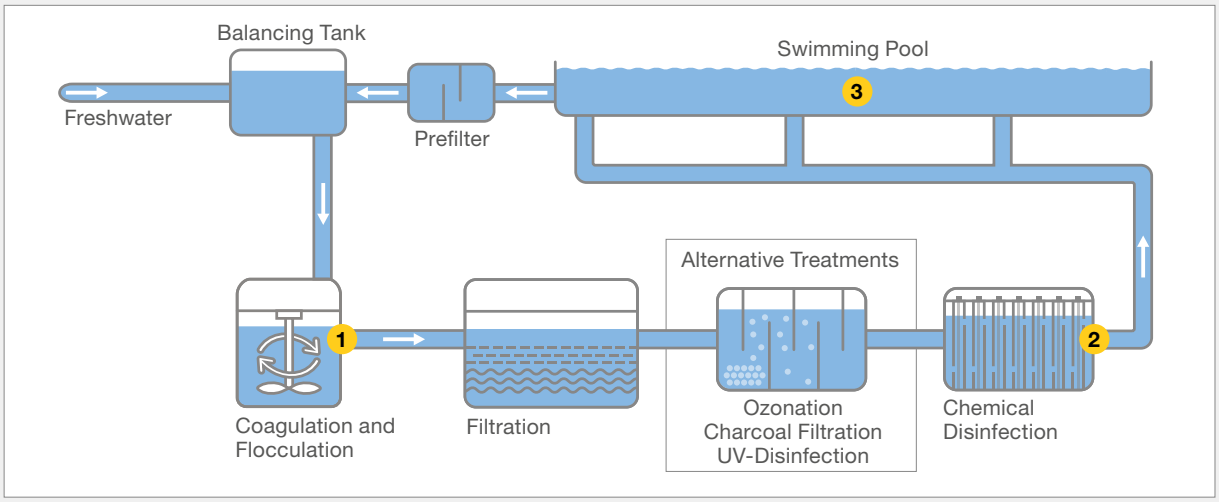
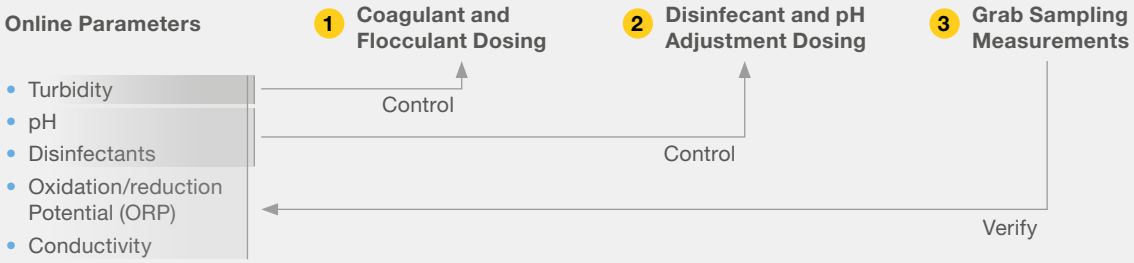
swan
ANALYTICAL INSTRUMENTS

Reliable Online Monitoring of Pool Water

Control Parameters in Swimming Pool Water Treatment





Maintaining optimal water quality in swimming pools is crucial for the health and safety of swimmers. Various control parameters play a role in the water treatment process and ensuring effective coagulation/flocculation, disinfection, and pH adjustment dosing. Find out why these parameters are important for swimming pool operators:

Turbidity in pool water is caused by suspended particles and reflects the filtration system effectiveness. High turbidity levels do compromise water clarity and disinfection treatment (creation of disinfection by-products (DPDs)). Online turbidity monitoring ensures efficient particle removal and enhanced coagulant and flocculant dosing.

pH is crucial for disinfectant effectiveness, swimmer comfort, and infrastructure longevity. Incorrect pH reduces disinfection efficacy, leading to potential health hazards. Online pH monitoring and controlled adjustment dosing help to create a balanced and safe swimming environment.

Disinfectants like chlorine are critical for killing harmful microorganisms. Controlling their concentration ensures effective sanitation, avoiding overuse and potential skin and eye irritation. Online disinfectant monitoring maintains a healthy and safe swimming environment.

ORP measures disinfectant's ability to oxidize contaminants, providing real-time feedback on the disinfection process. Online ORP monitoring ensures constant water sanitation.

Conductivity, influenced by dissolved salts and minerals, is crucial for the overall water balance. High conductivity may signal the need for dilution or water chemistry adjustment to prevent issues like scale formation on pool surfaces and equipment.

In summary, these control parameters are essential tools for swimming pool operators to ensure of the water quality meets safety standards and provides a pleasant experience for swimmers.

