

Photometric determinations, turbidity measurement, and sensor-based measurements in one robust hand-held instrument with water-proof housing for all conditions.

Parameters

Photometry:

- Disinfectants: free/total/combined chlorine, chlorine dioxide, ozone, bromine, and iodine by the DPD method
- Cyanuric acid
- pH: photometric with phenol red

Nephelometry:

Turbidity measurement according to

- ISO 7027-1
- US EPA 180.1 alternate procedure*

Sensor-based:

Digital, maintenance-free sensors with long service life available for

- pH
- Redox potential (ORP)
- Specific conductivity

Highest Accuracy

- Individual factory calibration of each photometer
- Low-range turbidity measurement from 0.01 FNU/NTU with drinking water accuracy
- Verification of photometric and nephelometric accuracy with stable, sealed standards

User-friendly Operation

- User management and freely configurable sample IDs for comprehensive documentation of results
- Intuitive on-screen instructions; choice between detailed guidance and expert mode for fastest measurements
- Favorites list for quick access to methods

Up-to-date Electronics

- Chematest App for data export, instrument configuration, and firmware updates via Bluetooth interface
- Powerful, USB-charged lithium-ion battery for approx. 5000 measurements
- Memory for 2700 data sets



Scope of Delivery

CHEMATEST 42 in carrying case, 2x cuvette holder with integrated sealing lid, 5x glass cuvette, brush for cuvettes, 6x cleaning wipe, microfiber cleaning cloth, sensor storage container, 125 mL dropper bottle, 10/20 mL syringe, 8x syringe filter 0.2 µm in vial, 2x blister pack for 5 reagent bottles each, USB charging cable, warranty card, quick start guide

Reagents

SWAN Oxycon liquid reagents for reliable results and easy and time-saving handling

Accessories

Verification kit photometry: set of three cuvettes, zero, low, and high absorbance

Verification standards turbidity: Choice of four cuvettes with 0, 1, 10, or 100 FNU/NTU stabilized formazine

* Registration as alternate test procedure to US EPA 180.1 in accordance with 40 CFR 136.4 pending.

Order numbers:	Chematest 42	A-70.065.042
Sensors:	Swansensor pH CT Swansensor Redox CT Swansensor Shurecon CT	A-87.160.014 A-87.460.014 A-87.391.014
Accessories:	Veri-Kit Photometry, Type P Verification standards turbidity (one cuvette with either 0, 1, 10, or 100 FNU/NTU) Sensor storage container	A-85.153.581 A-85.153.59x A-70.065.634
Reagents and spare parts: See www.swan.ch for details and order numbers.		



Photometric and Nephelometric Specifications

Disinfectants	Measuring range / mg L ⁻¹			Limit of detection (LOD) / mg L ⁻¹
	Low	Medium	High	
Chlorine (free, total, combined)	0.00 – 2.99	3.0 – 5.9	6 – 10	0.01
Chlorine dioxide	0.00 – 5.49	5.5 – 10.9	11 – 19	0.02
Bromine	0.00 – 6.49	6.5 – 12.9	13 – 23	0.03
Iodine	0.00 – 9.99	10.0 – 19.9	20 – 35	0.05
Ozone	0.000 – 0.499	0.50 – 1.99	2.0 – 4.0	0.006
Accuracy	± (LOD + 1 %)	± 5 %	± 10 %	of reading

Turbidity	Measuring range / FNU or NTU			Limit of detection (LOD) / FNU or NTU
	Low	Medium	High	
ISO 7027-1	0.00 – 9.99	10.0 – 99.9	100 – 1000	0.01
Accuracy	± (LOD + 1.5 %)	± 1.5 %	± 2.0 %	of reading
Precision	± (LOD + 0.5 %)	± 0.5 %	± 1.0 %	of reading
US EPA 180.1*	0.00 – 9.99	10.0 – 99.9	100 – 1000	0.01
Accuracy	± (LOD + 2.0 %)	± 2.0 %	± 2.5 %	of reading
Precision	± (LOD + 1.0 %)	± 1.0 %	± 1.5 %	of reading

Other Parameters	Measuring range	Accuracy
Cyanuric acid	0 – 100 mg L ⁻¹	± 2 mg L ⁻¹ or ± 5 % of reading, whichever is greater
pH (phenol red)	6.50 – 8.00	± 0.1

Sensor Specifications Overview

pH and Redox Potential

Digital, maintenance-free sensors for a wide range of applications: potable to waste water, swimming pool, cooling water. Poisoning-protected reference systems with solid electrolyte and clogging-resistant annular gap diaphragm.

Swansensor pH CT

Measuring range: 1–13 pH
Resolution: 0.01 pH
Automatic temperature compensation with integrated sensor

Swansensor ORP CT

Measuring range: –400–1200 mV
Resolution: 1 mV
Pt redox electrode with integrated temperature sensor for consistent data records

Specific Conductivity

Digital four-electrode sensor with Pt electrodes. Wide measurement range. Insensitive to polarization effects.

Swansensor Shurecon CT

Measuring range: 0–100 mS/cm
Resolution: 0.01 µS/cm
(decreases incrementally from κ > 9.99 µS/cm)
Accuracy: ±(0.2 µS/cm + 1.5 % of reading)

SWAN Analytical Instruments AG warrants these SWANSENSORS to be free from all defects for one year from the date of purchase.

Please refer to the separate data sheet for the detailed specifications of the Chematest sensors.

Technical Data

Instrument

Multi-parameter photometer with LED light source and digital sensor interface
Graphic display with backlight: 64 x 32 mm
Key pad with tactile keys
Bluetooth 4.0 Low Energy interface
Memory for 2700 data sets
Languages: English, Chinese, Danish, French, German, Italian, Portuguese, Spanish, Swedish, Turkish.

Powered by high-capacity lithium-ion battery for 5000 measurements or 5 days standby (auto power off after 10 min without input). Battery status indicator on display

Ambient conditions operation: 0–45 °C
0–100 % rel. humidity (non-condensing)

Ambient conditions storage: –20–60 °C
(Different specifications for reagents/sensors.)
Degree of protection: IP67
CE and FCC conformity

Dimensions, weight

Instrument: 10 x 7 x 22 cm, 390 g
Carrying case: 46 x 12 x 38 cm, 3.2 kg (including content)

