HUMAN HEALTH

ENVIRONMENTAL HEALTH

PERFORMANCE THAT WILL CHANGE HOW YOU LOOK AT ICP-OES

Optima 8x00 Series

ICP Optical Emission Spectrometers

PerkinElmer®
For the Better

BREAKTHROUGH PERFORMANCE FOR EVERY TYPE OF LABORATORY

ENVIRONMENTAL

Easy to use and engineered for exceptional throughput and detection limits, the Optima™ 8x00 series helps maximize productivity and profitability.

- Dual view capability allows measurement of high and low concentrations in the same run for enhanced productivity
- Torch cassette—low maintenance, simple operation
- Syngistix™ for ICP Software, a cross-platform solution offering ease-of-use and a shorter learning curve

GEOCHEMICAL

Designed to deliver reproducible accuracy even with complex matrices, the Optima 8x00 series offers unsurpassed performance without compromising sample throughput.

- Flat Plate™ plasma technology lowers operating and maintenance costs
- Syngistix Multicomponent Spectral Fitting—superior interference correction for more accurate results
- Simultaneous data acquisition for maximum sample throughput

PHARMACEUTICAL/NUTRACEUTICAL

With the lowest detection limits of any ICP and a full suite of enhanced data security features, the Optima 8x00 series makes it easy to comply with stringent regulatory requirements.

- Detection of full list of elements for transition to USP 232/233
- Syngistix for ICP Enhanced Security™ for 21 CFR Part 11 compliance

FOOD/PRODUCT SAFETY

With a range of revolutionary technologies, the Optima 8x00 series offers unsurpassed flexibility for handling a variety of sample types and matrices.

- Flat Plate plasma technology improves robustness for many different matrices
- PlasmaCam™ aids in method development and productivity
- Syngistix for ICP Software designed to deliver rapid method development

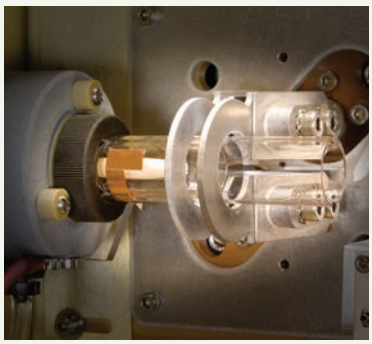
INNOVATIVE TECHNOLOGIES FOR UNSURPASSED PERFORMANCE

With its groundbreaking features and expanded capabilities, the Optima 8x00 series is more than just an evolution of the world's most popular ICP… it's a revolution.

Continuing PerkinElmer's long history of excellence and leadership in ICP technology, the Optima 8x00 series carries on a tradition of offering the best resolution and linear dynamic range. More significantly, the 8x00 series delivers a level of stability and detection limits never before seen in an ICP instrument.

Built around the proven design of the Optima platform and controlled with our flexible, intuitive Syngistix for ICP Software, the 8x00 series will change the way you look at ICP. Optima's breakthrough performance is the result of a series of cutting-edge technologies that increase productivity, enhance plasma stability, simplify method development, and dramatically reduce operating costs.

Laboratories have very different definitions of what it means to get the most out of their ICP. But whether your priority is precision or reliability, flexibility or stability, speed or simplicity, you'll find the ideal solution in the Optima 8x00 series.



Breakthrough Flat Plate Plasma Technology Reduces Argon Consumption

With PerkinElmer's patented Flat Plate plasma technology, the same robust, matrix-tolerant plasma is generated and maintained with almost half the argon consumption of helical load-coil systems. Maintenance-free and requiring no cooling, this whole new approach to RF generation minimizes operating costs without compromising performance. Flat Plate plasma technology is designed to run at 8 liters/minute plasma gas flow at any RF power, allowing for robust plasma conditions.

