analytikjena

multi X® 2500

Quality is the difference

AOX Analyzers from Analytik Jena – The New Dimension in AOX Analysis

For over 50 years, we have been producing analyzers for elemental analysis and sum parameter determination. The requirements of the measuring systems have steadily increased during this period. Modern, automated complete solutions are being increasingly implemented in all areas of environmental monitoring, as well as process and quality control. We stay abreast of these changes – with the multi X® 2500. It is much more than just a further development of our many years of analytical experience. It's a completely new generation of AOX analyzers that is setting standards!

The simplicity of operation, flexibility of the analysis system, high degree of automation, stability and precision in the instrument performance, take center stage in our designs as much as low operational costs and the analysis reliability.

The multi X® 2500 is flexible, reliable, easy to operate, and capable of much more than just AOX/EOX/POX analysis. The TOC parameter, important for water analysis, belongs to its application spectrum just as the determination of TX/TOX concentrations for difficult matrices. In this way, the multi X® 2500 is a multi-talent that can be employed in many areas.

Highlights that will convince you:

- Uniquely wide application spectrum – AOX, EOX, POX, TOC, TX/TOX analysis
- Free selection of the furnace mode – vertical and horizontal sample feeding in one system
- Analysis of AOX samples prepared according to the column or batch method within the container or directly after pushing the activated carbon out of the columns, with only one system
- Versatile automatic sampling systems: automation with unique throughput for all parameters using only one sampler
- Effective analysis – high sample throughput, precise measurements, low operational costs
- Unique wide-range coulometer for precise measurements in the range of ng to mg
- Integrated High Performance Gas Box (HPGB)
- Self Check System (SCS)
- Intuitive software guidance
- System performance check
- Minimal amount of maintenance


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multi X® 2500 – The market leader. And for a good reason!

Vertical or horizontal? Until now, you had to ask yourself this question. Now you can do both – in one instrument!

The innovative double furnace technology with tilting furnace combines the advantages of both versions into one analysis system. A design that sets standards.

Straightforward operation, rapid operational readiness, and a minimum amount of maintenance are only a few of the many advantages the multi X® 2500 has to offer. The intelligent software multiWin®, the fast changeover between column and batch method, and the user-friendly design ensure outstanding ease of use and efficiency.

Sophisticated automatic sampling systems allow both fully and partially automated AOX determination in connection with diverse combinations of sample preparation.

Steadily increasing cost pressure and the growing amount of samples have prompted us to promote the development of particularly efficient and low-maintenance AOX analysis systems that are characterized by extremely low operational costs. Thanks to multiple years of experience in the development of AOX analyzers, we have succeeded in presenting you with the multi X® 2500, an instrument concept that will convince you with its reliability, efficiency, flexibility, precision, and high level of ease of use.

Double furnace technology

The globally unparalleled double furnace technology enables the fast changeover between vertical and horizontal applications in a single instrument, that means fast, optimal adjustment for each sample matrix with minimal expense. As an essential component of uniquely flexible operation, the double furnace technology is a part of the multi X® 2500 standard equipment.

High Performance Gas Box (HPGB)

AOX, EOX or POX – regardless which measuring method you have selected, the maintenance free, integrated gasbox provides the utmost operational safety and reliable analysis results. It guarantees a stable gas flow for a complete combustion, and is automatically regulated by the system. Thanks to the integrated, electronic flow sensor, the operator can directly check the system for leak-tightness at any time. Time-consuming and imprecise adjustment, and constant visual inspection of the rotameter display, are things of the past.

Your advantages at a glance::

- Maximum operational safety
- Unmatched ease of use
- Guaranteed quantitative sample decomposition
- Reliable analysis results
- Reduced amount of maintenance
- Easy operation
- Minimal operational costs

Plug and Start

After the start, the multi X® 2500 independently tests all components and functions. Applicable method packages are automatically loaded. For existing automatic sampling systems, the active configuration is determined and automatically transferred into the multiWin® software configuration. Your multi X® 2500 independently adjusts all settings. You only have to press the start button!

Self Check System (SCS)

To ensure trouble-free and fully automated operation, each multi X® 2500 is equipped with the SCS. It continuously checks all parameters that are important for the instrument safety and the quality of the analyses. The result: a convincing performance and perfect measurement results!

