



TITRASENSE

*Precise titration.
Reliable. Economical.*

*The new titration device for reliable
and cost-efficient water hardness analysis.*



Drinking water



Raw water



Waste water



Boiler water



Cooling water

Safety reliably produced.

 **RLSWacon**
analytics GmbH

High-precision titration technology – now for every budget.

The **TITRASENSE** is your smart choice for the exact online determination of water hardness in an industrial environment. It combines the proven precision of high-end titration devices with an outstanding price-performance ratio. Ideal for all who do not want to compromise on measurement accuracy but want to keep an eye on costs and for whom it is important that development and production come from a single source.

Your advantages in focus

- **Industrial-grade design**
Compact design and durable components for industrial use.
- **Simple operation, maintenance & design**
Graphic display and 8-key keypad for clear menu navigation, parameterization, and result display. Includes configuration assistant for quick commissioning.
- **Optimized operating costs**
Reduced investment and maintenance effort with simultaneously high analytical reliability.
- **Increased process safety**
Implemented first-value suppression to avoid false alarms (e.g., after system shut-down).
- **Automated & flexible operation**
Configurable, time-controlled analysis intervals or external triggering of the analysis start.



Safety reliably produced.

Principle of operation

The **TITRASENSE** uses the colorimetric titration method. A defined amount of water sample is mixed with a special reagent. The amount of reagent required for the color change is precisely dosed and detected by a high-resolution optical sensor to accurately determine water hardness. Before each analysis, an automatic zero-point measurement is performed to compensate for external influences.

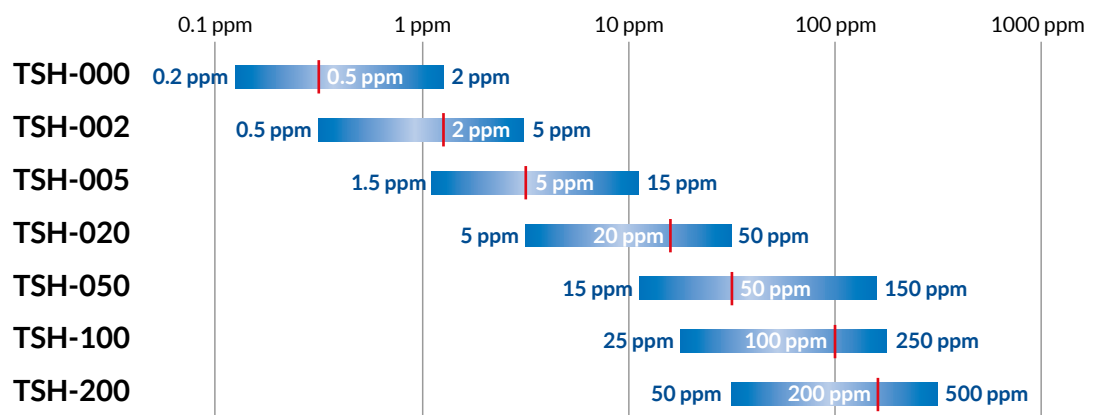
Application areas

- Monitoring and controlling softening plants (e.g., demand-controlled regeneration triggering)
- Quality control in reverse osmosis plants
- Process water monitoring in building technology (heating, cooling, air conditioning)
- Ensuring water quality in drinking water treatment
- Monitoring of boiler feed water and steam generator plants to prevent deposits
- Control of cooling circuits and cooling tower water

Product highlights

- **Exact titration analysis**
Continuous and precise measurement of water hardness for optimal process control and quality assurance.
- **Detailed status information**
Display of measured value, device status, analysis progress, reagent level, and relay status. Access to the history of the last 100 measurements.
- **Defined alarming**
Two potential-free relay outputs for limit value violation and system malfunctions.
- **System integration**
Galvanically isolated input for potential-free contact (e.g., flow switch, external start, interval reset) and 0/4-20 mA current loop output for transmitting measured value or device status.
- **High reagent yield**
Seven different types of reagents cover the concentration range from 0.2 to 500 ppm. This option allows for 13,000 high-resolution analysis per 750 ml TSH reagent bottle (24-month shelf life).

