MEMOSENS

Monitoring phosphorus and nitrogen in surface waters

High-precision measurement with Liquiline System analyzers

Liquiline System

The colorimetric analyzers are perfectly suited for environmental monitoring, industrial and municipal wastewater.

- Reliable, regulation-compliant online measurement by using standardized methods according to EN ISO 6878 and HJ636
- Safety on the highest level with safety covers for the reactors, all heated parts and the UV lamp
- Wide measuring range thanks to integrated dilution module
- Fast process integration: Self-priming version for direct installation or y-strainer for bypass applications
- Advanced diagnostics and process documentation with remote access to the analyzer
- Easy upgrade to a complete measuring station connecting Memosens sensors

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People for Process Automation

Optimize environmental monitoring

Monitor the outlet and comply with limit values
The primary focus in wastewater treatment is to protect downstream waters. Phosphorus is the decisive factor for excessive algae and plant growth and nitrogen also adds to the eutrophication of water bodies. That's why quality standards stipulate strict limits for the amount of phosphorus or nitrogen released from wastewater treatment plants into rivers and lakes. Liquiline System CA80TP total phosphorus and Liquiline System CA80TN total nitrogen analyzers help managers of wastewater treatment plants to achieve compliant limit values.

Control your precipitation process
The measurement of total phosphorus is suitable to enhance precipitation control. Instead of using a fixed set value for precipitant dosing, the set value is determined by the measured TP concentration. This enables you to tune your precipitation processes to current events such as rainfall, increased solids inflow, etc.

Check the quality of surface water
Nitrogen is a lead parameter to determine surface water quality. Both, organic (e.g. proteins, urea) and inorganic (e.g. nitrate, nitrite, ammonium) substances contribute to the total nitrogen load. Increased nitrogen contents indicate influences from wastewater, landfill leachate or agriculture. Total nitrogen cannot be removed chemically. To achieve required nitrogen levels the biological processes of wastewater treatment must be managed accordingly.

Accurate online measurement to reach your goals
Online measurement with Liquiline System CA80TP and CA80TN ensures reliable, real-time monitoring of water treatment. It can alert you to issues and allows for a quick reaction in case of disturbances.

- Standard molybdenum blue method following ISO 6878 for total phosphorus ensures consistent comparability to lab measurements.
- Standardized alkaline persulfate digestion according to EN ISO 11905-1 and UV-photometric measurement offer direct comparability to most total nitrogen cuvette tests.
- The analyzers must capture particles of a defined size in order to gain accurate and representative results. The Y-strainer and peristaltic pumps are able to cope with those particles.
- The optional dilution module extends the measuring range for precise measurements in water with higher phosphorus or nitrogen loads.
- Detailed logbooks enable consistent documentation of the TP and TN values.

Reactors pushed to the next level
- The unique titanium reactor of the TN analyzer offers superior long-term performance.
- Hard-coated optical filters live significantly longer than the established soft-coated filters.
- Precisely adjusted reactor temperatures guarantee complete digestion of the sample.
- The software-controlled safety cover of the TP analyzer prevents opening of the digestion reactor if it is too hot or under pressure. The reactor only heats up when the safety cover is in the correct position and the cover can only be removed for maintenance when the reactor is in a safe state.
- The optical dosing unit of the TP analyzer is equipped with an additional safety light barrier which takes over in case of a malfunction, ensuring the best level of reliability.

Decrease operating costs, simplify maintenance

Highest precision in low measuring ranges

- The molybendum blue method of Liquiline System CA80TP allow for precise measurement down to a limit of detection (LOD) of 0.015 mg/l.
- The high-quality optical components of Liquiline System CA80TN like sapphire glass windows enable a limit of detection (LOD) of 0.06 mg/l.

Uniform operation of analyzers and transmitters

- Operation of Liquiline System is familiar because it is identical to the concept of other online analysis parameters, such as pH or chlorine. Operating errors are virtually eliminated.
- Extend your analyzer to a measuring station by connecting up to four Memosens sensors and thus reduce the investment costs for your plant.
- Integrate the analyzers seamlessly into your process control systems via Modbus, PROFIBUS DP, PROFINET, EtherNet/IP and web server communication.

Liquiline System makes life easier for operators

Automatic cleaning and calibration functions ensure that the analyzer works accurately and reliably over a long period without manual intervention.

Simple maintenance The modular design simplifies fast replacement of individual components and reduces stock costs:

- Bayonet locks of the peristaltic pumps enable hose exchange within minutes.
- The dilution module consists of the same components as the standard pumps for sampling.

Y-strainer

Easy process integration

Fast setup of sampling
Liquiline System CA80TP and CA80TN offer two easy ways of integrating the sampling to draw homogeneous and representative samples.
The self-priming version extracts samples directly from an external collecting vessel.
The optional Y-strainer enables you to take samples directly from bypass pipes.

- It is easily integrated by its standard adhesive fitting (40 mm).
- It delivers representative samples thanks to the sample hose floating in the middle of the sample stream.
- Blocking is avoided because the fluidic movement removes particles inside the Y-strainer.

Easy connection with M12 connector

Easy connection of Memosens sensors
To be prepared for an especially easy upgrade to a measuring station, use the Liquiline System analyzers with M12 connectors. With these analyzer versions, Memosens sensors can simply be screwed into the M12 connections without any additional wiring or tools.

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