



SYCON 2802: *The standard in the field of online analyzers*

- > for water softening plants
- > for water blending systems



Drinking water



Raw water



Waste water



Boiler water



Cooling water

Safety reliably produced.

 **RLS Wacon**
analytics GmbH

The titration device SYCON 2802

Since 2012 ...

... our SYCON analyzers stand the test in the daily use. The SYCON 2802 is the standard in the field of online analyzers. It is a titration device which is able to monitor an adjustable limit value.

It can be used ...

... where a process depends on the precise compliance with individual limit values. With the SYCON 2802 we offer reliable analysis technology according to your requirements. The SYCON 2802 includes a demand-controlled regeneration triggering, the monitoring of intersection facilities as well as the monitoring of the condensate recirculation for your boiler house. For this purpose, you choose the reagent with the appropriate measuring range from our extensive range of products. This is controlled in an adjustable time interval and if exceeded, a signal is passed to the controller.



Advantages and highlights at a glance:

- 1** The display allows a quick and comprehensive metering of the device's status and shows the results of the last 100 measurements. Simplified operation via detailed, clear menu navigation. An installation wizard helps you during the initial startup.
- 2** A detailed evaluation beyond the internally stored measured values is made possible by the SD card. All measurement results are stored here with a time stamp.
- 3** With the reagents of the H25 series, the hardness can be measured in a range from 0.012 to 30° dH. In addition, the measurement of the carbonate hardness is possible in the range from 0.3 to 22.5° dKH.
- 4** The maintenance-friendly design allows easy mounting, cleaning of the measuring chamber and replacement of wearing parts.
- 5** Our reagents are produced according to our own recipe and have a shelf-life of 24 months. They are optimally synchronized with the full-colour sensor.
- 6** The new colour-coded terminals facilitate the assignment and ensure a convenient connection of the cables. There are two additional terminals each with switched L- and N-conductors, which can be bridged to the relay contacts.

Safety reliably produced.

Overview of performance features:

Intelligent and accurate

The device does not need to be calibrated. Due to the integrated measuring technology and a two-stage analysis procedure with zero point measurement, external measuring influences due to contamination of the measuring chamber, turbidity of the sample and extraneous light influences are automatically detected and eliminated in the evaluation of the analysis. The maintenance-free full colour sensor is one of the key components for the autonomous operation of the device.

Programmable limit value

Hardness breakthroughs are reliably detected by using limit value reagents. Select the reagent that matches your limit value. No further configuration or calibration is necessary.

Very high accuracy

After a bad measurement, a reference measurement can be carried out to evaluate the result at intervals of 4 minutes. This prevents false alarms due to the negative ion effect.

Multilingual menu

The menu navigation is switchable between German, English, French, Spanish, Italian, Russian, Polish, Dutch and Danish.

Efficient reagent consumption

The reagent bottle can easily be exchanged. In practice, a 500 ml bottle allows more than 10,000 analyses on a water softening system.

Extensive alarm functions

The SYCON 2802 has four relays which can be programmed with the following functions: limit 1, limit 2, cold water valve sample cooler, reagent BOB message, ready for operation.

Diagnostic program

If you encounter technical problems with the device, a fault message is issued by switching a potential-free relay. The detailed diagnostic program guides you step by step through all functions in an easy to understand way. Thus, the device is roundly checked and the cause of the error message is clearly located.

Digital input

The potential-free switch of a flow meter, a timer or any other state switch can be connected to this input. When the contact is open, no analyses are run in the programmed interval. Alternatively, this input can be used as start input for analyses. In the quantity interval mode, the water meter is connected to the input.

Four potential-free relay outputs

The potential-free relay outputs can be used to report a limit value alarm, a device fault or an active analysis as a status e.g. to a control room. Alternatively, signaling devices or solenoid valves can be switched.



The titration device SYCON 2802

General Specifications

Value / Range

Supply voltage	230 V (100 - 240 VAC at 50/60 Hz) alternatively 24 V (AC/DC $\pm 10\%$ at 50 Hz)
Power consumption	25 VA (during operation)
IP-protection class	IP43 (with housing IP54)
Ambient temperature	10 - 45 °C (50 - 115 °F)
Temperature of water sample	5 - 40 °C (40 - 100 °F)
Humidity	20 - 90 % RH non-condensing

Technical Data

Value / Range

Installation	wall mounting in closed rooms
Dimensions	on wall bracket: 274 x 275 x 130 mm (W x L x H) with housing: 330 x 300 x 185 mm (W x L x H)
Weight	on wall bracket: 1.7 kg with housing: 3.7 kg
Relay outputs	4 relays, 250 VAC / VDC 4 A potential free outputs NC/NO > limit value alert > device error > analysis active / cooling water > lack of reagent
Analog output	0/4 to 20 mA
Digital interface	RS485 with Modbus RTU protocol
Signal input	2 inputs for potential-free contacts for external analysis start, water meter or flow monitor
Connection inlet / outlet	tubes with 6 mm outer diameter

Analysis Features

Value / Range

Measuring method	colorimetric		
Measuring range	total hardness	carbonate hardness	
	0.012 ... 30	0.3 ... 22.5	°dH / °dKH
	0.015 ... 37.6	0.4 ... 28.2	°e
	0.021 ... 53.4	0.5 ... 40	°fH
Reagent consumption	0.214 ... 534	5.34 ... 400	ppm
	< 0.05 ml / analysis up to 10000 analyses per 500 ml bottle		
Shelf-life of reagents	24 months		

Online analyser SYCON 2802

Article number

Version 230 V on wall bracket	30-110164
Version 230 V in housing	30-310164
Version 24 V AC/DC on wall bracket	30-111164
Version 24 V AC/DC in housing	30-311164

Our product range:

Water hardness measurement

With our analyzers of the SYCON series you can also monitor the function of your ion exchangers and reverse osmosis systems. For steam boiler houses we offer you an analyzer with approval for BoB operation. For each of your applications, you can obtain an optimized instrument with an individually configurable range of functions from RLS Wacon analytics.



Sample coolers

You will find coolers in our assortment that allow you to take samples for manual analysis. We also offer pre-coolers for analytical instruments. Body and cooling coil are made of stainless steel (type 1.4571) and are approved for a nominal pressure up to 16 bar.



Reagents

We can supply you with the right reagent for your analyzer. We will gladly send you an overview of the available reagents for your SYCON analyzer. In addition to the reagents of RLS Wacon analytics, our delivery program also includes compatible reagents for the analyzers of other manufacturers.



Test sets

We offer a wide range of test sets for the determination of water parameters. Besides many common quick tests for the control of residual hardness, total hardness, chlorine content and iron concentration you will also find many test sets which are needed for niche applications.

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.**

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