AQUACON +m10/+m20/CH10/CH20

Process analyzers with touchscreen for alkalinity (+m-value) and for carbonate hardness measurement

The AQUACON +m10/+20/CH10/CH20 process analyzers consist of a control unit with touchscreen and an analysis unit with measuring chamber, valve, dosing pumps and all required tube connections.

Working principle of the analyzer is the titration of a water sample with hydrochloric acid to determine the $K_{S4,3}$ value(+m-value). A second reagent (indicator) is dosed for the photometric detection of the color change. A control unit with a microprocessor takes care for the automatic procedure of analysis.

Applications for the new analyzers are the survey and monitoring of water treatment plants and the control of decabonisation plants. The analysis results can be used for the monitoring/control of a supervised process.

⇒ good cost-benefit relationship,

⇒ high resolution,

⇒ adjustable limit and alarm value,

⇒ programmable analog recorder output (0/4-20 mA),

⇒ adjustable break time between two analysis (1 - 99 min),

⇒ external start/stop of an analysis possible,

⇒ multi range power supply (110 – 230 Volt, 50 – 60 Hz) for variable use

⇒ automatic operation incl. self test and drift compensation, no external calibration

⇒ polycarbonate wall cabinet included

Order informations:

AQUACON +m10	0,1 – 3,5 mmol/l	Order No. 693 2744 02
AQUACON +m20	0,2 – 7,0 mmol/l	Order No. 693 2745 02
AQUACON CH10	0,3 – 10 °dH	Order No. 693 2854 01
AQUACON CH20	0,6 – 20 °dH	Order No. 693 2855 01
Reagent MP-R1001P10	(500 ml)	Order No. 101 2745 01
Reagent MP-R1001P20	(500 ml)	Order No. 101 2746 01
Reagent MP-R1002M (indicator)	(250 ml)	Order No. 102 2775 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.

Parameter	+m-value (alkalinity) $K_{S4,3}$ or carbonate hardness

Description	Microprocessor-controlled analyzer for the determination of the +m-value or of Carbonate hardness in water	
	AQUACON +m10/CH10	AQUACON +m20/CH20
Typical Applications	Monitoring of strong and weak bases dissolved in water. Analysis of free carbon dioxide in water	
Method of working	Acid/base titration of $K_{S4,3}$ (m-value) using hydrochloric acid titer and photometric determination of the endpoint	
Measuring Range	+m10 = 0,1 – 3,5 mmol/l CH10 = 0,3 – 10,0 °dH	+m20 = 0,2 – 7,0 mmol/l CH20 = 0,6 – 20,0 °dH
Resolution	0,03 mmol/l CH10 = 0,09 °dH	0,06 mmol/l CH20 = 0,18 °dH
Accuracy	5 % of end value	
Reproducibility	3 % of end value	
Zero-point Stability	automatic adjustment	
Number of Samples	1	
Sample Operating Pressure Temperature Sample Volume Sample Condition Drain	 0,1 -10 bar 5 - 30 °C 25 ml per analysis (excluding cuvette rinsing) clear, with particles < 0.5 g/l ; < 50 µm pressure free into open drain	
Reagents Number Storage Temperature Usage/analysis (approx.)	 2 (Titer, Indicator) 0 – 30°C 0,5 ml for 1 mmol (Titer) 0,17 ml for 1 °dH (Titer) 0,07 ml Indicator	 2 (Titer,Indicator) 0 – 30°C 0,25 ml for 1 mmol (Titer) 0,08 ml for 1 °dH (Titer) 0,07 ml Indicator
Reagent volume Suitable for analysis	500 ml/250 ml 1000 (at 1 mmol/l +m-value) 2940 (at 1 °dH CH)	500 ml/250 ml 2000 (at 1 mmol/l +m-value) 5880 (bei 1 °dH CH)
Analysis Cycle (approx.) Sample interval	 3 - 10 min (depends of m-value/CH). 1 min - 99 min	