Your advantages at a glance:

- Maximum operational safety with minimal operating effort
- Best suited for 24-hour operation in the routine laboratory
- Timesaving, automatic identification and conditioning of all modules
- Independent monitoring of maintenance intervals
- Automatic system shutdown in case of system failure

Versatile automatic sampling systems

For efficient, convenient, and uniquely flexible operation, diverse automatic sampling systems are available for a complete automation of the measurement procedure.
You can analyze samples that have been prepared using the column or batch method along with the entire quartz container. Without retrofitting the system! In one sample sequence! With the optional direct feed, you have the possibility to only analyze the loaded charcoal after pushing it out of the columns.

Advantages of the quartz container feed:

- Protection of the sample from environmental effects
- Especially well-suited for trace concentrations of AOX
- Minimal AOX blank values
- Particularly well-suited for small and medium-sized sample series
- Less wear on the combustion tube

Advantages of the direct feed:

- Especially well-suited for high AOX concentrations
- Maximum sample throughput
- Particularly well-suited for large sample series

Optimal Adjustment – for Each Sample Matrix.

Get to know the unique flexibility of the multi X® 2500!

Whether the fastest AOX routine analysis in the vertical operation mode or the reliable determination of the smallest EOX trace concentrations in the horizontal operation mode, the double furnace technology allows you to freely select the best combustion mode for your application. The multi X® 2500 combines both modes in one and the same instrument. In next to no time, the furnace is set up in vertical or horizontal mode, and automatically set for safe operation.

The horizontal mode also guarantees you precise analysis results for the analysis of difficult matrices, such as EOX extracts with a high percentage of light volatile components, or wood extracts.

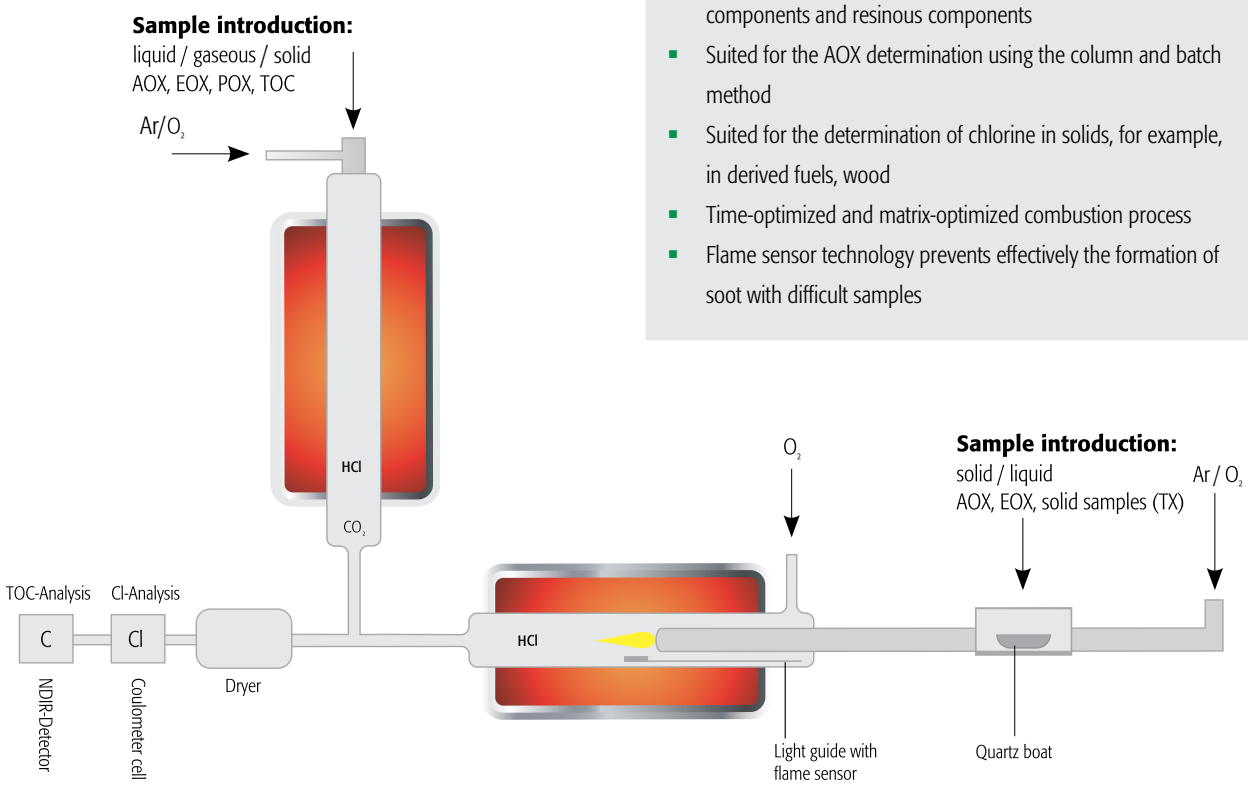
Through the use of flame sensor technology, the combustion process is temporally optimized and automatically adjusted to match the specific requirements of your sample matrix. Quantitative, trouble-free combustion, even of derived fuels, is handled with ease by the multi X® 2500.

