HUMAN HEALTH

ENVIRONMENTAL HEALTH

# NOTHING
## FEELS BETTER THAN KNOWING YOU HAVE
# THE BEST

**PinAAcle Series**

Atomic Absorption Spectrometers

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JCANO® INGENIERÍA DE MÉXICO
Equipo de Laboratorio, Mantenimiento, Capacitación y CRM personalizado

PerkinElmer®
*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™ series.

Engineered with an array of exciting technological advances, the PinAAcle line 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.
- Proven WinLab32™ 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 series from PerkinElmer.

## Benefits for the environmental lab

- EPA 200.9 and DWD Council Directive 98/83/EC approved for proven performance and results in drinking water analysis.
- Simple switching between flame and furnace analysis ensures an easy operator experience and enhanced laboratory productivity.
- TubeView™ furnace camera allows monitoring of drying and pyrolysis to simplify method development for complex soil and wastewater samples.

# 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 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'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.

**Benefits for the clinical lab**

- Proven technology that is already delivering results in CLIA laboratories of all sizes.
- Stabilized Temperature Platform Furnace technology delivers unsurpassed sensitivity for your validated clinical applications.
- Longitudinal Zeeman background correction provides improved accuracy even for the most difficult clinical matrices.

## Flame Analysis

PinAAcle'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. WinLab32 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.

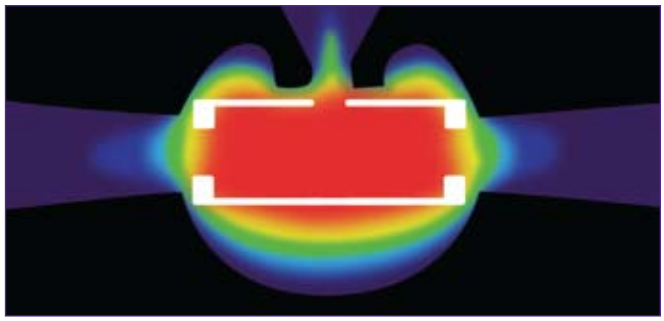
With no gas lines to connect, PinAAcle's burner assembly can be easily removed without tools for simple cleaning and easy switching between analytical techniques.

## Graphite Furnace Analysis

Switching to furnace mode on PinAAcle 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 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

**Intuitive WinLab32 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.

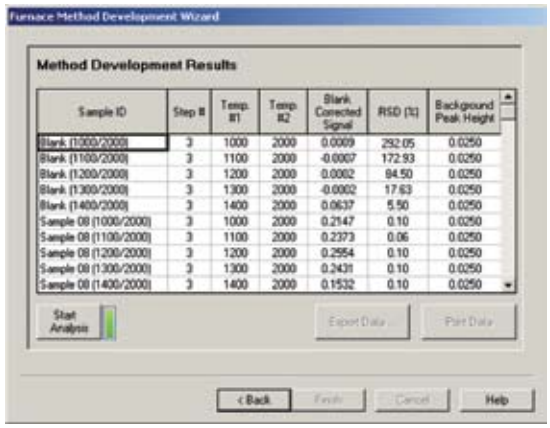
**Innovative new mixing chamber**—Requires no gas line connections.

**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, WinLab32 software on the PinAAcle series makes it fast and easy to get from sample to results.

By reducing the time required for method development, sample analysis and report generation, WinLab32 streamlines every step of your workflow for enhanced laboratory productivity. The software completely automates furnace method development, allowing for optimized pyrolysis and atomization temperatures as well as sample and modifier volumes. It also allows you to create methods, review or reprocess data offline, and even add samples anytime without interrupting your active analysis.




Method development is simplified using the Furnace Method Development Wizard.

