



**SKIDS DE
CONDICIONAMENTO
DE AMOSTRA**



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Silicate Analyser

con 2000 silica

Silicate analyser to monitor
water-steam circulation
in power plants



Analytical and technical parameters:

Sphere of application

Determination of dissolved silicic acid in power plant process water (water-steam circulation, checking of ion exchanger systems)

Chemical method determination

Analogously to the method for the
of dissolved (molybdate-active) silicic acid in accordance with sheet 3.3.1.1 (edition 2/86) or sheet 2.4.3 (edition 1/87) of the VGB ring book:
Method with 3 reagents, eliminating the existing ortho-phosphate influence
(Adaptation to automated system, use of sodium molybdate, necessary changes in masking and reduction agents, concentration and reaction time optimisation)

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Measuring range	$\leq 3 \dots 100 \mu\text{g/l SiO}_2$; optional $3 \dots 500 \mu\text{g/l SiO}_2$, desired determination limit at $4 \mu\text{g/l SiO}_2$
Channels	2 sample channels (optional: step-by-step upgrading to 4 and 6 sample channels) 1 standard channel, e.g. for standard $100 \mu\text{g/l SiO}_2$ 1 super-clean water channel via ion exchanger column
Precision photometer	<u>as a specific subassembly:</u> in combination with a thermoblock for thermostating the reaction / measuring vessel with the liquid content and the optical components <u>Wave length:</u> Approx. 810 nm (Radiator: special LED) <u>Cuvette = reaction vessel:</u> Total content approx. 20 ml reaction mixture during the measurement 12 – 14 ml, cover with hose inlets and outlets, suction discharge from measuring vessel bottom <u>Heating up and thermostating of the reaction / measuring vessel</u> with content to a higher temperature (approx. 40°C during the measurement) <u>Radiographed layer thickness:</u> (optical path length) approx. 25.5 mm <u>Mixture in the reaction / measuring vessel:</u> with stirring rods (Teflon fish), with permanent magnet drive on a motor shaft below the vessel bottom <u>Functions</u> - Zero value photometer (null balance = 100 % transm.) - Determination and storage of averaged measured values

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Calibration	<u>programmable automatic system</u> , consisting of: - blank value function - super-clean water channel - steepness function - standard channel for <u>one</u> standard solution (e.g. 100 µg/l SiO ₂)
Elimination of the sample blank readings	is done automatically during each analysis run (in each channel)
Reagent supply	1000 ml each for 3 reagents
Standard solution supply	1 x 2500 ml
Reagent consumption	≤ 0.5 ml per reagent and analysis run
Test bottle change / maintenance	Approx. every two weeks for an analysis frequency of 10 min/analysis run
Manifold	- 1 sample pump to convey and meter sample water, standard water and super-clean water - 1 suction pump to drain the measuring vessel content - at least five pinch cocks to distinguish between sample, standard and super-clean water - another 3/2" pinch cock to distinguish between measuring vessel and waste - hose connections in accordance with flow chart
Analysis sequence (timing)	Program sequence adapted to the kinetics of the individual reaction steps Adjusted program sequence for the individual channels
Response time	≤ 10 min (duration of an analysis run)

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Sample unit (sampling)

on the left outer housing wall:

Overflow vessel combination: for 2 sample channels
(can be optionally upgraded to: 4 and 6 sample channels)

Operation / inputs

- Menu-controlled input of calibration parameters, of limit values and communication parameters;
- Inputs for the running of the automatic cycles (sequences of automatic calibration, of sample channels and breaks);
- Interruption of the automatic cycle to input parameters and to carry out special procedures (e.g. system cleaning)
- Password protection for selected menu items

Interface

RS 232 (for central PC)

Analogue outputs

2 pieces, can be upgraded to 4 and 6 pieces

Current loop: 4 – 20 mA

max. burden:

Digital outputs 3 pieces (for limit values, alarms),
optional extension by 4 pieces

Design

Modular design, wall panel design,

Cabinet version: housing

Outer dimensions approx. (mm) H x W x D= 650 x 440 x 260

Weight: approx. 10 kg

Protection class

splash water proof IP65

Ambient temperature

45°C

Connecting data

230 V / 50 Hz