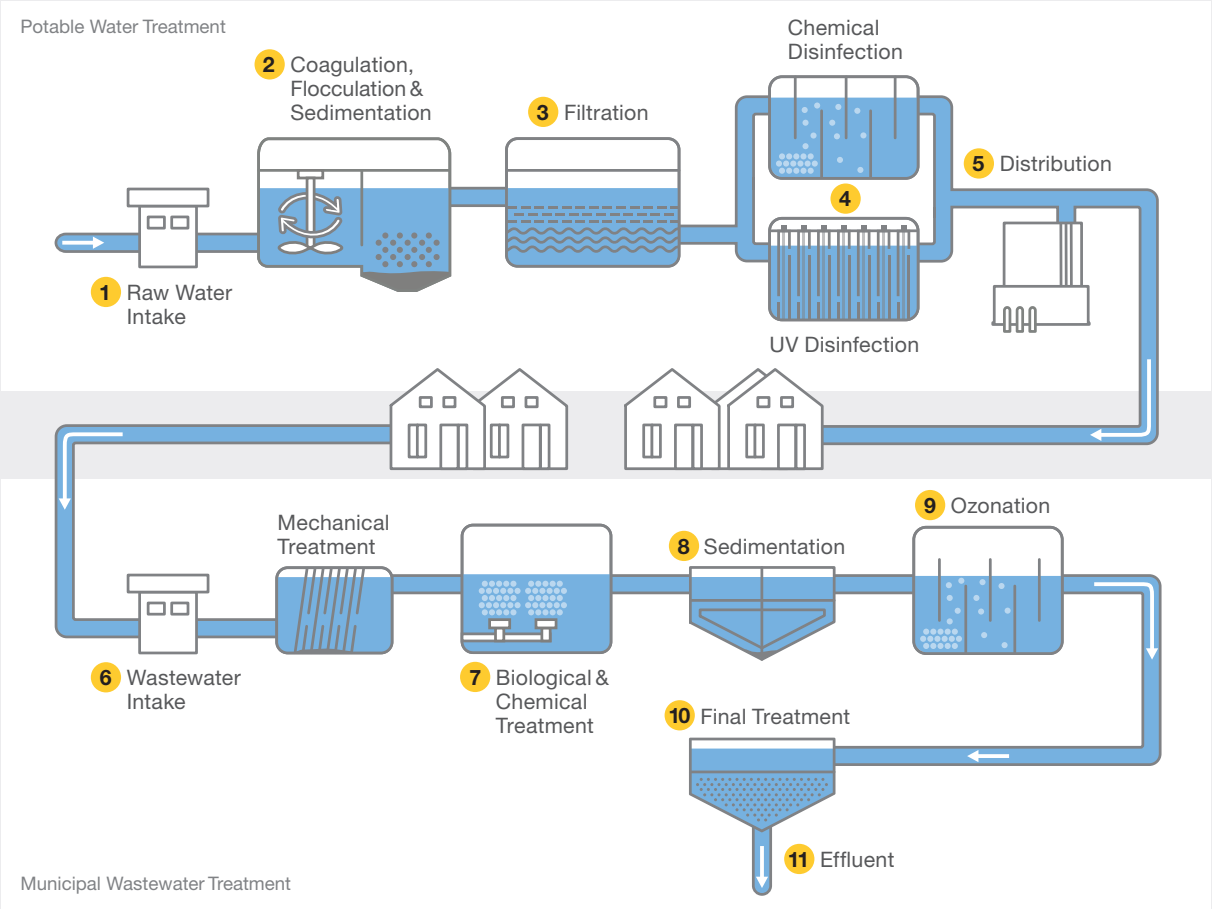




—  
— Reliable Online Monitoring  
— of Potable Water and  
Municipal Wastewater



Possible Locations for Online Monitoring



Parameter	Potable Water Treatment					Municipal Wastewater Treatment					
	1	2	3	4	5	6	7	8	9	10	11
Ammonium	○	○	●	●	●			○		○	○
Chlorine	○	○	●	●	●			○		●	●
Conductivity (specific)	●	●	●	●	●	○	○	●	●	●	●
Dissolved Oxygen	●	●	●	●	●	●	●	●	●	●	●
Fluoride	○	○	●	●	●			○		○	○
Nitrate	○			○	○						
Ozone/Zero Ozone	○	○	●	●	●			○	○	●	●
pH	●	●	●	●	●	●	●	●	●	●	●
Phosphate	○	○	●	●	●			○		○	●
Redox Potential	●	●	●	●	●	●	●	●	●	●	●
SAC254											
• UV Transmission	○	●	●	●	●	○		○	○	●	●
• TOC/DOC/COD/BOD (correlation)											
Turbidity	●	●	●	●	●			○		●	●

