
5% HNO_3	500 mg/L: Al 250 mg/L: V 100 mg/L: As, Be, Co, Cr, Cu, Fe Mn, Ni, Pb, Zn 25 mg/L: Cd, Se 10 mg/L: Hg*	125 mL	**N9300211**
Trace Metals II			
2% HNO_3	20 mg/L: Sb, Tl 10 mg/L: Ag	125 mL	**N9300212**
Trace Metals III			
2% HNO_3	500 mg/L: Ba, Ca, Mo, Na 100 mg/L: K, Mg	125 mL	**N9300213**
Alternate Metals I			
2% HNO_3	20 mg/L: Al, Fe, V 10 mg/L: Co, Cu, Mn, Ni, Zn 5 mg/L: Be, Sb, Tl	125 mL	**N9300214**
Alternate Metals II			
2% HNO_3	500 mg/L: Ca, Na 100 mg/L: K, Mg	125 mL	**N9300215**
2% HNO_3	500 mg/L: Ca, Na 100 mg/L: K, Mg	500 mL	**N9303952**

*Supplied in separate bottle.

Instrument Setup Solutions

Matrix	Contents	Volume	Part No.
Vis Wavecal Solution			
2% HNO_3	50 mg/L: K 10 mg/L: La, Li, Mn, Na, Sr 1 mg/L: Ba, Ca	250 mL	**N9302946**
UV Wavecal Solution			
5% HCl	100 mg/L: K, P, S 20 mg/L: As, La, Li, Mn, Mo, Na, Ni, Sc	250 mL	**N0681470**
5% HCl	100 mg/L: K, P, S 20 mg/L: As, La, Li, Mn, Mo, Na, Ni, Sc 1 mg/L: Ca	500 mL	**N0582152**
Low UV Standard			
2% HNO_3	10 mg/L: Al, P, S	250 mL	**N0691580**
Calcium Stray Light Standard			
H_2O	10,000 mg/L: Ca	125 mL	**N0691581**

Spike Sample Analysis

Matrix	Contents	Volume	Part No.
Spike Sample Standard I			
5% HNO_3 /tr Tartaric Acid/tr HF	200 mg/L: Al, As, Ba, Se, Tl 100 mg/L: Fe 50 mg/L: Co, Mn, Ni, Pb, Sb, V, Zn 25 mg/L: Cu 20 mg/L: Cr 5 mg/L: Ag, Be, Cd	125 mL	**N9300230**
Spike Sample Standard I (water)			
5% HNO_3 /tr Tartaric Acid/tr HF	500 mg/L: Fe 250 mg/L: Ba, Zn 100 mg/L: Co, Cr, Cu, Mn, Ni, Sb, V 50 mg/L: As, Pb 25 mg/L: Ag, Be, Cd, Se, Tl	125 mL	**N9303839**
Spike Sample Standard 2 (soil)			
5% HNO_3 /tr Tartaric Acid/tr HF	250 mg/L: Ba, Cr, Cu, Zn 150 mg/L: V 125 mg/L: Ni 100 mg/L: Co, Pb, Sb 50 mg/L: As, Cd 25 mg/L: Ag, Be, Se, Tl	125 mL	**N9303840**
Spike Sample Standard 3 (for ILM 05.2)			
5% HNO_3 /tr Tartaric Acid/tr HF	200 mg/L: Al, Ba 50 mg/L: Co, Mn, Ni, V, Zn 25 mg/L: Cu 20 mg/L: Cr 10 mg/L: Sb 5 mg/L: Ag, Be, Cd, Tl 4 mg/L: As 2 mg/L: Pb 1 mg/L: Se	125 mL	**N9303841**

Internal Standard Solutions

Matrix	Contents	Volume	Part No.
Multi-Element Internal Standard			
2% HNO_3	10 mg/L: Bi, Ho, In, ^{6}Li, Sc, Tb, Y	125 mL	**N9303834**
Internal Standard Mix			
5-10% HNO_3	10 mg/L: Bi, Ge, In, ^{6}Li, Sc, Tb, Y	125 mL	**N9303832**
Internal Standard Mix			
5-10% HNO_3	10 mg/L: Bi, Ge, In, ^{6}Li, Sc, Tb, Y	500 mL	**N9303833**

Isotope Standard

Matrix	Contents	Volume	Part No.
Lithium 6 Standard			
2% HNO_3	100 mg/L: ^{6}Li	125 mL	**N9303955**

Wash Standards

Matrix	Volume	Part No.
ELAN DRC Wash Solution		
0.5% HNO_3	250 mL	**N8125033**
ELAN 9000/6X00/DRC-e Wash Solution		
1% HNO_3	1,000 mL	**N8122038**
NexION Wash Solution		
1% HNO_3	250 mL	**N8145050**
Water Blank		
ASTM® Type I Water, 18 megohm	125 mL	**N9303814**

Multi-Element Standards

Matrix	Contents	Volume	Part No.
Multi-Element Solution			
5% HNO_3	1,000 mg/L: Al, Ca, Fe, Mg	500 mL	**N9307113**
Multi-Element Solution			
5% HNO_3	1,000 mg/L: K, Na, P	500 mL	**N9307114**
Multi-Element Solution			
2-5% HNO_3	1,000 mg/L: Mo, Sb, Sn, W, Zr	500 mL	**N9307115**
Multi-Element Solution			
5% HNO_3	1,000 mg/L: As, Ba, Be, Cd, Cr, Co, Cu, La, Pb, Li, Mn, Ni, Sc, Sr, V, Y, Zn	500 mL	**N9307116**
Multi-Element Solution 1			
2% HNO_3	10 mg/L: Be, Bi, Ce, Co, In, Mg, Ni, Pb, U	125 mL	**N9300231**
Multi-Element Solution 2			
5% HNO_3	10 mg/L: Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sc, Sm, Tb, Th, Tm, Y, Yb	125 mL	**N9300232**
Multi-Element Solution 3			
5% HNO_3	10 mg/L: Ag, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cs, Cu, Fe, Ga, Hg*, In, K, Li, Mg, Mn, Na, Ni, Pb, Rb, Se, Sr, Tl, U, V, Zn	125 mL	**N9300233**
Multi-Element Solution 3 without Mercury			**N9301720**

Matrix	Contents	Volume	Part No.
Multi-Element Solution 4			
10% HCl/1% HNO_3	10 mg/L: Au, Hf, Ir, Pd, Pt, Rh, Ru, Sb, Sn, Te	125 mL	**N9300234**
Multi-Element Solution 5			
H_2O/tr HF/tr HNO_3	10 mg/L: B, Ge, Mo, Nb, P, Re, S, Si, Ta, Ti, W, Zr	125 mL	**N9300235**
Set of Multi-Element Solutions Includes: (1 bottle of each)			**N9300236**
Multi-Element Solution 2		125 mL	**N9300232**
Multi-Element Solution 3		125 mL	**N9300233**
Multi-Element Solution 4		125 mL	**N9300234**
Multi-Element Solution 5		125 mL	**N9300235**
Water Blank		125 mL	**N9303814**
Hydrochloric Acid Blank		125 mL	**N9303815**
2% Nitric Acid Blank		125 mL	**N0773120**
PerkinElmer Pure I			
5% HNO_3	400 mg/L: Tl 200 mg/L: Bi, In, Pb 150 mg/L: Ga 100 mg/L: Al 50 mg/L: Ag, Ni 25 mg/L: Cr 20 mg/L: Cd, Co, Cu, Zn 15 mg/L: B, Fe 5 mg/L: Ba, Mn 1 mg/L: Be, Sr	125 mL	**N9303940**
PerkinElmer Pure IV (Quality Control Standard 23)			
10% HNO_3	1,000 mg/L: Ag, Al, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, In, K, Li, Mg, Mn, Na, Ni, Pb, Sr, Tl, Zn	125 mL	**N9303941**
PerkinElmer Pure VIII			
5% HNO_3	100 mg/L: Al, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, K, Li, Mg, Mn, Na, Ni, Pb, Se, Sr, Te, Tl, Zn	125 mL	**N9303942**
PerkinElmer Pure IX			
5% HNO_3	100 mg/L: As, Be, Pb, Cd	125 mL	**N9303943**
PerkinElmer Pure X			
2% HNO_3	35,000 ug/L: Ca 15,000 ug/L: Mg 8,000 ug/L: Na 3,000 ug/L: K 100 ug/L: B, Fe, Mo, Sr 50 ug/L: As, Ba, Ni, V, Zn 30 ug/L: Mn 25 ug/L: Co, Pb 20 ug/L: Be, Cd, Cr, Cu 10 ug/L: Bi, Se, Tl	125 mL	**N9303944**
8 mg/L Mercury in 5% HNO_3			
5% HNO_3	8 mg/L: Hg	125 mL	**N9303954**
PerkinElmer Pure XI			
5% HNO_3	2,500 mg/L: Zn 900 mg/L: Cr, Pb 800 mg/L: Cu 200 mg/L: Ni 10 mg/L: Cd	125 mL	**N9303945**

Multi-Element Standards

Matrix	Contents	Volume	Part No.
5 mg/L Mercury in 5% HNO_3			
5% HNO_3	5 mg/L: Hg in 5% HNO_3	125 mL	**N9303949**
PerkinElmer Pure XIII			
5% HNO_3	500 mg/L: Al 250 mg/L: V 100 mg/L: As, Be, Co, Cr, Cu, Fe, Mn, Ni, Pb, Zn 25 mg/L: Cd, Se	125 mL	**N9303946**
PerkinElmer Pure XVI (Quality Control Standard, 21 Elements)			
5% HNO_3 /tr Tartaric Acid/tr HF	100 mg/L: As, Be, Ca, Cd, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sr, Ti, Tl, V, Zn	125 mL	**N9300281**
PerkinElmer Pure XVII			
15% HCl /trace HF	100 mg/L: Hf, Ir, Sb, Sn, Ta, Tl, Zr	125 mL	**N9303948**

*Supplied in separate bottle.

