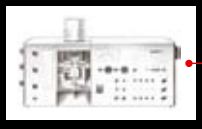
analytikjena

contrAA® 300

Quality is the difference

More than 150 Years of Experience in the Field of Optical Spectroscopy

Analytik Jena has a long tradition in developing high quality and precision analytical systems which dates back to the inventions made by Ernst Abbe and Carl Zeiss. Today Analytik Jena is a leading manufacturer of high performance analytical instruments and one of the most innovative companies.



1874 First Spectrometer

1924 First Pulfrich photometer – the basis for the development of spectrophotometry in Jena

1937 First Flame photometer – Carl Zeiss establishes the methodology of flame photometry

1969 Prototype of the first commercial flame AAS

1971 Launching of the first AAS 1 of Carl Zeiss Jena

1993 Introduction of the first Zeiss-AAS graphite system with transverse-heated graphite furnace

2000 AAS ZEEnit, the first transverse-heated Zeeman graphite furnace AAS instrument with variable magnetic field and 3field mode

2004 Analytik Jena presents the first High-Resolution Continuum Surce AAS (HR-CS AAS) worldwide – a revolution in Atomic Absorption

High-Resolution Continuum Source AAS – the better way for atomic absorption spectrometry

"After more than 50 years of successful application of traditional atomic absorption spectrophotometers with line sources (hollow cathode lamps), Analytik Jena, the technology leader in the field of optical spectroscopy, now presents a new generation of AA spectrophotometer. – the High-Resolution Continuum Source AAS (HR-CS AAS)."

The latest developments in lamp technology (high-intensity continuum radiation sources with high light intensity) and detector technology (CCD chip) have been applied consistently and combined with a specially developed high-resolution double monochromator to produce a new instrument concept.

The **contrAA® 300** is the first HR-CS flame AA spectrometer and it outperforms the analytical power of classical AAS in all areas.

The **contrAA® 300** combines the advantages of classical AAS, i.e. its robustness, simple operation and low cost with that of fast sequential multi-element determination.

It is now possible to perform fast, sequential determinations and thereby raise the efficiency and productivity of a laboratory by saving time, avoiding errors, improving the quality of results and, at the same time, reducing costs.


contrAA
300

A new technology makes its mark: High-Resolution Continuum Source AAS

Quality is the difference

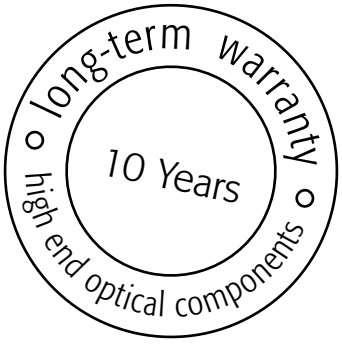
Our primary goal is to provide high-performace analytical instruments with:

- Highest quality
- Unique precision
- Innovative technology
- Durability

It is primarily our costumers who benefit from meeting these high demands:

Analytik Jena is the only company which offers a long-term warranty on optical components!

Superb-quality optical components meeting the highest performance and safety standards is the prime feature of each of our spectrometers.



contrAA® 300 – High-Resolution Continuum Source AAS (HR-CS AAS) for flame and hydride technology

