

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.

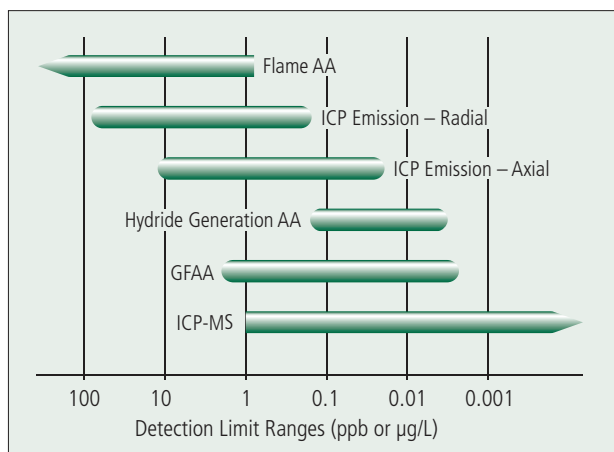


PinAAcle 900 Atomic Absorption Spectrometers

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.



Typical detection limit ranges for the major atomic spectroscopy techniques.

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

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.



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

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.	AAAnalyst 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*

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

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.





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 compatibility 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.
- ✓ Rigid quality control assures that all lamps meet the same high standard for intensity, stability, and spectral purity.
- ✓ 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.
- ✓ 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.

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PERKINELMER EXCLUSIVE 6/24 WARRANTY*

ATOMAX™ HOLLOW CATHODE LAMPS

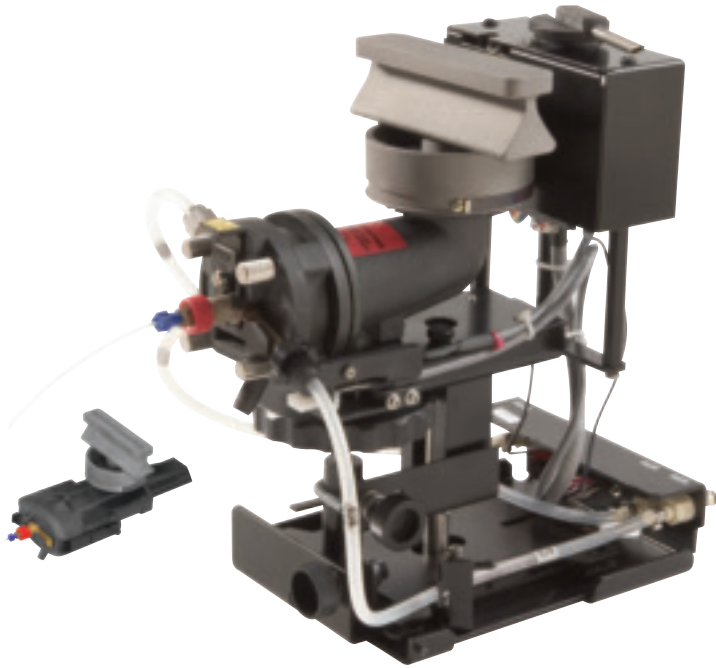
1. We warrant that during the first six months or after 5,000 milliampere-hours of operation, whichever comes first, from initial date of shipment, the lamps will meet or exceed the intensity and absorption specifications to which all new lamps are tested.
2. All of our hollow cathode lamps are warranted 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



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.

EXPERIENCE OPTIMAL EFFICIENCY

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

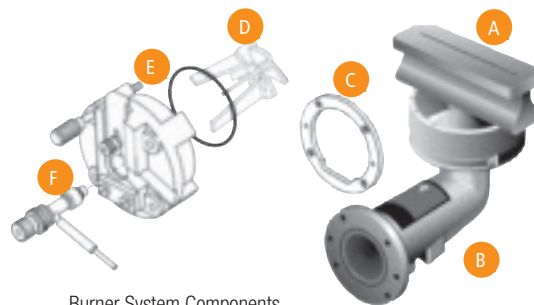
The three-slot burner head is designed to be used when analyzing samples with high concentrations of dissolved solids. The three-slot burner head is not compatible with some older gas control systems.

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



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.	AAAnalyst 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

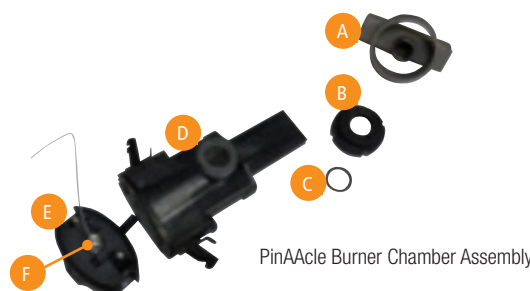
Burner System Components

Description	PinAAcle 900 Part No.	AAAnalyst 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 (1/4 in 6 mm i.d.) for end cap assembly 00570984		09902240
O-Ring (1/4 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 AAAnalyst 700/800 **For AAAnalyst 200/400 ***For AAAnalyst 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

High-Sensitivity Nebulizer with Pt/Ir Capillary



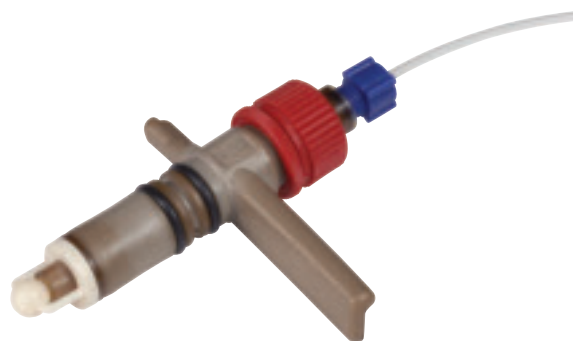
THE NEBULIZER IS ONE OF THE MOST IMPORTANT COMPONENTS IN A FLAME AA SPECTROMETER

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.



