

HUMAN HEALTH

ENVIRONMENTAL HEALTH



BRINGING  
LONG-TERM  
RELIABILITY  
INTO FOCUS



## Optima 7300 V Family

ICP-OES Spectrometers

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



## SUPERIOR PERFORMANCE AND ENHANCED RELIABILITY

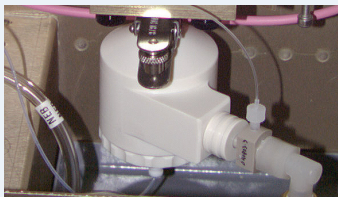
No matter how demanding your operating conditions or how high your sample throughput requirements, the Optima™ 7300 V with its intuitive Syngistix™ for ICP Software offers the ideal solution for economical elemental analysis. Recognizing the unique needs of today's metallurgical, geological and used oils laboratories, the instrument is engineered around a classic vertical torch design that eliminates carbon build-up and minimizes maintenance requirements. Ideal for applications that don't require the degree of sensitivity offered by a dual-view optical system, the instrument's radial viewing capability ensures fast, stable operation, dependable results, and a low cost per analysis.

### CHOOSE THE SOLUTION THAT'S RIGHT FOR YOU



#### Optima 7300 V Oils

Designed for oil-analysis programs such as the Caterpillar® S.O.S<sup>SM</sup> Program and ASTM Methods D4951 and D5185.



#### Optima 7300 V HF

Hydrofluoric acid-resistant model for metallurgical and geological laboratories.

### THE WORLD'S MOST POPULAR LINE OF ICP INSTRUMENTS

The 7300 V family is part of PerkinElmer's Optima series, the industry-leading line of spectrometers that includes dual-view configurations for unparalleled sensitivity and flexibility. Visit [www.perkinelmer.com/optima](http://www.perkinelmer.com/optima) for details on the complete offering.

## Better Design. Better Results.

The optical system on the Optima 7300 V offers simultaneous measurement and coverage across the entire wavelength range (UV and Visible). More than 73 elements can be measured in seconds for exceptional sample throughput, and all raw spectral data are stored with full reprocessing capabilities. This allows sample results to be evaluated under different processing conditions, reducing the need to re-run samples, saving time and money.

Not only is the Optima 7300 V capable of running more samples per hour—at a lower cost per analysis—than any other vertical-torch ICP system available, but it also ensures accuracy, improves method development and consistently delivers reliable results.

## Low Maintenance. High Performance.

### Reliable Solid State RF Generator

- No power amplifier tubes to replace for economical operation and superior uptime.
- Free-running 40 MHz operation allows automatic optimization with all sample matrices and solvents.

### Trouble-Free Sample Introduction Systems

- The Oils model features a baffled-cyclonic spray chamber and low-flow GemCone™ nebulizer for robust, reliable, trouble-free operation.
- The HF model features an HF-resistant PEEK (Poly-Ether-Ether-Ketone) cyclonic spray chamber and patented high-flow GemCone nebulizer with sapphire orifice.

ROUTINE CATERPILLAR S.O.S OIL ANALYSIS		
Element	Element Type	Wavelength (nm)
Al	Wear metal	308.213
Ca	Additive	315.889
Co*	Internal standard	228.616
Cr	Wear metal	205.562
Cu	Wear metal	324.756
Fe	Wear metal	259.942
K	Contaminant	766.490
Mg	Additive	279.081
Mo	Wear metal	203.848
Na	Contaminant	589.021
Ni	Wear metal	231.601
P	Additive	214.916
Pb	Wear metal	220.355
Si	Contaminant	288.157
Sn	Wear metal	189.929
Zn	Additive	213.861

