

Reliable performance with every cycle

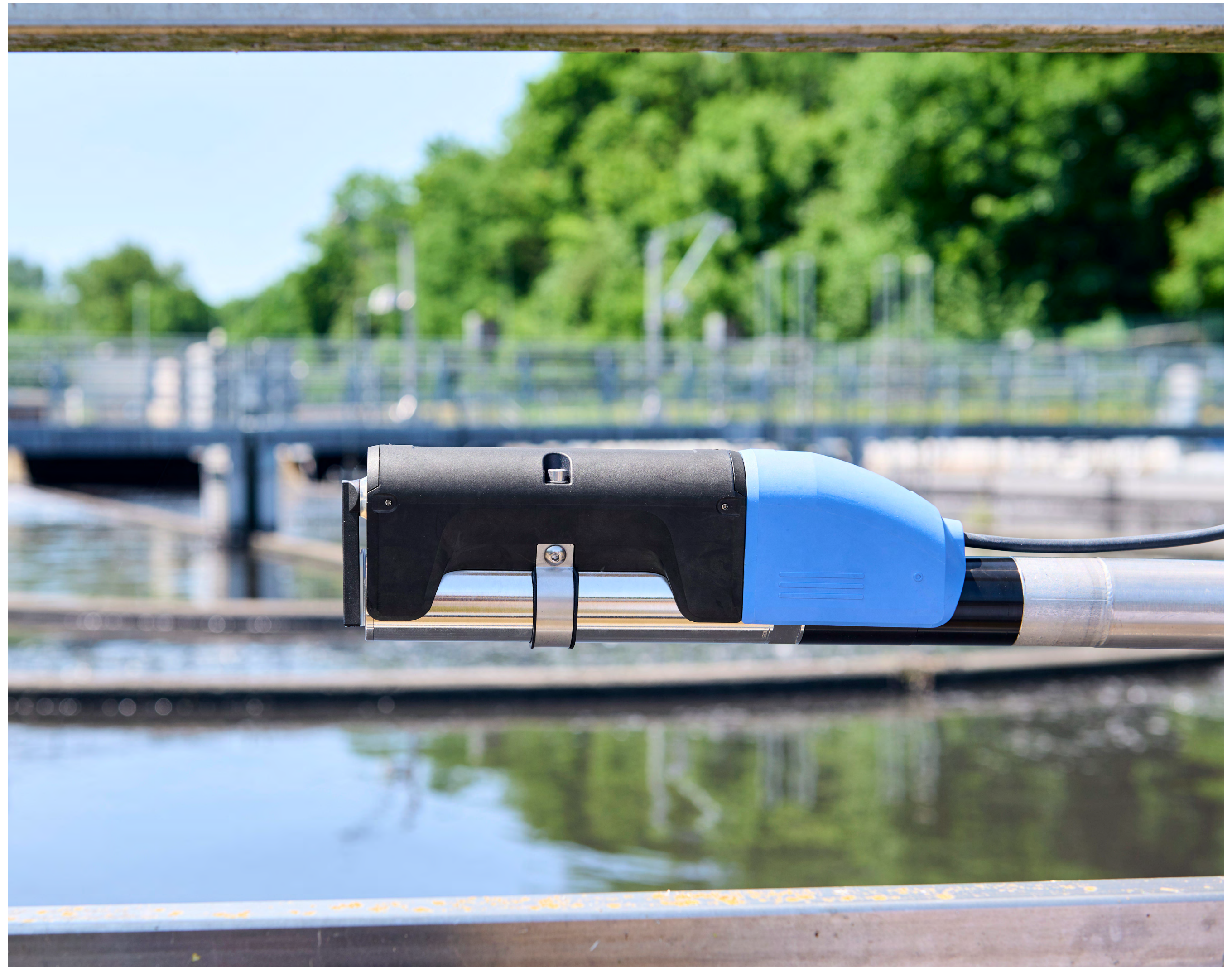
Durable, automated cleaning for
consistent measurement with the CYR51
mechanical cleaning





Mechanical cleaning CYR51

CYR51 is a mechanical cleaning unit for turbidity and UV-Vis absorption sensors, that is easy to install. Benefit from uninterrupted sensor performance and reduced maintenance, thanks to automatic cleaning and durable wiper blades and brushes. Optimize your installation with the cleaning unit, which can be seamlessly integrated into the installed base. Sensors can be cleaned directly in basins or tanks. For smooth operation, we recommend the Flexdip CYA112 and CYH112 holder.