Instrument Calibration Standards

Matrix	Contents	Volume	Part No.
Instrument Calibration Standard 1			
5% HNO_3/tr Tartaric Acid	20 mg/L: Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Th, Tl, U, V, Zn	125 mL	**N9303816**
Instrument Calibration Standard 2			
5% HNO_3 /tr Tartaric Acid/tr HF	100 mg/L: Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn	125 mL	**N9301721**
Instrument Calibration Standard 3			
5% HNO_3	1,000 mg/L: Ca, Fe, K, Mg, Na	125 mL	**N9303818**
Initial Calibration Verification Standard 1			
5% HNO_3/tr Tartaric Acid	1,000 mg/L: Ca, Fe, K, Mg, Na, Sr 10 mg/L: Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn, Th, U	125 mL	**N9303825**
Initial Calibration Verification Standard 2			
2% HNO_3 /tr HF	10 mg/L: Sn, Ti	125 mL	**N9303826**
Elan 6100 DRC Setup/Stab/Masscal Solution			
0.5% HNO_3	10 µg/L: Ba 1 µg/L: Al, Cd, Ce, Cr, Cu, In, Pb, Mg, Mn, Rh, Th	1,000 mL	**N8125035**
Elan DRC/DRCplus/DRC II Solution Kit Includes: (items listed below)			**N8120541**
	2 x 1,000 mL: Setup/Stability/Masscal Solution		**N8125035**
	2 x 250 mL: Wash Solution		**N8125033**
	1 x 250 mL: Sensitivity/Detection Limit Solution		**N8125034**
	1 x 125 mL: Methanol Blank Solution		**N8125037**
	1 x 125 mL: Chromium in Methanol Solution		**N8125038**

Matrix	Contents	Volume	Part No.
Elan 9000/6100 Solution Kit Includes: (items listed below)			**N8120522**
	2 x 1,000 mL: Setup/Stability/Masscal Solution		**N8125030**
	1 x 125 mL: Dual-Detector Calibration Solution		**N8125010**
	1 x 1000 mL: Wash Solution		**N8122038**
	1 x 250 mL: Detection Limit Solution		**N8125031**
Elan 9000/6100 Setup/Stability/Masscal Solution			
1% HNO_3	10 µg/L: Ba, Cd, Ce, Cu, In, Pb, Mg, Rh, U	1,000 mL	**N8125030**
Elan 6000/5000 Plasma Setup Solution			
2% HNO_3	10 µg/L: Ba, Cd, Ce, Cu, Ge, Pb, Mg, Rh, Sc, Tb, Tl	1,000 mL	**N8122014**
Elan 5000 Detection Limit Solution			
2% HNO_3	10 µg/L: Be, Co, Ge, In, Tl, U	100 mL	**N8122017**

SmartTune Standards

Matrix	Contents	Volume	Part No.
SmartTune Solution for Standard ELANs/DRC-e			
1% HNO_3	10 µg/L: Ba, Be, Ce, Co, In, Pb, Mg, Rh, U	1,000 mL	**N8125040**
SmartTune Solution for DRC/DRCplus/DRC II			
0.5% HNO_3	10 µg/L: Ba 1 µg/L: Be, Ce, Co, In, Fe, Pb, Mg, Th, U	1,000 mL	**N8125041**
Tuning Solution 1			
2% HNO_3 /5% HCl	10 mg/L: Ba, Be, Ce, Co, In, Li, Mg, Pb, Rh, Tl, U, Y	125 mL	**N9303843**
NexION Setup Solution			
1% HNO_3	1 µg/L: Be, Ce, Fe, In, Li, Mg, Pb, U	500 mL	**N8145051**

Environmental Method Sets

Matrix	Contents	Volume	Part No.
Environmental Standard Kit for non-DRC/ Standard ICP-MS Instruments Includes: (1 bottle of each)			**N9307111**
	1,000 mg/L: Ca, K, Mg, Na	125 mL	**N9307805**
	1,000 mg/L: Al, Fe	125 mL	**N9307806**
	100 mg/L: Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn	125 mL	**N9301721**
	100 mg/L: B, Th, U	125 mL	**N9307807**
	10 mg/L: Hg	125 mL	**N9300253**
	Internal Standard Mix 50 mg/L: Sc 20 mg/L: Ge 10 mg/L: In, Ir, 6Li, Rh, Tb, Y	125 mL	**N9307808**

Environmental Method Sets

Matrix	Contents	Volume	Part No.
Environmental Standard Kit for DRC Instruments Includes: (1 bottle of each)			**N9307112**
	1,000 mg/L: Ca, K, Mg, Na	125 mL	**N9307805**
	1,000 mg/L: Al, Fe	125 mL	**N9307806**
	100 mg/L: Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn	125 mL	**N9301721**
	100 mg/L: B, Th, U	125 mL	**N9307807**
	10 mg/L: Hg	125 mL	**N9300253**
	Internal Standard Mix 200 mg/L: Sc 20 mg/L: Ga 10 mg/L: In, Ir, Rh, Tm	125 mL	**N9307738**
Contract Lab Program Modification Set Includes: (1 bottle of each)			**N9307103**
2% HNO_3 /5% HCl	10 mg/L: Ba, Be, Ce, Co, In, Li, Mg, Pb, Rh, Tl, U, Y	125 mL	**N9303843**
2% HNO_3/tr Tartaric Acid	20 mg/L: Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Th, Tl, U, V, Zn	125 mL	**N9303816**
5% HNO_3 /tr Tartaric Acid/tr HF	100 mg/L: Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn	125 mL	**N9301721**
5% HNO_3/tr Tartaric Acid	500 mg/L: Ca, K, Mg, Na 20 mg/L: Al, Ba 10 mg/L: Fe 6 mg/L: Sb 5 mg/L: Co, V 4 mg/L: Ni 2.5 mg/L: Cu 2 mg/L: Zn 1.5 mg/L: Mn 1 mg/L: Ag, As, Cr, Tl 0.5 mg/L: Be, Cd, Se 0.3 mg/L: Pb	125 mL	**N9303819**
2% HNO_3 /tr Tartaric Acid/tr HF	10 mg/L: Ag, Al, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, Sb, Se, Tl, V, Zn	125 mL	**N9303821**
5% HNO_3	10 mg/L: Hg	125 mL	**N9300253**
2% HNO_3	200 mg/L: Ca, Fe, K, Mg, Na	125 mL	**N9303822**
2% HNO_3	10 mg/L: Mo, Th, U	125 mL	**N9303823**
2% HNO_3 /tr HF	10 mg/L: Mo, Sn, Sr, Ti	125 mL	**N9303824**
5% HNO_3 /tr HF	21,215 mg/L: Cl 3,000 mg/L: Ca 2,500 mg/L: Fe, Na 2,000 mg/L: C 1,000 mg/L: Al, K, Mg, P, S 20 mg/L: Mo, Ti	125 mL	**N9303827**
2% HNO_3	20 mg/L: Co, Cr, Cu, Mn, Ni, V 10 mg/L: As, Cd, Se, Zn 5 mg/L: Ag	125 mL	**N9303829**
5% HNO_3 /tr Tartaric Acid/tr HF	500 mg/L: Fe 250 mg/L: Ba, Zn 100 mg/L: Co, Cr, Cu, Mn, Ni, Sb, V 50 mg/L: As, Pb 25 mg/L: Ag, Be, Cd, Se, Tl	125 mL	**N9303839**
5% HNO_3 /tr Tartaric Acid/tr HF	250 mg/L: Ba, Cr, Cu, Zn 150 mg/L: V 125 mg/L: Ni 100 mg/L: Co, Pb, Sb 50 mg/L: As, Cd 25 mg/L: Ag, Be, Se, Tl	125 mL	**N9303840**
5% HNO_3	1,000 mg/L: Al, Ca, Fe, K, Mg, Na 20 mg/L: Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Ni, Pb, Se, Tl, V, Zn	125 mL	**N9303835**
H_2O/tr HF	7,200 mg/L: Cl 2,000 mg/L: C 1,000 mg/L: P, S 20 mg/L: Mo, Sb, Ti	125 mL	**N9303836**
Calibration Standards Set for Method 6010 Includes: (1 bottle of each)			**N9307104**
5% HNO_3	5,000 mg/L: Ca, K, Mg, Na	125 mL	**N9300218**
5% HNO_3	400 mg/L: Ni 200 mg/L: Zn 150 mg/L: Mn 100 mg/L: Ag, Cr	125 mL	**N9300219**
5% HNO_3	2,000 mg/L: Al, Ba 1,000 mg/L: Fe 500 mg/L: Co, V 250 mg/L: Cu 50 mg/L: Be	125 mL	**N9300220**
5% HNO_3	100 mg/L: As, Tl 50 mg/L: Cd, Pb, Se	125 mL	**N9300221**
H_2O/tr HF	10 mg/L: B, Ge, Mo, Nb, P, Re, S, Si, Ta, Ti, W, Zr	125 mL	**N9300235**
2% HNO_3	1,000 mg/L: Li	500 mL	**N9300129**
2% HNO_3	1,000 mg/L: Sb	500 mL	**N9300101**
2% HNO_3	1,000 mg/L: Sr	500 mL	**N9300153**
20% HCl	1,000 mg/L: Sn	500 mL	**N9300161**
2% HNO_3	1,000 mg/L: Cr	500 mL	**N9300112**
2% HNO_3	1,000 mg/L: Cu	500 mL	**N9300114**
2% HNO_3	1,000 mg/L: Mn	500 mL	**N9300132**
2% HNO_3	1,000 mg/L: Ni	500 mL	**N9300136**
H_2O/tr HF	1,000 mg/L: Ti	500 mL	**N9300162**
2% HNO_3	1,000 mg/L: V	500 mL	**N9300165**
2% HNO_3	1,000 mg/L: Al	500 mL	**N9300100**
2% HNO_3	1,000 mg/L: Ca	500 mL	**N9300108**
2% HNO_3	1,000 mg/L: Fe	500 mL	**N9300126**
2% HNO_3	1,000 mg/L: Mg	500 mL	**N9300131**
Internal Standard Set for Method 6010 & 200.7 Includes: (1 bottle of each)			**N9307105**
2% HNO_3	1,000 mg/L: Y	500 mL	**N9300167**
2% HNO_3	1,000 mg/L: Sc	500 mL	**N9300148**
Interference Solutions for Method 6010 Includes: (1 bottle of each)			**N9307106**
2% HNO_3	1,000 mg/L: Al	125 mL	**N9300184**
2% HNO_3	1,000 mg/L: Ca	500 mL	**N9300108**
2% HNO_3	1,000 mg/L: Mg	125 mL	**N9300179**
2% HNO_3	1,000 mg/L: Fe	500 mL	**N9300126**