○ = Application of instrument may be restricted by water quality or need further sample conditioning (e.g. filtration)

## Ammonium, Nitrate and Fluoride



### AMI ISE Universal

Ion sensitive determination of ammonium, nitrate or fluoride

- Low operating costs due to reagent free operation
- Integrated sensor cleaning for minimal maintenance
- Flexibility to monitor additional parameters with ion sensitive electrodes

Ammonium  
0-1000 ppm  
Nitrate  
0-1000 ppm  
Fluoride  
0-1000 ppm

## Conductivity (Specific)



### AMI Solicon4

Measuring of specific conductivity and TDS to be used in all water treatment steps

- Insensitive to fouling due to 4-electrodes principle
- Measurement of salinity as NaCl possible
- Easy calibration without sensor removal
- Optional deltaT sensor for flow detection

Specific Conductivity  
0.1  $\mu\text{S/cm}$  - 100 mS/cm  
Salinity (as NaCl)  
0-4.6%  
TDS (Coefficient)  
0.0 mg/l - 20 g/l

## Chlorine



### AMI Codes-II

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

- Insensitive to cross-measurements, chemicals and ion interferences
- Automatic zero-value calibration prior to each measurement for high accuracy and reproducibility
- Reduced maintenance with optional 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

- Simultaneous analysis of free chlorine, different chloramine species 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



### AMI Codes-II TC

Determination of chlorine based on the DPD colorimetric method (EN ISO 7393-2; APHA 4500-Cl G)

- Simultaneous measurement of total chlorine and calculation of dichloramine
- Continuous, automatic monitoring of main instrument functions (contaminated photometer, sample flow, reagents level)
- Integrated pH measurement with temperature compensation available as option

**Total Chlorine**  
0-5 ppm  
**Dichloramine**  
by calculation



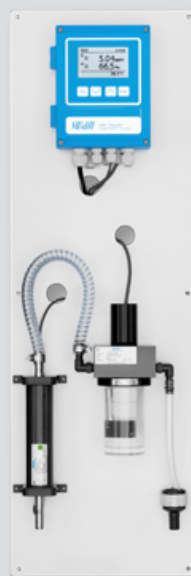
### AMI Trides

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, high longevity with automatic sensor cleaning
- Reliable measurements with integrated monitoring of redox potential and/or pH value (incl. compensation)

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

## Dissolved Oxygen



### AMI Oxysafe

Amperometric measurement of dissolved oxygen

- Simple calibration using ambient air
- Long-term stable measuring system with robust electrode for low-priced operation
- Easy to handle membrane and electrolyte exchange

**Dissolved Oxygen**  
0-20 ppm  
**Saturation**  
0-20%

## SAC254 and Organics, UV Transmission



### AMI SAC254

Measurement of UV absorption at 254 nm (SAC254) for organic carbon trending

- Insensitive to fouling of the optical components due to dynamic measurement at multiple path lengths
- Integrated grab sample function
- Correlation to DOC, TOC and other parameters possible
- Integrated turbidity correction at 550 nm per DIN 38404-3

**SAC254**  
0-300 m<sup>-1</sup>  
**UV Transmission**  
0-100%  
**DOC, TOC**  
Concentration ppm

## Ozone



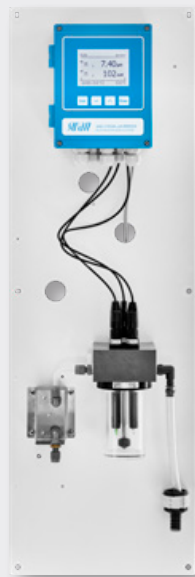
### AMI Codes-II O<sub>3</sub>

Based on the DPD colorimetric method according to DIN 39404-3

- Automatic zero point calibration before each measurement guarantees high reproducibility at low detection limit (1 ppb)
- Simple system function verification with optical filter set
- Reliable results even during long term absence of ozone
- Suitable for verification of zero ozone after ozonation

