

CONTROS HydroFIA™ pH



HIGHLY ACCURATE DRIFT AND CALIBRATION FREE PH ANALYZER

Characterizing the marine carbonate system to the level of accuracy required by marine scientists

The CONTROS HydroFIA™ pH is a flow-through system for the determination of the pH value in both saline solutions and brackish waters. It's an autonomous pH analyzer that can be used in the lab or easily integrated into existing automated measuring systems on e.g., voluntary observing ships (VOS). A unique and flexible system, CONTROS HydroFIA™ pH is a vital research instrument for measuring ocean acidity, which is a key indicator of man-made climate change.

OPERATING PRINCIPLE

For the determination of pH, the reagent m-Cresol Purple is added to the sample, and the absorption spectra are measured using VIS absorption spectrometry at 25°C, from which pH is calculated using the approach of Mueller and Rehder (2018). For each measurement, only a small volume of indicator dye is injected into the sample stream.

BENEFITS

Measuring the pH value using m-Cresol Purple is an absolute measurement method. Combined with the technical implementation, this analyzer is calibration-free and therefore suitable for long-term applications. Furthermore, the analyzer can be used for monitoring e.g., short-term biogeochemical processes.

Minimal maintenance requirements and low reagent consumption further contribute to extended deployment durations. Once the analyzer runs out of reagents, the cartridges can be easily exchanged due to a user-friendly design. In addition, the low sample consumption enables the pH determination from small sample volumes.

OPTIONS

- Integration into automated measuring systems on VOS
- Cross-flow filters for high turbidity / sediment loaded waters
- Additional acid / indicator cartridges

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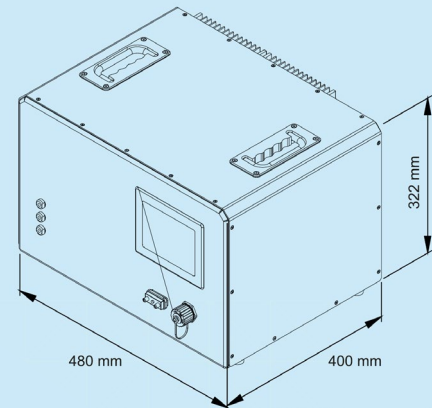
APPLICATIONS

The CONTROS HydroFIA™ pH is trusted to deliver precise results for diverse applications, including:

- Reference data for unmanned / robotic multi-sensor floats
- Laboratories on land
- The Global 'Ship-Of-Opportunity' (SOOP) network

FEATURES

- Calibration free
- Drift free
- Measurement cycles of approx. 2 min
- Low sample and reagent consumption
- User-friendly reagent cartridges
- One device for single measurements to autonomous, long-term deployment
- Second inlet for regular standard measurements
- Integrated acid flush for regular cleaning during operation



TECHNICAL SPECIFICATIONS

Detector	VIS absorption spectrometry, Temperature stabilized, bench-top system	Measuring range	pH 7.3 to 8.7
Field application	Surface water	Measurements per cartridge	approx. 16000
Dimensions	480 x 400 x 322 mm	Resolution	0.001
Weight	5.5 kg	Accuracy¹	±0.003
Temperature range		Precision	±0.001
- water	+5 °C to +30 °C	Measurement cycle	approx. 2 min
- ambient	+5 °C to +30 °C	Power supply	100 VAC to 240 VAC
Salinity range	0 psu to 40 psu	Data interface	Ethernet, RS-232

1. Compared to calculated pH of reference material at pH of approx. 7.9 from Scripps Institution of Oceanography of the University of California, San Diego. Specifications subject to change without notice.

CONTACT -4H-JENA

Get in touch to find out how CONTROS HydroFIA™ pH sensors can secure your ability to measure and report dependable methane data as part of your workflow.

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CONTACT YOUR LOCAL REPRESENTATIVE

The CONTROS HydroFIA™ pH enables climate researchers to contribute towards meeting the United Nations Sustainable Development Goals.