Environmental Method Sets

Matrix	Contents	Volume	Part No.
2% HNO_3	1,000 mg/L: K	500 mL	**N9300141**
2% HNO_3	1,000 mg/L: Na	500 mL	**N9300152**
2% HNO_3	1,000 mg/L: Cr	500 mL	**N9300112**
2% HNO_3	1,000 mg/L: Cu	500 mL	**N9300114**
2% HNO_3	1,000 mg/L: Mn	500 mL	**N9300132**
2% HNO_3	1,000 mg/L: Ni	500 mL	**N9300136**
H_2O/tr HF	1,000 mg/L: Ti	500 mL	**N9300162**
2% HNO_3	1,000 mg/L: V	500 mL	**N9300165**
5% HNO_3	5,000 mg/L: Al, Ca, Mg 2,000 mg/L: Fe	500 mL	**N9300226**
5% HNO_3 /tr Tart-HF	100 mg/L: Cd, Ni, Zn 60 mg/L: Sb 50 mg/L: Ba, Be, Co, Cr, Cu, Mn, V 20 mg/L: Ag 10 mg/L: As, Tl 5 mg/L: Pb, Se	125 mL	**N9300227**
5% HNO_3	1,000 mg/L: Cr, Cu, Mn, Ni, Ti, V	500 mL	**N9300228**
5% HNO_3 /tr Tartaric Acid/tr HF	100 mg/L: Al, As, B, Mo, Na, Sb, Se, Tl 10 mg/L: Ca, Fe, Mg, Si	125 mL	**N9300229**
Calibration Standards for Method 200.7 Includes: (1 bottle of each)			**N9307107**
5% HNO3	5,000 mg/L: Ca, K, Mg, Na	125 mL	**N9300218**
5% HNO_3	400 mg/L: Ni 200 mg/L: Zn 150 mg/L: Mn 100 mg/L: Ag, Cr	125 mL	**N9300219**
5% HNO_3	2,000 mg/L: Al, Ba 1,000 mg/L: Fe 500 mg/L: Co, V 250 mg/L: Cu 50 mg/L: Be	125 mL	**N9300220**
5% HNO_3	100 mg/L: As, Tl 50 mg/L: Cd, Pb, Se	125 mL	**N9300221**
H_2O/tr HF	10 mg/L: B, Ge, Mo, Nb, P, Re, S, Si, Ta, Ti, W, Zr	125 mL	**N9300235**
2% HNO_3	1,000 mg/L: Li	500 mL	**N9300129**
2% HNO_3	1,000 mg/L: Sb	500 mL	**N9300101**
2% HNO_3	1,000 mg/L: Sr	500 mL	**N9300153**
20% HCl	1,000 mg/L: Sn	500 mL	**N9300161**
Interference Solutions for Method 200.7 Includes: (1 bottle of each)			**N9307108**
2% HNO_3	1,000 mg/L: Al	125 mL	**N9300184**
2% HNO_3	1,000 mg/L: Ca	500 mL	**N9300108**
2% HNO_3	1,000 mg/L: Mg	125 mL	**N9300179**
2% HNO_3	1,000 mg/L: Fe	500 mL	**N9300126**
2% HNO_3	1,000 mg/L: K	500 mL	**N9300141**
2% HNO_3	1,000 mg/L: Na	500 mL	**N9300152**
5% HNO_3	5,000 mg/L: Al, Ca, Mg 2,000 mg/L: Fe	500 mL	**N9300226**
5% HNO_3/tr Tart-HF	100 mg/L: Cd, Ni, Zn 60 mg/L: Sb 50 mg/L: Ba, Be, Co, Cr, Cu, Mn, V 20 mg/L: Ag 10 mg/L: As, Tl 5 mg/L: Pb, Se	125 mL	**N9300227**
Environmental EPA Set 1 Includes: (1 bottle of each)			**N9307110**
2% HNO_3	500 mg/L: Pb 200 mg/L: Se 150 mg/L: Cd, Zn 100 mg/L: Mn 50 mg/L: Be	125 mL	**N9300200**
5% HNO_3	10,000 mg/L: Fe 100 mg/L: Ba, Co, Cu, V	125 mL	**N9300201**
2% HNO_3/ tr HF	500 mg/L: As 100 mg/mL: Mo, Si	125 mL	**N9300202**
5% HNO_3	1,000 mg/L: Ca 400 mg/L: K 200 mg/L: Al, Na 20 mg/L: Cr, Ni	125 mL	**N9300203**
5% HNO_3/ tr Tart-HF	1,000 mg/L: Mg 200 mg/L: Sb, Tl 100 mg/L: B 50 mg/L: Ag	125 mL	**N9300204**
5% HNO_3	20,000 mg/L: K 1,000 mg/L: As, Pb, Tl 500 mg/L: Se 300 mg/L: Ag, Ba, Cd, Co, Cr, Cu, Ni, V, Zn 200 mg/L: Mn 100 mg/L: Be	125 mL	**N9300205**
5% HNO_3	100 mg/L: Hg	125 mL	**N9300223**
5% HNO_3	6,000 mg/L: Ca 5,000 mg/L: Fe 3,000 mg/L: Mg 1,200 mg/L: Al 1,000 mg/L: Na	125 mL	**N9300208**
H_2O/tr HNO_3 /0.6% Tartaric Acid	1,000 mg/L: Sb	125 mL	**N9300207**
5% HNO_3	ASTM® Type I Water	500 mL	
5% HCl	ASTM® Type I Water	500 mL	
Environmental EPA Set 2 Includes: (1 bottle of each)			**N9307109**
2% HNO_3	500 mg/L: Pb 200 mg/L: Se 150 mg/L: Cd, Zn 100 mg/L: Mn 50 mg/L: Be	125 mL	**N9300200**
5% HNO_3	10,000 mg/L: Fe 100 mg/L: Ba, Co, Cu, V	125 mL	**N9300201**
2% HNO_3 /tr HF	500 mg/L: As 100 mg/L: Mo, Si	125 mL	**N9300202**
5% HNO_3	1,000 mg/L: Ca 400 mg/L: K 200 mg/L: Al, Na 20 mg/L: Cr, Ni	125 mL	**N9300203**
5% HNO_3 /tr Tart-HF	1,000 mg/L Mg 200 mg/L: Sb, Tl 100 mg/L: B 50 mg/L: Ag	125 mL	**N9300204**

