

HUMAN HEALTH

ENVIRONMENTAL HEALTH

THE EASY CHOICE IN ATOMIC ABSORPTION



AAnalyst 200/400

Atomic Absorption Spectrometers


PerkinElmer[®]
For the Better



TWO SIMPLE
SYSTEMS FOR
MULTIPLE
APPLICATIONS





EASY TO USE EASY TO OWN EASY DESIGN

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 atomic absorption to get fast, reliable results every time. And we've made the quality and reliability of PerkinElmer available to everyone with these affordable systems.

True double-beam Echelle optics combined with the power of a solid-state detector deliver performance not typically available with an entry-level flame AA. Rugged modular design and construction makes service easy—simply switch out components—while fully automated gas controls and integrated safety checks ensure uncompromising operator security.

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



Compare and decide

AAnalyst 200

- Easy-to-use, full-color touch screen—no PC required
- True double-beam Echelle optics
- Plug-and-play design
- Modular design for simple maintenance
- Upgradeable to full capabilities of AAnalyst 400 with Syngistix™ for AA software



AAnalyst 400

- Easy to learn/use, workflow-based Syngistix for AA software
- True double-beam Echelle optics
- Greater testing flexibility and capability
- Modular design for simple maintenance
- Variety of accessories, including graphite furnace, to customize your system



MAKING IT EASY TO HANDLE THE TOUGHEST MATRICES

From state-of-the-art laboratories to remote mining locations, the AAnalyst 200/400 ensures dependable operation no matter what the location or application. The optical compartment can be purged to provide a protective environment to shield the optical components from corrosive and extremely dirty environments, ensuring optimum performance.

The PerkinElmer burner assembly is equally user-friendly. Our corrosion-resistant solid titanium burner heads install easily, while a fail-safe mechanism ensures they're properly restrained—without hold-down cables. No tools are required for routine burner system maintenance. When a nitrous oxide flame is needed, the gas box will automatically light the flame under air/acetylene conditions and properly switch to nitrous oxide and adjust the gas flows to the proper levels for safe operation.

Automatic Lamp Selection and Alignment

Whether you use Lumina™ hollow cathode (HCL) or patented electrodeless discharge (EDL) lamps, your PerkinElmer AA is compatible with both:

- 4-lamp mount with built-in power supplies for HCLs and EDLs
- Cableless Lumina HCLs ensure proper connection
- Automatic setup using built-in parameter settings
- Enjoy higher light output and longer life with EDLs for lower cost of ownership

Worry-free sampling

Our completely inert spray chamber provides superior performance for analysis of corrosive and high-solid matrices. The spray chamber is manufactured from a high-strength composite, eliminating the need for pressure-relief devices. The high-precision nebulizer maximizes stability and sensitivity, even for the toughest matrices and is adjustable so a wide variety of sample matrices—aqueous or organic, acids or bases, diluted or concentrated—can be analyzed under optimum conditions. Whatever your application, the AAnalyst 200/400 provides trouble-free operation.

Safety first

Not only is the entire instrument easy to use and maintain, it also includes safety features normally found only on top-of-the-line AAs. Our fully automatic gas box is standard on every system, providing the highest level of safety available on any flame AA. The gas box automatically recognizes which burner head is installed and adjusts the settings correctly for the type of flame used, providing safe and worry-free operation.

The AAnalyst 200/400 continuously monitors critical components including burner, flame ignition, gas pressure and flow rates, drain status and more. If any system check indicates an unsafe operating condition, the flame is automatically extinguished. When nitrous oxide is used, the gas box automatically lights the flame under air-acetylene conditions, properly switches to nitrous oxide and adjusts the gas flows to the proper levels for safe operation.

Double-beam optics and a solid-state detector improve performance

The AAnalyst 200/400 features the first true double-beam Echelle optical system in AA. True double-beam systems compensate for changes in lamp intensity during analysis for simpler operation and to ensure more stable baselines and improved performance—precision and detection limits. Compared to pseudo double-beam setups offered in other systems, which move an optic or the burner head, the AAnalyst true double-beam system compensates for drift multiple times per second, rather than only once between samples.

