

HUMAN HEALTH

ENVIRONMENTAL HEALTH

NOTHING  
FEELS BETTER THAN  
KNOWING YOU HAVE  
THE BEST



## PinAAcle 900 Series

Atomic Absorption Spectrometers

  
**PerkinElmer**<sup>®</sup>  
*For the Better*



THE PINAACLE OF  
PERFORMANCE  
**IN ANY**  
APPLICATION





# THE LATEST INNOVATION FROM THE WORLD LEADER IN AA

As the recognized leader in atomic absorption, PerkinElmer has a long history of product innovation and the largest installed base of instrumentation worldwide. Today we're taking AA performance to new heights with the groundbreaking PinAAcle™ 900 series.

Engineered with an array of exciting technological advances, the PinAAcle 900 series 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.
- Workflow-based Syngistix™ for AA software offering both ease-of-use and exceptional flexibility.

No matter which model you select, you'll discover an intuitive, highly efficient system capable of simplifying your journey from sample to results—even with the most difficult matrices.

Experience peak performance and unmatched productivity. Step up to the PinAAcle 900 series from PerkinElmer.



# NEW TECHNOLOGIES EXCITING OPPORTUNITIES

Whether you need the capabilities of flame or the enhanced performance of furnace, you'll find the ideal solution to your needs with PinAAcle 900 AA spectrometers.

Cutting-edge fiber optic technology creates a fully contained optical system that enhances light throughput for the best detection limits available.

This newly designed light path not only shapes 100% of the beam, it also enables the instrument to have the smallest footprint of any combined flame/graphite furnace AA system on the market.

PinAAcle 900's compact size is also the result of its unique stacked design. In dual-mode flame/furnace models, a solid titanium burner assembly is locked into place above the graphite furnace and can be quickly and easily removed (and replaced) to change analytical techniques.

Each instrument also features a versatile 8-lamp housing compatible with PerkinElmer Lumina™ hollow cathode lamps (HCLs) and patented electrodeless discharge lamps (EDLs), the latter offering improved sensitivity and lifetime. The flexible housing features:

- Automatic setup (with lamp pre-warming) for improved productivity.
- Continuous monitoring of lamp usage for consistent performance and reliable results.

## Flame Analysis

PinAAcle 900's flame mode features a true double-beam design for fast start-up and exceptional long-term stability without recalibration. Deuterium background correction ensures maximum sensitivity and accuracy over a wide wavelength range, and the Align Burner Wizard automatically adjusts the burner head position—vertically and horizontally. Syngistix for AA software also features a Gas Flow Optimization Wizard for the measurement of specific elements at maximum sensitivity.

A choice of nebulizers adds to the instrument's application flexibility with stainless steel or high-sensitivity, corrosion-resistant models available.



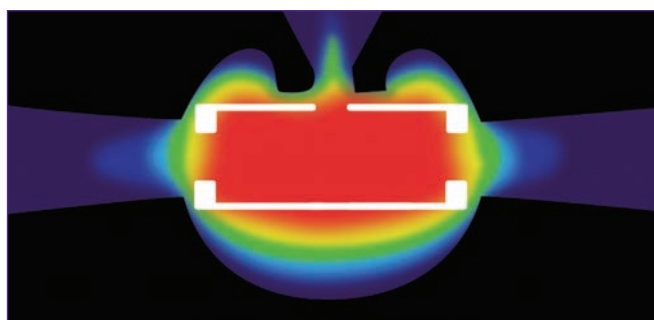
With no gas lines to connect, PinAAcle 900's burner assembly can be easily removed without tools for simple cleaning and easy switching between analytical techniques.

## Graphite Furnace Analysis

Switching to furnace mode on the PinAAcle 900 is as easy as removing the burner assembly to gain access to the furnace. Configurable with either Deuterium or longitudinal Zeeman background correction, the instrument lets you choose the technique best suited to your particular analysis. It also allows you to analyze everything from the simplest to the most complex sample matrix on the same system without compromising performance or sensitivity.