Ozone  
0-500 ppb

## pH/Redox Potential



### AMI-II pH-Redox AMI-II Dual pH/Redox

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

- pH or redox combined electrode with gel electrolyte, with a Pt1000 temperature probe
- Automatic temperature compensation for pH measurement according to Nernst
- Easy calibration without sensor disassembling
- Minimized maintenance with optional spray nozzle for sensor cleaning

pH Range  
pH 1-13  
Redox Potential (ORP)  
-1500 to 1500 mV

## Phosphate



### AMI Phosphate-II

Colorimetric measurement principle according to ISO 6878/APHA 4500-P E

- Based on molybdenum blue (ascorbic acid) colorimetric method
- Automatic zero calibration for a long term stable measurement
- Measurement result expressed as PO<sub>4</sub> or PO<sub>4</sub>-P
- Optional automatic cleaning module against biofilm and for high resistivity against fouling

Orthophosphate  
0-10 ppm



### AMI Phosphate HL

Colorimetric measurement according to APHA 4500-P C

- Based on vanadatemolybdate yellow colorimetric method
- Automatic zero before measurement for reproducible readings
- Selectable measurement interval for low reagent consumption
- Self-diagnostic indicates if the photometer is contaminated
- Verification kit for reliable measurements and optional 2nd sample channel

Orthophosphate  
0-50 ppm

## Turbidity



### AMI Turbiwell

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

- Heated optics prevent measurement errors and condensation
- Applicable for flocculation control (coagulant dosing)
- Automatic measurement chamber flushing; trouble-free operation without manual intervention
- Fast and easy verification with primary and secondary standard
- Optional deltaT flow meter; optional sample degasser to avoid the formation of interfering bubbles in the sample

Turbidity (ISO)  
0-200 FNU/NTU  
Turbidity (EPA)  
0-100 FNU/NTU



### AMI-II Turbisafe

The Cost-Efficient Contact Turbidity Analyzer according to ISO 7027 (EN 27027, DIN 38404)

- Operational costs reduced to the max, no consumables like desiccants bags, cuvettes or tube kits
- Verify the measurement performance anytime with a primary standard
- Integrated manual valves to reduce or stop the sample flow and empty the flow cell
- Optional flow measurement as control parameter
- Optional automatic cleaning module to reduce biofilm creation on sensor head

Turbidity  
0-100 FNU/NTU

## Option



### Cleaning Module-II

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

- Individual programmable cleaning interval
- Automatic reagent level monitoring
- Optional module to use conjointly with these monitoring systems:
  - AMI Codes-II
  - AMI Codes-II CC
  - AMI Codes-II TC
  - AMI Phosphate-II
  - AMI Phosphate HL
  - AMI SAC254

## Portable Monitoring



### 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.

#### Chematest 35:

Connect external pH, ORP and conductivity sensors.

### Chematest 42

The unique multiparameter hand-held 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-range 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 35 & 42 Sensors

Digital, maintenance-free Chematest sensors, equipped with an integrated temperature measurement and compensation. Easy to operate, fast and economical in use. The Chematest 35 and 42 is delivered with a high-quality protection vessel for a pH or ORP sensor.

#### 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 <sub>2</sub> SO <sub>4</sub>	0.00 - 2.31 %
HNO <sub>3</sub>	0.00 - 1.90 %
Salinity	0.0 - 82.5 ‰ (as NaCl)
TDS	depending on coefficient

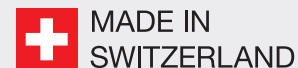


## Swan AMI Monitor Concept



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.



### 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 accessibility of all components for efficient operation and maintenance
- Self-explanatory maintenance procedures can be easily performed by the operating company

### Highest Quality Assurance

- Every analyzer undergoes rigorous quality checks and precise factory calibration prior to delivery
- Automatic instrument alarms and self-diagnostic such as reagent level and sensor functions for validated results
- Integrated sample flow control for measurement check available for all analyzers

## Swan Customers Service and Maintenance

### Expert Training and Maintenance

- Flexible on-demand or scheduled maintenance services
- Expert re-calibration and re-certification options
- Comprehensive product trainings to boost your team's expertise

### After-Sales Support

- Skilled engineers ready to assist with any technical request
- Scheduled maintenance visits to prevent downtime
- Fast, reliable service — on-site or remote

### Genuine Parts and Repairs

- On-demand service including delivery of spare parts and consumables
- Authentic Swan sensors, reagents, and components
- Convenient send-in repairs at regional Swan workshops



- Swan Headquarters
- Swan Subsidiaries
- Distributors

We make water safe.