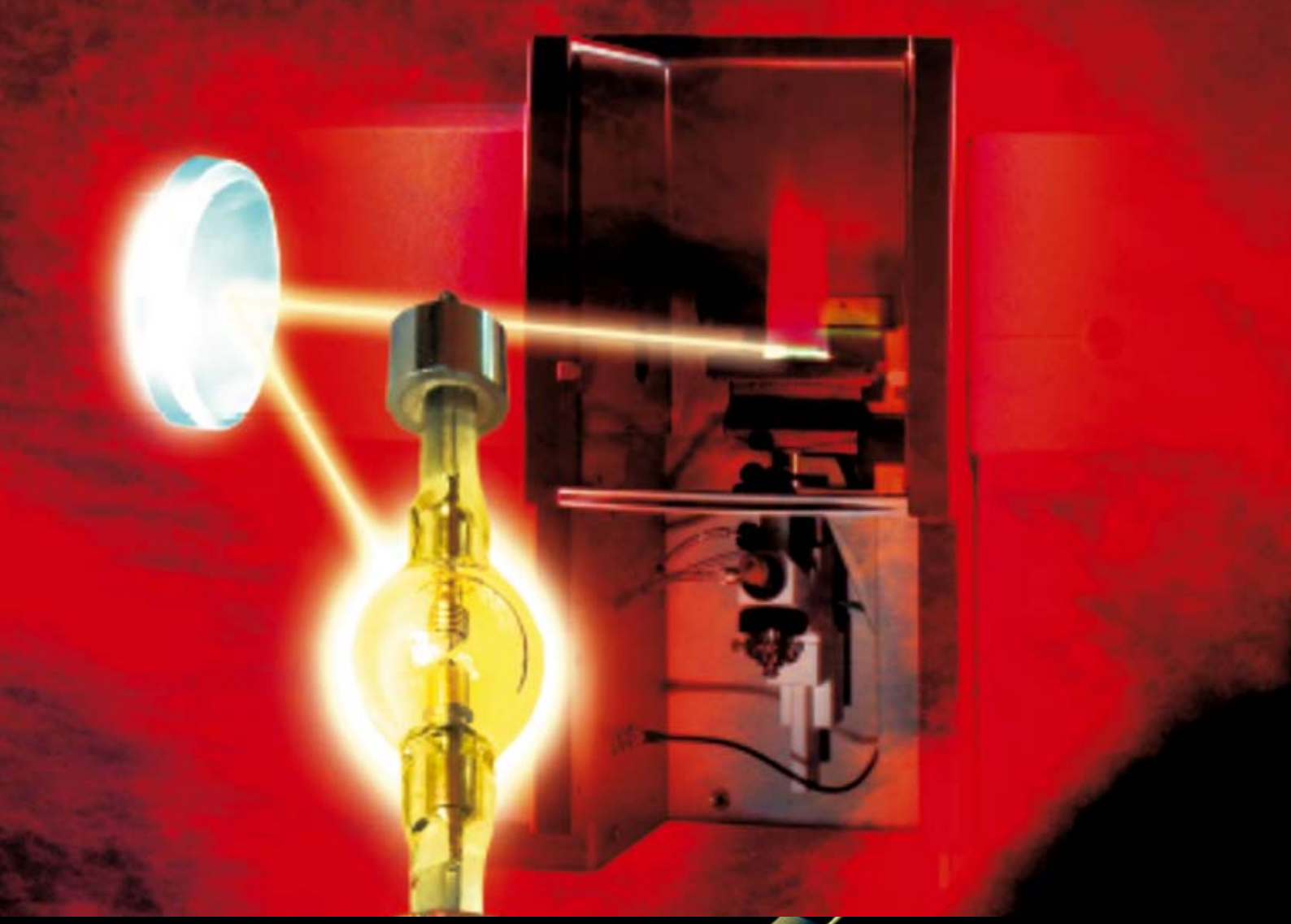
- Unsurpassed variability and flexibility
- Unique speed
- Optimal accuracy
- Best analytical performance
- Maximum information content
- Significant increase in efficiency
- Simple operation
- Reduced cost