Benefits at a glance

The mechanical cleaning CYR51 offers seamless integration with a wide range of sensors, ensuring flexible use across various applications. It provides robust performance and easy configuration for precise and efficient process control.

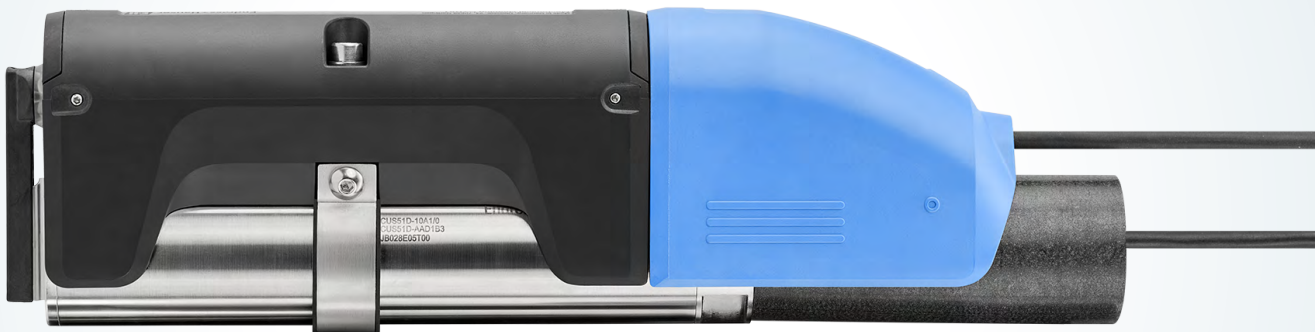
Seamless integration and easy installation

Integrate the mechanical cleaning with your optical sensor to meet your cleaning demands. Experience flawless performance without sensor interruption.



Keep your sensor performance at a high level

Reduce your maintenance effort with automatic cleaning. Take advantage of durable wiper blades and brushes.



Retrofit your plant

As a reliable partner, we want to support by optimizing your existing installation. The cleaning unit can be easily upgraded on your installed base. We help you through every step, from evaluation to installation and service.



Customized package for your cleaning needs

Meet your individual cleaning needs with our tailored solution. Choose between chemical, compressed air, and mechanical cleaning.

Industry focus

CYR51 is a great addition to the cleaning portfolio for optical sensors. It is easy to install, does not affect sensor performance, and helps to reduce maintenance to a minimum. The system is highly versatile - whether in surface water monitoring, drinking water or wastewater treatment, or even in demanding industrial applications like tailing dams and cooling water monitoring.



Wastewater

The CYR51 mechanical cleaning is the ideal partner for optical sensors in wastewater treatment. It improves measurement reliability and reduces maintenance. Especially when skilled staff are limited and discharge limits are getting stricter, saving time and resources is key. At the same time, your measurement points need to deliver accurate data - around the clock and under all conditions.