Disinfectants

AMI Codes-II

Photometric measurement and control system for disinfectant concentrations according to AWWA 4500-Cl G/EN ISO 7393-2

- Robust against chemicals like cyanuric acid
- High accuracy and reproducibility due to automatic zero-value calibration
- Reduced maintenance with cleaning module and high tolerance against fouling

Free Chlorine
0-5 ppm
Chlorine Dioxide, Bromine
0-6 ppm
Ozone
0-1 ppm

AMI Codes-II CC

Differentiated photometric determination of chlorine according to AWWA 4500-Cl G/EN ISO 7393-2

- Continuous and simultaneous analysis of free, bound and total chlorine
- Freely adjustable measuring intervals for optimized use of reagents
- Fast and easy to use verification with user-friendly solid state standard

Free Chlorine
0-5 ppm
Bound Chlorine
by calculation
Total Chlorine
0-5 ppm
Monochloramine
by calculation
Dichloramine
by calculation

Cleaning Module-II

Reliable accurate measurements ensured by counteracting bio-growth inside the flow cell and photometer

- Individual programmable cleaning interval
- Automatic level monitoring of the reagents
- Optional module to use conjointly with the AMI Codes-II and AMI Codes-II CC

The Swan Chematest Series

Robust, handheld, accurate. For decades, the Swan Chematest series has been a reliable companion for daily pool testing. The updated Chematest 30/35 versions now include additional parameters, optimized user-handling and added features that make everyday testing faster and more convenient.

SWISS MADE

Accurate in every aspect

Photometric measurement of disinfectants following the DPD-method. Individual factory calibration of each photometer. Verification of photometric accuracy using traceable absorption standards. Serving as all-rounders, the Chematest series combines highest mobility with measurement precision.

Carefree Handling

Optimized soft- and hardware make it easier to operate than ever before. The user interface with intuitive on-screen instructions is available in 9 different languages. Sample ID, sampling point and user can be registered for each sample. Measured data can be downloaded conveniently via Bluetooth in the CT-App.

CT APP swan

Built to last

The long-living, rechargeable lithium-ion battery, the IP67 waterproof design and a valuable protective case with useful accessories make it sturdy and ready to measure. Chematest instruments are meant to stand the test of time with ease.

AMI Trides

Amperometric measurement and control system for disinfectant concentrations

- Reagent-free – low operating costs with durable, membrane-free sensor design
- Low maintenance, high zero point stability, improved longevity with automatic sensor cleaning
- Reliable measurements with integrated monitoring of Redox Potential or pH Value (incl. compensation)

Free Chlorine
0-5 ppm
Chlorine Dioxide
0-3 ppm
Ozone
0-1 ppm

pH Redox Potential

AMI pH/mV:pH/mV Pool

Potentiometric dual channel measurement of pH value and/or redox potential

- Economical instrument for dosing, control and water quality monitoring
- Easy calibration without sensor disassembling
- Flow cell with digital sample flow indicator and a NT5K temperature sensor.

pH Range
pH 1-13
Redox Potential (ORP)
-400 – +1200 mV

Specific Conductivity

AMI Solicon4

Measuring of specific conductivity or salinity for saline pools

- Insensitive to fouling due to 4-electrodes principle
- Measurement of Salinity as NaCl possible
- Easy calibration without sensor removal

Specific Conductivity
0.1 µS/cm - 100 mS/cm
Salinity (as NaCl)
0-4.6%
TDS (Coefficient)
0.0 mg/l - 20 g/l

Turbidity

AMI Turbitrack

Flocculation control for minimized chemical dosing complying with ISO 7027 (EN 27027, DIN 38404)

- Low maintenance because of automatic flushing function for flow cell
- Fast and easy to use verification with primary and secondary standard
- For use under process pressure conditions

Turbidity
0-100 FNU/NTU

AMI Turbiwell

Contact-free turbidity measurement for flocculation control; approved alternative method to US EPA 180.1/ISO 7027

- Heated optics prevent measurement errors and fouling from condensation
- No consumables, no wearing parts, no follow-up costs
- Automatic measuring chamber flushing; trouble-free operation without manual intervention
- Fast and easy verification with primary and secondary standard

Turbidity
0-200 FNU/NTU

Swan AMI Monitor Concept

Swan instruments are delivered as fully functional, ready-to-use instruments. This ensures easy system integration as well as user-friendly operation and maintainability.

Highest standards in development and production assure the instrument quality expected by our customers.