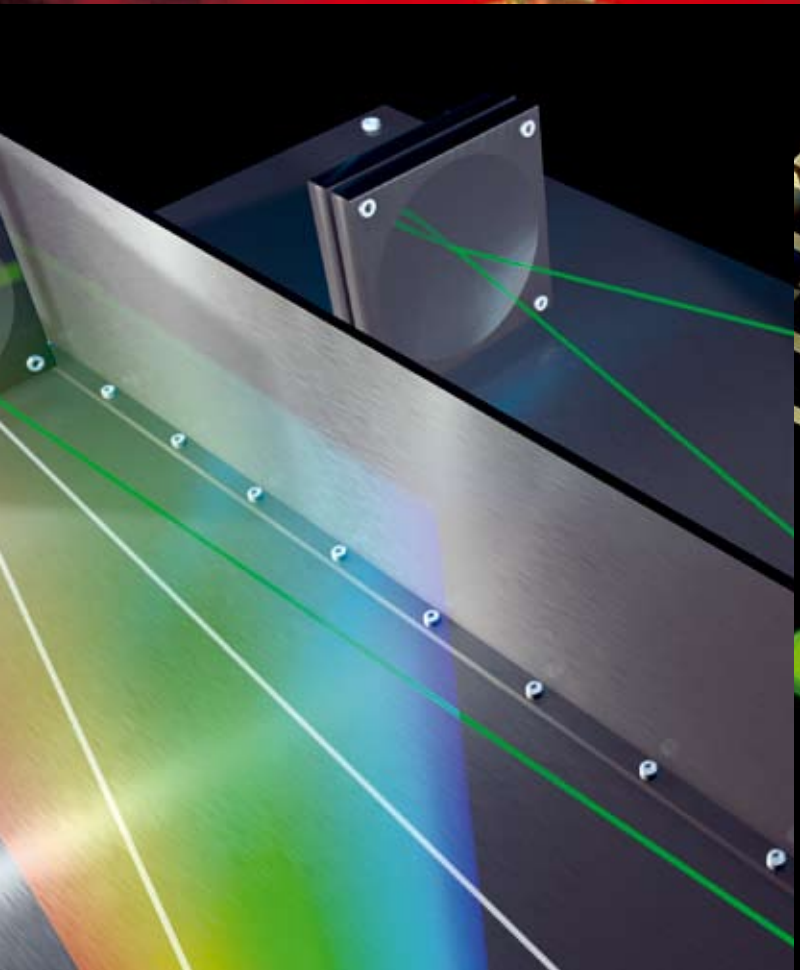
High-Resolution Continuum Source AAS (HR-CS AAS) offers completely new analytical possibilities for the entire spectral range – from the near vacuum UV to the near infrared – through the use of a continuum radiation source. Maximum information is combined with low running cost and straightforward operation!

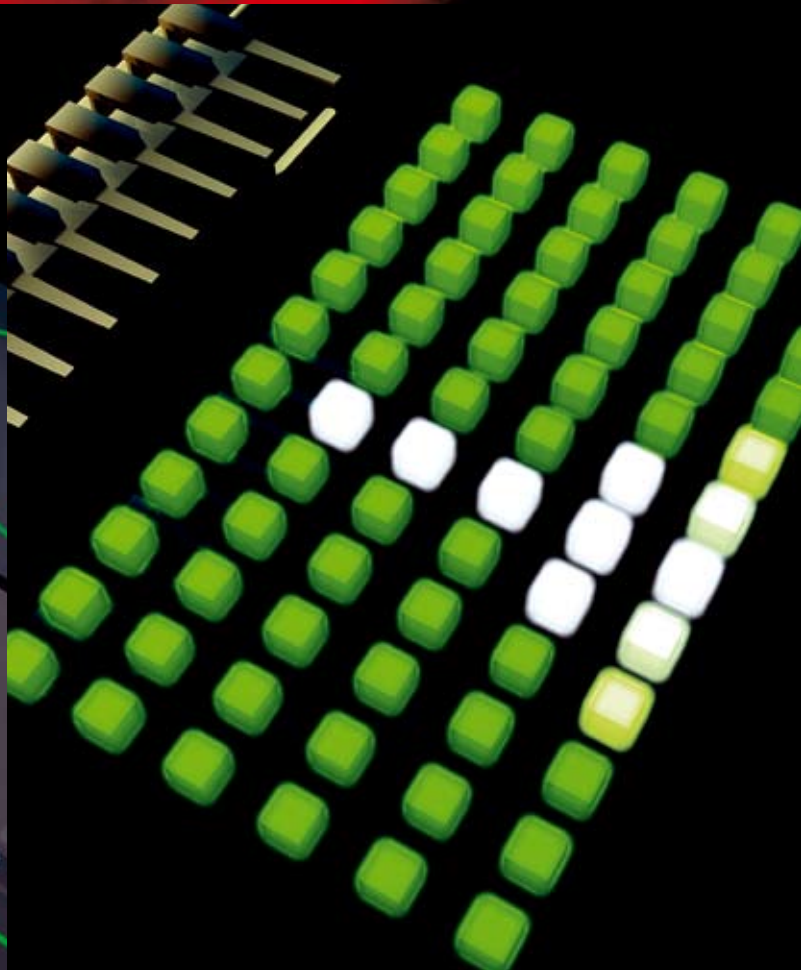
The HR-CS AAS technique closes the methodological gap between AAS and ICP OES.