Environmental Method Sets

Matrix	Contents	Volume	Part No.
5% HNO_3	20,000 mg/L: K 1,000 mg/L: As, Pb, Tl 500 mg/L: Se 300 mg/L: Ag, Ba, Cd, Co, Cr, Cu, Ni, V, Zn 200 mg/L: Mn 100 mg/L: Be	125 mL	**N9300205**
5% HNO_3	6,000 mg/L: Ca 5,000 mg/L: Fe 3,000 mg/L: Mg 1,200 mg/L: Al 1,000 mg/L Na	125 mL	**N9300208**
H_2O/tr HNO_3 /0.6% Tartaric Acid	1,000 mg/L: Sb	125 mL	**N9300207**
5% HNO_3	ASTM® Type I Water	500 mL	
5% HCl	ASTM® Type I Water	500 mL	

Toxicity Characteristic Leachate Procedure (TCLP) Standard

Matrix	Contents	Volume	Part No.
TCLP Standard 1			
2% HNO_3	500 mg/L: Ba 25 mg/L: Ag, As, Cr, Pb 100 mg/L: Hg* 5 mg/L: Cd, Se	500 mL	**N9300241**

*Supplied in separate bottle.

Performance Verification Standards

Matrix	Contents	Volume	Part No.
Methanol Blank Solution			
1% Semiconductor Grade		125 mL	**N8125037**
Chromium in Methanol Solution			
1% Semiconductor Grade Methanol	10 mg/L: Cr	125 mL	**N8125038**
Selenium Solution			
5% HNO_3	10 mg/L: Se	250 mL	**N8125039**
NexION 300Q Solution Kit – Non-Cell Includes: (items listed below)			**N8140503**
1 x 250 mL NexION Wash Solution			**N8145050**
1 X 500 mL NexION Setup Solution			**N8145051**
1 X 500 mL NexION 300Q Non-cell Stability Solution			**N8145053**
1 X 100 mL NexION Standard/DRC Mode Detection Limit Blank Solution			**N8145055**
1 x 100 mL NexION Dual Detector Mode Detection Limit Solution			**N8145056**
1 x 100 mL NexION Dual Detector Solution			**N8145059**
NexION 300 X/D/S Solution Kit – Cell Instruments Includes: (items listed below)			**N8140504**
1 x 250 mL NexION Wash Solution			**N8145050**
1 X 500 mL NexION Setup Solution			**N8145051**
1 x 250 mL NexION KED Setup Solution			**N8145052**
1 x 500 mL NexION 300X/D/S Cell Stability Solution			**N8145054**
NexION Standard/DRC Mode Detection Limit Blank Solution		100 mL	**N8145055**
NexION Standard/DRC Mode Detection Limit Solution		100 mL	**N8145056**
NexION KED Mode Detection Limit Blank Solution		100 mL	**N8145057**
NexION KED Mode Detection Limit Solution		100 mL	**N8145058**
NexION Dual Detector Solution		100 mL	**N8145059**
NexION Setup Solution			
1% HNO_3	1 µg/L: Be, Ce, Fe, In, Li, Mg, Pb, U	500 mL	**N8145051**
NexION KED Setup Solution			
1% HCl	10 µg/L: Co 1 µg/L: Ce	250 mL	**N8145052**
NexION 300Q Non-cell Stability Solution			
1% HNO_3	1 µg/L: Cd, Cu, Mg, Pb	500 mL	**N8145053**
NexION 300X/D/S Cell Stability Solution			
1% HNO_3	10 µg/L: Co, Cu, Se 1 µg/L: Cd, Cr, Fe, In, Mg, Pb	500 mL	**N8145054**
NexION Standard/DRC Mode Detection Limit Blank Solution			
0.5% HNO_3		100 mL	**N8145055**
NexION Standard/DRC Mode Detection Limit Solution			
0.5% HNO_3	1 µg/L: Be, Ca, Co, Fe, In, U	100 mL	**N8145056**
NexION KED Mode Detection Limit Blank Solution			
1% HCl		100 mL	**N8145057**
NexION KED Mode Detection Limit Solution			
1% HCl	10 µg/L: V, As, Se	100 mL	**N8145058**
NexION Dual Detector Solution			
2% HNO_3	50 µg/L: Al, Ba, Ce, Co, In, Li, Mg, Mn, Ni, Pb, Tb, U, Zn	100 mL	**N8145059**
NexION AFT Single-Element Solution			
2% HNO_3	2 µg/L: Fe	100 mL	**N8145060**
NexION AFT Multi-Element Solution			
2% HNO_3	2 µg/L: Ag, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cs, Cu, Fe, Ga, In, K, Li, Mg, Mn, Na, Ni, Pb, Rb, Se, Sr, Tl, U, V, Zn	100 mL	**N8145061**

USP Elemental Impurities Kit

Matrix	Contents	Volume	Part No.
Includes: 1 Bottle Each			**N9303957**
Solution 1 5% HNO3	2,500 mg/kg: Cu, Mn 250 mg/kg: Cr, Mo, Ni, V 15 mg/kg: As, Hg 10 mg/kg: Pb 5 mg/kg: Cd	125 mL	
Solution 2 15% HCl	100 mg/kg: Ir, Os, Pd, Pt, Rh, Ru	125 mL	

Wear Metal Metallo-Organic Standards

Features and Benefits

- Metallo-organic metals in hydrocarbon oil
- Accuracy ensured by Quality Testing with NIST® Standard Reference Materials when available
- Certificate of Analysis supplied with each standard

Single-Element, Metallo-Organic Standards

Matrix: Hydrocarbon Oil

Element Name	Symbol	Size	Part No.
Aluminum 1000 µg/g	Al	50 g	**N9308200**
Antimony 1000 µg/g	Sb	50 g	**N9308201**
Arsenic 1000 µg/g	As	50 g	**N9308202**
Barium 1000 µg/g	Ba	50 g	**N9308203**
Beryllium 1000 µg/g	Be	50 g	**N9308204**
Bismuth 1000 µg/g	Bi	50 g	**N9308205**
Boron 1000 µg/g	B	50 g	**N9308206**
Cadmium 1000 µg/g	Cd	50 g	**N9308207**
Calcium 1000 µg/g	Ca	50 g	**N9308208**
Calcium 5000 µg/g	Ca	50 g	**N9308322**
Chromium 1000 µg/g	Cr	50 g	**N9308209**
Cobalt 1000 µg/g	Co	50 g	**N9308210**
Copper 1000 µg/g	Cu	50 g	**N9308211**
Iron 1000 µg/g	Fe	50 g	**N9308212**
Lanthanum 1000 µg/g	La	50 g	**N9308213**
Lead 1000 µg/g	Pb	50 g	**N9308214**
Lithium 1000 µg/g	Li	50 g	**N9308215**
Magnesium 1000 µg/g	Mg	50 g	**N9308216**
Manganese 1000 µg/g	Mn	50 g	**N9308217**
Mercury 1000 µg/g	Hg	50 g	**N9308218**
Molybdenum 1000 µg/g	Mo	50 g	**N9308219**
Nickel 1000 µg/g	Ni	50 g	**N9308220**
Phosphorus 1000 µg/g	P	50 g	**N9308221**
Potassium 1000 µg/g	K	50 g	**N9308222**
Scandium 1000 µg/g	Sc	10 g	**N9308255**
Scandium 1000 µg/g	Sc	50 g	**N9308223**
Selenium 1000 ug/g	Se	50 g	**N9308224**
Silicon 1000 µg/g	Si	50 g	**N9308225**
Silver 1000 µg/g	Ag	50 g	**N9308226**
Sodium 1000 µg/g	Na	50 g	**N9308227**
Strontium 1000 µg/g	Sr	50 g	**N9308228**
Sulfur 10 µg/g	S	50 g	**N9308229**
Sulfur 100 µg/g	S	50 g	**N9308230**
Sulfur 1000 µg/g	S	50 g	**N9308231**
Thallium 1000 µg/g	Tl	50 g	**N9308232**
Tin 1000 µg/g	Sn	50 g	**N9308233**
Titanium 1000 µg/g	Ti	50 g	**N9308234**
Vanadium 1000 µg/g	V	50 g	**N9308235**
Yttrium 1000 µg/g	Y	50 g	**N9308236**
Yttrium 5000 µg/g	Y	50 g	**N9308323**
Zinc 1000 µg/g	Zn	50 g	**N9308237**
Zirconium 1000 µg/g	Zr	50 g	**N9308238**