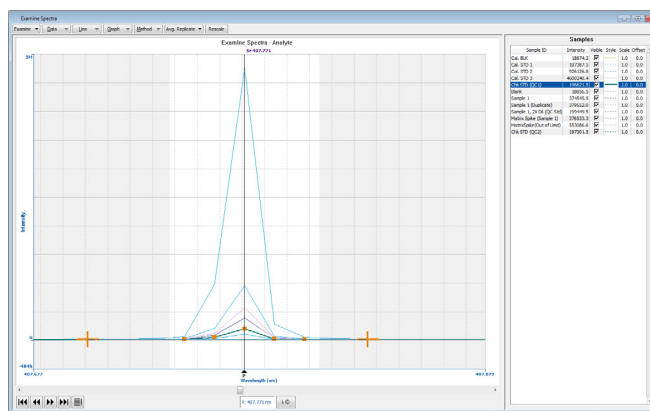
\*Cobalt is used as an internal standard only for the additive metals to compensate for matrix differences between samples. A full selection of Wear Metal Metallo-Organic standards for oil analysis is available.

## Torch

- Quick-change mount allows easy replacement without tools.
- Special design virtually eliminates carbon formation during used oils analyses, dramatically reducing routine maintenance.
- Demountable sample injector allows the use of custom injectors to suit your application. Also allows separate maintenance of torch and sample injector—no need to replace both when only the injector needs cleaning/replacing.

## Optical System

- Temperature-controlled housing for optimal performance.
- No moving parts for minimal maintenance requirements.
- Unique optical compartment ensures exceptional long and short-term wavelength stability for greater accuracy, more repeatable results and improved productivity with less time spent on routine system calibration.



By simultaneously measuring the spectral background with each analyte, the Optima 7300 V offers fast, easy analysis of even the most difficult sample matrices.

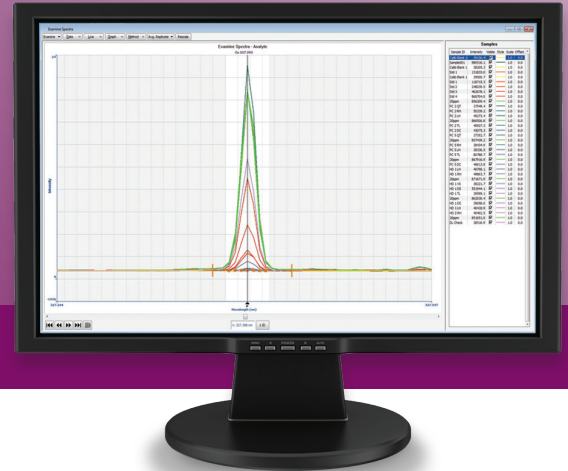
## Patented High-Performance Segmented-Array Charge-Coupled Device (SCD) Detectors

- Provide the unparalleled performance required for difficult matrices.
- Offer the wavelength flexibility to successfully complete virtually any application.
- Versatile wavelength selection allows you to analyze today's list of required elements and delivers the flexibility to meet future needs.

## Sample Compartment

- The Optima 7300 V's sample compartment provides a stable environment for fast equilibration, maximum sampling-system stability and superior performance.

# THE PERFECT SOFTWARE FOR THE IDEAL INSTRUMENT

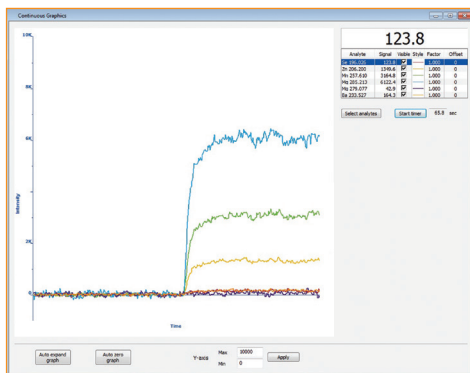


With an intuitive interface designed to mirror the way you work with the Optima 7300 V, Syngistix for ICP Software streamlines and simplifies every step of your workflow—before, during and post analysis.

## 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.

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



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.

## 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.

**Status Panel**

- Igniting plasma

Initial Purge: 4 seconds remaining

---

- Method**

PPPT Dau no MSF

---

- Sample Information File**

25-6-14 Samp

---

- Data Set**

25-6-14 Data

---

- Shutter closed.

---

- Initial Purge: 4 seconds remaining

---

- Probe at location 0

---

- Shutdown plasma in 58 minutes

---

- Connections: 0

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.