With the contrAA® 300 a new instrument generation has emerged, which satisfies today's requirements for a modern atomic absorption spectrometer:

- Only one high intensity radiation source
- No additional background correction
- Simultaneous registration of analyte and background signals
- For use with all lines and elements
- Expansion of the linear measuring range
- Improvement in detection limits
- Simplest method development
- Fast sequential multi-element determination







Maximum information content through a new optical concept

Unique flexibility in AAS

The xenon short arc-lamp is a continuum radiation source with high intensity over the entire wavelength range of interest in AAS. Each element and any line is available for measurement. As a result of this feature not only atomic absorption lines, but also molecular absorption bands are accessible, hence, a completely new analytical dimension in AAS.
Whether an element is rarely or regularly investigated is no longer an issue.

Method development made easy

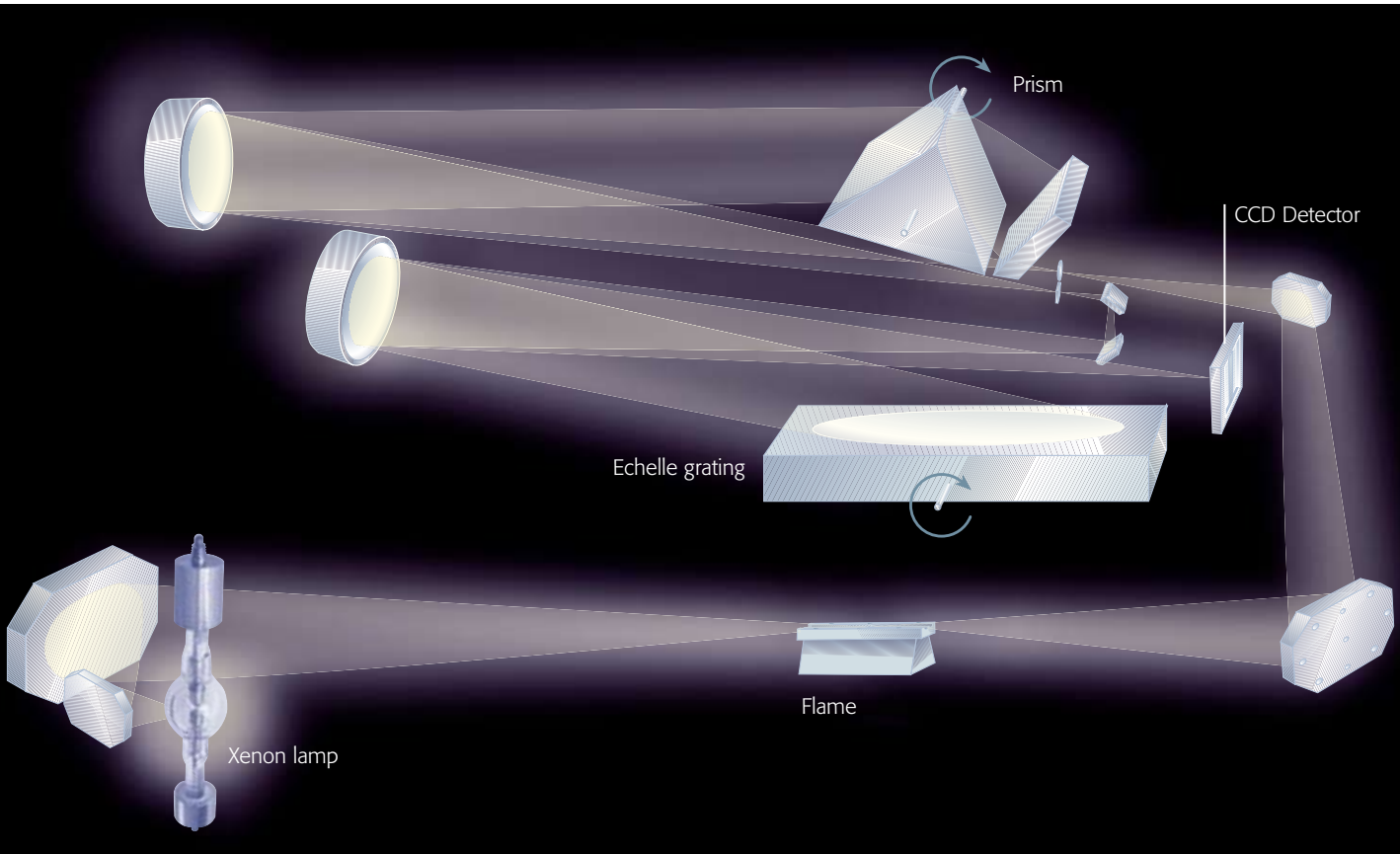
The combination of the high-resolution echelle spectrometer with the CCD detector makes method development with the contrAA® 300 even simpler than it has been before. Not only the intensity at the analytical line, but also the spectral neighborhood is simultaneously registered and a range of up to 1 nm is recorded with high resolution.
This means it is apparent at first glance and without laborious optimization whether an analysis line is interfered.

