

Our Planet. Our Priority. Solutions for Environmental Analysis

Environment



Our Planet. Our Priority.

We help you to reliably and quickly manage high sample loads in accordance with important standards and regulations. We offer application-centric instrument solutions, optimized methods, and comprehensive services.





Water Analysis

- Monitoring of surface waters, e.g., lakes, rivers, and seas
- Quality analysis of raw and tap water by utility companies
- Pool water at leisure and spa facilities



Wastewater Analysis

- Municipal sewage plant monitoring
- Wastewater-based epidemiology
- Testing of legal limits in industrial process effluents
- Control of landfill leachates



Analysis of Solid Matrices

- Assessment of agricultural soil fertility
- Analysis of soils from contaminated sites
- Waste monitoring for waste management facilities
- Testing of sewage sludge
- Analysis of sediments from natural waters



Air Pollution Control

- Monitoring of particulate matter
- Emission output and impact control
- Analysis of fly ashes, diesel soot, or microorganisms

Water Analysis



We support you in supplying high-quality drinking and process water by means of specific measurement routines. For this purpose, we offer customer-specific and standards-compliant measuring methods.



The challenge

Reliable testing for organic, inorganic, and microbial contaminants in accordance with government regulations. High detection sensitivity for drinking water and long-term stability for surface water measurements.

The solution

Customized instrumentation for easy compliance with legal standards for various chemical and biological parameters.

Optimize Your Water Analysis Process

Our devices offer measuring routines that are geared towards real-life practice as well as high sensitivity to help you achieve reliable and precise analysis results. Easily monitor drinking water, ground water, surface water, and pool water to help you meet or even exceed common standards and regulations.

Achieve reliable results

- Minimal detection limits to exceed regulation requirements
- Intelligent hardware and software for high method flexibility
- Automatic method recognition
- High matrix tolerance (e.g., for sea water)

Simplify your workflow and increase your efficiency

- Flexible automation options adapted to your workload
- Minimal effort required for sample preparation
- Matrix-specific method optimization done by our support
- Low maintenance, simple and fast setup changes
- Automated process control (Self Check System)

Analyze with us

- Total organic carbon and total bound nitrogen
TOC/TN_b
- Adsorbable organic halogens, total halogens, and extractable organic halogens
AOX
- Organic fluorine compounds (AOF, EOF)
AAS
- Minerals and metals
UV/Vis
- Elements down to ultra-trace range
AAS, ICP-OES, ICP-MS
- Minimal mercury concentrations
ICP-MS, CV-AAS/AFS
- Microbial parameters
Automated nucleic acid extraction, (real-time) thermal cycler



Wastewater Analysis

We help you to generate fast measurement results in accordance with environmental laws. Make lab work more efficient despite the complexity of analytical tasks in relation to wastewater samples with particulate content.



The challenge

High load of organic, inorganic, or microbial substances, and high particulate content that requires complex sample preparation and pre-testing.

The solution

Robust instrumentation with minimal sample preparation and particle handling.

Streamline Your Wastewater Analysis

Our analysis solutions for municipal wastewater, industrial effluents, and landfill leachates significantly reduce the effort needed for sample preparation and particle treatment, while shortening measuring times for complex samples. With compliant measuring methods and robust analytical equipment, we help you to adhere to legal standards.

Increase your analysis quality

- Excellent particle handling (TOC and AOX)
- Special hardware for high-turbidity samples (UV/Vis)
- Correct quantification of elements with high matrix tolerance
- Added value of wastewater as data source for epidemiological and general biological parameters (e.g. SARS-CoV-2, antibiotic resistances)

Accelerate your process

- Ready-to-use equipment (TOC and AOX)
- Fast instrument setup changes to fulfill various application needs
- Maximum automation degree for sample preparation and measurement
- Direct safety monitoring (Self Check System)
- Fast and reliable analysis of challenging samples
- Comprehensive service and support

Analyze with us

- Total organic carbon and total bound nitrogen
TOC/TN_b
- Adsorbable organic halogens, total halogens, and extractable organic halogens
AOX
- Toxic elements, e.g., chromium, cadmium, mercury, lead
AAS, ICP-OES, ICP-MS
- SAC value, turbidity, ammonium, phosphate, nitrate, chemical oxygen demand, and more
UV/Vis
- Microbial parameters
Automated nucleic acid extraction, (Real-Time) thermal cycler

Analysis of Solid Matrices



We offer solutions for a quick and reliable assessment of solid samples such as soils, sludges, or waste products. Compliant standard methods and robust analytical equipment help you save time and effort.