Advantages of the vertical sample feed:

- Especially well-suited for AOX analysis using the batch and column method
- Optimal for the AOX direct feed
- Fast analysis
- Small bench space required
- Low operational costs
- Also suited for the EOX, POX, and TOC determination

Advantages of the horizontal sample feed:

- Especially well-suited for the EOX determination
- Optimal for EOX extracts with a high percentage of light volatile components and resinous components
- Suited for the AOX determination using the column and batch method
- Suited for the determination of chlorine in solids, for example, in derived fuels, wood
- Time-optimized and matrix-optimized combustion process
- Flame sensor technology prevents effectively the formation of soot with difficult samples



Effortless Sample Preparation!

With the multi X® 2500, get to know perfectly harmonized concepts of sample preparation and analysis! The system greatly minimizes idle time and increases the throughput of AOX samples – you remain flexible and cost-effective.

APU 28

With the automated sample preparation system APU 28, you can use the column method to prepare your samples for the AOX determination. The processing of the individual samples takes place in immediate succession. After the adsorption, the first samples are available for analysis in a very short time. The required adsorption rate is precisely maintained using the high-precision pump technology.

Minimal amount of maintenance – thanks to extremely short and direct paths as well as the lack of any valve technology! Thus, system maintenance and routine care are completed in a matter of minutes.

The **APU 28 SPE** can also do this – sample preparation using the SPE procedure. The system manages the adsorption on the SPE columns, the elution, and the adsorption on the charcoal fully automatically, without any manual intervention. Easy and unique!

A globally unparalleled two-channel system, **APU 28 S**, doubles the speed of sample preparation. Two samples can be quickly prepared at the same time. Therewith 28 samples can be prepared for analysis in one cycle without intervention and in a very short time – fully automated and fully compliant to standard methods. The step that has up to now determined the speed of the AOX analysis, the sample preparation, is extremely accelerated with the APU 28S.

APU 2

With this automatic adsorption pump for sample preparation in AOX determination, you can process two samples of variable volumes simultaneously using the column method. Sample volume, wash volume, and flow rate are electronically controlled. An automatic system rinse allows you the uncomplicated changeover of a variety of sample matrices.

AFU 3

For the automation of the batch method, the automatic filtration unit AFU 3 is an indispensable part of the routine. After the adsorption process, three samples can be simultaneously filtered with gas pressure and quantitatively introduced on the frit container using a washing solution.