Speed as the basic principle

The contrAA® 300 is ready to measure at any time! The previously necessary burning-in time of the lamp is no longer required!

Whereas the individual method was of prime importance in the past, now the sequential multi-routine has become the standard. All elements of the first sample are determined before there is a switch to the subsequent sample.
Patented solutions allow the fastest switchover of the spectrometer from line to line and consequently minimize measuring time and sample consumption.
Effectiveness is the keyword! The first results for the sample are available after just a few seconds.

Optical path of contrAA® 300



Scraper – automatic cleaning module

Autosampler for the flame method

Hydride system

High sample throughput guaranteed

Automation is as important as ever, especially for the contrAA® 300. In order to attain the efficiency strived for, the contrAA® 300 can be combined with intelligent dilution in the autosampler and with the injection module. Automated sample feed and dilution functions, multi-element multiple point calibration from a simple standard as well as reliable quality monitoring and yet simple handling – these are requirements the contrAA® 300 fulfills with ease.

More than just a sampler:

- Automated and intelligent dilution
- Automatic optimization of the flame parameters

Easy analysis high-matrix samples

In combination with optimized accessories, such as the injection module SFS, complex samples with high matrix content can also be routinely analyzed.

- Ideally suited for samples with high total dissolved solids content and high acid concentration due to the continuous rinsing of the burner head
- Guaranteed stable burner conditions and constant temperature profiles
- Automatic injection of the smallest sample volumes

User-friendly and robust

Trouble-free operation, especially with the nitrous oxide flame, is the aim in daily routine work. The Scraper is essential for this purpose – an intelligent automatic burner cleaner for problem-free working with the acetylene/nitrous oxide flame over long periods of time.

Once it is activated in the software, the Scraper guarantees a continuous and reproducible measuring procedure in routine work without interruption. The burner head is cleaned prior to each sample and before setting measurements. The Scraper is also used for burning-in the acetylene/nitrous oxide flame. The burner head is cleaned every 30 seconds thus leading to undisturbed flame burning.

A small module that nevertheless makes a real contribution to the overall contrAA® 300 concept when it comes to user-friendliness.

