

Real-time data for stable processes

Memosens CAS41E provides compact, continuous measurement for wastewater and water applications.



Memosens CAS41E

The Memosens CAS41E ISE sensor continuously monitors ammonium, nitrate, potassium or chloride directly in the process. The real-time data support reliable control of biological processes, helping to reduce energy consumption and maintenance requirements. Thanks to flexible configuration options and intelligent calibration support, the multiparameter sensor ensures efficient and stable plant operation.

- Continuous in-process measurement
- Flexible sensor configuration
- Intelligent multipoint calibration
- Easy electrode replacement



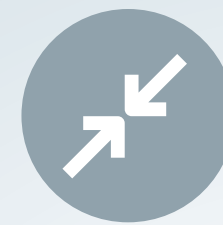
Memosens CAS41E

Benefits at a glance

Memosens CAS41E offers a range of benefits for reliable, cost-effective monitoring of biological wastewater treatment processes.

Efficient monitoring with a compact multiparameter sensor

Different working electrodes can be flexibly combined in a single sensor, thus reducing installation effort and simplifies the measuring point.



Direct use in the process

The fully enclosed sensor design enables real-time monitoring directly in the basin. Memosens technology ensures secure digital data transmission.

Easy to adapt

Freely assignable slots allow individual sensor configurations and easy adaptation to new measuring tasks.



Easy electrode replacement

Individual electrodes can be replaced quickly and easily, reducing maintenance and downtime.

Smart calibration

Automated evaluation and integrated self-assessment of the calibration help continuously optimize sensor performance.



Calibration without process interruption

Multipoint calibration during ongoing operation ensures reliable performance without interrupting the process.



Challenges in wastewater management

Continuous process monitoring for stable operation

In modern wastewater treatment plants, loads and process conditions are constantly changing. At the same time, demands for efficiency, operational reliability and compliance with discharge limits are increasing.

Up-to-date information on plant operating conditions is essential for the cost-effective operation of biological treatment stages. Process transparency enables operators to respond quickly and keep processes stable.