## Benefits for the food safety lab

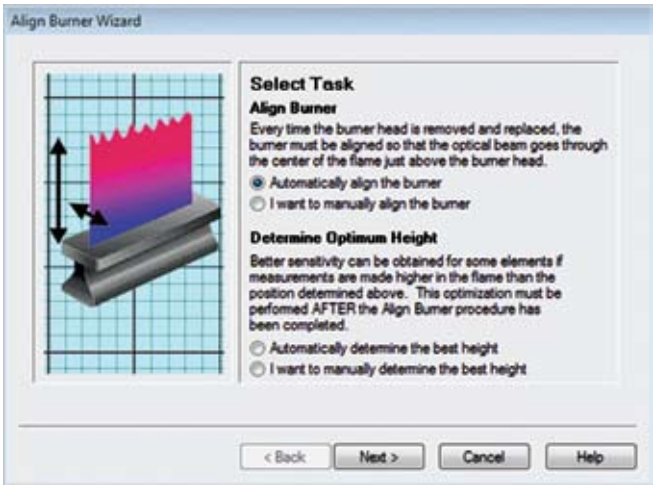
- Combination of Stabilized Temperature Platform Furnace technique and longitudinal Zeeman background correction delivers exceptional detection limits for the most complex food-related matrices.
- Automated flame method optimization simplifies and streamlines nutritional labeling applications.
- EDLs provide improved sensitivity for the definitive analysis of toxic elements needed in food safety.

## Data that's easy to generate, and easy to work with

With WinLab32 software, even complex tasks are simplified thanks to an array of intuitive features, including:

- Extensive Wizards—offering step-by-step instructions for any analysis.
- Tool Tips—that provide additional information (in multiple languages) about screen text and entry fields.

Once you have performed an analysis, the software gives you complete flexibility in how you work with your data.




Extensive Wizards make it easy to perform even the most complex tasks.

## Simple, Customizable Reporting

For optimum flexibility, WinLab32's Reporting Wizard allows you to report and save data in a variety of formats compatible with commercial word processing and spreadsheet formats, even HTML. You can also select and export data items describing the sample, mean values or replicate values from the Results Library.

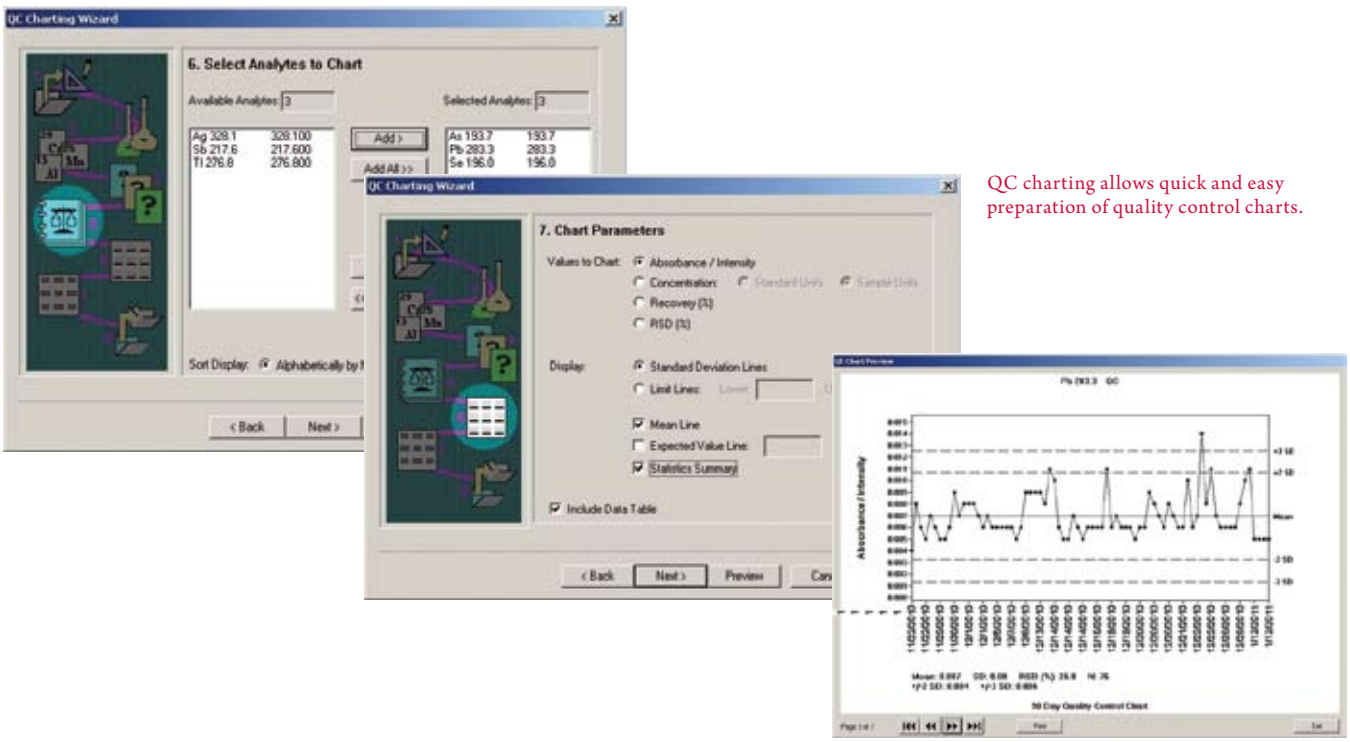
Peak profiles can easily be exported to and read by most spreadsheet programs, and the software gives you convenient, one-click connectivity to PerkinElmer's LABWORKS™ LIMS system to create sample-information files from backlog lists or QA batches and to store results.