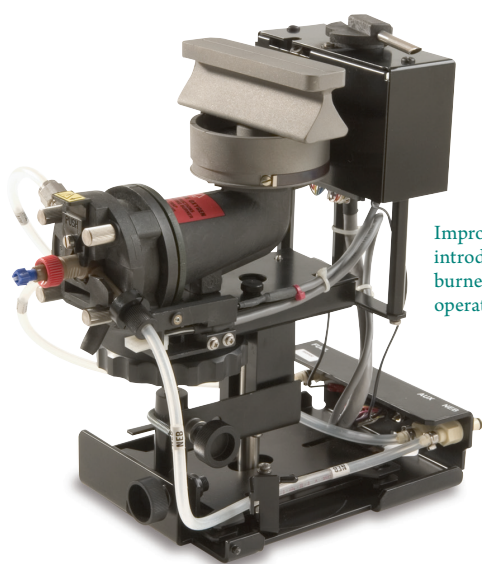
At the heart of the high-performance optical system is a unique solid-state detector designed to provide high quantum efficiency in the UV region. When combined with the high light throughput of the Echelle optical system, even “difficult” elements such as arsenic and barium can be measured with excellent signal-to-noise ratios. Plus, using a solid-state detector means no expensive photomultiplier tubes will ever have to be replaced, lowering the cost of ownership.

Designed for easy maintenance

The sampling compartment is extremely spacious (25 cm wide by 25 cm deep) allowing easy access when you need to change burner heads or nebulizers. The burner system uses an innovative quick-lock design—components simply glide and lock into place. Connections are automatic, so tedious manual disconnection of gas lines to remove the spray chamber and nebulizer is eliminated. Since there are no fittings to tighten or connections to make, no tools are required.

No downtime

The AAnalyst 200/400 makes troubleshooting easy. All electronics are located in a single, user-replaceable module. Simply slide the module out and replace it with a new one. Instrument operators can replace most parts quickly and troubleshoot the system. All error messages are clearly written to provide useful troubleshooting information, eliminating cryptic numeric codes. These capabilities ensure maximum operational time and control operating costs—providing you with the best combination of value, guaranteed compatibility and performance.



Improved sample introduction system and burner assembly makes operation safe and easy.



Nebulizer is designed to handle the toughest samples.



AAAnalyst 200 THE FLEXIBILITY TO JUST TOUCH AND GO

PerkinElmer has brought a new level of flexibility and simplicity to flame AA. Forget hard-to-read, small monochrome or numeric displays with little real information. Our large, color LCD touch screen puts AA analysis at your fingertips, literally. Simply touch

the screen to choose operating parameters and you're on your way. Leveraging the power of Microsoft® Windows CE®, our touch screen provides many features never before available on low-cost AA systems. Running samples has never been easier.

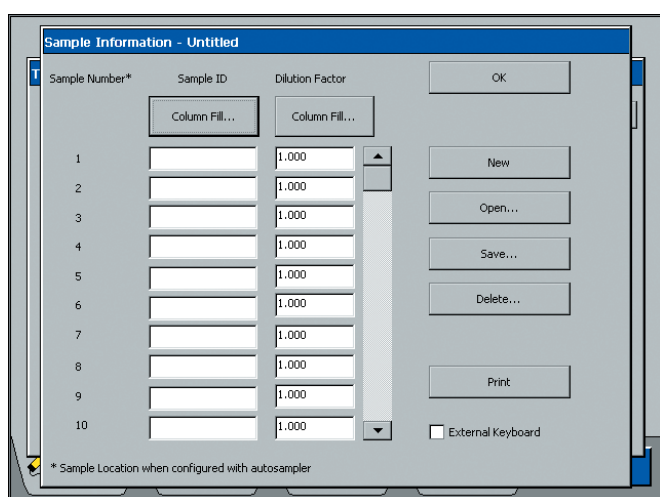
Other highlights of the AAAnalyst 200 software package:

- Intuitive touch screen is easy to use—no training required
- Multiple-language capability, including Chinese, English, French, German, Greek, Italian, Japanese, Polish, Portuguese, Russian and Spanish
- Built-in cookbook has recommended conditions for each element and new methods can be easily created and stored
- Sample ID and dilution factors can be easily entered on a Sample Information page and saved or printed
- Monitoring of instrument safety interlocks allows you to know exactly what is happening anytime when you use the instrument, for added security

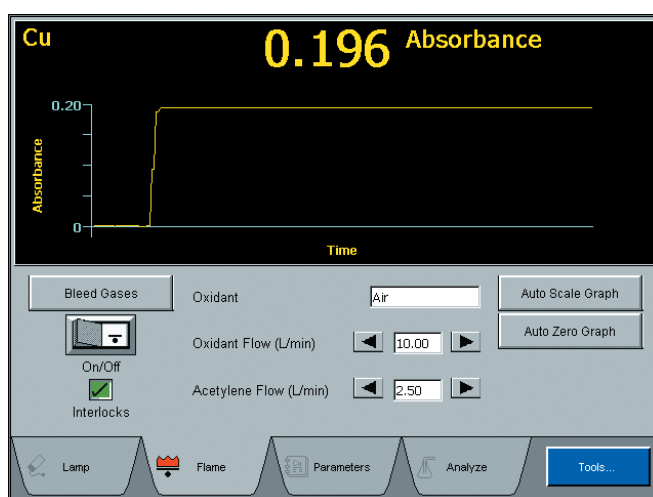
Setup is a snap

The AAAnalyst 200 instantly recognizes PerkinElmer's cableless Lumina HCL lamps and their operating parameters. The lamp is also automatically aligned in the built-in turret. Simply touch the flame-ignite button, recall a stored method (or use the built-in cookbook to set up a new one) and start the analysis.

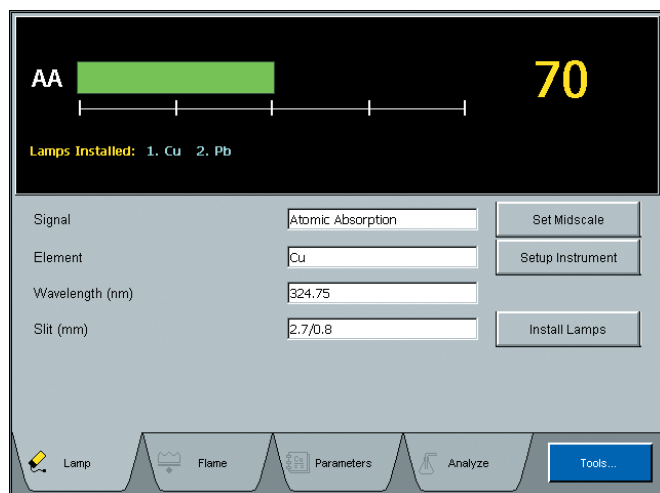
Select up to eight calibration standards and seven different calibration algorithms. Analyze samples manually or fully automate your run with a PerkinElmer autosampler. Even switch to our patented electrodeless discharge lamps (EDLs) that provide much higher light output and longer life than conventional hollow cathode lamps and are ideal for the analysis of certain elements in the low UV range, such as arsenic or selenium.



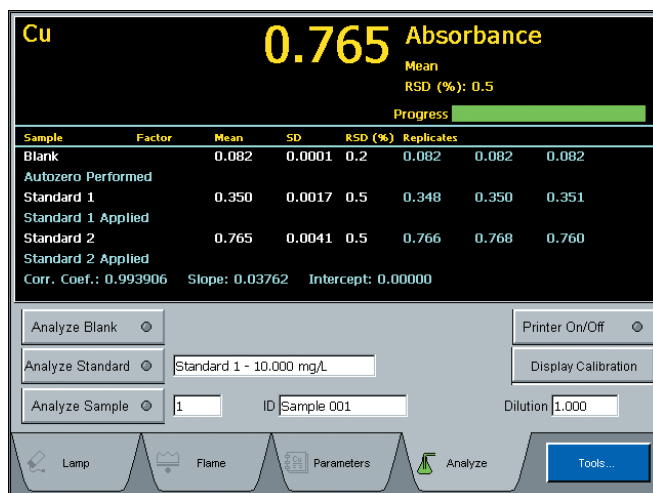
The Sample Information page allows entry of sample identification and dilution factors.



