



### High accuracy in-situ phosphate measurement

- **Product type**  
Unattended
- **Parameters measured**  
Phosphate
- **Product highlights**  
5-month reagent life, 2.3-  $\mu$ gP/L detection limit, click-in reagent cartridges, on-board NIST standard, >1500 samples/service, factory-calibrated
- **Interface**  
SDI-12

Sea-Bird Scientific's HydroCycle-PO4 is a wet chemical sensor engineered for environmental monitoring. Advanced fluidics enable the sensor to stabilize rapidly and give accurate results once deployed without excessive priming. Real-time QC flags and post-processing enable fast, valid, scientifically defensible results that lead to better management recommendations.

Mechanical	
Height (w/handle)	56 cm
Width	18 cm
Weight in air	6.8 kg (w/ reagents)
Weight in water	0.37 kg
Depth	200 m
Temperature *1	0 ... 35 °C

# Technical Data

Sea-Bird Scientific HydroCycle-PO4 Phosphate Sensor

Electrical	
Input	10.5 ... 18 VDC
Current draw	3.0 A max; 115 mA avg
Data output	RS-232 / SDI-12
Host Connector	MCBH-6-MP
SDI Connector	MCBH-8-MP
Sample rate	2 per hour
Data memory	1 GB

Optical	
LED wavelength	870 nm
Pathlength	5 cm
Linearity	equal or greater than 95% R2

Analytical	
Detection limit, three standard deviations of 18 MOhm water	equal to or less than 0.0023 mg/L PO4-P
Quantification limit, ten standard deviations of 18 MOhm water	equal to or less than 0.0077 mg/L PO4-P
Standard deviation of standard solution of 2.6 µM	equal to or less than 0.0015 mg/L PO4-P
Range, nominal *2	0-0.3 mg/L PO4-P
Note:	<p>*1 Both storage and operating temperature for sensor and reagent cartridges.</p> <p>*2 Higher range is possible (0 ... 40 µM, 0 ... 1.2 mg/L PO4-P) but is outside specifications</p> <p>mg/L PO4-P refers to mg of atoms phosphorus per liter measured in the form of reactive phosphate.</p> <p>ppm ~ mg/L, ppb ~ µg/L</p> <p>Specifications are subject to change without notice.</p>

## 2-2

We reserve the right to make technical changes and improvements without notice. V-28/03/2024  
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