V-21 Wear Metal Standards

Includes: Al, Ba, B, Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Ni, P, Si, Ag, Na, Sn, Ti, V, Zn

Matrix: Hydrocarbon Oil

Description	Size	Part No.
V-21 Wear Metals Standards 10 µg/g	100 g	**N9308300**
V-21 Wear Metals Standards 10 µg/g	200 g	**N9308301**
V-21 Wear Metals Standards 10 µg/g	400 g	**N9308324**
V-21 Wear Metals Standards 30 µg/g	100 g	**N9308302**
V-21 Wear Metals Standards 30 µg/g	200 g	**N9308303**
V-21 Wear Metals Standards 30 µg/g	400 g	**N9308325**
V-21 Wear Metals Standards 50 µg/g	100 g	**N9308304**
V-21 Wear Metals Standards 50 µg/g	200 g	**N9308305**
V-21 Wear Metals Standards 50 µg/g	400 g	**N9308326**
V-21 Wear Metals Standards 100 µg/g	100 g	**N9308306**
V-21 Wear Metals Standards 100 µg/g	200 g	**N9308307**
V-21 Wear Metals Standards 100 µg/g	400 g	**N9308327**
V-21 Wear Metals Standards 300 µg/g	100 g	**N9308308**
V-21 Wear Metals Standards 300 µg/g	200 g	**N9308309**
V-21 Wear Metals Standards 300 µg/g	400 g	**N9308328**
V-21 Wear Metals Standards 500 µg/g	100 g	**N9308310**
V-21 Wear Metals Standards 500 µg/g	200 g	**N9308311**
V-21 Wear Metals Standards 500 µg/g	400 g	**N9308329**
V-21 Wear Metals Standards 900 µg/g	100 g	**N9308312**
V-21 Wear Metals Standards 900 µg/g	200 g	**N9308313**
V-21 Wear Metals Standards 900 µg/g	400 g	**N9308330**

V-23 Wear Metal Standards

Includes: Ag, Al, B, Ba, Ca, Cd, Cr, Cu, Fe, K, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Si, Sn, Ti, V, Zn

Matrix: Hydrocarbon Oil

Description	Size	Part No.
V-23 Wear Metals Standards 10 µg/g	100 g	**N9308239**
V-23 Wear Metals Standards 10 µg/g	200 g	**N0776109**
V-23 Wear Metals Standards 10 µg/g	400 g	**N9308315**
V-23 Wear Metals Standards 30 µg/g	100 g	**N9308241**
V-23 Wear Metals Standards 30 µg/g	200 g	**N9308242**
V-23 Wear Metals Standards 30 µg/g	400 g	**N9308316**
V-23 Wear Metals Standards 50 µg/g	100 g	**N9308243**
V-23 Wear Metals Standards 50 µg/g	200 g	**N0776104**
V-23 Wear Metals Standards 50 µg/g	400 g	**N9308317**
V-23 Wear Metals Standards 100 µg/g	100 g	**N9308245**
V-23 Wear Metals Standards 100 µg/g	200 g	**N0776105**
V-23 Wear Metals Standards 100 µg/g	400 g	**N9308318**
V-23 Wear Metals Standards 300 µg/g	100 g	**N9308247**
V-23 Wear Metals Standards 300 µg/g	200 g	**N9308248**
V-23 Wear Metals Standards 300 µg/g	400 g	**N9308319**
V-23 Wear Metals Standards 500 µg/g	100 g	**N9308249**
V-23 Wear Metals Standards 500 µg/g	200 g	**N0776106**
V-23 Wear Metals Standards 500 µg/g	400 g	**N9308320**
V-23 Wear Metals Standards 900 µg/g	100 g	**N9308251**
V-23 Wear Metals Standards 900 µg/g	200 g	**N9308252**
V-23 Wear Metals Standards 900 µg/g	400 g	**N9308321**

Internal Standards

Description	Matrix	Size	Part No.
Cobalt (Co) Internal Standard, 6%	Mineral Spirits	200 g	**N0776107**
Cobalt (Co) Internal Standard, 6%	Mineral Spirits	400 g	**N9308334**
Cobalt (Co) Internal Standard, 5000 µg/g	Hydrocarbon Oil	50 g	**N9308258**

Metal Additive Standards

Description	Matrix	Size	Part No.
Metal Additive Standard 4: Ca @ 5000 µg/g; Mg, P, Zn @ 1600 µg/g	Hydrocarbon Oil	100 g	**N9308259**
Metal Additive Standard 4: Ca @ 5000 µg/g; Mg, P, Zn @ 1600 µg/g	Hydrocarbon Oil	200 g	**N0776108**
Metal Additive Standard 4: Ca @ 5000 µg/g; Mg, P, Zn @ 1600 µg/g	Hydrocarbon Oil	400 g	**N9308333**

Matrix Oils and Solvents

Description	Matrix	Volume	Part No.
75 cSt Hydrocarbon Oil	75 cSt Oil	500 mL	**N0776103**
75 cSt Hydrocarbon Oil	75 cSt Oil	1 Gal.	**N9308262**
20 cSt Mineral oil (low sulfur)	20 cSt Mineral Oil	500 mL	**N9308263**
20 cSt Mineral oil (low sulfur)	20 cSt Mineral Oil	½ Gal.	**N9308264**

V-Solv

V-Solv™ ICP Solvent is a proprietary solvent that is used for diluting oil and other organic liquids for analysis by ICP and ICP-MS. Use V-Solv™ as a matrix blank and as a diluent for your calibration standards and samples for outstanding nebulization characteristics.

Description	Matrix	Volume	Part No.
V-Solv™ ICP Solvent	V-Solv™	1 Gal.	**N9308265**

Fuel Dilution Oils

Description	Matrix	Volume	Part No.
Blank for Diesel Fuel Dilution Standards	75 cSt Hydrocarbon Oil	100 mL	**N9308266**
2% (v/v) Devolatilized Diesel Fuel in Hydrocarbon Oil	75 cSt Hydrocarbon Oil	100 mL	**N9308267**
4% (v/v) Devolatilized Diesel Fuel in Hydrocarbon Oil	75 cST Hydrocarbon Oil	100 mL	**N9308297**
5% (v/v) Devolatilized Diesel Fuel in Hydrocarbon Oil	75 cSt Hydrocarbon Oil	100 mL	**N9308268**
10% (v/v) Devolatilized Diesel Fuel in Hydrocarbon Oil	75 cSt Hydrocarbon Oil	100 mL	**N9308269**
Blank for Gas Fuel Dilution Standards	75 cSt Hydrocarbon Oil	100 mL	**N9308270**
2% (v/v) Devolatilized Gasoline in Hydrocarbon Oil	75 cSt Hydrocarbon Oil	100 mL	**N9308271**
5% (v/v) Devolatilized Gasoline in Hydrocarbon Oil	75 cSt Hydrocarbon Oil	100 mL	**N9308272**
10% (v/v) Devolatilized Gasoline in Hydrocarbon Oil	75 cSt Hydrocarbon Oil	100 mL	**N9308273**
Blank	20 cSt Hydrocarbon Oil	100 mL	**N9308274**
Ethylene Glycol & Propylene Glycol – conc. 100 µg/g	20 cSt Hydrocarbon Oil	100 mL	**N9308275**
Ethylene Glycol & Propylene Glycol – conc. 500 µg/g	20 cSt Hydrocarbon Oil	100 mL	**N9308276**
Ethylene Glycol & Propylene Glycol – conc. 1000 µg/g	20 cSt Hydrocarbon Oil	100 mL	**N9308277**

Karl Fischer Standards

Nominal Water Concentration (%)	Matrix	Volume	Part No.
Karl Fischer Water in Oil, Blank	10W30 Motor Oil	100 mL	**N9308278**
Karl Fischer Water in Oil, 0.1%	10W30 Motor Oil	100 mL	**N9308279**
Karl Fischer Water in Oil, 0.5%	10W30 Motor Oil	100 mL	**N9308280**
Karl Fischer Water in Oil, 1.0%	10W30 Motor Oil	100 mL	**N9308281**

Soot Content Standards

Nominal Soot Content Range (%)	Matrix	Volume	Part No.
Nominal Soot Content Range%: Blank	15W40 Diesel Oil	50 mL	**N9308282**
Nominal Soot Content Range%: 0.5-2	15W40 Diesel Oil	50 mL	**N9308283**
Nominal Soot Content Range%: 2-4	15W40 Diesel Oil	50 mL	**N9308284**
Nominal Soot Content Range%: 4-6	15W40 Diesel Oil	50 mL	**N9308285**

Performance Testing Standards

Performance Testing Program

Analyze a sample for up to 23 common elements and report the concentrations in µg/g (ppm). You may enter all elements or only those that you are interested in. Provides an instant response to submitted values, with convenient color-coded pass/fail indications in green (pass), yellow (borderline) and red (fail) formats via a custom-designed, easy-to-use, on-line user interface.