PerkinElmer's patented longitudinal Zeeman design:

- Allows for transverse heating of the graphite tube, dramatically reducing matrix effects.
- Delivers twice the light throughput of other Zeeman systems.
- Produces the best detection limits attainable.



Transverse heating guarantees uniform temperature distribution in the graphite tube, even allowing the accurate analysis of refractory elements such as vanadium or molybdenum.

PinAAcle 900 furnace models are equipped with a TubeView color furnace camera that allows you to:

- View inside the tube for easy autosampler tip alignment and sample dispensing.
- Monitor drying during analysis for simpler method development.



## Stabilized Temperature Platform Furnace (STPF)

Only PerkinElmer graphite furnace systems use the STPF technique, ensuring the best accuracy, precision and detection limits. The STPF technique involves the use of:

- Integrated platform
- Matrix modifiers
- Maximum power heating
- No internal gas flow during atomization
- Baseline offset correction
- Fast data processing using peak area
- Background correction

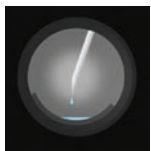
Over 15,000 PerkinElmer graphite furnace users have been successfully using the STPF technique.

# UNIQUE FEATURES EXCEPTIONAL PERFORMANCE SUPERIOR RESULTS

**Workflow-based Syngistix for AA software**—Simplifies every step from method development to report generation.



**Removable burner assembly**—Allows switching between analytical techniques in a matter of seconds on flame/furnace combination instruments.



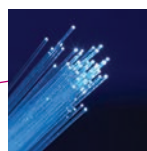
**TubeView color furnace camera**—Simplifies autosampler tip alignment and sample dispensing. Can also be used to monitor drying and pyrolysis during analysis for simpler method development.

**Graphite furnace**—Delivers best-in-class performance with Transversely Heated Graphite Atomizer (THGA) and longitudinal Zeeman background correction.

**AS 900 furnace autosampler**—Accommodates up to 148 samples with true random access sampling, delivering a fully automated analytical workstation.



**Unique stacked flame/furnace design**—Requires only a single vent for all analytical techniques, simplifying installation and minimizing costs.



**Cutting-edge fiber optics**—Maximize light throughput for improved detection limits.



**Genuine PerkinElmer lamps**—

-Coded 2-inch Lumina hollow cathode lamps (HCLs) provide exceptional performance and stability.

-Electrodeless discharge lamps (EDLs) ensure improved sensitivity and extended lamp lifetime.



**Eight-lamp mount**—Accommodates a combination of up to eight HCLs and EDLs. Prealigned and optimized for consistent lamp performance.

**Innovative new mixing chamber**—Requires no gas line connections.

**Smallest flame/furnace AA footprint**—Measures just 95 x 68 x 73 cm to save valuable bench space.



## SOFTWARE DESIGNED FOR SPEED AND FUNCTIONALITY

Whoever the user and whatever the application, Syngistix for AA software on the PinAAcle 900 series makes it faster and easier than ever to get from sample to results.

The intuitive interface features a left-to-right, icon-based design that mirrors your workflow, simplifying navigation while putting all the tools and information you need at your fingertips.

By reducing the time required for instrument setup, method development, sample analysis and report generation, Syngistix for AA software streamlines day-to-day tasks for enhanced laboratory efficiency and productivity.

### **Cross-platform software. Laboratory-wide efficiency.**

Syngistix is the world's first cross-platform atomic spectroscopy software, simplifying the use of multiple instrument types with a more standardized, harmonized and familiar user experience.

AA    ICP    ICP-MS

Syngistix for AA software offers an Enhanced Security™ option to speed and simplify regulatory compliance, including 21 CFR Part 11 mandates.



## Efficiency and productivity every step of the way

### STARTUP/OPTIMIZATION

**Status Panel** displays information on key instrument components so you always know the status of everything from your autosampler to your flame or furnace at a glance. A graphic progress bar displays the percentage of an analysis that has been completed.