**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.

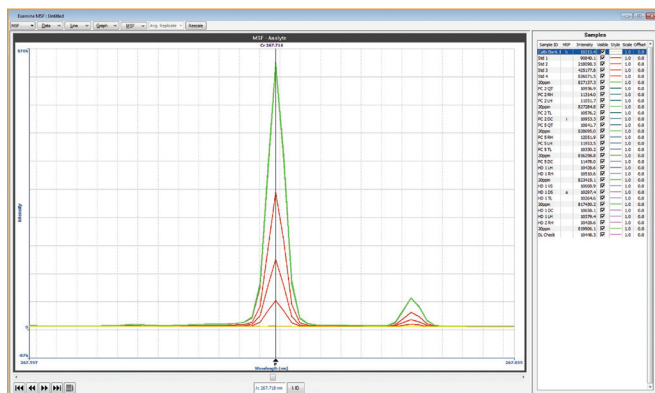
**Data Reprocessing** lets you adjust everything from background correction points to your calibration curve after data collection to optimize the measurement of a particular sample without having to re-run it.

**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 can be quickly generated and easily updated when new data becomes available.

Sample ID	Fe 259.039 (mg/L)	Cu 327.393 (mg/L)	Cr 267.216 (mg/L)	Al 396.153 (mg/L)	Si 251.611 (mg/L)	Pb 220.353 (mg/L)	Mn 257.610 (mg/L)	Ni 231.604 (mg/L)	Sr 189.027 (mg/L)	Na 588.995 (mg/L)	Sn 189.49... (mg/L)
10 ASD	19.940	19.949	20.070	19.945	20.096	20.023	19.949	20.152	20.047	20.031	20.006
10 20ppm	0.2%	0.4%	0.4%	0.4%	0.2%	0.4%	0.2%	0.2%	0.2%	0.2%	0.2%
11 PC 2 TL	4.698	0.866	0.879	1.127	-3.767	0.587	-0.080	0.042	0.126	1.158	-0.074
11 ASD	2.8%	2.7%	22.4%	8.2%	2.2%	42.6%	62.2%	220.7%	199.0%	22.8%	262.7%
12 PC 2 DC	4.848	1.819	0.241	-0.780	-0.751	3.194	-0.133	-0.093	0.277	0.210	1.139
12 ASD	1.1%	1.9%	22.6%	22.5%	0.6%	10.0%	16.8%	62.9%	37.6%	22.0%	49.5%
13 PC 5 QT	0.829	-0.039	0.008	-0.017	-0.052	-0.002	0.002	0.001	0.011	0.005	0.025
13 ASD	2.7%	0.2%	22.2%	42.9%	56.7%	285.4%	69.5%	291.1%	43.7%	299.6%	69.6%
14 20ppm	19.888	19.940	20.188	20.148	20.264	20.020	20.264	20.177	20.150	20.136	20.064
14 ASD	0.4%	0.7%	0.8%	0.5%	0.8%	0.6%	0.5%	0.7%	0.4%	0.6%	0.7%
15 PC 5 RH	33.041	-0.276	0.791	-0.424	2.404	0.022	0.359	-0.018	0.302	0.489	0.272
15 ASD	1.5%	10.6%	2.5%	42.1%	2.8%	517.2%	11.9%	58.5%	108.1%	8.1%	172.6%
16 PC 5 LH	32.177	-0.354	0.718	0.227	2.090	0.046	0.356	-0.002	0.243	0.248	-0.043
16 ASD	2.2%	2.0%	0.2%	58.5%	6.7%	245.9%	2.0%	59.6%	30.7%	228.9%	2742.9%
17 PC 5 TL	4.291	20.162	-0.146	1.025	-2.766	0.246	-0.088	-0.116	0.159	1.194	0.671
17 ASD	0.6%	1.2%	27.1%	22.2%	5.7%	66.8%	90.0%	91.9%	24.5%	1.2%	80.1%
18 20ppm	19.898	20.068	19.960	20.153	20.188	20.010	20.053	20.082	20.218	20.217	19.943
18 ASD	0.3%	0.6%	0.2%	0.1%	0.7%	0.2%	0.2%	0.4%	0.5%	0.6%	0.2%
19 PC 5 DC	6.343	3.673	0.437	-0.548	-7.284	0.287	-0.163	-0.012	0.663	-0.294	0.677
19 ASD	0.9%	0.8%	0.2%	24.7%	1.6%	16.1%	16.3%	334.3%	18.8%	126.6%	35.7%
20 HD 1 LH	8.031	5.200	-0.092	-0.613	2.736	0.080	-0.137	-0.012	-0.030	1.511	0.435
20 ASD	2.7%	0.2%	25.9%	22.0%	7.0%	81.7%	42.2%	104.6%	279.4%	20.7%	200.4%
21 HD 1 RH	9.210	5.265	-0.069	-0.467	3.101	0.057	-0.149	-0.040	0.188	2.294	0.510
21 ASD	4.9%	2.7%	22.1%	45.4%	22.5%	79.7%	31.6%	252.4%	69.7%	8.7%	222.2%
22 20ppm	19.979	19.977	20.174	20.066	20.208	20.054	20.064	20.243	20.213	20.166	19.941