The challenge

Diverse and inhomogeneous substances that require complex sampling methods and preparation such as freeze drying, milling, homogenization, sample digestion, elution, and extraction. Reliable determination as culture medium, reusable material, or waste.

The solution

Complete packages of easy sample preparation and reliable analytical systems for sum parameter and multi-element analysis

Stable and Time Saving Testing of Solids

Our solutions for solids testing allow you to speed up sample preparation and also increase the accuracy of your analysis results. Our measurement devices are ideal for domestic and industrial waste products such as soils from excavations and farm land or sediments and sludges from sewage plants, including hazardous and toxic substances.

Minimal sample preparation efforts

- Direct analysis of solid matrices (TOC, TS, TX)
- High sample weigh-in for solids (TOC, TS, TX)
- Microwave digestion
- Special sample preparation systems for sludges

Dependable results for complex matrices

- High-resolution multi-elemental analysis (ICP-OES)
- Reliable background correction (AAS)
- Optimized EOX analysis
- Intelligent automation options
- Continuous safety control (Self Check System)
- Minimal maintenance requirements

Analyze with us

- Total organic carbon and elemental carbon
TOC/TN_b, C/N/S/X
- Adsorbable organic halogens, total halogens, and extractable organic halogens
AOX
- Carbon, sulfur and halogens
C/N/S/X
- Major, minor, and trace elements
AAS, ICP-OES, ICP-MS
- Toxic elements, e.g., chromium, cadmium, mercury, lead
AAS, ICP-OES, ICP-MS, CV-AAS/AFS



Air Pollution Control

Air pollution is a great risk to health and the environment. We support you with efficient emission control in order to specify further process steps and meet air quality standards.



The challenge

Reliable control and specification of challenging non-airborne pollutants such as diesel soot, metals, semi-metals, or harmful microbes.

The solution

Sensitive devices with excellent particle handling and efficient microbiological application workflows.

Specific and Efficient Air Quality Control

The analytical and bioanalytical solutions from Analytik Jena provide you with streamlined processes and dependable data for your daily pollution control. Our analyzers are especially useful for monitoring industrial processes in incineration-based power plants and evaporative cooling systems.

Speed up your analysis processes

- Automation options for filter dust analysis (TOC/TC)
- High-throughput diesel soot analysis (TC/EC)
- Rapid qPCR-based legionella testing

High-quality measurement results

- Highly sensitive detection of metals, semimetals, and selected non-metals (ICP-MS, ICP-OES, AAS, AFS)
- Specific real-time PCR workflows for microbes in water
- Customized methods for individual samples

Analyze with us

- Total organic carbon and elemental carbon
TOC/TN_b, C/N/S/X
- Microorganisms in water, especially Legionella in evaporative cooling systems
Automated nucleic acid extraction, thermal cycler, real-time thermal cycler
- Elements down to ultra-trace range
ICP-MS, ICP-OES, AAS, CV-AAS/AFS
- Carbon, sulfur and halogens
C/N/S/X

Outstanding Service and Support Offerings

We are close to our customers, always striving to find the perfect solution for you. Our analytical devices are characterized by maximum uptime, productivity, and quality, making your daily laboratory work easy.



The challenge

Maximizing device uptime while minimizing cost for maintenance and operation. Train personnel to correctly operate analyzers and deliver fast and reliable measurements.

The solution

Minimal maintenance and consumable needs, comprehensive application support and individualized training offerings.

Add More Efficiency to Your Analysis Business

We support you in the improvement of your analysis processes for a wide range of environmental applications. Benefit from our formula for success, ranging from a high-performance device portfolio to extensive after-sales services: automation, analytical excellence, advanced data management, and support.

Reliability, speed, and personal commitment

We offer not only device installation and analytical functionality review services for your device, but also comprehensive advice, methodology development, and targeted training by our application specialists to help you meet your particular analytical requirements. We provide you with support in device qualification and validation so that you can always be on the safe side when it comes to compliance with standards and regulations.

As every minute counts in a service case, our comprehensive network offers quick reaction times and rapid solutions. Whether for repairs, replacement parts, or consumables, our service personnel will process your requests quickly.