Description	Size	Part No.
PTP Standard	25 g	**N9308314**

Viscosity PTP Test Standard

Designed to provide analytical laboratories with a method of monitoring their analytical performance as measured against Certified Reference Materials (CRM's). Currently, the types of instrumentation included in the program are ICP, viscosity, and particle sizing systems. This Viscosity Standard will have values reportable at 40° C and 100° C.

Description	Size	Part No.
Viscosity PTP Test Standard	50 g	**N9308540**

Biodiesel Standards

Description	Matrix	Volume	Part No.
Biodiesel Blank	B100 Biodiesel	100 mL	**N9308286**
Biodiesel Blank	B100 Biodiesel	500 mL	**N9308287**
Sulfur @ 20 µg/g in Biodiesel	B100 Biodiesel	100 mL	**N9308288**
Metals in Biodiesel - Ca, K, Mg, Na, P @ 20 µg/g	B100 Biodiesel	100 g	**N9308289**
100% #2 Diesel Fuel	#2 Diesel Fuel	20 mL	**N9308290**
2% (v/v) Biodiesel in #2 Diesel Fuel	#2 Diesel Fuel	20 mL	**N9308291**
5% (v/v) Biodiesel in #2 Diesel Fuel	#2 Diesel Fuel	20 mL	**N9308292**
10% (v/v) Biodiesel in #2 Diesel Fuel	#2 Diesel Fuel	20 mL	**N9308293**
15% (v/v) Biodiesel in #2 Diesel Fuel	#2 Diesel Fuel	20 mL	**N9308294**
20% (v/v) Biodiesel in #2 Diesel Fuel	#2 Diesel Fuel	20 mL	**N9308295**
100% (v/v) Biodiesel	B100 Biodiesel	20 mL	**N9308296**

Viscosity Reference Standards

Description	Matrix	Size	Part No.
Viscosity Standard 30	Hydrocarbon Oil	1 Gallon	**N5316025**
Viscosity Standard 110	Hydrocarbon Oil	1 Gallon	**N5316024**
Viscosity Standard 130	Hydrocarbon Oil	1 Gallon	**N5316026**

CLEAN, RELIABLE, TEMPERATURE CONTROLLED FLUID

POLYSCIENCE® WHISPERCOOL™ REFRIGERATED CHILLER

The PolyScience® WhisperCool™ Refrigerated Chiller is designed to deliver quiet and reliable performance over a broad range of operating temperatures and conditions. Extremely dependable and energy efficient, it features a -10 to 40 ˚C operating temperature range, built-in process and equipment protection, and highly intuitive user interface. This chiller is designed for use on both ICP-OES and ICP-MS instruments.

Key Advantages

- 50% quieter operation than comparable models
- 2900 watts (9889 BTU/hour) cooling capacity
- Built-in temperature, pressure, and flow rate alarms

Part No.	N0772046	N0772045
Electrical Requirements	208-230 V, 60 Hz, 12.2 A	240 V, 50 Hz, 12.2 A
Operating Temperature Range	-10 to 40 ˚C	
Temperature Stability	±0.1 ˚C (±1.8 ˚F)	
Cooling Capacity at 20 ˚C	2900 Watts (9889 BTU/hr)	
at 10 ˚C	1925 Watts (6574 BTU/hr)	
at 0 ˚C	1000 Watts (3410 BTU/hr)	
Compressor	1.0 HP	
Reservoir Capacity	4.2 L	
Pump Type	Turbine	
Maximum Pump Pressure	90 PSI	
Maximum Pump Flow	13.2 LPM	
Replacement Air Filter	**N0777095** (Air Filter with Frame, 13x14")	
Chiller Coolant Mix	**N0776099** (Five Half-gallon Bottles)	

Chiller Coolant Mix

Non-glycol coolant, which is made up of five half gallon bottles of distilled water and includes an additive to control black algae and other resistant strains.

Description	Part No.
Chiller Coolant Mix	**N0776099**

Coolant Fluid

1 liter bottle. It is essential that this chiller coolant be used with ELAN 9000/6xX00/DRC/NexION series instruments. Also suitable for organics chillers.

Description	Part No.
ELAN Coolant Fluid	**WE016558**

Heat Exchanger System

Cooling systems for the ELAN 9000/DRC II/e/NexION systems. Air cooled recirculator without refrigeration. Not to be placed in areas with temperatures above 30 °C (86 °F). Requires the use of Coolant Fluid (WE016558).

ICP-MS Power Requirement	Part No.
120 V, 60 Hz	**N8122248**
220/250 V, 50/60 Hz	**N8122247**

Chillers/Recirculating Water Cooling Systems

ICP Model	Power Requirement	Operating Temp.	Flow Rate	Part No.
Optima/ELAN/NexION	208 – 230 V, 60 Hz, 8 A	-15° to 40 °C	60 psi: 4.3 gpm/16.3 Lpm	**N0772046**
Optima/ELAN/NexION	240 V, 50 Hz, 8.5 A	-15° to 40 °C	60 psi: 4.3 gpm/16.3 Lpm	**N0772045**

LINE CONDITIONERS AND UPS SYSTEMS

Damaged or compromised components, disrupted processes, lack of reliability – they all add up to frustration, broken schedules and costly downtime. The problem is caused by a host of power disturbances – some visible and many invisible – that threaten your equipment's operation every year. Power "disturbances" are simply those large and small variations in the quality of the electric power you use day in and day out. Some come from your local utility company, but most are created within your own facility as a result of the distribution and use of electrical power. These variations include high-energy voltage transients, sags and swells, electrical noise, and common mode voltage, as well as the power outages everyone witnesses when the lights go out.

Line Conditioners

Instrument Model	Description	Frequency (Hz)	Part No.
Atomic Absorption			
AAnalyst™ 100/200/300/400	520 VA Line Conditioner	60	**N9307504**
AAnalyst 100/200/300/400	750 VA Line Conditioner	50	**N9307521**
AAnalyst 600/800	5.8 kVA Line Conditioner	60	**N9307511**
AAnalyst 600/800	6.0 kVA Line Conditioner	50	**N9307523**
AAnalyst 700/PinAAcle 900 H	3.8 kVA Line Conditioner	60	**N9307509**
AAnalyst 700/PinAAcle 900 H	3.6 kVA Line Conditioner	50	**N9307522**
PinAAcle 900T/Z	5.8 kVA Line Conditioner	60	**N9307760**
PinAAcle 900T/Z	6.0 kVA Line Conditioner	50	**N9307523**
PinAAcle 900F	720 VA Line Conditioner	60	**N9307515**
PinAAcle 900F	750 VA Line Conditioner	50	**N9307521**
ICP-OES			
Optima 2x00/4x00/5x00/7x00/8x00	3.8 kVA Line Conditioner	60	**N9307512**
Optima 2x00/4x00/5x00/7x00/8x00	3.6 kVA Line Conditioner	50	**N9307522**
ICP-MS			
ELAN® 6x00/9000 Controller Side	3.8 kVA Line Conditioner	60	**N9307519**
ELAN 6x00/9000 Controller Side	3.6 kVA Line Conditioner	50	**N9307522**
ELAN 6x00/9000 RF Generator Side	5.8 kVA Line Conditioner	60	**N9307511**
ELAN 6x00/9000 RF Generator Side	6.0 kVA Line Conditioner	50	**N9307523**
NexION®	5.0 kVA Line Conditioner	60	**N0777690**
NexION	6.0 kVA Line Conditioner	50	**N9307523**

On-Line Conditioned Uninterruptable Power Supply Systems

With the Security Plus Series, you get much more protection and a higher comfort level than you get with most other UPS systems. The Security Plus Series also provides complete power conditioning and, because the Security Plus Series features on-line inverter design, added peace of mind. And regardless of input fluctuations, the Security Plus Series insures that the output remains continuous and regulated.