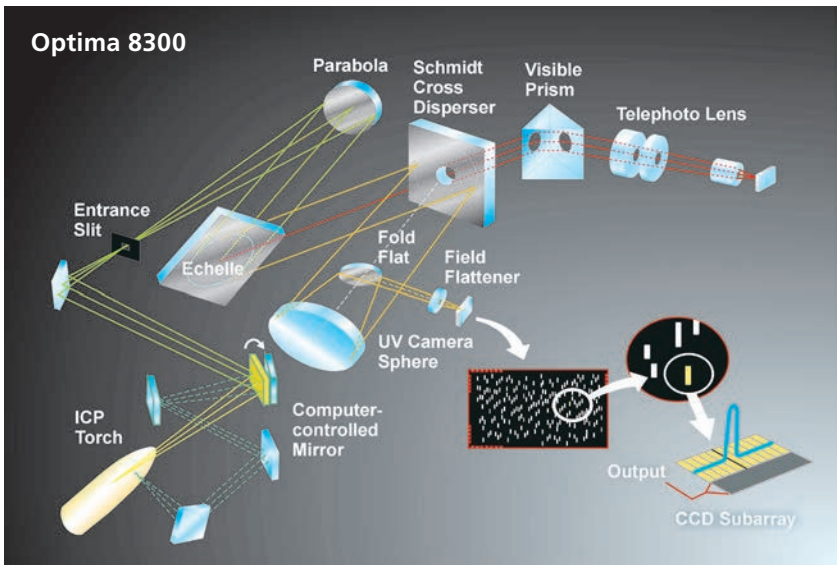
MAXIMIZING PRODUCTIVITY
WHILE MINIMIZING COSTS

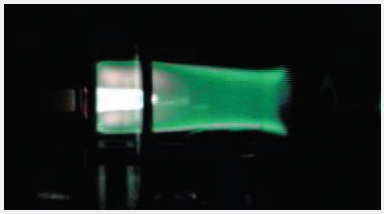
Advanced Optical System Ensures Superior Detection Limits

Engineered for enhanced light throughput, the optical system on Optima 8x00 instruments delivers superior detection limits, simplifying compliance with U.S. EPA, EN and DIN regulations. Unsurpassed stability and analytical accuracy are ensured through either Dynamic Wavelength Stabilization™ (model 8000) or a thermally stabilized optical system (model 8300).

Patented Dual Viewing of the Plasma Enhances Productivity

With a unique design that features both axial and radial viewing of the plasma, Optima 8x00 instruments allow elements with high and low concentrations to be measured in the same run for superior throughput and efficiency. Axial viewing provides the lowest detection limits while radial viewing, with variable viewing height, permits extended working ranges and eliminates ionization effects.



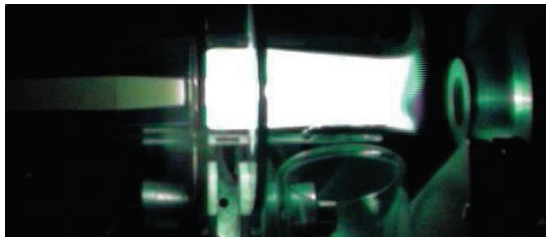


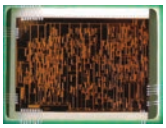
PlasmaCam Viewing Camera Streamlines Method Development

By offering continuous viewing of the plasma, this integrated color camera simplifies method development and enables remote diagnostic capabilities for maximum uptime. An industry first, PlasmaCam is the ideal tool for high-throughput contract labs in food/product safety and geochemical.

Unique, Shear Gas System Eliminates Interferences

By removing the cool tail plume of the plasma, this innovative technology eliminates interferences. Since it uses air instead of expensive high-extraction systems or cones that tend to clog and require cleaning, the system is maintenance-free, improves performance and enables a greater linear dynamic range. Removing the tail plume also minimizes the need to add expensive ionization suppressants.





Two High-performance SCD (Segmented-array Charge-coupled Device) Detectors Improve Accuracy

Available on the Optima 8300, the detectors provide superior resolution and performance across the entire wavelength range (with one for UV, the other for Vis), reducing interferences and improving accuracy.