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



PinAAcle High-Sensitivity Nebulizer Part No. N3160144

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



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 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



Metal Body Stainless Steel Nebulizers

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



NEBULIZER ASSEMBLIES AND SPARES

Plastic Body Nebulizers

Description	PinAAcle 900 Part No.	AAAnalyst 200/400 Part No.	AAAnalyst 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 AAAnalyst 100/300/700/800

Metal Body Nebulizers

Description	PinAAcle 900 Part No.	AAAnalyst 200/400 Part No.	AAAnalyst 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



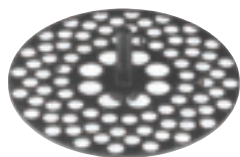
Nebulizer Capillary Tubing



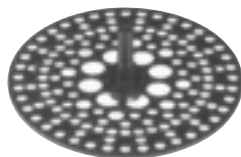
Nebulizer Cleaning Wires



Nebulizer Grease



88-Position Tray



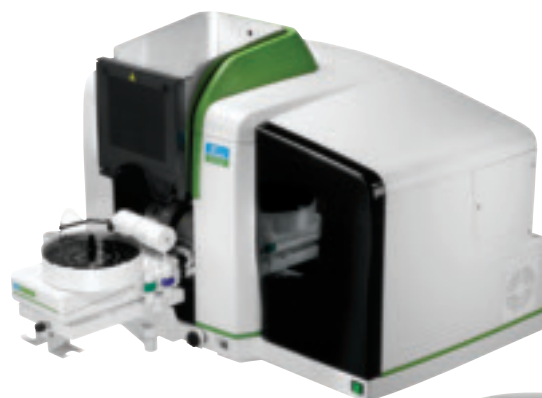
148-Position Tray

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



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

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

Volume	Composition	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

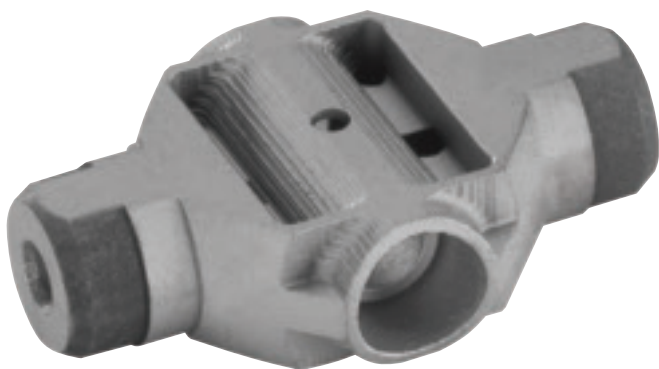
Today's analysts expect exceptional analytical performance from their graphite furnace atomic absorption spectrometers. That performance must be reproducible from day to day with respect to sensitivity (characteristic mass), accuracy and precision.

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.

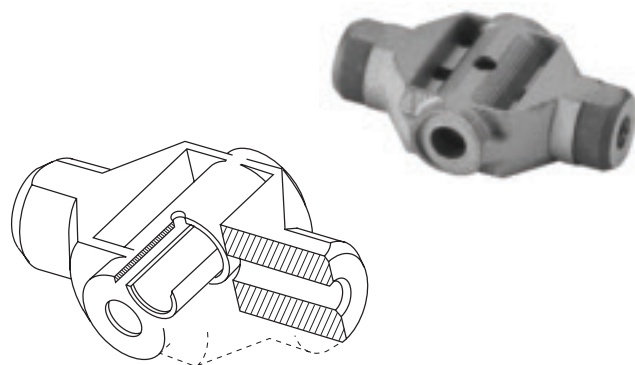
Standard THGA Graphite Tubes

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 ₄ H ₂ PO ₄	10% NH ₄ H ₂ PO 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

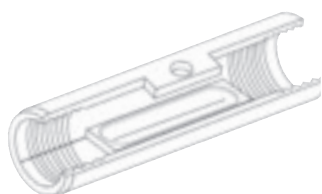
The L'vov platform is a small plate of solid pyrocoated graphite that is inserted into the graphite tube. It has a slight depression in the center, which can accommodate up to 50 µL of solution. The function of the L'vov platform is to isolate the sample from the tube walls to allow more reproducible 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

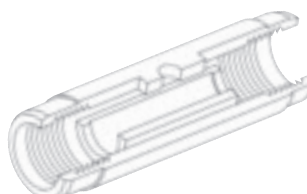
Description	Part No.
5-pack	B0137112
10-pack	B0121091
20-pack	B3001256
50-pack	B0109324
100-pack	N3110145

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 ₄ H ₂ PO ₄	10% NH ₄ H ₂ PO 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