

**analytik**jena

**novAA<sup>®</sup>**

Quality is the difference



# novAA<sup>®</sup> 350 – flexibility and best performance in one single system

## At one glance:

- Robust design for handling complex matrices and resist difficult lab environment
- Fully automated 8 lamp turret for highest sample throughput
- High degree of automation through intelligent auto optimization routines and accessories
- Intelligent optical design
- Convincing modern software concept guiding through the measuring process

The novAA<sup>®</sup> 350 is designed to meet the challenges of the most routine analysis and demanding applications. So it is the perfect choice for each laboratory that needs a trouble-free solution for atomic absorption analysis.

## Excellent flame performance

There is no successful analysis without a mature, precise burner-nebulizer system:

- Universal coded titanium burner, corrosion resistant nebulizer and adjustable impact bead achieve best performance
- Inert teflon mixing chamber for ideal aerosol formation and high vaporization efficiency
- Fully automated gas box ensures maximum safety in all operating steps
- Fully automated high adjustment for optimum conditions and best results

## High-end optics – guarantees high light throughput and excellent features

Superb-quality optical components meeting the highest performance and safety standards are the prime features of each of our spectrometers. We guarantee for best protection and exceptional durability. For many years now, our optical system designs have been governed by some important principles:

- Thanks to encapsulation and quartz-coating the components are convincing also in aggressive laboratory atmospheres with durability
- Strong deuterium background correction as prerequisite for best accuracy
- Double beam optics guarantee optimum stability



# Efficiency and productivity feature greatly

## Automated flame technology – High precision and speed

In today's laboratories, automation of the AA flame mode is more important than ever. Fast analysis, automated dilution, reliable quality monitoring, all with uncomplicated handling, are a must. Meeting these requirements with ease, the novAA® 350 is bound to become an indispensable routine spectrometer for element analysis.

## Flame autosampler – Maximum sample throughput and automatic dilution

Autosamplers for the flame mode make your routine analysis of standards and samples almost fully automatic. Integrated in the overall concept of the instrument, either sampler can be simply hung directly into the sample compartment. This saves space and minimizes tubing lengths – the best way to prevent contamination in case of real samples.

## A wide variety of accessories

Accessories such as the **Segmented Flow Star (SFS)** or the **Scraper** help you facing the challenges of complex matrices in flame analysis.

In addition to the standard flame technique the software-controlled SFS for injection mode operation, is convincing by:

- Easy operation of samples with high salt or acid content
- Stable burner conditions guaranteed by continuous rinsing and constant temperature conditions
- Automatic metering of smallest sample volumes

The „Scraper“ is an intelligent, automatic, software-controlled cleaning device for the nitrous oxide burner head for trouble-free work over a long period.

Once activated in the software the Scraper guarantees a continuous and reproducible measuring cycle in the routine analysis. Before each sample measurement and calibration the slot is cleaned.

The concept of this simple accessory is easy to use for best reproducible results.



▲ 8 lamp turret



▲ Scraper

▼ Injection module SFS 6



# Unique technique to analyze hydride-forming elements

## Mercury and hydride analysis – multiple solutions for special challenges

### Mercury / Hydride systems

The measurement and monitoring of mercury and such elements as arsenic or selenium down to low ppb concentrations has always been a challenge. In order to keep the amount of these toxic substances under control in the environment, fast methods and convenient, yet flexible systems are required. The combination of flow injection and batch mode at the various automation levels guarantees convenient handling and precision as well as efficiency during the analysis of hydride-forming elements and mercury with the cold vapour technique.

### Flow injection mode

With the flow injection mode you benefit from all advantages of automated analysis with excellent measurement precision and fast sample throughput.

### Batch mode

As conversion to batch mode is quick and easy, the user can readily benefit from the advantages of this type of operation. The use of large sample volumes where element concentrations are minimum guarantees problem-free handling of foaming samples and fast overview measurements.

An electrothermal heating cell is fully integrated as a standard in the hydride systems (HS 55/ HS 60) and offers enhanced performance and reproducible temperature conditions.



▲ novAA® 350 with flame autosampler

▼ novAA® 350 with hydride system



# Clearly structured and flexible – just how modern software should be

## Designed-in safety

Safe operation is a top priority especially in flame AAS. Rely on a tight control system – Self Check System. With a multitude of sensors, all safety-relevant parameters are constantly monitored and PC-controlled. From flame ignition to switching types of gas and to safe quenching in case of a malfunction:

- Maximum operating safety
- High user and operating safety through automatic control of gas flows and safety valve technology
- Electrical operating safety
- Monitoring of the optimal pressures of the gases
- Avoidance of malfunctions in non-stop operating through automatic control of liquid quantities and safety functions

## Advanced user-friendliness

When simple, routine handling is required on the one hand, and high variability on the other, merging the two demands may be difficult. WinAAS® unites them perfectly. The clear layout of the user interface guarantees fast and simple method development on the screen. Entry to method development is facilitated by standard cookbook recipes.