SWISS MADE

Full System Integration

- Complete panel-mounted systems with fluidics connections preconfigured for quick start up
- Various communication possibilities with Profibus, Modbus, HART-Protocol, USB-interface and analog output
- Simple process engineering with regulation functions (P, PI, PID or PD), relay or analog output

Easy Maintenance

- Uniform menu navigation for easy operation and maintenance – one platform for all instruments
- Clearly arranged setup of instruments, good accessability of all components for efficient maintenance
- Self-explanatory maintenance procedures can be easily performed by the operating company

Highest Quality Assurance

- Every analyzer is wet bench tested and factory calibrated prior to delivery
- Automatic instrument diagnostics such as reagent level and sensor functions for validated results
- Integrated flow control for validity check

Portable Everyday Pool Water Control

Chematest 30 & 35

The reliable, accurate and robust device for photometric measurements with the add-on.

Photometric measurements
Chlorine (free, total, combined)
0-10 ppm
Chlorine Dioxide
0-19 ppm
Ozone
0-4 ppm
pH Range (with phenol red)
pH 6.5 - 8
Cyanuric Acid
0-100 ppm

All photometric methods are provided with ready-to-use reagents. The instrument performance can be easily verified with prepared standards.

Add-on exclusive for Chematest 35:
Connect external sensors for convenient and swift measurements of pH, ORP and conductivity.

Chematest 42

The unique multiparameter handheld device which covers turbidity measurements as well.

Nephelometric measurement
Turbidity
0-1000 FNU/NTU

The individual factory calibration of every device guarantees a robust and accurate low-rage turbidity measurement. Its design and the cuvette concept allow an easy and time-saving measurement routine.

Photometric measurements
Chlorine (free, total, combined)
0-10 ppm
Chlorine Dioxide
0-19 ppm
Ozone
0-4 ppm
pH Range (with phenol red)
pH 6.5 - 8
Cyanuric Acid
0-100 ppm

All photometric methods are provided with ready-to-use reagents.

The instrument performance for photometric and nephelometric measurements can be easily verified with stable standards.

Connect external pH, ORP and conductivity sensors.

Chematest Sensors

The digital maintenance-free Chematest sensors are equipped with an integrated temperature measurement and are delivered with a high-quality protection vessel. They are easy to operate, fast and economical in use.

Swansensor pH CT
pH Value
pH 1-13

Swansensor ORP CT
Redox Potential (ORP)
-400 – +1200 mV

Swansensor Shurecon CT
Specific Conductivity
0.00-100 mS/cm

Concentration Determination

NaCl	0.00 - 8.25 %
HCl	0.00 - 1.10 %
NaOH	0.00 - 2.10 %
H_2SO_4	0.00 - 2.31 %
HNO_3	0.00 - 1.90 %
Salinity	0.0 - 82.5 ‰ (as NaCl)
TDS	depending on coefficient

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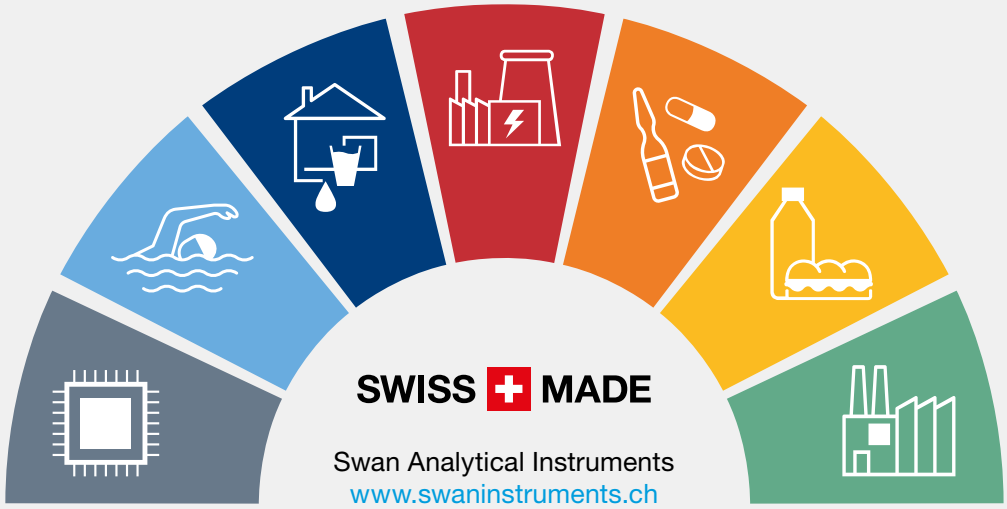
ANALYTICAL INSTRUMENTS

- Swan Headquarters
- Swan Subsidiaries
- Distributors



Swan Analytical Instruments
www.swaninstruments.ch