

Wastewater Analysis



Expertise in water and wastewater analysis

Environmental parameters in the wastewater sector

02

Customized quality control of water samples

Water is the source and basis of all life. It is essential for metabolism and is our most important foodstuff. As a solvent and transporting agent it carries not only the vital minerals and nutrients, but also, increasingly, harmful pollutants, which bioaccumulate in aquatic or terrestrial organisms. Impurities can be found in almost any kind of water – natural and treated drinking water for process and cooling water to the water for use in the pharmaceutical and food manufacturing.

If organic contamination in the water is too high, there may be interferences with many industrial processes, leading to problems. For example, an excess of organic matter can foster microbiological growth or, when disinfecting drinking water, encourage the presence of undesirable byproducts.

Within the context of quality control and risk assessment there is a need in all industries for cost-effective and quick responding instruments and methods that can deal with the ever more complex spectrum of harmful substances, the increasing throughput of samples and the decreasing detection limits.

As a leading manufacturer of instruments for chemical analysis, we at Metrohm are aware of these challenges. We offer the latest equipment and systems with which you can monitor the composition of your water samples. Metrohm offers complete solutions for your analytical problems, and you can count on our expertise. Your Metrohm contacts are competent specialists, who develop customized applications for you and provide you with professional support in all matters concerning water analysis.

Typical matrices for water analysis

- Drinking water
- Surface water
- Process control
- Boiler Feed water
- Cooling water
- Sewage / Rain water
- Effluent

Environmental parameters in water analysis

- TOC
- o-PO₄, PO₄-P
- NH₄⁺
- NO₂⁻/NO₃⁻
- Heavy Metals
- SO₄²⁻
- Cl₂
- Total Nitrogen (TN)
- And many more



2026 Titrolyzer

The perfect mix of reliability and simplicity

This versatile process analyzer is capable of measuring different analytes with titration, ISE, or pH measurements in up to 2 sample streams.

The 2026 Titrolyzer can accurately perform a wide range of applications, including sulfuric acid, chloride, hydro-



gen peroxide, hardness [$\text{Ca}^{2+}/\text{Mg}^{2+}$], caustic and carbonate, hydrochloric acid, copper, cyanide, hydrogen fluoride, and much more.

When critical inline pH sensors fail

To overcome challenges such as sensor fouling and pollution, the 2026 Titrolyzer can measure pH batchwise with automatic cleaning and calibration. Common inline problems including high pressure, high temperature, air and solids are no longer issues with our technology.

More value in a smaller footprint

- Compact for constricted areas: 326 × 273 mm
- Possible to monitor up to 2 sample streams
- High measurement sensitivity and accuracy
- High precision burette for ion measurement
- Rugged housing rated IP66
- Complete separation of the wet and electronic parts
- Graphical user interface with 7" Full Color Touchscreen
- Easy to maintain
- **2029 Process Photometer** version also available

2035 Process Analyzer

For potentiometric, photometric, or thermometric determinations

The 2035 Process Analyzer from Metrohm Process Analytics is the latest solution for 24/7 online monitoring of industrial processes as well as water and wastewater. Whether you need to monitor chemical parameters in a single stream or in several streams, the 2035 Process Analyzer is designed to become an integral part of any sophisticated plant automation.

The 2035 Process Analyzer is highly versatile, available in three basic configurations: potentiometric, photometric, and thermometric. Any of these can be combined with additional techniques such as pH and/or conductivity measurement for a complete water profile.



With this analyzer, you can keep track of critical process parameters like ortho- and total phosphate around the clock. Total phosphate ($\text{PO}_4\text{-P}$) is a plant nutrient, which in high concentrations in surface waters, can lead to over-fertilization. For biological wastewater treatment, the bioavailable ortho- PO_4 (o- PO_4) is necessary for the bacteria to live. To monitor both ortho- and total phosphate-phosphorus, the DIN 38 505-D9 photometric determination method is used, along with a compact digestion cuvette. The 2035 TP Analyzer can measure in three ranges: Low 0–150 $\mu\text{g/L}$ $\text{PO}_4\text{-P}$, Standard 0–5 mg/L $\text{PO}_4\text{-P}$, and High 0–100 mg/L $\text{PO}_4\text{-P}$. Other applications such as ammonia or $\text{NO}_2^-/\text{NO}_3^-$ analysis can also be performed to optimize your biological nutrient removal process.

The 2035 Process Analyzer at a glance

- Versatility and flexibility to fit almost any application
- High accuracy for lower detection limits
- Automatic calibration option
- Combine with other measurements for better process control (pH, conductivity)
- Thermometric option for difficult, aggressive matrices
- Monitor multiple sample streams
- Complete separation of the wet and electronic parts
- Remote operation capabilities

ICON Analyzer

Online water analysis – simple, reliable and accurate

Given the universal necessity and importance of water, any serious technical solution to monitor its quality should be easy to use, reliable, and of course, sensitive and accurate enough.

These are precisely the features and benefits of the Metrohm Process Analytics ICON Analyzer. The new ICON Analyzer was developed specifically for the near-continuous analysis of a large number of parameters essential for the assessment of water quality. The analyzer performs photometric absorption measurements in the visible light range and compensates for the color and turbidity of the sample.



The ICON Analyzer is complete, preconfigured and programmed for your specific application. Simply connect the power cord, sample, and reagent lines and the analyzer is ready to measure! This online analyzer is characterized by a high degree of robustness of the electronic, mechanical and hydraulic components.

Water analysis parameters measured by ICON

- Aluminum
- Ammonia
- Chlorine
- Chromium
- Copper
- Cyanide
- Hydrazine
- Iron
- Manganese
- Nickel
- Nitrite
- Phenol
- Phosphate
- Silica
- Zinc

Features of the ICON Analyzer

- Ready-to-use («Plug and Analyze»)
- Simple installation
- High reliability
- Flexible software for uncomplicated control
- Complete separation of the wet and electronic parts
- Monitoring of up to 2 sample streams possible
- Addition of up to 3 reagents possible
- Automatic validation and cleaning
- Easy maintenance

www.metrohm.com

 **Metrohm**
Process Analytics