

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 decarbonisation 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

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 0,1 -10 bar Temperature 5 - 30 °C Sample Volume 25 ml per analysis (excluding cuvette rinsing) Sample Condition clear, with particles < 0.5 g/l ; < 50 µm Drain pressure free into open drain	
Reagents	Number 2 (Titer, Indicator) 2 (Titer, Indicator) Storage Temperature 0 – 30°C 0 – 30°C Usage/analysis (approx.) 0,5 ml for 1 mmol (Titer) 0,25 ml for 1 mmol (Titer) 0,17 ml for 1 °dH (Titer) 0,08 ml for 1 °dH (Titer) 0,07 ml Indicator 0,07 ml Indicator	
Reagent volume	500 ml/250 ml	500 ml/250 ml
Suitable for analysis	1000 (at 1 mmol/l +m-value) 2940 (at 1 °dH CH)	2000 (at 1 mmol/l +m-value) 5880 (bei 1 °dH CH)
Analysis	Cycle (approx.) 3 - 10 min (depends of m-value/CH). Sample interval 1 min - 99 min	