Aeration basin

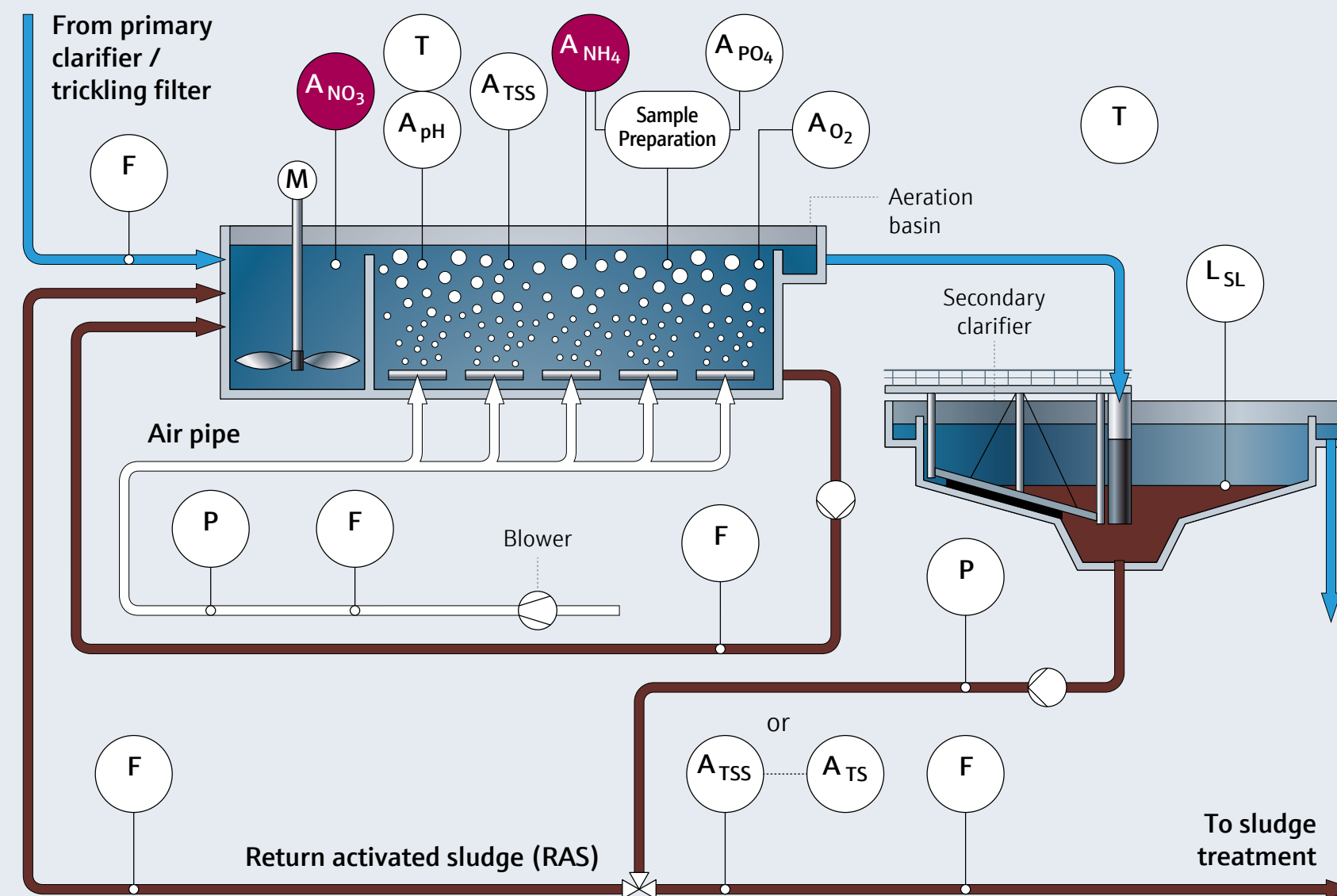
The aeration basin is where the main biological treatment stage of the wastewater treatment plant takes place. In this process, organic pollutants are broken down and nitrogen compounds are biologically converted.

Nitrification and denitrification

Ammonium and nitrate concentrations provide important information on the status and performance of the biological treatment stage.

Industrial wastewater treatment

In addition to municipal wastewater treatment, Memosens CAS41E can also be used to monitor biological treatment in certain industrial wastewater applications.



Your challenge

Measurement task: Biological nitrogen removal (ammonium, nitrate, potassium, chloride)

Measuring point: Open basin

Medium: Wastewater

Process temperature: up to 40°C

Process pressure: up to 0.5 bar

Specific challenges:

Compensation for various disturbance variables

Our solution

Memosens CAS41E was developed specifically for use in aeration basins. Installed directly in the process, the multiparameter sensor provides reliable information on ammonium or nitrate concentrations. It detects changes at an early stage and enables cost-optimized process control.