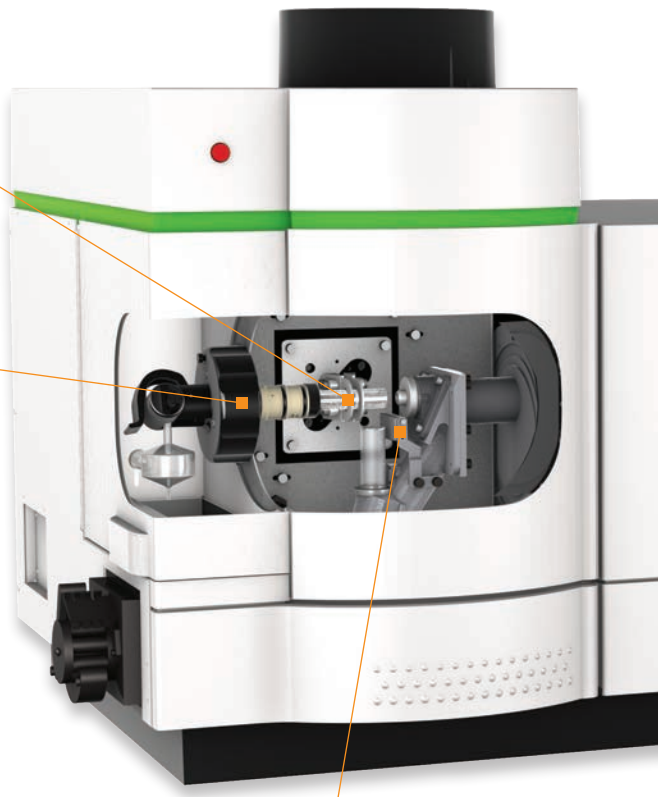
Adjustable, Quick-change Torch Cassette Simplifies Maintenance and Optimizes Performance

Simple to adjust (with no tools) even while the ICP is running, Optima's torch cassette makes it easy to optimize performance, even with the most difficult samples. For added flexibility, the instrument is compatible with a variety of nebulizers and spray chambers, including Scott/Cross Flow and Cyclonic/Meinhard™ options.

PUTTING TOGETHER THE PERFECT ICP SOLUTION

Flat Plate Plasma Technology—Generates a robust, maintenance-free, matrix-tolerant plasma using half the argon of traditional load-coil technologies.

Adjustable Torch Cassette—Makes it easy to optimize performance—even with the most difficult samples—and offers simple maintenance.



Patented Dual View—Offers radial and axial viewing of the plasma for effective measurement of elements with high and low concentrations in the same method.

Shear Gas System—Removes the cool tail plume of the plasma to eliminate interferences and minimizes the need for ionization suppressants. With no cones to clean or expensive high extraction systems, the use of shear gas is maintenance-free and optimizes performance in the axial view.

Select the Model that Best Addresses the Needs and Priorities of your Laboratory	Optima 8000	Optima 8300
Maximum Throughput		X
Fastest Warm-Up	X	
Universal Data Acquisition		X
Time-Resolved Data Acquisition		X
Smallest Instrument Footprint	X	

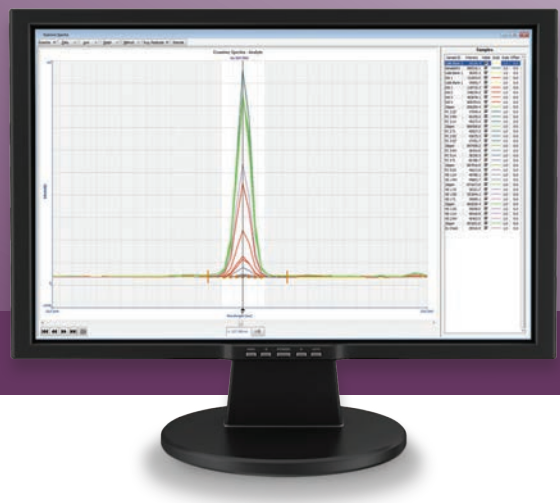
Syngistix for ICP Software—Features an intuitive, left-to-right, icon-based design that mirrors your workflow and simplifies every step of an analysis, from instrument setup to data acquisition to reporting results.