**Align Burner Wizard** automatically adjusts the burner head position—vertically and horizontally—for optimum performance.

### METHOD DEVELOPMENT

**Method Editor** features important checks during method development including pre- and post-digestion spike recovery and precision checks.

**Furnace Method Development Wizard** automates the data collection process required to determine the best analytical conditions for graphite furnace samples.

**Recommended Conditions Table** provides suggested analytical parameters such as wavelength, slit, sensitivity, matrix modifier and characteristic mass. The extensive information is invaluable when selecting starting conditions for method development.

### ANALYSIS/RUN

**Syngistix Offline** allows you to create methods, enter sample information, review or reprocess data, all without interrupting the active analysis.

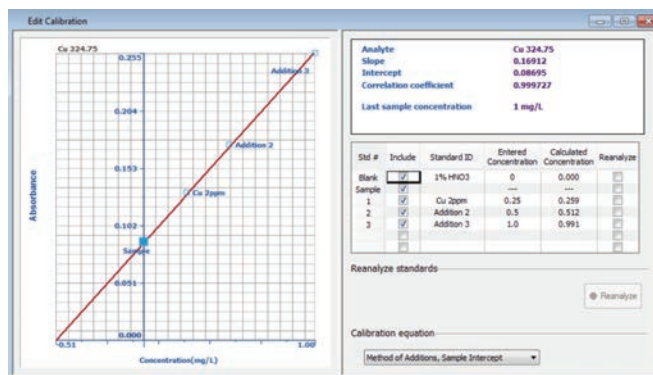
**Cross-Tab Data Viewer** gives you real-time updates of detection limits and background equivalent concentrations during a run. Single or multi-view calibrations can be displayed, giving you the information you need to make faster decisions and generate more reliable data.

**Priority Sample and Append to Analysis List** allow you to add samples at any time without interrupting the current analysis and to select when the new samples will be run.

### DATA/RESULTS

**Recall Calibration/Initial Calibration** lets you manually or automatically use a calibration previously stored with a method, eliminating the need to reconstruct the curve prior to sample analysis.

**Edit Calibration** gives you complete control over the quality of your calibration curve so you can ensure it meets your statistical requirements before proceeding with QC and sample analysis.



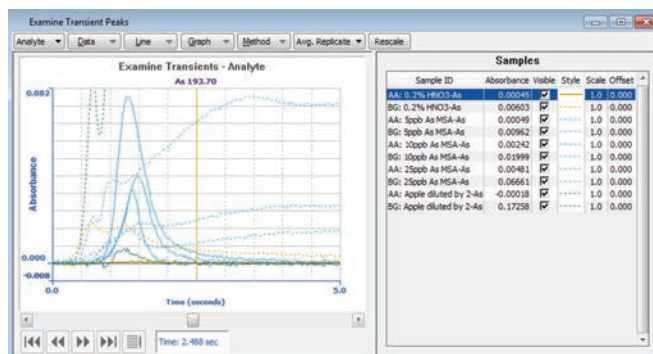
**Edit Calibration** helps you ensure the quality of your calibration curve before you proceed.

**QC Charting Wizard** helps you quickly and easily prepare quality control charts for any sample, including limit ranges, means or expected values.

**Data Reporting Wizard** allows you to save and report data in a variety of formats including word processing, spreadsheet and HTML files.

**Data Reprocessing** lets you change any method and sample information parameters after data collection and to recalculate the results.

**Examine Transient Peaks Window** lets you export peak profiles as comma-delimited ASCII files that can be read by most spreadsheet programs.



**Examine Transient Peaks Window** allows you to view the effects of changing various analytical parameters for accelerated method development.

# THE RIGHT TOOLS

## FOR A VARIETY OF APPLICATIONS



PerkinElmer offers a complete portfolio of specialized accessories, supplies and consumables that deliver reliable performance, control operating costs and maximize the uptime of your PinAAcle 900 instrument.