Challenges in water applications

Continuous water quality monitoring

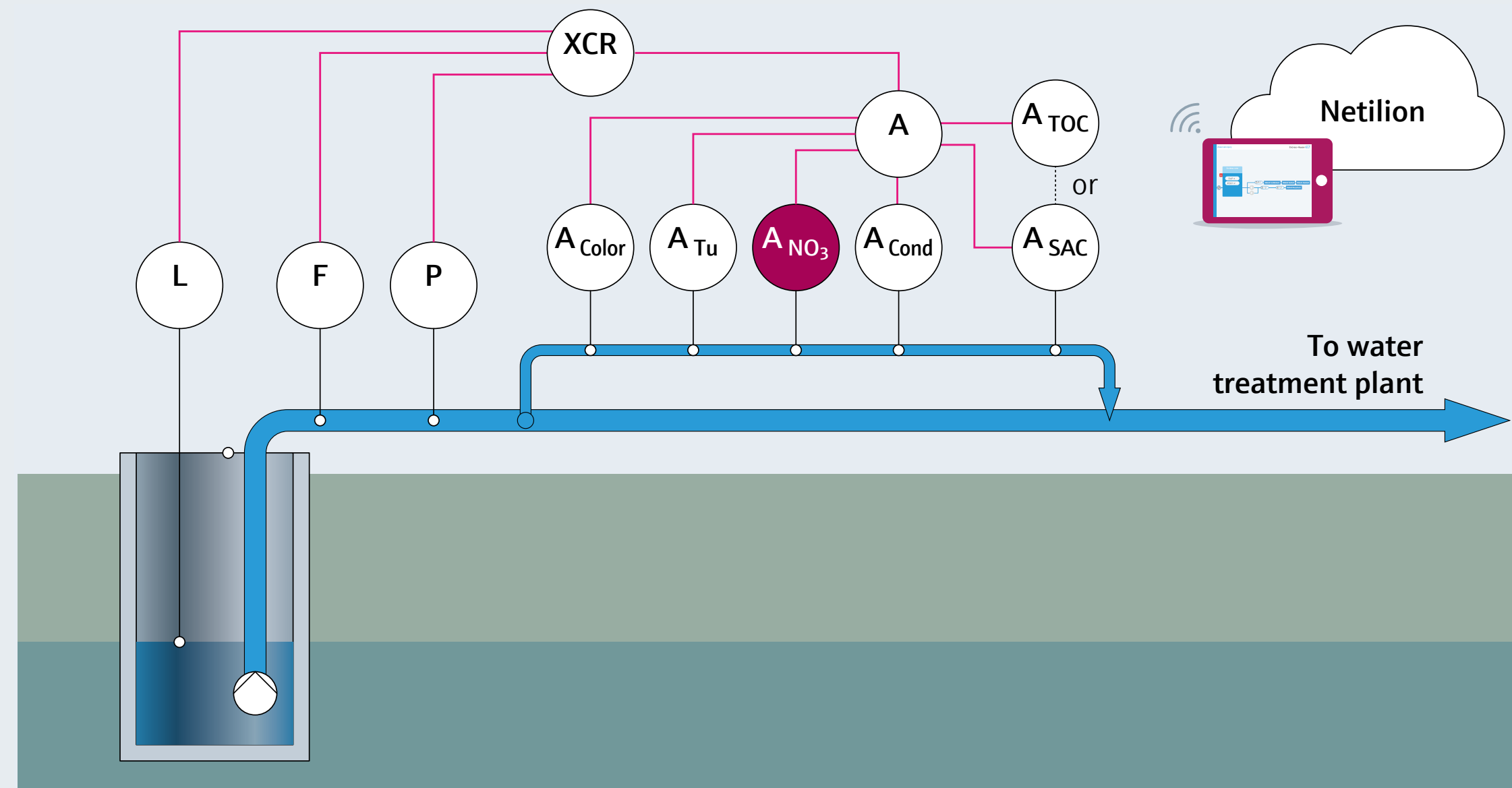
Groundwater and surface waters such as rivers, lakes and reservoirs are subject to natural and seasonal changes. This makes it increasingly important for operators and authorities to detect changes in water quality at an early stage and reliably monitor long-term trends.





Monitoring groundwater and surface water

Continuous monitoring of ammonium, nitrate or chloride in groundwater and surface water provides clear insights into water quality, allowing operators to detect changes at an early stage. At the same time, changing environmental conditions and often difficult-to-access measuring points place high demands on the measurement technology used.



Your challenge

Measurement task: Groundwater and surface water monitoring

Measuring point: Groundwater, rivers, lakes, streams

Medium: Water

Process temperature: up to 40°C

Process pressure: up to 0.5 bar

Specific challenges: Permanent installation with limited power supply and low maintenance requirements

Our solution

Memosens CAS41E enables continuous monitoring of ammonium, nitrate, potassium or chloride directly in the water body. Robust Memosens technology and a maintenance-friendly calibration concept ensure reliable long-term operation, even at remote measuring points.

