

## AQUACON +p10/+p20/-p10/-p20

### Process analyzers with touchscreen for p-value analysis

The AQUACON -+p10/+p20/-p10/-p20 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 (+p) or with sodium hydroxide solution (-p) to determine the  $K_{B8,2}$  value(p-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 +p10                  | (0,1 – 3,5 mmol/l) | Order No. 693 2744 03 |
| AQUACON +p20                  | (0,2 – 7,0 mmol/l) | Order No. 693 2745 03 |
| AQUACON -p10                  | (0,1 – 3,5 mmol/l) | Order No. 693 2774 03 |
| AQUACON -p20                  | (0,2 – 7,0 mmol/l) | Order No. 693 2775 03 |
| Reagent MP-R1001P10 (+p)      | (500 ml)           | Order No. 101 2745 01 |
| Reagent MP-R1001P20 (+p)      | (500 ml)           | Order No. 101 2746 01 |
| Reagent MP-R1001M10 (-p)      | (500 ml)           | Order No. 101 2775 01 |
| Reagent MP-R1001M20 (-p)      | (500 ml)           | Order No. 101 2776 01 |
| Reagent MP-R1003P (indicator) | (250 ml)           | Order No. 103 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<br>1 x Limit, potential-free 230 V/50 Hz, 3A<br>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.*

| Parameter | +p-value K <sub>S8,2</sub> and -p-value K <sub>B8,2</sub> |
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|                             |                                                                                                                                                                                                                              |                                                    |
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| Description                 | Microprocessor-controlled analyzer for the determination of the p-value in water                                                                                                                                             |                                                    |
|                             | AQUACON +p10/+p20                                                                                                                                                                                                            | AQUACON -p10/-p20                                  |
| Typical Applications        | Monitoring of water treatment plants                                                                                                                                                                                         |                                                    |
| Method of working           | Titration of K <sub>B8,2</sub> (m-value) using hydrochloric acid or sodium hydroxide solution and photometric determination of the endpoint                                                                                  |                                                    |
| Measuring Range             | +p10 = 0,1 – 3,5 mmol/l<br>+p20 = 0,2 – 7,0 mmol/l                                                                                                                                                                           | -p10 = 0,1 – 3,5 mmol/l<br>-p20 = 0,2 – 7,0 mmol/l |
| Resolution                  | 0,03 / 0,06 mmol/l                                                                                                                                                                                                           |                                                    |
| 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<br>Temperature 5 - 30 °C<br>Sample Volume 25 ml per analysis (excluding cuvette rinsing)<br>Sample Condition clear, with particles < 0.5 g/l ; < 50 µm<br>Drain pressure free into open drain |                                                    |
| Reagents                    | Number 2 (Titer, Indicator)<br>Storage Temperature 0 – 30°C<br>Usage/analysis (approx.) 0.5 ml / 0.25 ml per 1 mmol (Titer)<br>0,07 ml Indicator                                                                             |                                                    |
| Reagent volume Suitable for | 500ml / 250 ml<br>appr. 1000 / 2000 analysis (at 1 mmol/l)                                                                                                                                                                   |                                                    |
| Analysis                    | Cycle (approx.) 3 - 10 min<br>Sample interval 1 min - 99 min                                                                                                                                                                 |                                                    |