PlasmaCam—Enables continuous viewing of the plasma for simpler method development and remote diagnostic capabilities.

Two SCD Detectors—Deliver superior resolution across the entire wavelength range, reducing interferences and improving accuracy, offering truly simultaneous data acquisition (Optima 8300).

Autosamplers—Optimize productivity with a choice of compatible models including the PerkinElmer S10 and a variety of other sample-introduction system options.

THE SOFTWARE TO SIMPLIFY YOUR WORKFLOW

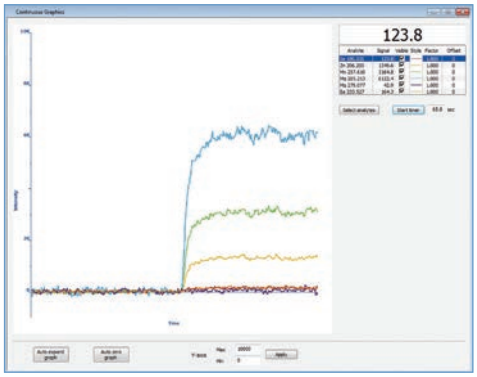


Leveraging the many hardware innovations of the Optima 8x00 series and tailoring the instrument's performance to your specific applications is easy with Syngistix for ICP Software.

Flexible and intuitive, the interface mirrors the progression of your workflow, guiding you through each step for greater control and confidence—before, during and post analysis.

Easy to Set Up and Get Started

Status Panel displays information on key instrument components in real time so you can monitor the entire system at a glance to ensure optimal performance.



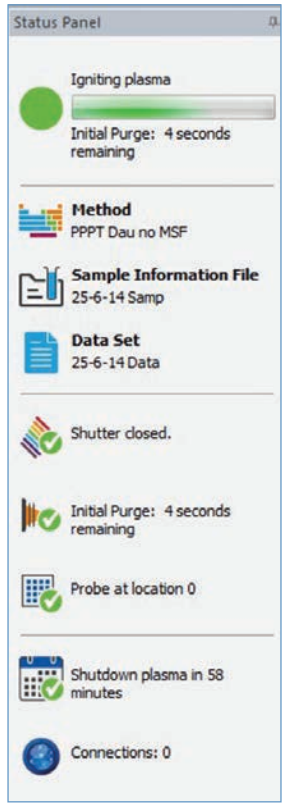
By displaying data in a continuous real-time graphics format, Syngistix for ICP Software makes it easier than ever to optimize instrument performance. In this example, signals can be seen to improve as the RF power is increased.

Continuous Graphics presents a unique time-versus-intensity plot that allows real-time monitoring of instrument performance while optimizing instrument parameters.

Simple Method Development

Method Editor organizes parameters into logical groups—spectrometer, sampler, processing, calibration, checks and QC—and allows measurement times to be selected for speed and productivity.

Built-in Wavelength Table provides suggested analytical lines and other data to help identify potential interferences and simplify method development.



The software's Status Panel offers real-time information on various instrument components and gives you quick and easy access to important method and sample information.

Enhance Your Productivity

Syngistix Offline allows you to run multiple software sessions so you can simultaneously create methods, enter sample information, review or reprocess data, all without interrupting the active analysis.

Cross-Tab Data Viewer displays data in an easy-to-read format arranged by element and allows results to be directly exported to Excel. Also provides an Internal Standard plot and a QC tab that shows all QC data including coded failures.

Advanced SmartRinse™ customizes and adjusts rinse times based on element concentrations in each sample, automatically optimizing rinse times to improve productivity while preventing sample-to-sample contamination.

Interference Correction is simple and reliable with a powerful Examine Spectra/MSF window that lets you view spectra, correct wavelengths, change background correction points and build Multicomponent Spectral Fitting models, and an integrated IEC Model Builder that allows you to create models from stored data—both original and reprocessed.