## Security Features

Leveraging the power of the Microsoft® Windows® operating system, WinLab32 offers a broad array of administrator-definable access restrictions, automatic method and results storage, and data alteration detection features to ensure laboratory regulatory compliance. An optional Enhanced Security™ (ES) package adds another layer of capabilities—including version numbers added to all files and data sets—to help meet regulatory requirements such as 21 CFR Part 11.

## QC Charting

Quality control charts can be quickly and easily prepared from your WinLab32 data using the software's QC Charting Wizard. Results from QC samples, standards, blanks or any sample can be plotted. Limit ranges, means or expected values can be included on the chart. Results can even be exported as ASCII data for use with other applications.




QC charting allows quick and easy preparation of quality control charts.

# 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 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.

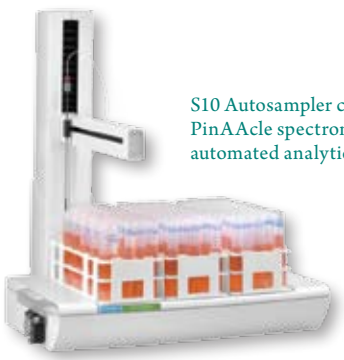
## MHS-15 Mercury/Hydride System

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

## Sample Preparation

Multiwave™ 3000 microwave sample digestion system—Built-in cooling reduces cycle time, improving productivity.

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



S10 Autosampler can easily turn a PinAAcle spectrometer into a fully automated analytical workstation.

## 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.

# THE NUMBER ONE NAME IN LABORATORY SERVICES

Nothing has a greater impact on productivity or ROI than instrument uptime. And no one does more to ensure your AA system performs day in and day out than PerkinElmer. With OneSource® Laboratory Services, you have the world's largest and most respected global service and support network at your disposal. Whether you need anything from application help to instrument care, our team of certified, factory-trained Customer Support Engineers is just a phone call away, 24 hours a day, seven days a week.

With more than 1,500 trained and certified field service engineers and service personnel around the world, OneSource offers the most comprehensive portfolio of professional laboratory services in the industry, including complete care programs for virtually every technology and manufacturer. By allowing you to consolidate all your service contracts under a single supplier, and by providing responsive, expert technical advice and support at a moment's notice, we ensure your instrumentation—and your lab—is running at optimum levels at all times.

Whether it's care and repair, validation and compliance, asset management and laboratory relocation, software and hardware upgrades or education and training, OneSource is… the ONE you can count on.

## PinAAcle Series Models and Attributes

| FEATURE | 900F | 900T | 900H (Fall 2011) | 900Z |
|---|---|---|---|---|
| Flame Capabilities | • | • | • | |
| Deuterium Furnace | | | • | |
| Longitudinal Zeeman Furnace | | • | | • |
| Fiber Optic Light Path | • | • | • | • |
| True Double-Beam Optics | • | • | • | |
| TubeView Color Furnace Camera | | • | • | • |
| WinLab32 Software Interface | • | • | • | • |

## 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.

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