Simply touch the flame on/off button; the fully automated gas box ensures safe operation.



Lamp Setup page automatically sets up the instrument when using a coded Lumina lamp.



The Analyze Samples page provides an easy way to manually analyze samples, or add an autosampler to completely automate the analysis.

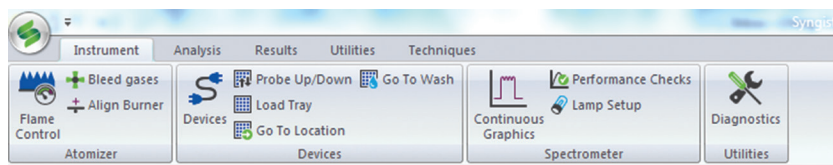


AAANALYST 400 A WHOLE NEW LEVEL OF PRODUCTIVITY

When you step up to the AAAnalyst 400, you get a reliable, trouble-free flame atomic absorption solution flexible enough to meet the challenges of the most routine analyses and the most demanding applications.

The instrument's powerful Syngistix for AA software offers the ideal combination of simplicity, flexibility and functionality for unrivaled productivity. 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.

Every step from instrument setup and method development to sample analysis and report generation can be done quickly and easily ... by every user, for every application, every time.



Syngistix for AA software features a left-to-right, icon-based design that mirrors your workflow for simple, intuitive operation.

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.

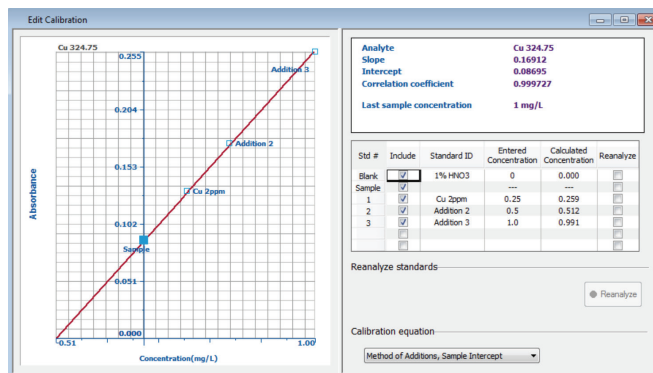
Cross-Tab Data Viewer gives you real-time updates of detection limits and background equivalent concentrations during a run. Single or multi-view calibrations can be displayed, giving you the information you need to make faster decisions and generate more reliable data.

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.



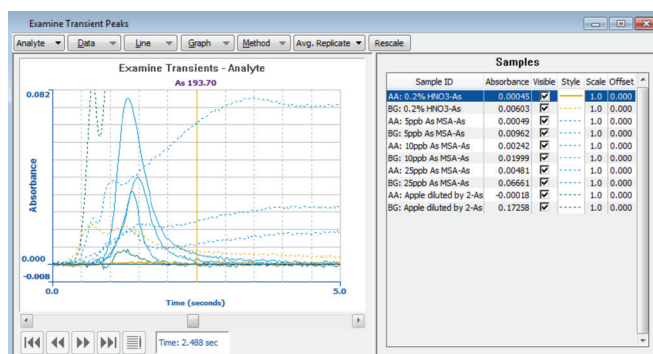
Edit Calibration gives you complete control over the quality of your calibration curve before you proceed.

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.



