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 proven WinLab32™ software

AAnalyst 400

- Proven WinLab32 software interface
- 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

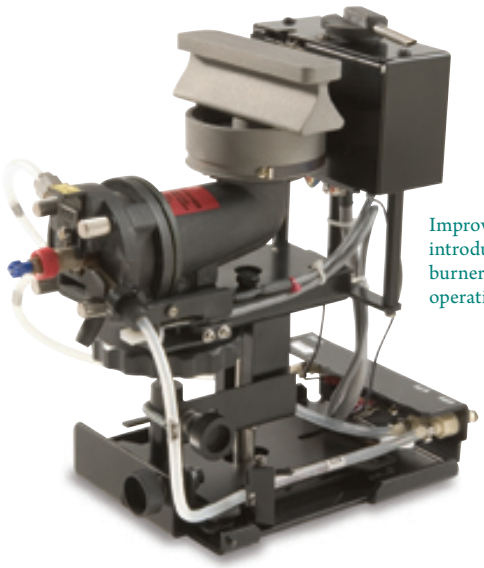
Worry-free sampling

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.



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

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.

Nebulizer is designed to handle the toughest samples.

AANALYST 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 AAnalyst 200 software package:

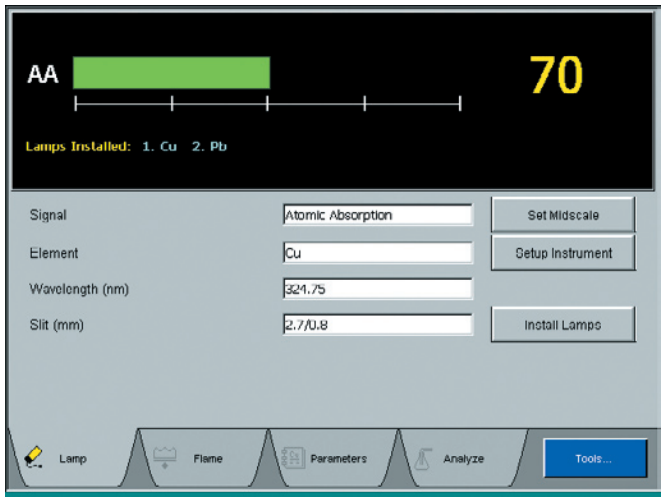
- Intuitive touch screen is easy to use—no training required
- Multiple-language capability, including Chinese, English, French, German, Greek, Italian, Japanese, Polish, Portuguese, Russian and Spanish
- Built-in cookbook has recommended conditions for each element and new methods can be easily created 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

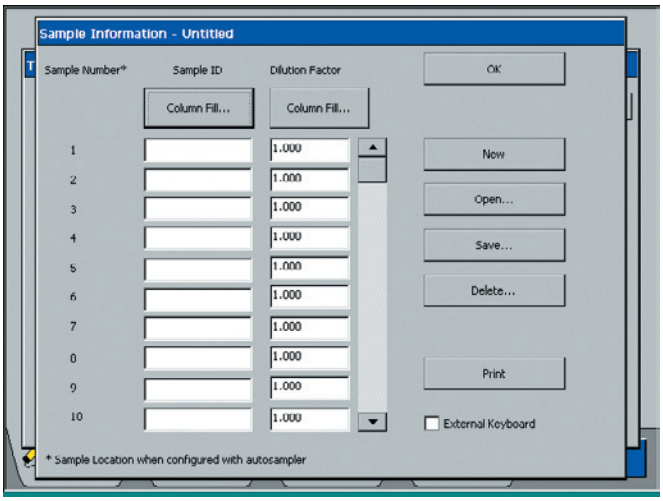
The AAnalyst 200 instantly recognizes PerkinElmer's cableless Lumina HCL lamps and their operating parameters. The lamp is also automatically aligned in the built-in turret. Simply touch the flame-ignite button, recall a stored method (or use the built-in cookbook to set up a new one) and start the analysis.