Our service and support offerings at a glance

- Professional device preparation for a smooth start
- Comprehensive application support
- Technical support, maintenance, and equipment qualification
- Seminars, training sessions, and knowledge tools
- Global service network with specialists on-site

Technical support overview

- Equipment qualification
- Repairs and restoration
- Additional warranty options

Save valuable time

- Individual maintenance packages for long-term stable measurement results and quality standards
- 10-year long-term warranty on high performance optics and other selected system parts*
- Easily accessible spare parts and consumables

Individual application support

- Advice on analysis methods and technologies
- Implementation and optimization of your specific applications
- Methodology development tailored to your requirements
- Individual application training sessions on demand

Your benefits

- Value retention for your device system
- Support for your quality assurance
- Save time and unplanned costs
- Ensuring work in compliance with industry and ISO standards
- Maximum system availability
- Increased safety for your personnel
- Individual maintenance intervals and service levels
- Service by appointment
- Cost transparency and planning certainty for your budget

* For our warranty conditions visit
<https://www.analytik-jena.com/warranty-conditions>



Our Solutions at a Glance

Benefit from the advantages of our comprehensive portfolio for environmental analysis. We offer full compliance with ASTM, EPA, DIN, EN, ISO, and other common international and regional standards.

Method	Device	Special Features
AOX	multi X 2500	<ul style="list-style-type: none"> Full method and configuration flexibility for AOX, EOX, and POX Highest automation degree for AOX column method Direct charcoal feeding
	APU 28 (sample preparation)	<ul style="list-style-type: none"> Suitable for various AOX columns Double channel operation Fastest (SPE-)AOX preparation system on the market
	APU sim (sample preparation)	<ul style="list-style-type: none"> High throughput, up to six samples simultaneously Suitable for various AOX columns and SPE sample preparation
	AFU 3 (sample preparation)	<ul style="list-style-type: none"> Up to three samples simultaneously by batch method Ideally suited for highly particle-loaded water and sludge samples
TOC/TN _b	multi N/C 3100 / 3100 duo	<ul style="list-style-type: none"> Wide-range TOC/TN_b analyzer Automatic loop injection with intelligent rinsing High throughput (parallel purge and inject)
	multi N/C 2100S / 2100S duo	<ul style="list-style-type: none"> Septum-free direct injection Very robust particle handling Small footprint
TOC	multi N/C UV HS	<ul style="list-style-type: none"> High sensitivity Suited to difficult matrices Minimal running costs
C/N/S/X	multi EA 4000 / (multi EA 5100)	<ul style="list-style-type: none"> Fully automated solids TOC analysis Pyrolysis function enables EC (ROC, BOD) analysis Upgradeable for TS and TX determination



Method	Device	Special Features
UV/Vis	SPECORD PLUS	<ul style="list-style-type: none"> High accuracy especially for low concentrations Wide range of accessories including additional cuvette position for turbid samples
	ScanDrop ²	<ul style="list-style-type: none"> Round-cuvette holder and 8-fold cell changer Easy installation of accessories and intuitive touch operation
AAS	contrAA 800	<ul style="list-style-type: none"> Fast sequential and even simultaneous analysis with optimum detection limits High flexibility with one lamp covering the entire elemental range of AAS Molecule absorption detectable MAS (non-metals like fluorine)
	ZEEnit series	<ul style="list-style-type: none"> High matrix tolerance, Zeeman background correction Application flexibility with One + One atomizer compartment
	novAA 800	<ul style="list-style-type: none"> Intelligent autosampler (overrange dilution, method of addition) Flexible use due to dual atomizer concept
CV-AAS/AFS	mercur DUO plus AAS + hydride system	<ul style="list-style-type: none"> Low detection limits Combination of AAS/AFS in one device (mercur)
ICP-MS	PlasmaQuant MS	<ul style="list-style-type: none"> Fast multi-element analysis, suitable for all matrices High sensitivity for lowest detection limits Lowest gas consumption on the market
ICP-OES	PlasmaQuant 9100	<ul style="list-style-type: none"> Easy torch handling, high degree of automation, and preparation accessories Dual view (axial, radial) enables wide concentration measurement range Unique resolving power with high-resolution optics
Digestion	Microwave digestion	<ul style="list-style-type: none"> Intelligent design for straightforward operation and safety (Self Check System) High sample throughput
Nucleic acid extraction and detection	CyBio Felix, InnuPure C16 <i>touch</i> , qTOWER ³ family	<ul style="list-style-type: none"> Highly precise pipetting technology for automated nucleic acid extraction Real-time PCR for standard and automated workflows



Do you want to know how to benefit from these solutions?
Get in touch with us directly.



Visit www.analytik-jena.com/environment
or e-mail solutions@analytik-jena.com

Headquarters

Analytik Jena GmbH
Konrad-Zuse-Str. 1
07745 Jena
Germany

Phone +49 36 41 77 70
Fax +49 36 41 77 9279
info@analytik-jena.com
www.analytik-jena.com

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