Measuring ranges of reagents (water hardness)



Remark: The red dashes indicate the optimal measuring point of each type.
Based on these values the yield of 13,000 analysis per bottle is possible.

The TITRASENSE analyzer

Technical features

Measuring method	Colorimetric titration with automatic zero-point measurement	
Measured variable	Total hardness (ppm CaCO ₃)	
Measuring ranges	TSH-000	0.2 – 2 ppm
	TSH-002	0.5 – 5 ppm
	TSH-005	1.5 – 15 ppm
	TSH-020	5 – 50 ppm
	TSH-050	15 – 150 ppm
	TSH-100	25 – 250 ppm
Measuring ranges	TSH-200	50 – 500 ppm
	TSH-200 50 – 500 ppm	
Display & operation	Graphic display with 8-key keypad	
Outputs	2 potential-free relays (changeover contact, 0.3 A / 125 VAC 1 A / 30 VDC)	
	Relay 1: Limit alarm (water hardness)	
	Relay 2: Device malfunction (fail-safe)	
	Active current loop output 0/4 - 20 mA (measured value or status, max. load 750 Ω)	
Input	Galvanically isolated input for potentialfree contact (24 V auxiliary voltage)	
Reagent-type	TSH series	
Bottle size	750 ml	
Yield	Up to 13,000 analyses per bottle	
Shelf life	24 months from date of manufacture	
Analysis interval	Time-controlled (configurable, e.g., 5 min factory setting) or external start	
Rinse duration	Configurable (e.g., 15 - 1800 sec, 120 sec factory setting)	

Specifications

Power supply:	24 V DC
Power consumption	approx. 25 VA during operation
Protection class:	IP43 (without front cover) IP54 (with front cover)
Ambient temp.	10 – 45 °C
Sample water temp.	5 – 40 °C
Dimensions (WxHxD)	250 x 330 x 60 mm (without cover) 250 x 330 x 90 mm (with cover)

OUR PRODUCT RANGE Precision for every requirement

We offer you a comprehensive range of solutions for water analysis, divided into online and manual analysis.

ONLINE ANALYTICS

With our analyzers, you can determine a range of water parameters in the process fully automatically. In addition to the well-known series of SYCON devices (with TÜV approval on request), we offer interesting alternatives in terms of price. In addition to total and carbonate hardness, p-value, iron, sulphite and silicate are covered in a wide measuring range.



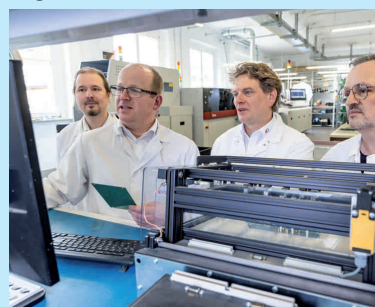
MANUAL ANALYTICS

We offer a wide range of test kits for the manual determination of water parameters. In addition to many standard rapid tests for checking residual hardness, total hardness, chlorine content and iron concentration, you will also find many test kits that are required for niche applications



OUR COMPETENCIES Quality you can rely on

With our comprehensive in-house expertise and skills, we are your reliable partner. Our products are developed in-house and produced with our high level of on-site vertical integration so that



we can offer you fast and individual series production from one piece. This is our understanding of quality „Made in Germany“.

The RLS Wacon analytics GmbH is a family-owned enterprise based in Hildesheim, Germany. For more than 40 years, we are developing and manufacturing robust and safe measurement and sensor technology for demanding applications. We hereby consistently focus on quality and well-known products. Our particular interest is the dialogue with customers, partners and suppliers. That's how **safety is reliably produced.**

Gropiusstr. 12, D-31137 Hildesheim
Tel.: +49 (0) 5121 / 28126-0
Fax: +49 (0) 5121 / 28126-20
info@rls-wacon.de · www.rls-wacon.de

RLS Wacon
analytics GmbH