Instrument Model	Description	Frequency (Hz)	Part No.
UPS Systems			
PinAAcle 900F/AAnalyst 100/200/300/400	800 VA	60	**N0777681**
PinAAcle 900F/AAnalyst 100/200/300/400	800 VA	50	**N0777689**
PinAAcle 900H/AAnalyst 700/Optima	5.2 kVA	50/60	**N0777511**
PinAAcle 900H/AAnalyst 700	8.0 kVA	50/60	**N0777682**
PinAAcle 900T/Z/AAnalyst 600/800/ELAN/NexION	10 kVA	50/60	**N0777613**
PinAAcle 900T/Z/AAnalyst 600/800/ELAN	12 kVA	50/60	**N0777719**
Probes			
Power Probe	0-250 V Input	50/60	**N3151391**

TESTED AND APPROVED

Acetylene Regulator

For AA labs, this regulator includes an adapter so that the pressure regulator can be connected to cylinders requiring either CGA 300 or CGA 510 fittings and a connector for attaching the fuel hose assembly supplied with the instrument. Includes hose assembly.

Description	Part No.
Max Inlet Pressure: 400 psig	**03030106**

Air Regulator

For AA labs. Regulator to cylinder CGA no. 590. Includes hose assembly.

Description	Part No.
Max Inlet Pressure: 3,000 psig	**03030264**

Nitrous Oxide Regulator

For use in AA labs with gas cylinders with a CGA 326 connection. Provides pressure control from 350–520 kPA (50–75 psig) and contains an integral thermostatted heater to prevent freezing of the regulator diaphragm.

Description	Part No.
115 V	**03030204**
220 V	**03030349**

Argon/Nitrogen Regulator

For AA and ICP, this regulator can be used with argon or nitrogen and has a CGA 580 fitting. A color-coded hose with ¼" SWAGELOK® fittings is also included.

Description	Part No.
Max Inlet Pressure: 3,000 psig	**03030284**

Matheson Flashback Arrestor

Because acetylene is an extremely unstable gas, users can experience flashbacks at the instrument burner head. The flash arrestor prevents these potentially dangerous flashbacks from reaching the regulator or cylinder.

Description	Part No.
Acetylene Max Operating Pressure: 15 psig	**N9300068**

Hose Assemblies

Hose assemblies for connecting fuel, air and nitrous oxide from supply to instrument.

Description	Part No.
Acetylene, Red Neoprene, 3.7 m (12 ft)	**00570559**
Air/Argon, Black, 3.7 m (12 ft)	**00570567**
Nitrous Oxide, Blue, 3.7 m (12 ft)	**00470258**

Blower and Vent Assembly for AA and ICP

A venting system is required to remove fumes and vapors from the torch of ICP emission spectrometers. A vent is recommended for use over the power supply unit of most ICP spectrometers for removal of dissipated heat. Use exhaust venting to:

- Protect lab personnel from toxic vapors
- Protect your instrument from corrosive vapors
- Improve stability of the ICP torch

Includes Exhaust Hood, Adapter and Blower. Does not include ducting. PerkinElmer service engineers are not permitted to install this unit.

Description	Part No.
110 V	**03030447**
230 V	**03030448**

Parker Balston® 73-099 AA Gas Purifier

For AA labs, this wall-mounted system designed to purify the compressed air and acetylene gases used in atomic absorption. It consists of two independent filtration systems, one for compressed air and one for acetylene. The unit also has a flashback arrestor on the acetylene line and a pressure regulator on the compressed air line.

The 2-stage air filtration assembly consists of a Balston Grade DX coalescing filter and a Balston Grade BX coalescing filter. Together these filters remove oil, water and particulate contamination (99.99% at 0.01 micron) from the compressed air supply.

Description	Part No.
Parker Balston 73-099 AA Gas Purifier	**N9301398**

Parker Balston® Replacement Filters

Description	Cartridges Part No.	Each ($)	Seal Sets Part No.
1st Air Filter	**N9301710**	**20**	**N9301712**
2nd Air Filter	**N9301711**	**20**	**N9301712**
Acetylene Filter	**N9301714**	**16**	**N9301715**

Balston® 95A Acetylene Filter

For your AA lab, this filter includes a Balston Grade BQ filter cartridge to remove liquid and solid contaminants from the acetylene supply to 99.99% at 0.01 micron. Max working pressure: 15 psig.

Description	Part No.
Acetylene Filter	**N9301399**
Replacement Acetylene Filter Cartridge	**N9301714**

Balston® Air Filter Assembly Type A-82

For AA and ICP labs, this filter is specifically designed to remove water, oil and dirt particles down to 0.6 microns in diameter from compressed air lines. It is recommended for use with oil-type compressors and for removing moisture and dirt particles from air supplied by oil-less compressors.

Description	Part No.
Air Filter Assembly	**N0580531**
Replacement Filter Cartridge Element	**N0582251**

Air Dryer Filter Assembly with R250 Regulator

To filter compressed air for AA and ICP instrumentation. Replaces 00470652 and N0770198.

Description	Part No.
Air Dryer Filter Assembly with R250 Regulator	**N0775325**
Replacement Filter Element	**N9306067**
Float Assembly	**N0777710**

Wilkerson® Air Dryer Filter Accessories*

Description	Pre-Filter Part No.	Each ($)	Final Filter Part No.
Filter Elements	**09923464**	**16**	**09907120**
Filter Bowls	**N9302199**	**43**	**N9302199**
Bowl O-Ring Kit, Final Filter	**N9302197**	**48**	**N9301715**

* For Wilkerson Filter PerkinElmer (00470652)

ICP Filter Replacement Parts

ICP Model	Filter Element	Part No.
8x00 Side	Filter in Front of Fan	**09995098**
2x00/3x00/4x00/5x00/7x00	For Pre-Final	**09907122**
2x00/3x00/4x00/5X00/7x00	For Final Filter	**09923464**
2x00/3x00/4x00/5x00/7x00 /8x00	Water Filter	**09904845**
2x00/3x00/4x00/5x00/7x00 /8x00	Cartridge for Water Filter	**09904846**
2x00/4x00/5x00/7x00/8x00	Air Filter for the RF Generator Inlet	**N0775220**
3x00	Air Filter for the RF Generator Inlet	**02509115**

Instrument Filters

Description	Part No.
For AAnalyst 100/300/PinAAcle 900	**09995097**
For AAnalyst 200/400/600/700/800	**B0501696**
For AAnalyst 600/700/800 (80x80)	**B0502706**
For Optima 2x00/3x00/4x00/5x00/7x00/8x00	**09995098**
For NexION (left)	**W1036712**
For NexION (back right)	**W1036713**

Polyscience Replacement Air Filters

Description	Part No.
Polyscience Air Filter	**N0777359**
Polyscience Air Filter with Frame	**N0777095**
Heat Exchanger Air Filter	**N0777360**

PerkinElmer SMS 100 Mercury Analyzer

The SMS 100 is a dedicated mercury analyzer for the determination of total mercury in solid and liquid samples using the principle of thermal decomposition, amalgamation and atomic absorption described in U.S. EPA Method 7473.

The SMS 100 uses a decomposition furnace to release mercury vapor instead of the chemical reduction step used in traditional liquid-based analyzers. Both solid and liquid matrices can be loaded onto the instrument's autosampler and analyzed without acid digestion or sample preparation prior to analysis. Some of the many sample matrices applicable to SMS 100 technology include sludges, sediments, soils, wastewaters, effluents, coal, fly ash, minerals, ores, fertilizers, various foodstuffs, blood, urine and hair.

Amalgamator Tube

Catalyst Tube

Nickel Boat

SMS 100 Consumables and Supplies

Description	Part No.
Nickel Boats (Qty. 42)	**N9309017**
Quartz Combustion Boats (Qty. 10)	**N9309032**
Replacement Carbon 500 g	**N9309035**
Catalyst Tube (Packed)	**N9309036**
Autosampler Boat Shuttle	**N9309019**
Exhaust Tubing Assembly	**N9309006**
Amalgamator Tube	**N9309007**
Mercury Lamp	**N9309010**
Hg Vapor Trap Kit with Carbon Material	**N9309011**
Nafion® Drying Tube	**N9309021**
Sample Substrate 250 mL	**N9309103**
Oxygen Two Stage Regulator	**N9309004**
Oxygen, Nitrogen, Argon Supply	**N9309009**
Autosampler Boat Shuttle	**N9309019**
UV Windows ½ d x 1/16 t 10–20 w (Qty. 2)	**N9309024**
O-Ring 1/16 i.d. x 1/16 w Viton	**N9309025**
O-Ring Amalgamator ¼ i.d., ⅜ o.d. Viton	**N9309026**
O-Ring Injector ⅝ i.d., o.d. ¾	**N9309027**
O-Ring Catalyst Front Viton	**N9309028**
O-Ring .414D Catalyst Rear	**N9309030**
O-Ring Kit for SMS 100	**N9309029**
High Sensitivity Absorption Cell 5 inch	**N9309033**
Low Sensitivity Absorption Cell 1 inch	**N9309034**

Spares Kits

Description	Qty	Part No.
Basic Spares Kit		**N9309109**
Kit Includes:		
Amalgamator Tube	1	**N9309007**
Mercury Source Lamp	1	**N9309010**
Nafion® Drying Tube	1	**N9309021**
O-Ring Kit	1	**N9309029**

Description	Qty	Part No.
Extended Spares Parts Kit		**N9309110**
Kit Includes:		
Amalgamator Tube	2	**N9309007**
Sample Gas Tubing Assembly	1	**N9309008**
Mercury Source Lamp	1	**N9309010**
Injector Fork Assembly	1	**N9309012**
CVAAS Tubing Kit	1	**N9309013**
Amalgamator Heater Coil	1	**N9309066**
6 g Krytox® Tube Grease	1	**N9309108**
Nafion® Drying Tube	1	**N9309021**
Quartz Windows	6	**N9309024**
O-Ring Kits	2	**N9309029**
Window End Caps	8	**N9309031**
5 inch Optical Cells	2	**N9309033**
1 inch Optical Cell	1	**N9309034**

Sample Preparation Blocks

The SPB series of block digestion systems offers the latest in graphite block technology in many different packages. Graphite blocks are Teflon® coated to resist aggressive corrosive attack for guaranteed long life in harsh laboratory environments.