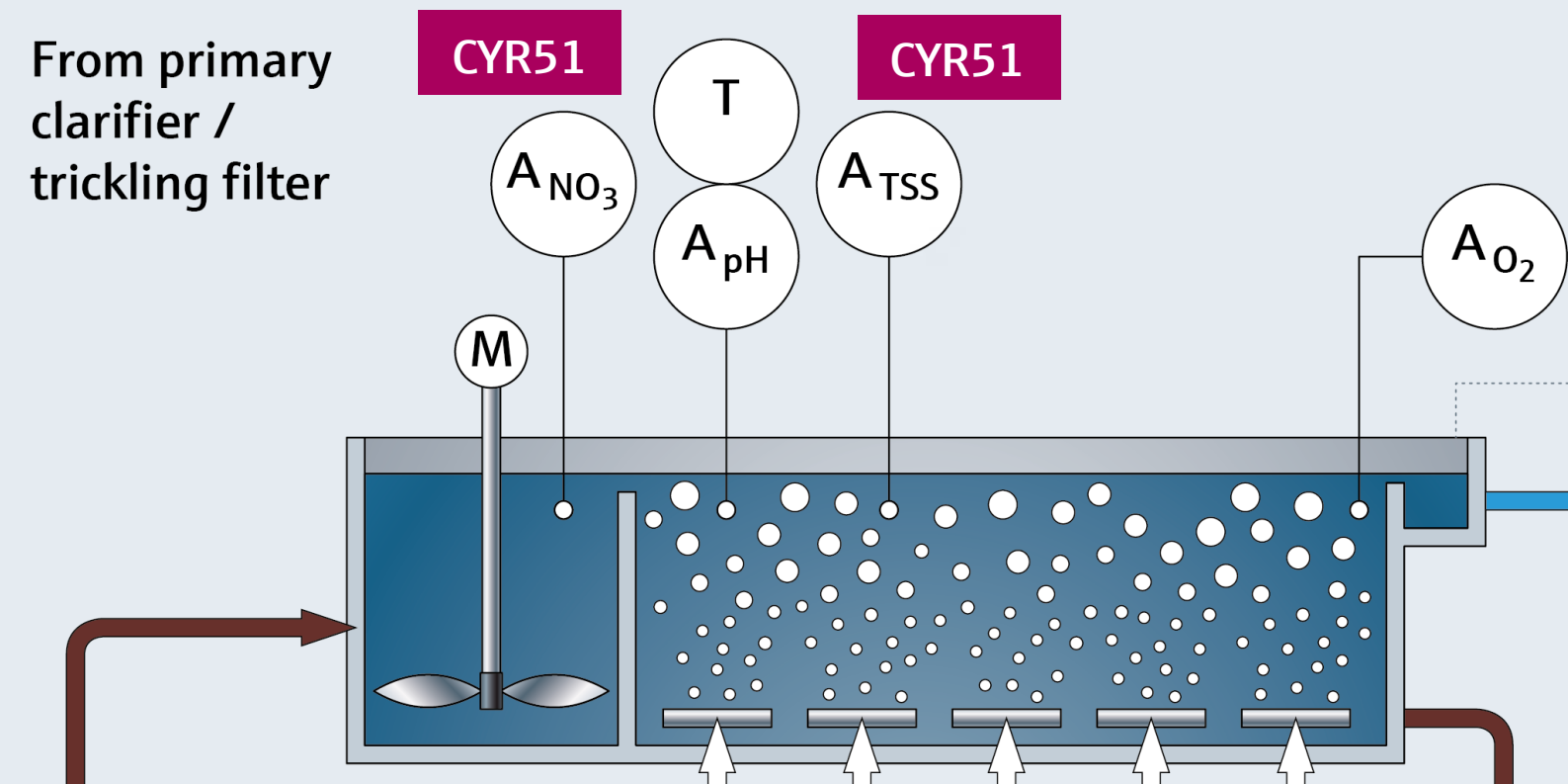
Whether at the inlet, in the aeration tank, or at the outlet, Endress+Hauser helps you find the right cleaning solution, tailored to your process.



Biological treatment

During the aeration process, nitrate, TOC/COD, and total suspended solids are measured to monitor the efficiency of biological treatment. The mechanical cleaning CYR51 automatically removes deposits and build-up from the sensor windows, ensuring reliable measurements.