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.

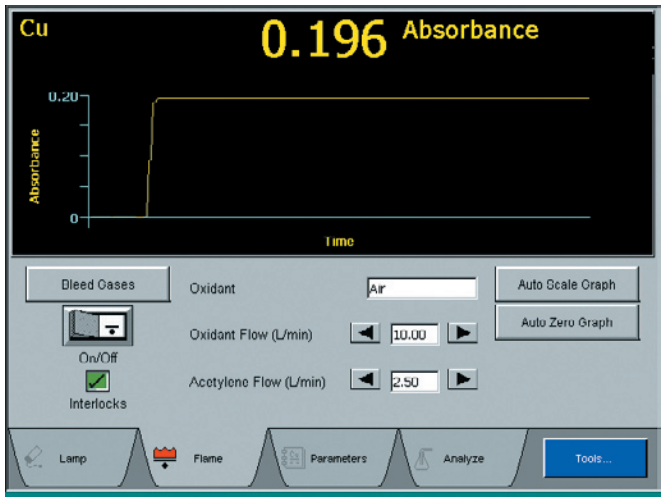
Since the AAnalyst 200 software is based on our popular WinLab32 operating software, users can effortlessly switch from other PerkinElmer AA or ICP instrumentation.



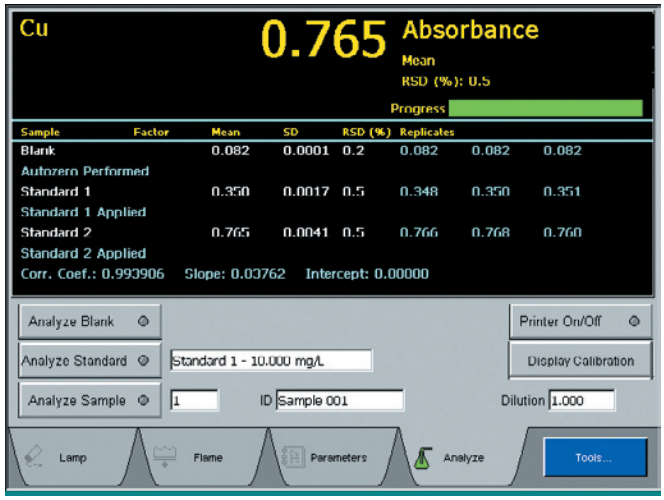
Lamp Setup page automatically sets up the instrument when using a coded Lumina lamp.



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.



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

AANALYST 400 A WHOLE NEW LEVEL OF PRODUCTIVITY

When you step up to the AAnalyst 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 robust WinLab32 software combines ease-of-use with greater flexibility to provide an even higher level of productivity. Designed with extensive input from lab managers and AA users around the world, the AAnalyst 400 provides all the tools and features needed to quickly start running samples and meet the needs of today's laboratory.

Extensive wizards make complex tasks easy. Tool tips in eight languages provide information about text and entry fields. Status panels display each instrument component for easy monitoring. And the Analysis List combines standard, sample and method information, showing the exact order in which analyses will be run and analysis status at all times. It can even be printed as a summary at the end of a run.

WinLab32 software improves productivity and makes data management easy:

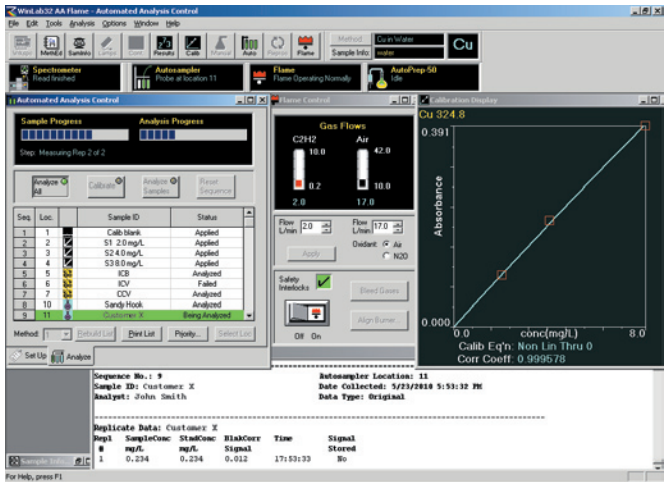
- Reduce the time required for method development, sample analysis and report generation
- Automate furnace method development, helping to optimize the pyrolysis and atomization temperatures as well as sample and modifier volumes
- Create methods, review or reprocess data offline, even add samples anytime without interrupting the active analysis
- Data Manager Reporting wizard reports and saves data compatible with commercial word processing and spreadsheet formats, even HTML
- Export wizard in Data Manager allows creation of comma (or other character) delimited files
- PerkinElmer LABWORKS™ LIMS system can create sample information files from backlog lists or QA batches—and store results

Meet regulated laboratory requirements quickly and easily

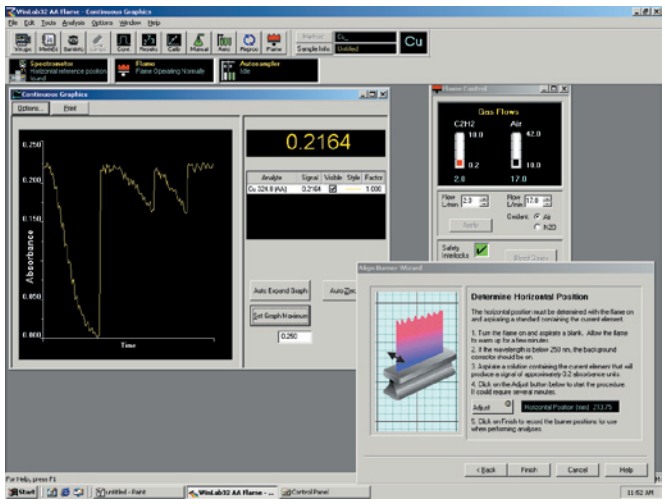
Many laboratories must comply with a variety of regulations imposed by government agencies or quality protocols. WinLab32 software can help. Leveraging the powerful security features of Microsoft® Windows®, WinLab32 software provides the protection your laboratory needs. It allows the administrator to define groups and assign permission levels using password-controlled access. Once an analysis is completed, a copy of the method is stored with the results and the software "signs" its data during storage. This ensures any alteration is readily detected using Data Manager's Verify Signature feature. Also, reprocessing won't change the stored data, but rather write new data to the database with an appropriate notation.

Optional Enhanced Security™ (ES) software adds additional capabilities needed for regulatory requirements, such as 21 CFR Part 11. Some of the regulatory features include:

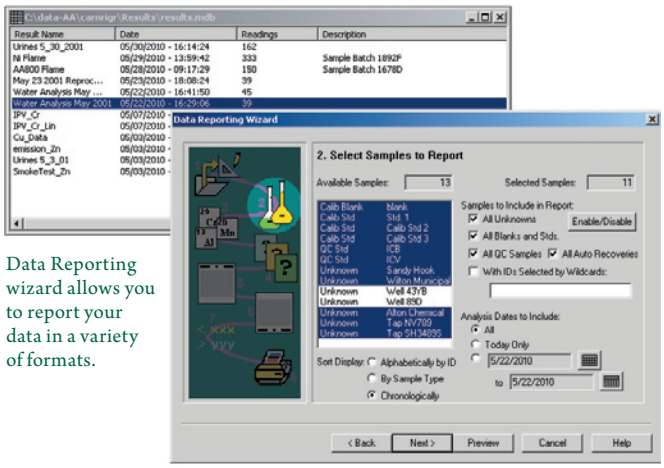
- A Master Event Log records all actions performed by user
- Version numbers added to all files and data sets
- Options to prevent analysis without data storage



