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

Process analyzers for silica (Si) and silicic acid (SiO_2)

The AQUACON Si and SIO2 process photometers can be used for the monitoring and control of the Si or SiO_2 concentration in water. Measurement principle is the photometric determination of dissolved silicic acid after forming of a reduced β-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_2
- ⇒ 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 relais, 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_2)	Order No. 693 2733 02
AQUACON SIO2-10	(4 – 999 ppb SiO_2)	Order No. 693 2734 02
AQUACON SIO2-20	(0,03 – 3 ppm SiO_2)	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

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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^2
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_2) 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_2 by formation of a reduced ß-molybdosilicic acid complex		
Analyzer type	**Si05/SiO2-05**	**Si10/SiO2-10**	**Si20/SiO2-20**
Measuring Range	2 – 100 ppb Si 4 – 200 ppb SiO_2	2 – 500 ppb Si 4 – 999 ppb SiO_2	0,01 – 1,5 ppm Si 0,02 – 3 ppm SiO_2
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_4^{3-},NH_3 < 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		