C1 - Denitrification / nitrification with secondary clarifier



Your challenge

Measuring task: Nitrate and TSS

Medium: Pre treated wastewater

Process temperature: 5...40°C (+41 to +104 °F)

Specific challenges: Clogging hair and paper in optical path length

Water

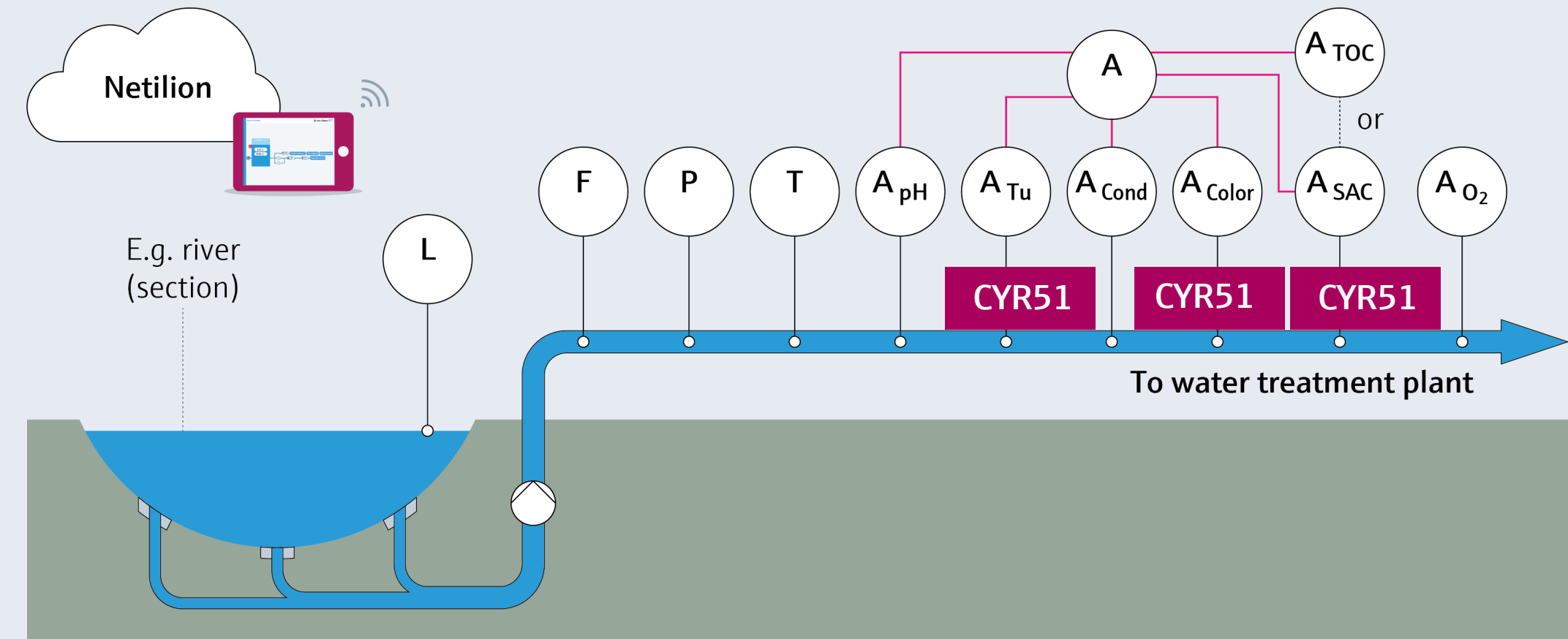
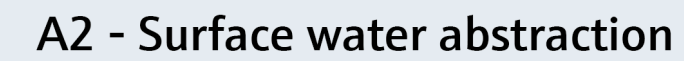
In applications such as water abstraction, early warning of contamination is crucial. That is why the CYR51 mechanical cleaning helps increase the availability of your critical measurement points. It can be installed deep in raw water wells or at surface water intakes - and works reliably under all weather conditions. This reduces manual cleaning effort and keeps maintenance low.

Endress+Hauser supports you
with a cleaning solution that
already meets the latest
drinking water regulations.



Surface water abstraction

The CYR51 mechanical cleaning automatically removes organic deposits like algae from optical sensors. Since these sensors are often installed in remote locations without access to compressed air, CYR51 offers a flexible and reliable solution.



