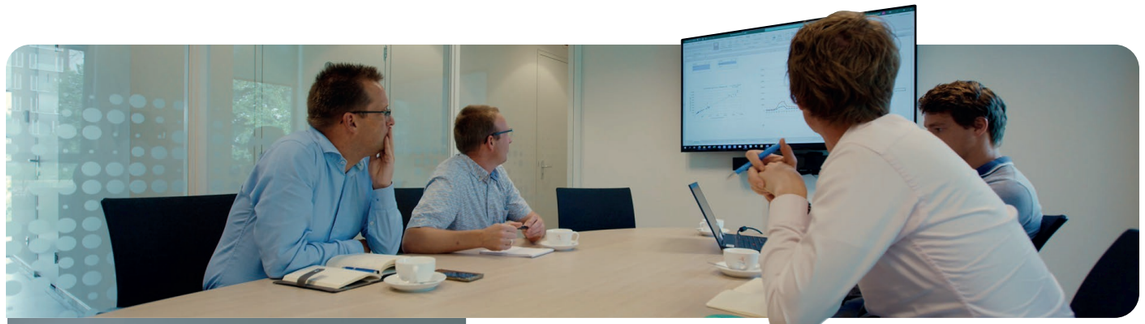
SOLiSENZ

The ‘MISSING LINK’ to optimize sludgetreatment

Reliable sludge treatment sensor solutions

Get to know us

At SOLiSENZ, we are dedicated to designing high-quality sensors for wastewater treatment, prioritizing low maintenance and reliable performance. Our journey is grounded in 15 years of direct field experience, where we've learned the ins and outs of sludge treatment technology hands-on. We believe that sensors are crucial for optimizing the sludge treatment process, acting as the heart of operations. Without effective sensors, achieving efficiency and sustainability in wastewater management is a challenge. Our focus is on delivering sensor solutions that ensure your processes run smoothly and sustainably, backed by our hard-earned expertise. Trust SOLiSENZ to enhance your wastewater treatment with our cutting-edge sensor technology.



Our mission

With our close-knit and talent-focused team, we aim to contribute to the preservation of a safe water cycle. We strive to be a reliable and caring partner for the continuous provision of the right water quality data so that our customers can conduct business more sustainably.

Start saving now!

With 24/7 data you can save on chemical usage, energy, better centrate quality for return usage, working hours and better dry solids.