Better laboratory practices demand modern techniques in sample preparation. In the past, hot plates were used to digest samples where common digestion problems involve rusting, cross contamination of digestion system to sample, and poor sample temperature control. With no exposed metal components and an outer shell manufactured from Kydex plastic, the SPB blocks reduce the chances of sample contamination.

Each system is constructed with a solid, Teflon-coated, graphite block where a flat heater covers 95% of the block's base. This guarantees temperature uniformity and eliminates hot spots found in hot plates.

Features and Benefits

- Ideal for any digestion/heating method which requires a temperature below 180 °C
- Provides uniform temperature (+/- 1.0 °C across the block)
- Delivers even sample evaporation results
- Teflon® Coated Graphite block resists aggressive, corrosive attack
- Choose from 6 different SPB blocks

Description	Capacity	Part No.
SPB 50-24, (115 V/ 230V)	24 Tubes/50 ml	**N9308019**
SPB 100-12, (115 V/ 230V)	12 Tubes/100 ml	**N9308010**
SPB 50-48, (115 V/ 230V)	48 Tubes/50 ml	**N9308004**
SPB 100-30, (115 V/ 230V)	30 Tubes/100 ml	**N9308012**
SPB 50-72, (230V)	72 Tubes/50 ml	**N9308005**
SPB 100-42, (230V)	42 Tubes/100 ml	**N9308014**

Controllers

Our sample blocks operate with either a SPB Digital Controller or SPB Touch Controller. The user friendly SPB Digital Controller includes programmable features such as: temperature set-point to 0.1 °C, even sample heating and evaporation results, timer shutdown option, and programmable alarm for end of cycle.

The SPB Touch Controller includes all of the SPB Digital Controller features and more. Added features include: a graphical representation of the heating profile in real-time to identify the current stage of the method heating program. Safety features include the ability of the controller to monitor the heating cycle of the block to prevent run away situations. The controller allows for the SPB Probe to be calibrated to meet your SOP requirements.

The SPB Probe, used with either the Digital or Touch models, can directly monitor and control the block's heating rate via sample temperature feedback to the controller.

Description	Part No.
SPB Digital Controller	**N9308006**
SPB Touch Controller	**N9308007**

Start Up Kits

PerkinElmer provides SPB Start Up kits containing all consumable items required to operate the system including: RackLock *Digi* TUBEs, disposable watch glasses, *Digi* FILTERs, watch glasses, 24 position RackLock rack and storage racks.

Description	Part No.
Start Up Kit for SPB 50-24	**N9308017**
Start Up Kit for SPB 100-12	**N9308011**
Start Up Kit for SPB 50-48	**N9308002**
Start Up Kit for SPB 100-30	**N9308013**
Start Up Kit for SPB 50-72	**N9308025**
Start Up Kit for SPB 100-42	**N9308015**

Automatic Shut-Off System

Designed to shut-off SPB systems with no lab supervision. Ideal for overnight digestions and evaporations where samples require volume reductions (volume control ±2.5 mL). Increase lab efficiency by automatically digesting samples off-hours. Select appropriate Probe for Tube use

Description	Qty	Part No.
TempSET, without Probe	1	**N9308020**
TempSET Probe for 50 mL Tubes	1	**N9308023**
TempSET Probe for 100 mL Tubes	1	**N9308029**
TempSET Probe Holder for 100 mL Tubes	1	**N9308065**

Temperature Probes

The SPB Probe provides direct control and monitoring of actual sample temperature via a corrosion-resistant, PFA-coated temperature probe. Each probe is supplied with 5 Probe Watch Glasses and a probe holder.

Description	Qty	Part No.
SPB 6" Probe for 50 mL Tubes	1	**N9308018**
SPB 6" Probe for 100 mL Tubes	1	**N9308009**
SPB Probe Watch Glass (replacement) for 50 mL Tubes	25	**N9308041**
SPB Probe Watch Glass (replacement) for 100 mL Tubes	25	**N9308073**
SPB PROBE Holder for DigiTUBES 50 mL	1	**N9308044**
SPB PROBE Holder for DigiTUBES 100 mL	1	**N9308045**

*Digi*FILTER™

The vacuum assisted *Digi*FILTER assembly provides a quick and easy way to filter samples prior to analysis. Increase lab productivity by filtering particulates from digested samples in a matter of seconds directly from the digestion tube. Available with a 0.45 or 1.0 micron hydrophilic Teflon® membrane.

Description	Qty	Part No.
*Digi*FILTER 0.45 micron for 50 mL *Digi*TUBEs	100	**N9308031**
*Digi*FILTER 1.0 micron for 50 mL *Digi*TUBEs	100	**N9308032**
Field Filtration Kit 0.45 for 50 mL *Digi*TUBEs[1]	1	**N9308033**
*Digi*FILTER Manifold	1	**N9308034**

[1] Contains : 25 *Digi*FILTERs, 30 *Digi*TUBEs, 1x 6 ml eyedropper bottle to dispense 2 to 3 drops of (1+1) PlasmaPURE Nitric acid, 1 storagerack, 1 Sharpie pen and 2x 60 ml plastic syringes to create a vacuum to filter samples from the collection vessel to the sample tube.

Tubes, Caps & Watch Glasses

PerkinElmer offers 50 and 100 ml, disposable, sample digestion tubes with easy-to-read graduations. Accurate 50 or 100 ml graduation is calibrated to meet Class A specifications to allow normalization directly in the tube. RackLock design allows for easy, one-handed closure of leak-free screw cap.

Description	Qty	Part No.
Tubes		
*Digi*TUBEs 50 mL with RackLock (incl./Caps)	750	**N9308008**
*Digi*TUBEs 100 mL with RackLock (incl./Caps)	300	**N9308016**
*Digi*TUBEs 50 mL non-RackLock (incl./Caps)	750	**N9308037**
*Digi*TUBEs 100 mL non-RackLock (incl./Caps)	300	**N9308066**
*Digi*TUBEs 50 mL RackLock (no Caps)	750	**N9308340**
Teflon Digestion Tubes 50 mL (incl./Caps)	6	**N9308024**

Caps		
Screw Caps, Orange, for *Digi*TUBEs	250	**N9308058**
Screw Caps, Red, for *Digi*TUBEs	250	**N9308059**
Screw Caps, Clear, for *Digi*TUBEs	250	**N9308060**
Screw Caps, Yellow, for *Digi*TUBEs	250	**N9308056**
Teflon Screw Caps for Teflon Tubes, N9308024 Replaces Blue Cap Supplied	6	**N9308027**

Watch Glasses		
Disposable Watch Glasses, 50 mL	1,000	**N9308003**
Disposable Watch Glasses, 100 mL	500	**N9308030**
Racks		
Rack for SPB-100-12, 100 mL	1	**N9308067**
Rack for SPB-100-30, 100 mL	1	**N9308068**
Rack for SPB-100-42, 100 mL	1	**N9308069**
Rack for SPB-50-24, 50 mL	1	**N9308070**
Rack for SPB-50-48 and SPB-50-72, 50 mL	1	**N9308042**
Accessories		
Fume Hood SPB 50-24/100-12/50-48/100-30		**N9308000**
Fume Hood SPB 50-72/100-42		**N9308001**
Filter for SPB Fume Hoods		**N9308078**
SPBVAC™ Evacuation Hood SPB 50-48/SPB 100-30		**N9308021**
Autosampler Fume Hood		**N9308036**
SPB Blower Unit (all systems)115/230V		**N9308022**
Vacuum Pump 20L/min 115V		**N9308035**
Vacuum Pump 60L/min115V		**N9308063**
Vacuum Pump 17L/min 230V		**N9308331**
Vacuum Pump 58L/min 230V		**N9308332**