Your challenge

Measuring task: Turbidity, Color, Nitrate, TOC or SAC measurement

Medium: River, lake, dam or well water

Process temperature: 5...40°C (+41 to +104 °F)

Process pressure: Immersion up to 20m below water level

Specific challenges: Removing build ups, sediments and organics

Mining, Minerals & Metals

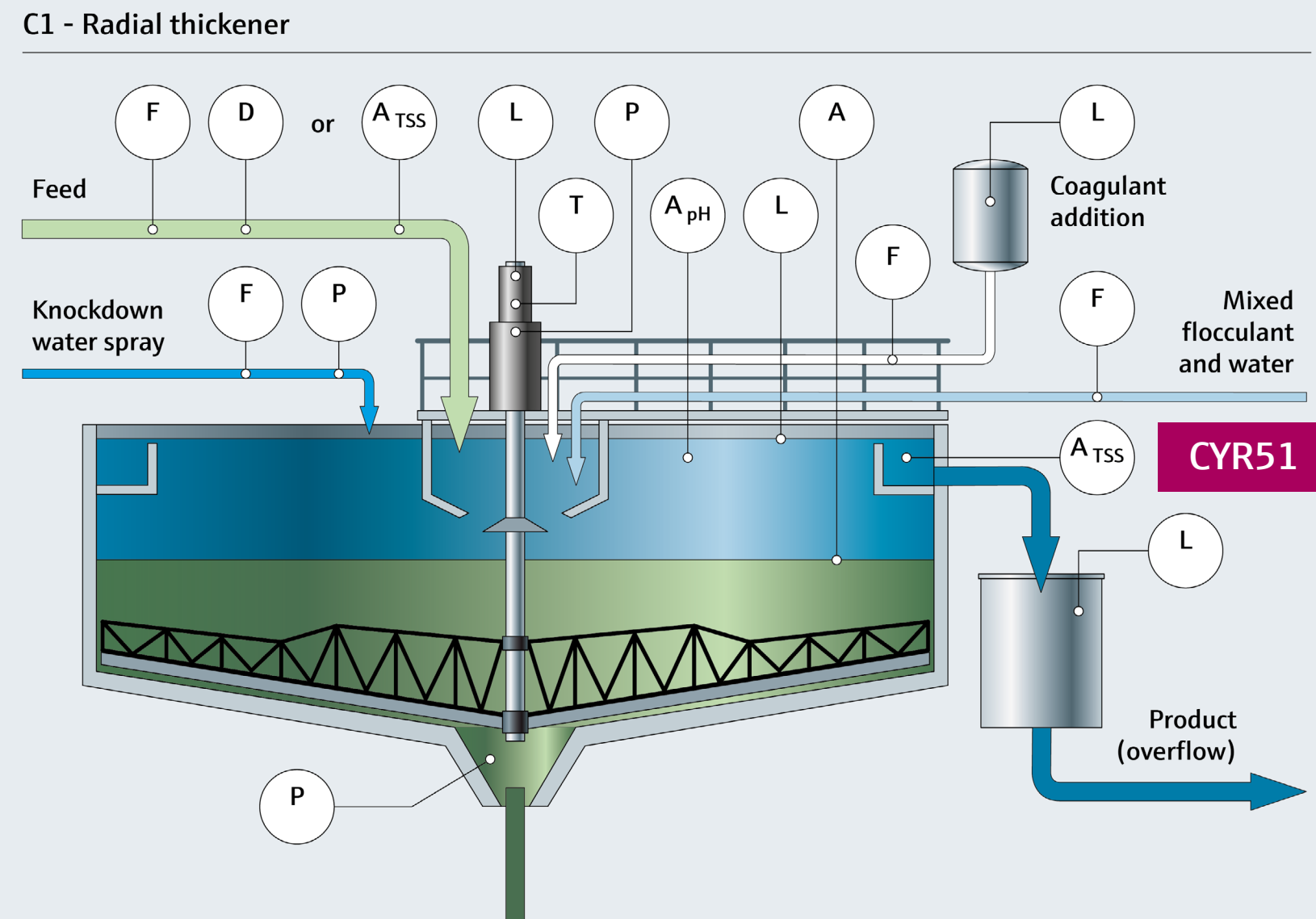
Tailing dams and settlement basins are part of everyday operations in the mining industry. The main objective is to recover as much valuable water as possible to conserve resources. Reliable turbidity measurement is essential, as it determines whether the water can be reused in the plant or must be discharged. Since these basins are often located far from central facilities, maintenance of optical sensors needs to be minimized.