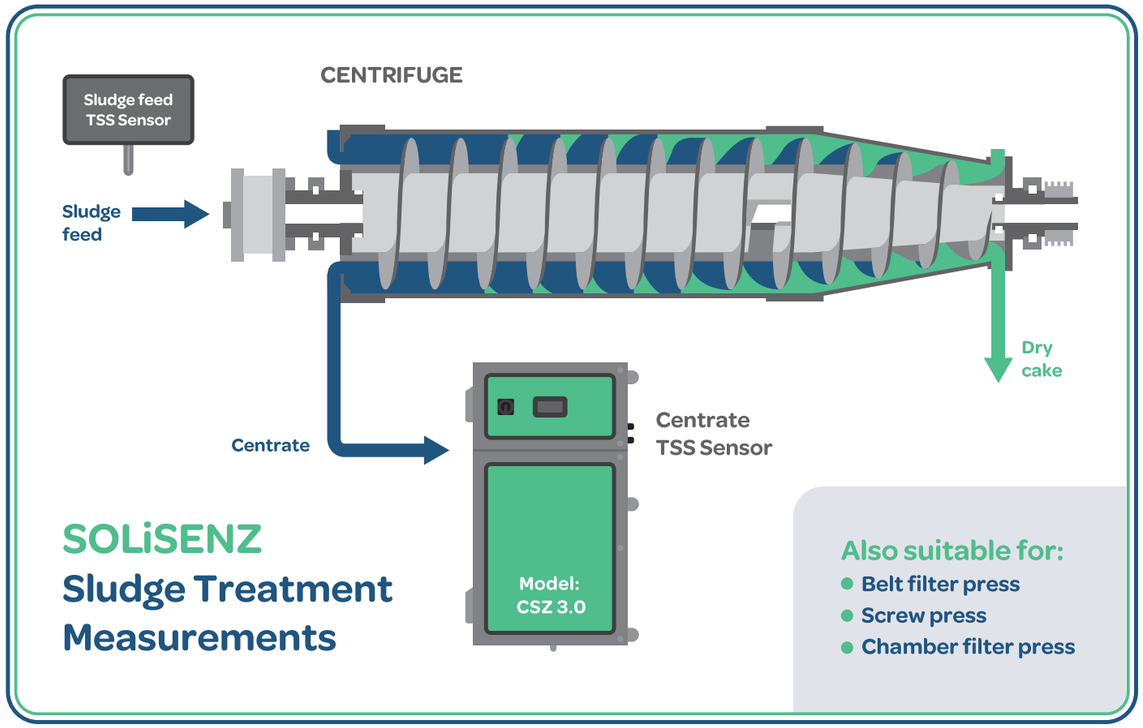
Our Technology

At SOLiSENZ, we specialize in delivering top-tier measuring sensor solutions for sludge treatment processes. Our commitment to innovation places us at the forefront of the industry, ensuring that our clients have access to the most advanced and reliable technology available.

Leading the Way with Our Sensor Solutions:

- Precision Measuring: Our core expertise lies in the precise measurement of Total Suspended Solids (TSS) and Polymer parameters essential for effective sludge treatment. Our sensors are designed to deliver accurate data, enabling optimized process control.
- Durability and Low Maintenance: In the demanding environment of sludge treatment, our sensors stand out for their robustness. Crafted to withstand challenging conditions, they require minimal maintenance, thus ensuring uninterrupted operation and long-term reliability.
- Tested and Trusted Technology: Each of our sensor solutions undergoes rigorous testing and validation processes. This comprehensive approach guarantees that our technology not only meets but exceeds industry standards, providing our clients with a product they can depend on.

At SOLiSENZ, we are dedicated to enhancing the efficiency and effectiveness of sludge treatment processes through our specialized sensor solutions. Our commitment to quality and innovation positions us as a leading provider in the field.



Why SOLiSENZ

The ultimate and worlds best TSS measuring solutions for sludge treatment plants!

Continuously measuring the TSS in different parts of the sludge treatment process provides direct insight into how your treatment is operating. With the data from SOLiSENZ solutions, you can control your process in real-time by optimizing the decanter, polymer dosing, and sludge feed.

With SOLiSENZ, you'll never be "blind" again, as you won't need to rely on an operator who might be heading home in the afternoon or on vacation.

Sludge treatment

As we need to take actions to save the enviroment en change the climate problems, the demands made on municipal water and wastewater treatment are greater than ever. With increasing costs for energy, chemicals and time we need a digital solution to improve the sludge treatment.

Up to 80% reduces staffing

Up to 2% increase in dry solids = lower costs

24/7 autopilot to optimize and automate the logistics and treatment of sludge

What does this innovation mean for you?

