

# AQUACON Si05/10/20 and SIO2-05/10/20

## Process analyzers for silica (Si) and silicic acid (SiO<sub>2</sub>)

The AQUACON Si and SIO2 process photometers can be used for the monitoring and control of the Si or SiO<sub>2</sub> concentration in water. Measurement principle is the photometric determination of dissolved silicic acid after forming of a reduced  $\beta$ -silico-molybdo-acid complex. Main applications for the photometers are the monitoring of the steam quality and the control of ion exchange plants.

The analyzers consist of a control unit with touchscreen and an analysis unit with measuring chamber, valve, dosing pumps and all required tube connections. The control unit includes a microprocessor which controls the automatic measurement incl. sampling, rinsing, reagent dosing and surveillance of the photodetection system.

### Your advantages:

- ⇒ Automatic measurement incl. self test and drift compensation
- ⇒ 3 different measurement ranges available for Si and for SiO<sub>2</sub>
- ⇒ Easy operation via touchscreen
- ⇒ Adjustable limit value and alarm value
- ⇒ Programmable analog output (0/4-20 mA), optional with USB port for easy data storage
- ⇒ Adjustable break time between two analysis
- ⇒ External start/stop of an analysis possible
- ⇒ No external calibration required
- ⇒ External plug connections (IP65) for alarm relay, limit relay, analysis relays, external start/stop, analog output 0/4-20 mA
- ⇒ Multi range power supply (110–230 Volt, 50–60 Hz)
- ⇒ Including 2-part polycarbonate wall cabinet



### Order informations:

AQUACON Si05	(2 – 100 ppb Si)	Order No. 693 2733 01
AQUACON Si10	(2 – 500 ppb Si)	Order No. 693 2734 01
AQUACON Si20	(0,01 – 1,5 ppm Si)	Order No. 693 2735 01
AQUACON SIO2-05	(4 – 200 ppb SiO <sub>2</sub> )	Order No. 693 2733 02
AQUACON SIO2-10	(4 – 999 ppb SiO <sub>2</sub> )	Order No. 693 2734 02
AQUACON SIO2-20	(0,03 – 3 ppm SiO <sub>2</sub> )	Order No. 693 2735 02
Reagent SI-R 1001	(250 ml)	Order No. 101 2735 01
Reagent SI-R 1003	(500 ml)	Order No. 103 2735 01

## Technical Data

Current output	0/4 - 20 mA, max. load 500 ohm
Display	240 x 128 dots, touchscreen
Relays	1 x Alarm, potential-free 230 V/50 Hz, 3A 1 x Limit, potential-free 230 V/50 Hz, 3A 1 x Analysis state, potential-free 230 V/50 Hz, 3A
External Switching	potential-free contact, 18 V DC, ca. 4 mA
Power Supply	110 - 230 V -- 50/ 60 Hz
Power Consumption	approx. 16 VA
Dimensions	640 x 315 x 190 mm (H x W x D)
Protection	IP 65 (transmitter housing)
Connections	Plugs with circular connection 1,5 mm <sup>2</sup>
Temperature	5° to 45°C, at consumption of reagents within 6 months

Since it is company policy to continuously improve its product range, we reserve the right to make changes in the product design without notification to its users.

## Specifications

Parameter	Silica/Silicic Acid		
Description	Microprocessor-controlled analyzer for the determination of dissolved silica (Si)/silicic acid (SiO <sub>2</sub> ) in water		
Typical Applications	Monitoring and control of steam quality in steam-generating plants. Monitoring and control of ion exchange plants		
Analysis Method:	Photometric determination of the dissolved Si/SiO <sub>2</sub> by formation of a reduced β-molybdosilicic acid complex		
Analyzer type	Si05/SiO2-05	Si10/SiO2-10	Si20/SiO2-20
Measuring Range	2 – 100 ppb Si 4 – 200 ppb SiO <sub>2</sub>	2 – 500 ppb Si 4 – 999 ppb SiO <sub>2</sub>	0,01 – 1,5 ppm Si 0,02 – 3 ppm SiO <sub>2</sub>
Resolution	1 ppb	1 ppb	0,01 ppm
Accuracy	2 % of end value		3 % of end value
Reproducibility	1 ppb/2 ppb	2 ppb/4 ppb	0,01 ppm/0,02 ppm
Zero-point Stability	automatic adjustment		
Number of Samples	1		
Sample	Operating Pressure 0,1 - 10 bar Temperature 18 - 30 °C Sample Volume 25 ml per analysis (excluding rinsing) Sample Condition clear, with particles < 0.5 g/l ; < 50 µm Chemical Demands pH 4-8, PO <sub>4</sub> <sup>3-</sup> , NH <sub>3</sub> < Si Drain pressure free into open drain		
Reagents	Number 2 Storage Temp. 10 – 30°C Usage/analysis 0,3/1,2 ml Reagent volume 250/500 ml Suitable for appr. 400 analysis		
Analysis	Cycle (approx.) 13 min., incl. rinsing Sample interval 1 – 99 min or external start/stop		