Get More Out of Your Data

Universal Data Acquisition (UDA) gives you the option of collecting all the spectral data for every sample regardless of the elements being determined. You then have the flexibility to retroactively determine the concentrations of elements not in the original method or at alternate wavelengths, saving precious time and resources (Optima 8300).

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

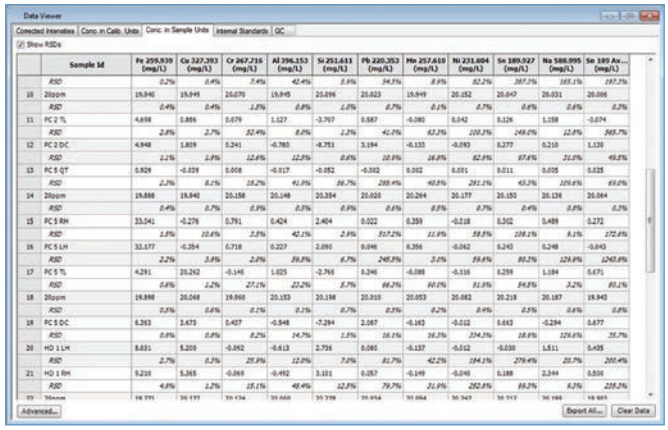
Status Panel contains a graphic progress bar that displays the percentage of an analysis that has been completed.

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

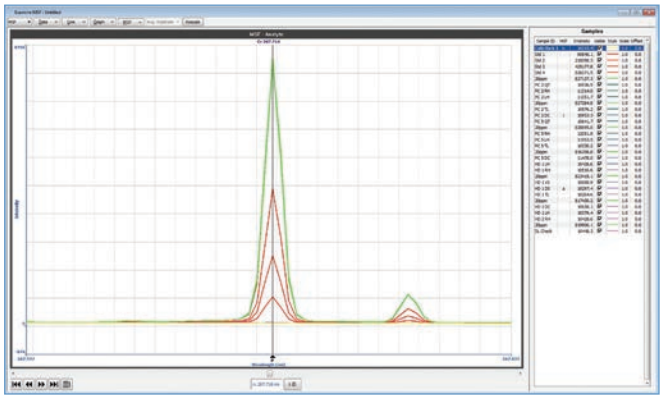
Data Reprocessing lets you adjust everything from background correction points to your calibration curve after data collection to optimize the measurement of a particular sample without having to re-run it.

LimsLink™ For Inorganic Software automates the transfer of Optima data to your PerkinElmer (or other manufacturer's) LIMS system at the end of a run for greater speed and simplicity.

TIBCO Spotfire® Software For Inorganic allows the analysis and visualization of results directly from a system rather than time-consuming manipulation and then analyzing. Advanced visualizations such as heat maps or geographical representations to be quickly generated and easily updated when new data becomes available.



The Cross-Tab Data Viewer displays data in an intuitive, elements-across format for easy review and analysis.



Multicomponent Spectral Fitting (MSF) allows the analytical signal to be isolated from the measured spectra—without interferences—for superior accuracy, precision and detection limits.

INconX™ Mobile Status App Provides Remote Access to Your Optima

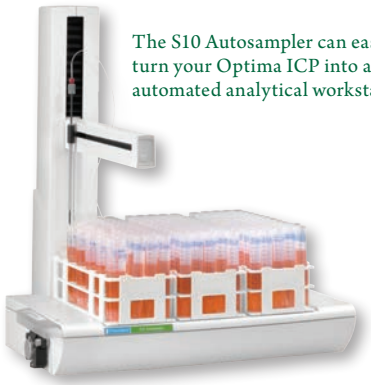
INconX, in conjunction with Syngistix for ICP Software, allows you to monitor your instrument from anywhere, any time, using your Apple® mobile device. The app lets you check an ongoing analysis, manage multiple users, and even control functions like turning the plasma on and off.