## Quality control and GLP

In view of today's statutory and in-house requirements, comprehensive quality assurance is a prime consideration implemented in the AAS software.

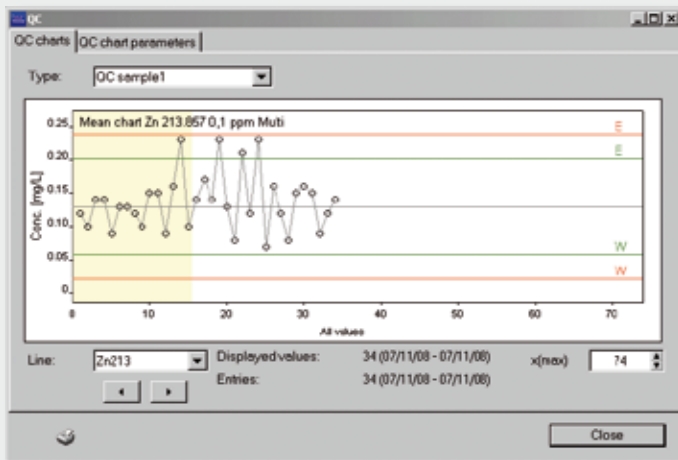
Compliance with these requirements can be assured:

- Keeping different control charts for statistical quality control
- Various responses when error limits are exceeded or warning levels reached
- Automatic instrument functionality test
- Data recording and printout conforming to GLP

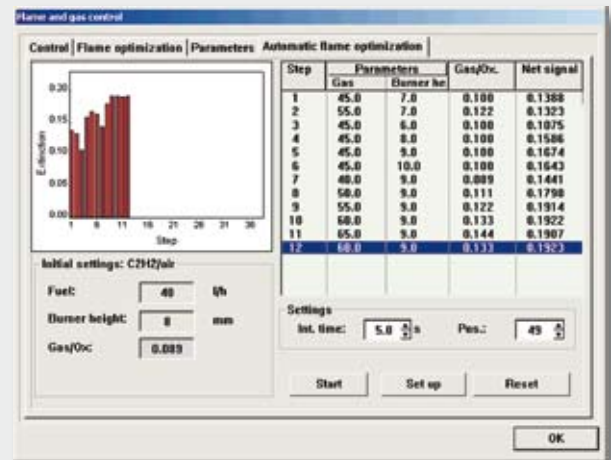
## FDA 21 CFR Part 11

Conformity to FDA 21 CFR Part 11 is a must for modern analysis software. The functions integrated in WinAAS® ensure data security as well as the reliability, lucidity and traceability of all actions throughout the measuring time. All processes are presented in easily comprehensible terms and with a clear layout. Comprehensive user management, an electronic signature facility and the Audit Trail satisfy the requirements of FDA 21 CFR Part 11.

Quality assurance control chart ▼



▼ Automatic optimization



- **Analytik Jena Brazil**  
info@analytik-jena.com.br
- **Analytik Jena China**  
info@analytik-jena.com.cn
- **Analytik Jena Far East**  
ajfareast@analytik-jena.co.th
- **Analytik Jena India**  
info@ajindia.com
- **Analytik Jena Japan Co., Ltd.**  
info@analytik-jena.co.jp
- **Analytik Jena Korea Co. Ltd.**  
jskim@analytik-jena.co.kr
- **Analytik Jena Middle East**  
middleeast@analytik-jena.com.eg
- **Analytik Jena Romania srl**  
office@analytikjenaromania.ro
- **Analytik Jena Russia**  
info@analytik-jena.ru
- **Analytik Jena Thailand Ltd.**  
sales@analytik-jena.co.th
- **Analytik Jena Taiwan Co. Ltd.**  
sales@analytik-jena.com.tw
- **Analytik Jena UK**  
sales@aj-uk.co.uk
- **Analytik Jena USA, Inc.**  
sales@ajusa-inc.com
- **Analytik Jena Vietnam Co., Ltd.**  
ajvietnam@viettel.vn

For further information visit our website: [www.analytik-jena.com](http://www.analytik-jena.com)

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## Analytik Jena AG

Konrad-Zuse-Str. 1 Phone +49 (0) 36 41 / 77 70 info@analytik-jena.com  
07745 Jena / Germany Fax +49 (0) 36 41 / 77 92 79 www.analytik-jena.com



Subject to changes in design and scope of delivery as well as further technical development!