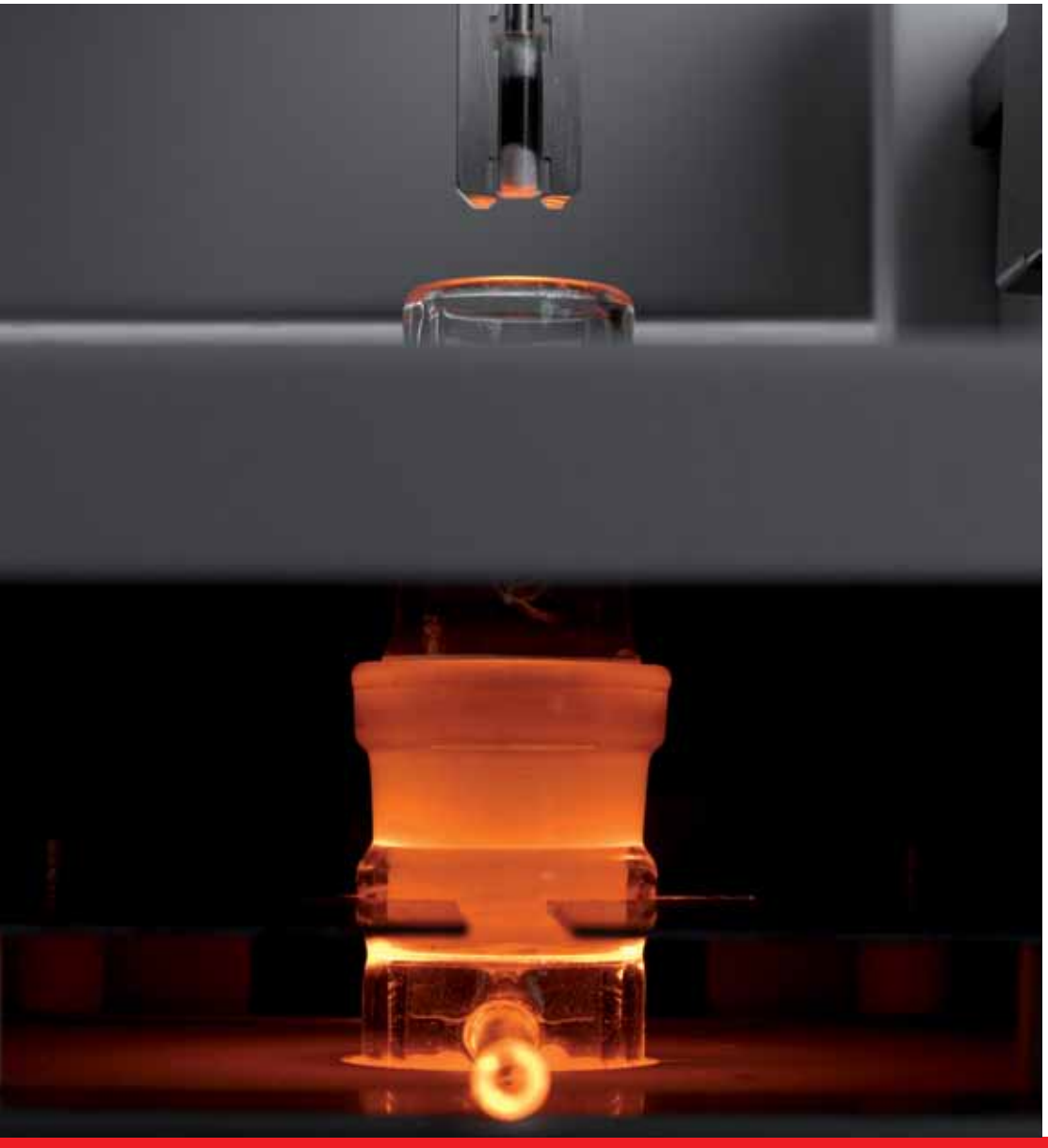
Sample Feed – Reliable. Fast. Individual.

The multi X® 2500 can be manually operated or equipped with automatic samplers for all applications.

The fully automated autoX samplers ensure an unmatched sample throughput in the vertical and horizontal operation mode. A special quartz container technology and the sophisticated protective covering of the sampler protect the charcoal from environmental effects. An additional purging of the sample rack with inert gas is not necessary.

The autoX samplers also allow the direct feed of samples, if required. Thereby the charcoal is pushed out of the columns. With direct feed, you can use the maximum capacity of the combustion tube and increase the sample throughput.

In the vertical operation mode, the samples are loaded via a gas lock. Completely maintenance-free, this provides a fast and reliable measuring process without complicated mechanics.



The autoX samplers are available in a variety of versions. Therewith you can optimally adjust the multi X® 2500 to match the requirements of your laboratory operation.

autoX 36

The automatic sampler autoX 36, for small AOX sample series in the vertical mode, introduce up to 36 samples, prepared using batch or column method, within one sequence in the instrument.

autoX 112

The autoX 112 allows an extremely high sample throughput in the vertical and horizontal mode for large AOX sample series using the column or batch method. The charcoal is fed into the combustion system together with the container or directly after pushing it out. The boat inlet for EOX samples in the horizontal mode is also possible. The optional flame sensor technology guarantees a residue-free combustion.

All-in-one – autoX 112

- AOX/EOX vertical and horizontal
- Automatic feed of up to 112 samples
- Quartz container feed or direct feed
- Racks for containers, sample vials, sample boats
- Also suited for the TOC determination

Auto injector

An auto injector for the vertical and horizontal operation mode allows the exact dosing of EOX samples using standardized filling volumes. The injection speed is controlled by the multiWin® software. You dose samples as accurately as an autosampler.

Whether AOX or EOX, vertical or horizontal – with the multi X® 2500 you are flexible in application and effective in operation. The optimal combination of sample preparation and sample feed for your requirements guarantees flexibility, speed, and low operational costs in every instance.

Precise Analysis Made Easy!