CONSUMABLES
AND ACCESSORIES THAT DELIVER EXCEPTIONAL PERFORMANCE AND VALUE

To further enhance the instrument's functionality, PerkinElmer offers a full array of accessories and consumables designed, tested and proven to achieve the best performance, productivity and reliability, while minimizing overall operating costs.

Autosamplers and Supplies

Compatible with virtually all sample introduction systems, our productivity-enhancing S10, CETAC and ESI autosamplers are fully integrated with our Syngistix for ICP Software. A wide variety of high-quality autosampler tubes and supplies is also available.



The S10 Autosampler can easily turn your Optima ICP into a fully automated analytical workstation.

Sample Preparation

Microwave Digestion—the Titan MPS™ closed-vessel microwave digestion system available in 8-vessel and 16-vessel configurations, is built to deliver simple, safe, cost-effective microwave sample preparation. With connection-free and probe-free Direct Temperature Control™ and Direct Pressure Control™ sensing technologies, digestion conditions are constantly monitored and adjusted providing enhanced digestion performance. Capable of temperatures up to 260 °C and pressures up to 100 Bar, the Titan MPS is ideal for difficult samples requiring total dissolution or quick turnaround.

Block Digestion—PerkinElmer offers SPB digestion blocks for routine sample preparation, ideal for any open-vessel digestion/heating method requiring a temperature below 180 °C.

Flow Injection for Atomic Spectroscopy (FIAS) Systems

A fully automated system that simplifies and speeds up analyses required for complex sample preparation, such as mercury and hydride-forming elements.

ICP Consumables and Supplies

Nebulizers/Spray Chambers—Scott/Cross Flow and Cyclonic/Meinhard options.

Injectors—Full selection of alumina, quartz and sapphire injectors.

Flat Plate Torches—PerkinElmer exclusive, one-piece, demountable quartz models designed for quick and easy replacement.

PerkinElmer Pure Standards—Over 300 single and multi-element standards each with a Certificate of Analysis that documents the quality, stability and reliability.

For a complete listing of ICP consumables and supplies—including information on other available torches, nebulizers, spray chambers and injectors—please contact your sales or service representative or visit www.perkinelmer.com/icpoesconsumables.

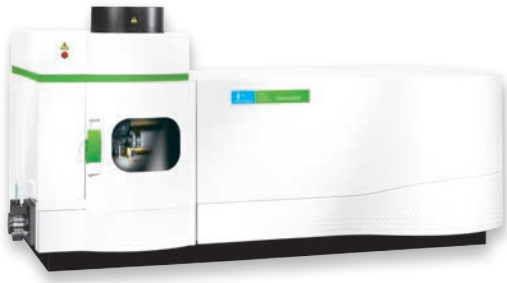
THE MOST TRUSTED NAME IN ELEMENTAL ANALYSIS

PerkinElmer has been at the forefront of atomic spectroscopy technology for over 50 years. No matter what your field, application or sample type, we have the tools and expertise to help you achieve accurate results quickly, efficiently, effortlessly.

With tens of thousands of installations worldwide, PerkinElmer systems are performing inorganic analyses every hour of every day. So turn to the most trusted name in the industry. And take advantage of a complete array of solutions engineered for unparalleled performance, accuracy and confidence.

Atomic Absorption

ICP-OES



ICP-MS

For more information on our full suite of atomic spectroscopy products and services—including a wide array of mercury analyzers and sample preparation tools—please visit www.perkinelmer.com/atomicspectroscopy.

EMPOWERING YOUR SCIENCE DRIVING 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

Expand Your Expectations of a Lab Services Provider

Optimize your Optima 8x00 ICP-OES 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 ICP-OES. 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.

PerkinElmer, Inc.
940 Winter Street
Waltham, MA 02451 USA
P: (800) 762-4000 or
(+1) 203-925-4602
www.perkinelmer.com

PerkinElmer®

For a complete listing of our global offices, visit www.perkinelmer.com/ContactUs

009562G_01