Adaptable to your measurement task

Flexible configuration for different measurement tasks

Configurable electrode slots allow the sensor to be tailored to your application. Depending on the measurement task, measuring and compensation electrodes can be flexibly combined. This allows Memosens CAS41E to be configured specifically for monitoring ammonium, nitrate, potassium or chloride.

The multiparameter sensor configuration can be adapted at any time to meet changing requirements.

Typical configurations

- Ammonium measurement only
- Combined ammonium and nitrate measurement
- Ammonium measurement with potassium compensation
- Nitrate measurement with chloride compensation

Optional air cleaning is also available to keep the electrodes clean during operation.

Memosens CAS41E: Electrode slots



Optimized for day-to-day operation

High availability, minimal effort

Memosens CAS41E simplifies the operation and maintenance of ISE measuring points. Replaceable electrodes, a fully enclosed design and an optional cleaning function help reduce on-site maintenance while increasing measuring point availability.



Robust, fully enclosed sensor design: Designed for direct use in the basin, with secure digital data transmission thanks to Memosens technology.



Easy electrode replacement: Individual electrodes can be replaced quickly and easily, reducing maintenance and downtime.



Easier handling thanks to tool-free maintenance and intuitive design.



Optional compressed air cleaning: Helps ensure reliable operation even under challenging process conditions and uses a separate, automatically controlled cleaning unit.

Reliable measured values during operation

Intelligent calibration support

Biological treatment processes are dynamic, with concentrations of relevant parameters constantly changing. Memosens CAS41E helps ensure reliable measured values over the long term with an intelligent calibration concept.

A clear, self-explanatory wizard guides users through the calibration process, making calibration straightforward and user-friendly. Automated evaluation and flexible calibration options also make it easier to adapt the sensor to actual process conditions, simplify day-to-day operation and optimize measurement performance.