### S10 Autosampler

With more than 200 vessel positions and fast, accurate random access programming, the S10 autosampler can be used in conjunction with PinAAcle to create an efficient, flexible, fully automated analytical workstation. Rugged design and corrosion-resistant components ensure long-term reliability and reproducible, precise performance.

### FIAS

Fully automated flow-injection system simplifies and speeds up analyses requiring complex sample preparation such as mercury and hydride-forming elements.

### MHS-15 Mercury/Hydride System

Delivers improved detection limits (down to the ng range) for mercury and hydride-forming elements.

### Sample Preparation

**Titan MPS™ Microwave Sample Preparation System**—Great results begin with good preparation: the Titan MPS is built to deliver simple, safe, cost-effective microwave sample preparation. With Direct Temperature Control™ and Direct Pressure Control™ optical-reaction monitoring systems, power levels are constantly adjusted, providing enhanced digestion performance. What's more, the Titan MPS is backed by our OneSource® Laboratory Services, so your entire atomic spectroscopy system is fully supported by one vendor—PerkinElmer.

**Sample Preparation Blocks**—Ideal for any digestion/heating method requiring a temperature below 180°C.

### Lamps

**Lumina Hollow Cathode Lamps**—Unique 2-inch cableless coded lamps allow automatic setup and provide long lamp lifetime.

**Electrodeless Discharge Lamps**—Designed to deliver the best linearity, sensitivity and precision, our EDLs offer exceptional light output and longer lifetime.

### Graphite Tubes

Our exclusive high-density base graphite ensures unparalleled quality and reproducibility.

Whether you are using THGA or HGA tubes, both feature integrated platforms for exceptional analytical performance and are completely pyrocoated for longer lifetime.



### Burner Heads

PerkinElmer offers a variety of solid titanium burner heads (5-cm, 10-cm as well as 3-slot) for different flame and sample types.



### Nebulizers

Stainless steel or high-sensitivity, corrosion-resistant options are available to suit virtually any application.



### PerkinElmer Pure Standards

Choose from a wide selection of pure standards that have been analyzed and certified to yield reliable, accurate results.





# EXPAND YOUR EXPECTATIONS OF A LAB SERVICES PROVIDER

Optimize your PinAAcle with our comprehensive suite of services from PerkinElmer OneSource. From instrument service and repair to analytics and optimized scientific workflows, OneSource provides all the tools you need to increase your lab efficiencies and get more out of your AA. Far beyond the traditional model of a laboratory services company, OneSource becomes an integral part of your business, providing a high level of technical support and scientific expertise. Expect more from your laboratory services provider and discover our comprehensive set of tools to help empower your science and drive your business.

- Business intelligence solutions
- Scientific & laboratory IT services
- Instrument service & repair
- Qualification & validation
- Method development services
- Asset procurement & disposition
- Relocation services

**OneSource**<sup>®</sup>  
Laboratory Services

## PinAAcle 900 Series Models and Attributes

FEATURE	900F	900T	900H	900Z
Flame Capabilities	•	•	•	
Deuterium Furnace			•	
Longitudinal Zeeman Furnace		•		•
Fiber Optic Light Path	•	•	•	•
True Double-Beam Optics	•	•	•	
TubeView Color Furnace Camera		•	•	•
Syngistix for AA Software	•	•	•	•

### Other Solutions from the World Leader in Atomic Spectroscopy

As the world leader in atomic spectroscopy, PerkinElmer's solutions go far beyond the realm of innovative atomic absorption instrumentation. Our full family includes the world's most popular ICP-OES solutions, breakthrough ICP-MS technologies, as well as a wide array of mercury analyzers and sample-preparation tools.

For more information, visit us at [www.perkinelmer.com/atomicspectroscopy](http://www.perkinelmer.com/atomicspectroscopy).