Reduction in CO_2 production by up to **80 tons per year**

20% reduction in chemical usage

15% savings on polymer consumption

Online process controll

ROI < 6 months

Products

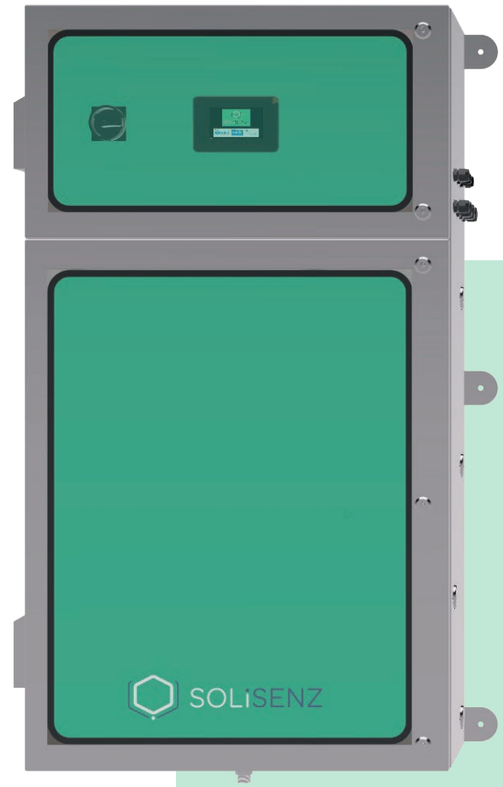
CSZ: Centrate TSS sensor system

Developed specifically to meet the needs of decanter sludge treatment plants, the CSZ offers a unique composition that ensures long-term, reliable TSS measurements in centrate. With its robust peristaltic pump, CSZ ensures a continuous flow of wastewater through the device, while the double automatic cleaning system keeps the device clean and functional at all times.

In addition, the CSZ features ultrasonic sample conditioning to ensure that there is no air in the centrate, which helps the optical solids sensor measure TSS in a stable manner within 30 to 90 seconds from the supply. The device is can be easily operated by the user through a user-friendly touchscreen interface. This interface allows you to adapt the system to your own installation conditions, making it a customizable solution that fits your unique needs.

Features

- State of the art Suspended Solids optical sensor
- Real-time continuous TSS data
- Double stage automatic cleaning
- Self checking system for zero fouling guarantee
- Robust and long lasting sample pump
- Unique sample conditioning system for removing air bubbles in seconds!
- All in one system. Only needs sample in/out and clean water
- Industrial outputs 4-20mA or Modbus TCP



Scan the QR-code to watch a video

Applications

- **Communal waste water**
- **Industrial waste water**
- **Paper**
- **Dairy**
- **Mining**
- **Food**

On-site results

The SOLiSENZ CSZ: Proven accuracy in centrate measurements

Introduction: from pioneering to proven value

The first SOLiSENZ CSZ measuring systems were installed in 2022. Based on the prototype experience we had gained, it was expected to be a suitable solution for sludge treatment. Since then, together with our customers, we have learned a great deal about the complexity of centrate measurement in practice. By now (as of 2024), sixteen SOLiSENZ CSZ systems are in operation both domestically and abroad. Over this time, the SOLiSENZ CSZ has proven itself to be robust and reliable. At the same time, we encountered challenges related to external factors such as sludge quality, extreme contamination, or changing inlet and outlet conditions. Thanks to an innovative and flexible team, these challenges were not only overcome but also led to a stronger product than ever before.

The SOLiSENZ CSZ has also evolved along with practical requirements. Both the software functionalities and the cleaning options have been further developed, resulting in a more user-friendly and powerful system that better meets the needs of operators.

In practice, we notice that the introduction of real-time centrate measurement can represent a major shift for operators. Where previously one had to rely on weekly laboratory values or visual assessments, the SOLiSENZ CSZ suddenly provides continuous insight into process dynamics. This can lead to surprising discoveries: variations in concentrations, influences from the sludge feed system, or abnormal equipment behavior that previously went unnoticed.

It is precisely in this tension, between familiar routines and new insights, that the SOLiSENZ CSZ demonstrates its value. Because measuring is knowing. And knowing leads to better processes.

Why centrate measurement matters

When optimizing sludge dewatering, insight into the quality of the centrate is essential. Not only for process optimization and polymer savings, but also for preventing overload of the secondary clarifier or effluent treatment plant. Nevertheless, operators often still rely on occasional laboratory analyses, which only provide sna pshots.