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.

# EVERYTHING YOU NEED TO OPTIMIZE PERFORMANCE



Designed and tested to get the most out of every Optima 7300 V, PerkinElmer's ICP accessories, supplies and consumables ensure the highest levels of performance, productivity and reliability, while controlling your operating costs.

## Autosamplers and Supplies

To facilitate fully automated analysis, including mixing and dilutions, the instrument's Syngistix for ICP Software allows the use of a broad array of autosamplers with a full line of tubes and tips:

- PerkinElmer S10 Autosampler
- CETAC ASX-1400 and ASX-1600
- JANUS® Oil Workstation

## High Throughput Sample-Introduction System and Accessories

Minimizes sample uptake and washout time, increasing throughput up to 2-3 fold.

## 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.

**PerkinElmer Sample Preparation Blocks (SPB)**—Acid-resistant, PTFE-coated blocks guarantee temperature uniformity for any 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.

**Torches**—One-piece, demountable quartz models designed for quick and easy replacement.

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

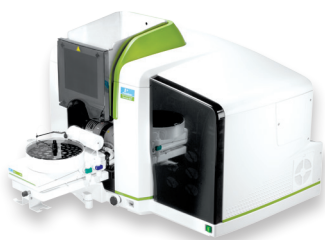


For a complete listing of ICP consumables and supplies—including information on other available torches, nebulizers, spray chambers, injectors, standards and standards kits—please contact your sales or service representative or visit [www.perkinelmer.com/icpoesconsumables](http://www.perkinelmer.com/icpoesconsumables).

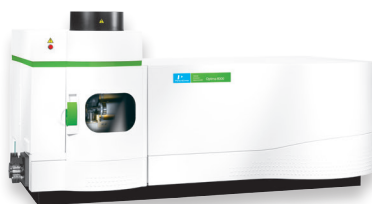
# THE WORLD LEADER IN ELEMENTAL ANALYSIS

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. Turn to us 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, please visit [www.perkinelmer.com/atomicspectroscopy](http://www.perkinelmer.com/atomicspectroscopy).

## ROBUST VERTICAL-TORCH DESIGN FOR SPECIALIZED APPLICATIONS

Specifically designed for the unique challenges of oil sample analysis and specialty metals laboratories, the Optima 7300 V features:

- Classic vertical-torch, radial view configuration
- Trouble-free sample introduction system
- Proven high-performance optical system
- Robust, solid-state generator
- Two available models: Oils Version for oils analysis and HF Version for geochemical and high-solids analysis





# THE NUMBER ONE NAME IN LABORATORY SERVICES

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

## Expand Your Expectations of a Lab Services Provider

Optimize your Optima 7300 V 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. 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.

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

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For a complete listing of our global offices, visit [www.perkinelmer.com/ContactUs](http://www.perkinelmer.com/ContactUs)

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