Endress+Hauser supports you in designing an optimal cleaning solution and offers the CYR51 – a robust and reliable system for these demanding applications.



Radial thickener

Tailings dams allow sludge to settle at the bottom so that the water can be efficiently reused. The quality of this sedimentation process is monitored by measuring turbidity in the clear water phase.



Your challenge

Measuring task: Turbidity or TSS

Medium: Settlement, tailing or mining water

Process temperature: 5...55°C (+41 to +131 °F)

Specific challenges: Removing build ups under harsh conditions

Power & Energy

Dams and run-of-river power plants are often located in remote areas, yet they play a key role in ensuring a reliable power supply. Because the turbines that generate electricity are constantly exposed to sediments in the water, it is important to monitor these conditions continuously. The CYR51 mechanical cleaning ensures reliable turbidity measurements and helps to extend the service life of your turbines.

Endress+Hauser offers a highly robust cleaning solution that can be easily integrated, even at remote measurement points.

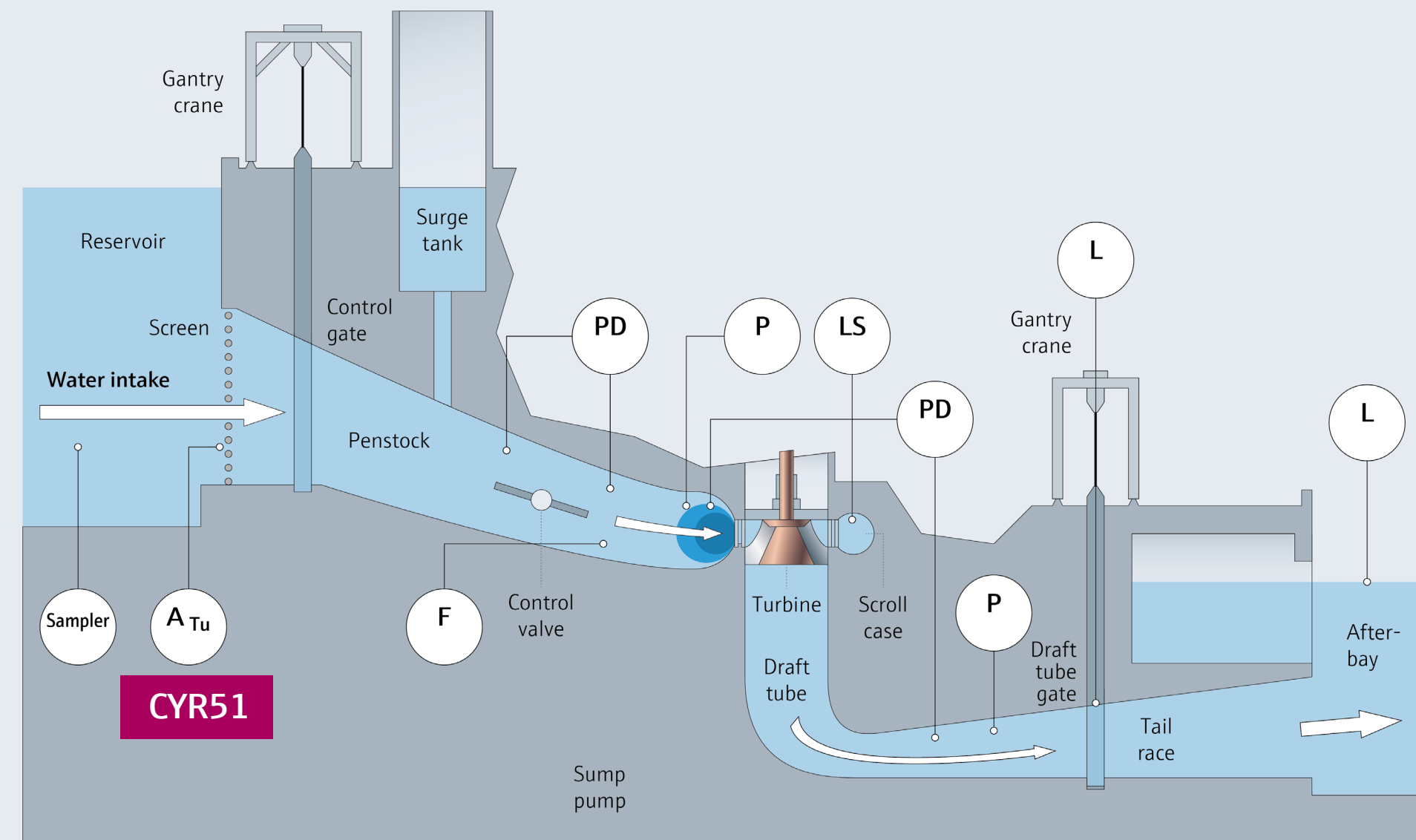


Hydroelectric power plant

In hydropower generation, sediments like sludge and sand cause significant wear on valves and turbines. To prevent damage, turbidity is continuously monitored. If needed, sludge is removed through a blow-off or settlement process.

Mechanical cleaning CYR51 ensures that the sensor stays free from deposits, enabling reliable and accurate measurements.

A1 - Reservoir & waterway



Your challenge

Measuring task: Turbidity or TSS

Medium: River or lake water

Process temperature: 5...40°C (+41 to +104 °F)

Process pressure: Immersion up to 20m below water level

Specific challenges: Removing build ups in deep installations

Technical Data

At a glance

The cleaning unit features a brushless servo motor for reliable performance, materials approved for EU drinking water use, and built-in protection against cable tressings. It is certified for use in hazardous areas (Class 1 Div 2) and offers flexible options like brushes or wiper blades.