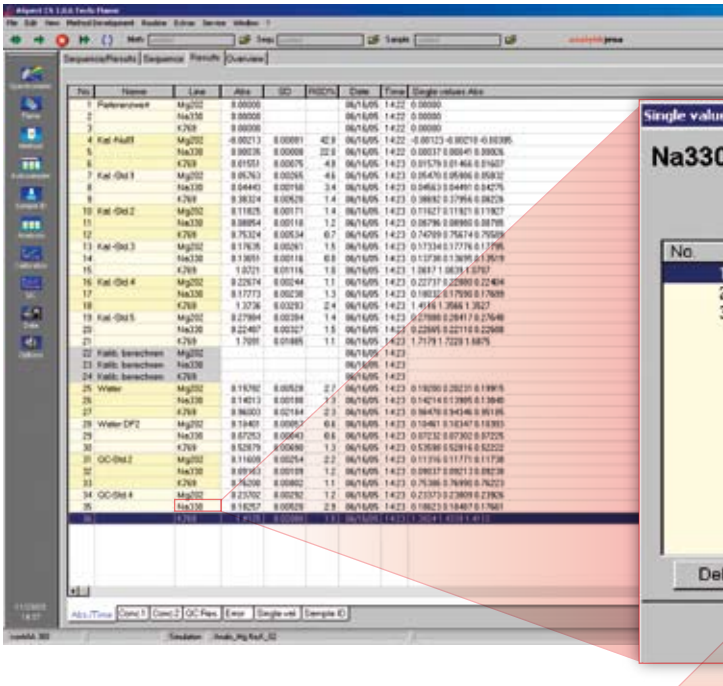
Also variably extendable for hydride systems

The various hydride systems offer the user diverse options in the determination of mercury or the hydride-forming elements.

The combination of continuous flow and the batch mode ensure comfortable handling, precision and efficiency in the different automation stages.

ASpect CS – intelligent software for fast sequential

An innovative software concept is the key to exploiting the advantages, which contrAA® 300 offers in sequential multi-element determination.

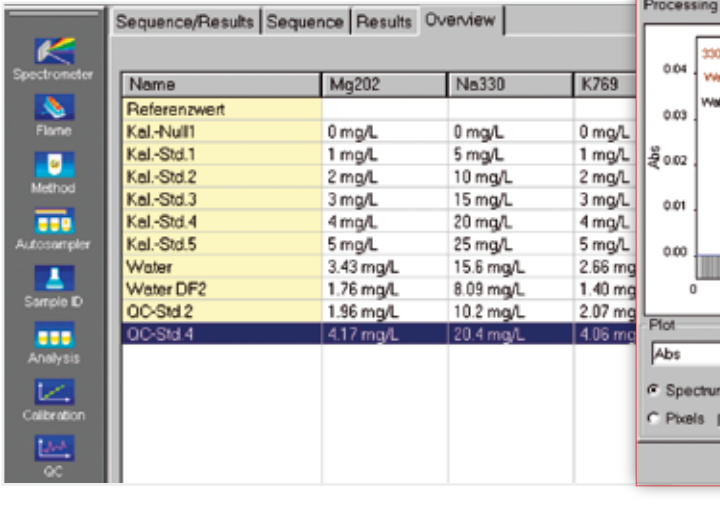


Intelligent software functions

The new capabilities of ASpect CS are revealed already in the selection of the element. All available lines are immediately visible and selectable.

In the multi-routine, the order of the lines and elements is automatically optimized for the fastest possible measurement.

The elements are not only sorted by wavelength, but also by flame type, thus avoiding repeated changing of the flame conditions and saving time as a result.