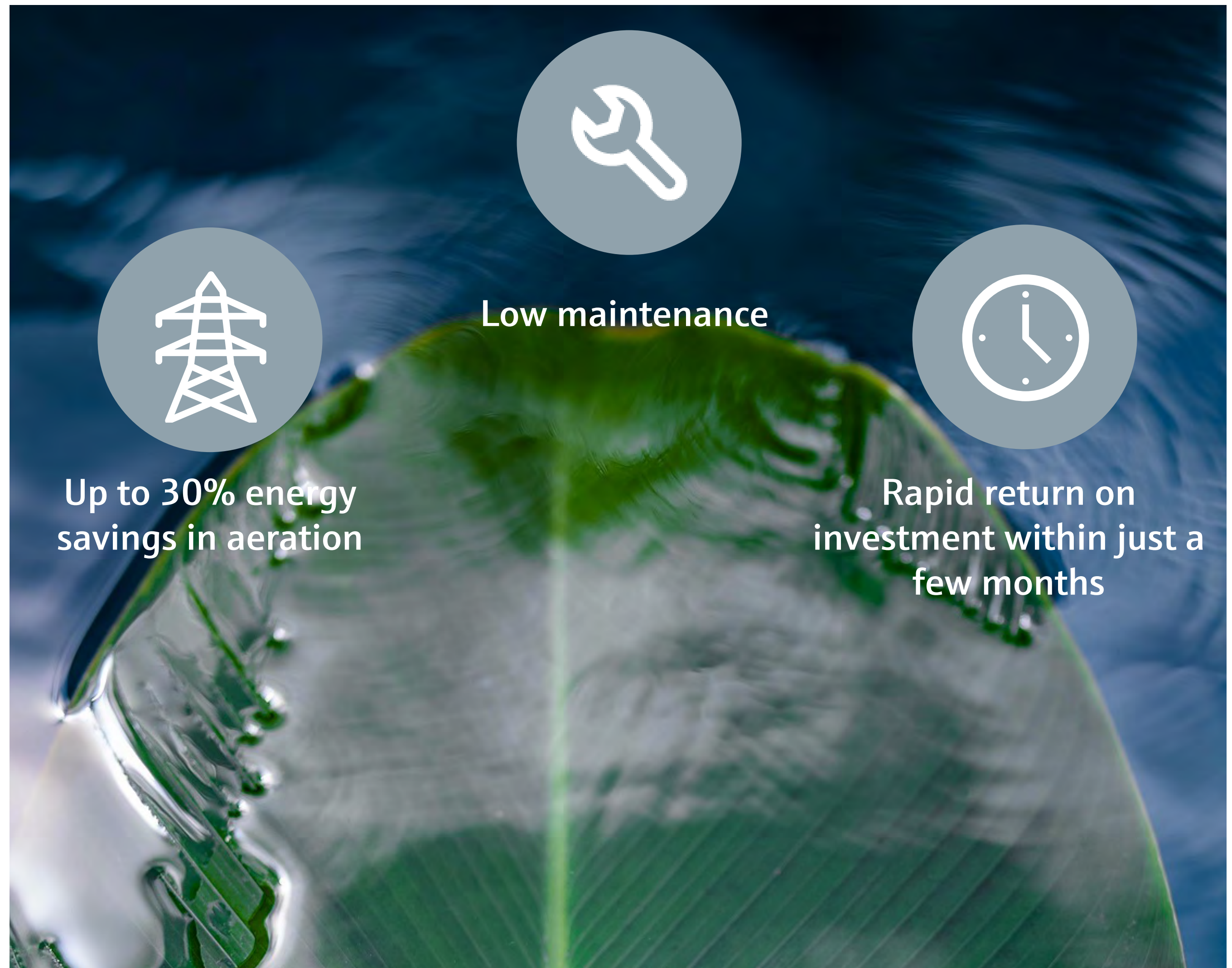
- **Multipoint calibration**
Uses multiple reference points for precise adaptation to the application.
- **In-process calibration**
Calibration during operation without removing the sensor.
- **Automated evaluation**
Supports the evaluation of reference values and simplifies calibration procedures.



Lower operating costs. More process control.

Use continuous process data for efficient aeration and maintenance, and for cost-effective plant operation.

Installed directly in the process, Memosens CAS41E provides continuous information on ammonium and nitrate concentrations. This enables optimized process control, reduces unnecessary energy consumption and simplifies maintenance procedures.



Low maintenance

Up to 30% energy
savings in aeration

Rapid return on
investment within just a
few months

Portfolio overview

Everything you need for reliable monitoring of biological treatment processes from a single source

The Memosens CAS41E measuring point combines ion-selective measurement, intelligent signal processing and digital services for efficient process monitoring and control.

Memosens CAS41E: measuring point



- **Memosens CAS41E:** Continuous measurement of ammonium, nitrate, potassium or chloride
- **Liquiline CM44:** Central platform for all sensor types, diagnostics and connection to the control system
- **Memosens technology:** Digital data transmission and easy sensor replacement
- **Assembly and cleaning:** Secure installation and reliable operation under challenging process conditions

Complementary sensors and digital services



- **pH sensors:** Compensate for the influence of pH on ion-selective measurement to ensure high measurement quality
- **Oxygen sensors:** Support aeration control and help ensure efficient use of energy
- **Netilion:** Provides location-independent access to measured values, diagnostics and device information

Memosens CAS41E

Ion-selective Memosens sensor for reliable real-time monitoring in biological wastewater treatment.

Memosens CAS41E provides continuous measured values for ammonium, nitrate, potassium or chloride, supporting reliable control of nitrification and denitrification processes. This enables demand-based aeration, reduces energy consumption and contributes to stable, efficient plant operation. The intelligent calibration concept uses automated evaluation and in-process multipoint calibration to simplify sensor optimization and reduce maintenance requirements.

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