Centrate

SOLiSENZ
Degassed Centrate

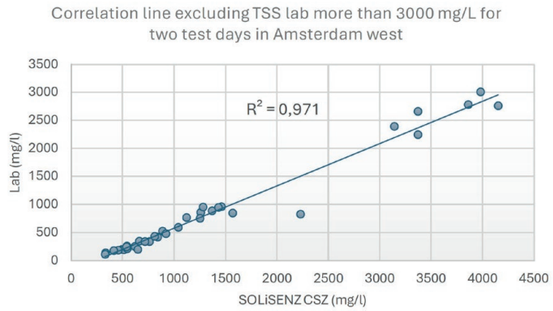
With the introduction of the SOLiSENZ CSZ, those days are over. The SOLiSENZ CSZ is an innovative TSS sensor, specifically developed for real-time measurement of suspended solids in the most challenging part of the sludge process: the centrate.

In recent years, the sensor has been thoroughly validated at various sites under a wide range of process conditions. The results show that the SOLiSENZ CSZ is not only robust and low-maintenance, but also matches laboratory analyses with great accuracy.

Validation results: comparison with laboratory measurements

To substantiate the performance of the SOLiSENZ CSZ, extensive validation measurements were carried out at multiple locations. In a wide measuring range, laboratory samples were taken simultaneously, and the outcomes were compared with the values of the SOLiSENZ CSZ.

Location	Number of samples	Correlation with laboratory
Utrecht	15	0,986
Amsterdam	37	0,971
Denmark	47	0,901
Hengelo	5	0,894
Venlo	25	0,877
Susteren	4	0,877



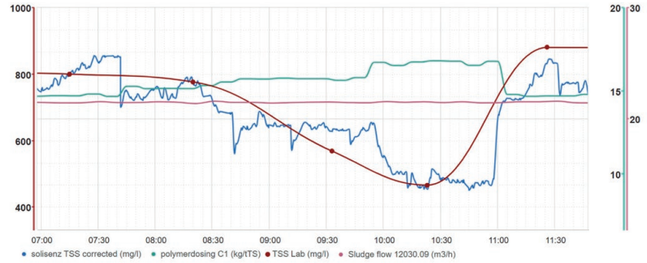
The average correlation of 0.909 across all locations, with a total of 133 laboratory samples, confirms that the sensor provides reliable measurement results, even under highly diverse process conditions.

Real-time insight = process advantage

The strength of the SOLiSENZ CSZ lies in its response time and continuous measuring function. While laboratory values only reveal trends afterwards, the SOLiSENZ CSZ records them directly.

Thanks to this real-time data, operators can make immediate adjustments, resulting in:

- Reduced polymer consumption
- Higher and more stable sludge cake
- More consistent centrate
- Increased dewatering efficiency



Maintenance and robustness

The SOLiSENZ CSZ is designed for practical use. The sensor features an automatic cleaning system, which in most cases is sufficient to keep the measuring system clean over extended periods. In practice, a simple visual check and manual cleaning once every two weeks is often enough. Even at sites where centrate concentrations exceed 5000 mg/l, the SOLiSENZ CSZ continues to perform. At these demanding installations, we recommend more frequent visual inspections, but structural failures do not occur. Thanks to further development in recent years, the cleaning options of the SOLiSENZ CSZ have also been expanded, enabling better self-cleaning even under heavy contamination. This ensures reliable measurements, even at challenging installations.

Easy calibration

Calibration of the SOLiSENZ CSZ is based on two laboratory measurements (two-point calibration), allowing the sensor to be accurately set up within minutes. After that, only periodic validation is required, no frequent recalibration, as is the case with some alternative systems.

Conclusion: proven technology for practice

The SOLiSENZ CSZ is not a laboratory instrument brought into the field. It is a field instrument that has proven itself alongside the laboratory. With high correlations, robust performance, low maintenance, and direct added value in the process, the SOLiSENZ CSZ is the solution for companies that want to operate based on facts rather than assumptions.

Results and cases studies

Only data can prove our technology. Therefor multiple validations and long-term trials are performed. All in different a pplications and with different concentrations for TSS.

CSZ Validation
Waternet Amsterdam

CSZ Validation
WBI Venlo

Scan the QR-code to read more about our references and case study

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