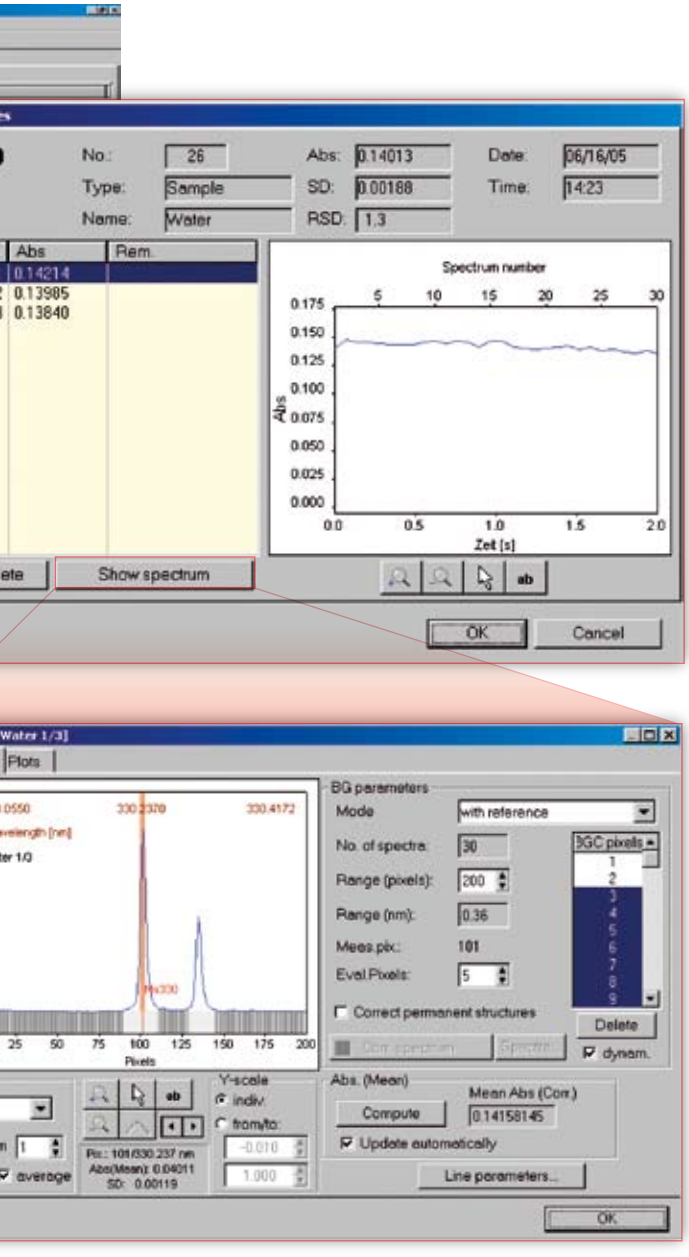
All results at a glance

The current worksheet concept allows all data to be viewed at a glance and, at the same time, to be evaluated in detail. All results are clearly displayed on a single sheet. Thanks to its intuitive user navigation and the well-ordered worksheet display, the ASpect CS software requires minimal introductory training times.

Quality control

Quality control is of prime importance in ASpect CS. An extensive fully integrated QC module guarantees GLP-compliant working through to full conformance with FDA 21 CFR Part 11. Comprehensive user management, the option of electronic signatures and the audit trail satisfy all requirements.

multi-element determination



A click on the results line and the associated signal graphic appears with all the necessary details.

If you need even more information, the spectrum and all associated parameters are also displayed.

Simple method development

Intelligent software routines and a clearly arranged interface guarantee fast and simple method development. Ready-made cookbook programs with optimized sets of parameters provide easy accessibility. The unique spectral presentation of the analytical line and its neighborhood make any spectral interference and related problems visible.
The user can therefore see immediately which optimizations are required. The method development is simplified and condensed by virtue of this option.

Fulfilling demands for modern multitasking capabilities, it is also possible to combine saved results and to optimize methods during the ongoing measurement.

Technical Service & Application Support

Premium quality from Analytik Jena

Our high-precision analytical systems, based on Carl Zeiss technology and produced according to a stringent quality management system, guarantee the premium quality our customers are used to obtain from us.

Before our high-performance instruments are delivered, all technical parameters are tested, the results recorded and entered in a test certificate. Only those instruments that have passed the complete range of tests, as confirmed by the inspector's signature, will be delivered.