CUSTOMIZE YOUR SYSTEM TO YOUR NEEDS

Customize your AA system to improve productivity with these simple plug-in accessories that are

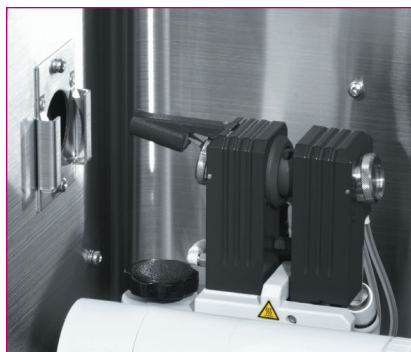
automatically recognized by the instrument when it is turned on:

MHS-15 Mercury/Hydride Analysis System—adapt your system for high-sensitivity determinations of mercury and hydride-forming elements, such as arsenic and selenium:

- Detection limits down to the ng range
- Adapts to any AA system, minimizing capital investments and operating costs

HGA 900 Graphite Furnace—for sensitive quantitative trace metal determination. Comes with a 148-position autosampler for unmatched accuracy and reproducibility:

- Exceptional detection limits
- Lowest sample consumption
- Freedom from interferences
- Fully automated
- Proven reliability



HGA 900 Graphite Furnace.

Flow Injection for Atomic Spectroscopy (FIAS) Systems—combine the advantages of mercury/hydride AA with flow injection:

- True automation
- Exceptional detection limits

S10 Flame Autosampler—turn your spectrometer into a fully automated analytical workstation:

- Self-rinsing sampling probe with full control of wash parameters
- Multiple-tray configuration flexibility
- Random access for flexible sample placement
- Built-in peristaltic pump permits continuous rinsing of sampling capillary between samples
- Compatible with third-party vendor trays

AutoPrep 50 Automatic Dilution System—automate flame AA:

- Automatic, intelligent on-line dilution
- Fully automated sample introduction when paired with PerkinElmer autosamplers

Titan MPS™ Microwave Sample Preparation System—easy to load and easy to use for optimum productivity.

PerkinElmer Sample Preparation Blocks (SPB)—ideal for any digestion/heating method requiring a temperature below 180 °C.



FIAS 400 Flow Injection for Atomic Spectroscopy System.



CONSUMABLES THAT DELIVER EXCEPTIONAL PERFORMANCE AND VALUE

PerkinElmer atomic absorption (AA) consumables are designed specifically to maximize the performance of our instruments and systems.

We validate and test them to ensure you receive accurate, repeatable results, on-time, every time.

Lamps

We have over 50 years' experience designing and manufacturing the highest performance lamps and offer a full range of single and multi-element hollow cathode lamps and high-intensity electrodeless discharge lamps for those elements for which they are more effective.



Graphite Tubes

Rely on PerkinElmer graphite tubes and contacts for consistent analytical results. Our special, high-density base graphite material guarantees it.



PerkinElmer Pure Standards

Whatever your application, you can depend on PerkinElmer Pure Standards to yield reliable, accurate results. Our wide selection of standards is supplied with a comprehensive Certificate of Analysis that documents the quality and reliability.



Nebulizers

Our AAnalyst 200/400 nebulizers are fabricated entirely of inert materials for maximum performance and corrosion resistance. These high-precision pieces maximize stability and sensitivity, even for the toughest matrices. Adjustability allows for optimum analysis of a wide variety of matrices: aqueous or organic, acid or base, diluted or concentrated.

Burner Heads

Our burner heads ensure the performance you have come to expect. All burner heads are made of 100% solid titanium—an exclusive PerkinElmer feature that provides maximum corrosion resistance when analyzing any type of sample.



Graphite Furnace Autosampler Cups

Heavy-duty construction prevents these cups from cracking or tipping. Choose from a variety of material options including clear polystyrene for aqueous solutions or PTFE, which is recommended for concentrated acids where the lowest detection levels are required.



Autosampler Tubes

We offer a wide variety of high-quality, capped and uncapped autosampler tubes and supplies for your S10 Flame Autosampler. Ranging in size from 8 mL to 50 mL, these tubes are available with either round or conical bottoms. Free-standing options are also available.





EXPAND YOUR EXPECTATIONS OF A LAB SERVICES PROVIDER

Optimize your AAnalyst 200/400 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[®]
Laboratory Services

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