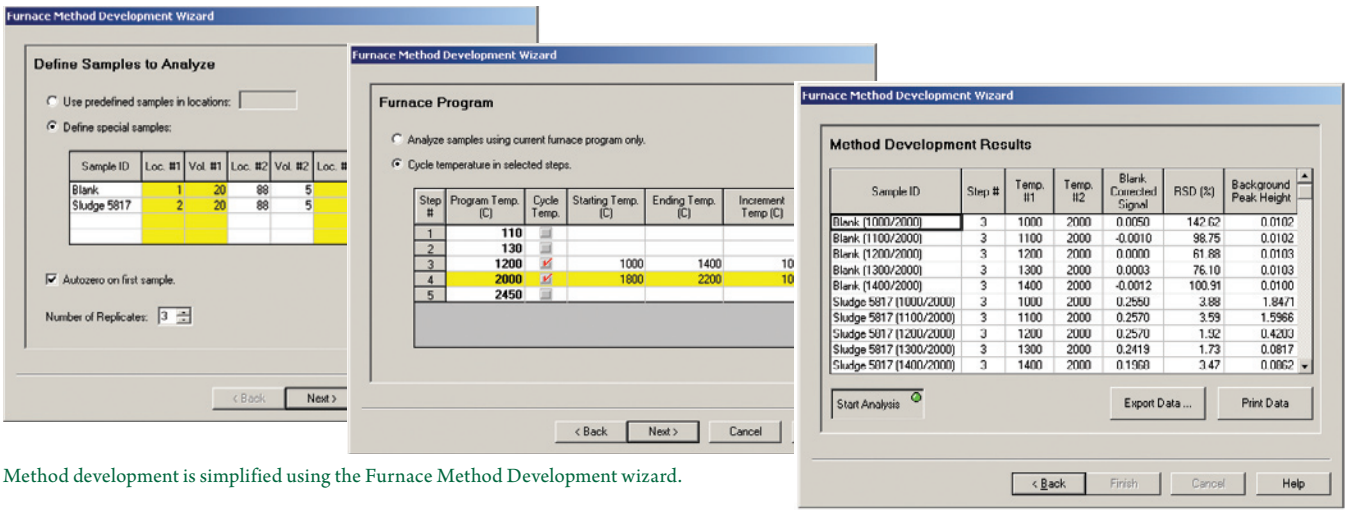
A suite of task-oriented windows can be displayed.



Wizards make complex tasks easy.



Data Reporting wizard allows you to report your data in a variety of formats.



Method development is simplified using the Furnace Method Development wizard.

CUSTOMIZE YOUR SYSTEM TO YOUR NEEDS

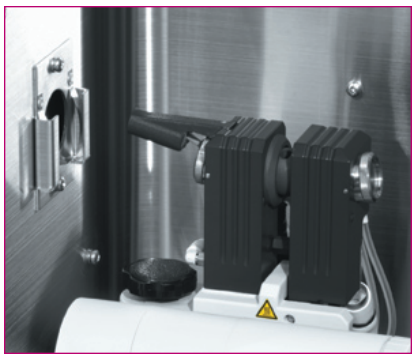
Customize your AA system to improve productivity with these simple plug-in accessories that are automatically recognized by the instrument when it is turned on:

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

Multiwave™ 3000 Microwave Sample Digestion System—built-in cooling reduces cycle time, improving 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 Teflon®, 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.

ENSURED COMPLIANCE ASSURED PEACE-OF-MIND

OneSource® Laboratory Services is the industry's only audit-proven solution for your entire lab's IQ, OQ and PQ protocols, covering all laboratory technologies and equipment manufacturers worldwide.

With 20 years of experience developing and delivering multi-vendor qualification services and more than 100,000 instrument qualifications completed, we've had zero audits or warnings. And yet, our quality doesn't cost more. In fact, you'll see guaranteed cost savings by consolidating service providers and leveraging economies of scale.

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