Mechanical cleaning CYR51

Cleaning unit for turbidity and UV-Vis
absorption sensors



**Compatible
turbidity and UV-Vis
absorption sensors**

- Turbimax CUS51D
- Turbimax CUS52D
- Viomax CAS51D - 2 mm
- Memosens Wave CAS80E - 50 mm

Brush material

Nylon

Wiper material

Silicone (Pertec UP)

Cycles

- 240.000 wiper / brush cycles (6-month, interval 1 min)
- 3 million wiping cycles (10-years, interval 2 min)

Temperature range

0 to 55 °C (+32 to +131 °F)

Pressure range

0.5 to 3 bar abs. – max. 20 m immersion

Related assemblies

- Flexdip CYA112
- Flexdip CYH112 holder

Approvals

CE, CSA GP, CSA US Cl.1Div2, UBA drinking water conformity



Compatible sensors

Turbidity and UV-Vis absorption sensors

The CYR51 mechanical cleaning integrates seamlessly with a wide range of turbidity and UV-Vis absorption sensors. Its compact, modular design enables quick installation across different setups. Whether your process requires mechanical, chemical, or compressed air cleaning - CYR51 delivers a tailored solution to match your specific cleaning demands.

For smooth operation, we recommend combining CYR51 with the Flexdip CYA112 assembly and the CYH112 holder. The CYR51 mechanical cleaning is fully compatible with the Liquiline transmitter CM44x, ensuring seamless integration into your digital infrastructure.

Total suspended solids sensor

Turbimax CUS51D



Turbidity sensor

Turbimax CUS52D



Nitrate or SAC sensor

Viomax CAS51D



UV-Vis spectrometer

Memosens Wave CAS80E



Reliable performance with every cycle

Durable, automated cleaning for consistent measurement with the CYR51 mechanical cleaning

Experience reliable automatic cleaning with our CYR51. Maintain high performance for your turbidity and UV-Vis absorption sensors. Benefit from continuous operation and reduced maintenance effort. Take the next step and discover how CYR51 can enhance the reliability of your measurements.

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