Highly Sensitive Detection for Precise Results

Adjusted to match your measurement tasks, the patented measuring cell of the multi X® 2500 guarantees high sensitivity and precise analysis. Even with large concentrations, an overtitration is impossible. An extremely dynamic operating range with increased sensitivity provides you with the reliable analysis of samples with unexpected high AOX concentrations.

The measuring cell has a compact and robust design. The optimal protection from effects via ambient light, the self-cleaning of the silver anode, and the unique cooling system guarantee the highest sensitivity, long-term stability, and an operator comfort that you don't want to miss. The measuring cell and the electrolyte are designed for a maximum sample throughput, and adjusted to the operation of the automatic sampler. Without intervention, such as an electrolyte change, your multi X® 2500 can effortlessly analyze large sample series with intensely changing concentrations. With the patented detection of the multi X® 2500, you can handle all of the requirements of AOX analysis.

A special wide-range coulometer guarantees a high dynamic measuring range and enables the alignment of diverse measurement tasks while maintaining a unique sensitivity.
EOX determination in the trace range or high TX concentrations in derived fuels – the wide-range coulometer can handle all requirements.

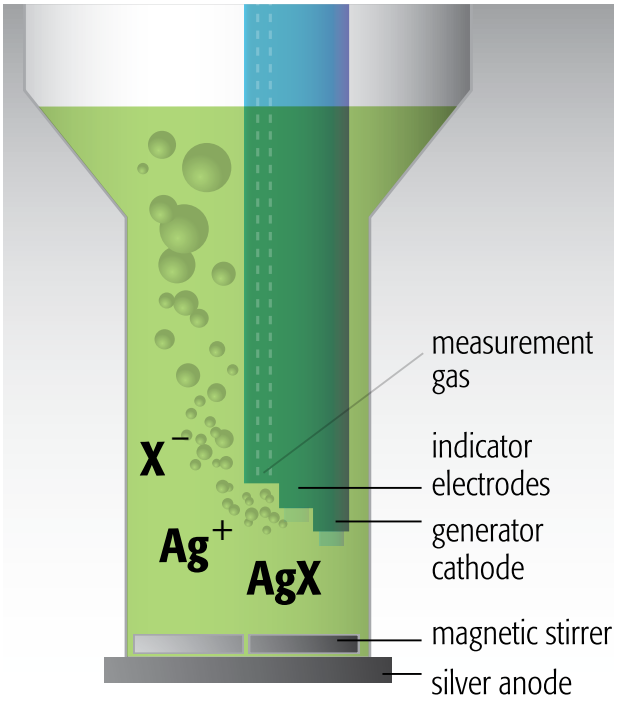
Thanks to innovative ceramic technology, the multi X® 2500 is equipped with an extremely robust and durable electrode. The combination electrode combines indicator electrodes and a generator cathode in one. This requires no diaphragm or salt bridge and is therefore quickly operational and maintenance free.

Your advantages at a glance:

- Wide-range coulometer with high dynamic measuring range
- Unique sensitivity for trace concentrations
- Also suited for TX concentrations in the percent range
- Extremely low-maintenance
- Fast titration, overtitration is impossible

A software that reliably guides you to your goal

The self-explanatory multiWin® software guides you from the system start through all relevant menu items until the system is switched off at the end of the working day. The result is software that is your personal assistant and consultant. It monitors and controls all relevant system parameters for you. It checks the system performance and the analysis quality. It delivers a clear presentation of the measurement results in individual analysis reports, and much more.



The multi X® 2500
Uniquely reliable – uniquely versatile.

An analyzer for the AOX, EOX, POX, TOC, and TX/TOX analysis. Whether vertical or horizontal operation mode, the determination of the various parameters succeeds quickly and reliably. The unparalleled versatility of the multi X® 2500 opens up new horizons and gives you the security to handle all analytical requirements in the blink of an eye.

Features such as the innovative gasbox, optimized standard methods, and the SCS ensure the quantitative decomposition of the various sample matrices. Even problematic samples, such as derived fuels and polymer waste, are made simple with the optional flame sensor.

With versatile sample preparation systems and flexible automatic sampling systems, you can quickly and automatically prepare diverse samples, such as drinking water, groundwater, sludge, sediment, wood, and combustibles, for the determination of relevant environmental parameters. Thanks to ready-made methods, the multi X® 2500 can be adjusted in next to no time to match the diverse measurement tasks. This enables a uniquely high sample throughput.

Environmental analysis made easy! With the multi X® 2500, you are optimally prepared for all demands and you can depend on fast, precise, and cost-effective analyses.

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