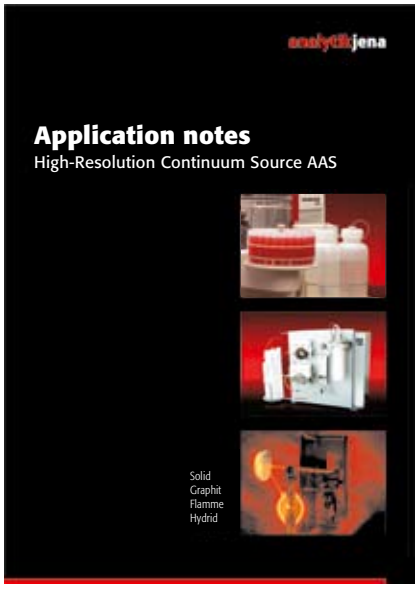
Reliability and certainty

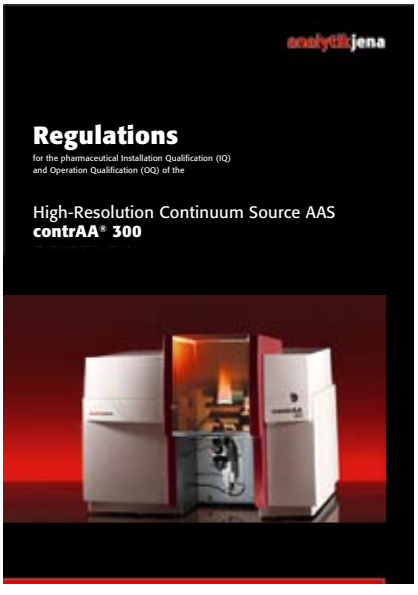
Well-planned design concepts, the expertise of our staff, individual application consulting and comprehensive customer service ensure the accuracy and reliability of your results. All service operations and safety tests are recorded in the device logbook. Software updated at regular intervals satisfies the requirements of the FDA for conformity to 21 CFR Part 11 and guarantees the safe and reliable electronic documentation of your data.

Our prompt delivery of parts and consumables allows you to work without losing time.

Less expense for you

While installing the equipment, our specialists will intensively train your personnel in operating it, demonstrate the analytical performance of the device and record the obtained results. Our application specialists also provide comprehensive qualification of your personnel enabling them to solve specific analytical problems.





Technical Service

Our world-wide service network guarantees nearness to our customers thus ensuring quick response times, short travel times and low costs for you.

With comprehensive solutions, such as:

- continuous quality control by our service engineers
- individual maintenance and service contracts
- advisory phone service via our hotline
- documentation of performed service operations and safety tests in a logbook
- continuous software update service
- factory-trained staff employed by our subsidiaries and sales representatives

we provide total service support.

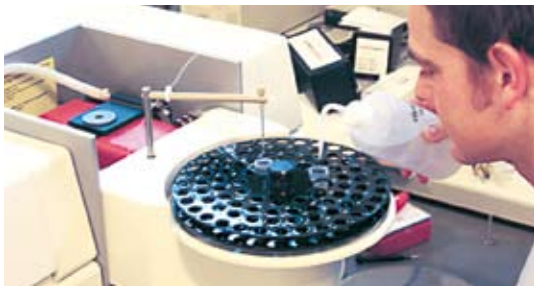
Application Support

A strong team of application specialists is available to you at any time to assist you in your everyday laboratory work.

With our services and staff giving you advice around the globe, we ensure optimum customer care and support at any time:

- Individual advice on specific questions of application
- Development of analytical method packages
- Validation of analytical systems
- Individual hands-on user training in specific applications
- Organization of user workshops
- Preparation of application newsletters

Our well-trained, globally active staff ensures optimum customer care and support at any time, as we are keenly aware that this, together with product quality, is the key to customer satisfaction.



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Based on patented ISAS Technology

ISAS
Institute for Analytical Sciences

Analytik Jena AG
TÜV CERT
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Certificate 15 100 6153
Certified quality management system

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