



Phosphate Sensor

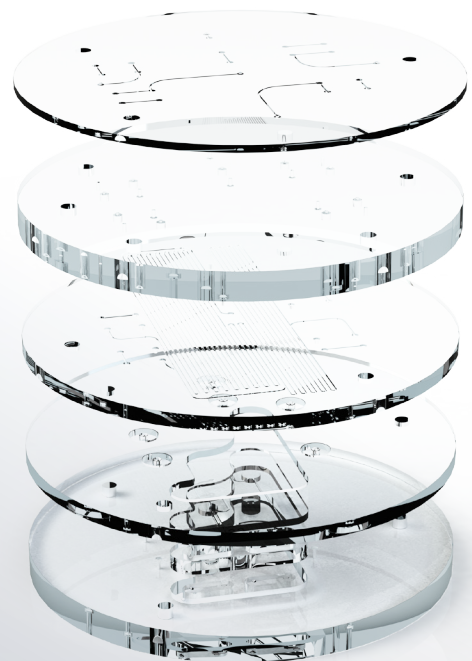
In-Situ Nutrient Detection



**Cost Effective Solution to Real-Time
Measurement of Phosphate Concentration**

**Phosphate Sensor A1000-200
Features at a Glance:**

- Lab-on-a-Chip (LOC): Microfluidic wet-chemistry sensor featuring patented and proprietary "Inlaid Optical Cell Technology"^{TM/®}
- Reduces reagent consumption, decreases reaction time, and reduces power draw
- Self-Powered/Self-Logging for real time measurement
- Technology Flexibility: An excellent contender for towed systems, unmanned vehicles, gliders, ROVs, Voluntary Observation Ships, buoys, and profiling floats
- Customizable and configurable to fit into most platforms



Phosphate Sensor - In-Situ Nutrient Detection

Autonomous



- Phosphate Sensor
- Reagent Housing
- Battery Housing
- Tri-mount Bracket
- Easy transport and deployment
- Sample triplicate 1 hour



Autonomous deployment on a seafloor/river bed deployment frame

Towed Payload

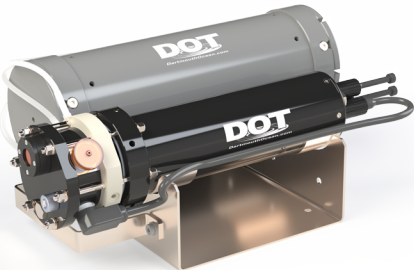


- Phosphate Sensor + Reagent Housing
- 150 samples or 50x sample triplicates*; 30 Reference standards (for calibration) or 10x Reference standard triplicates
- Quick disconnect fittings
- Reagent bags inside housing
- Requires power from platform/battery pack

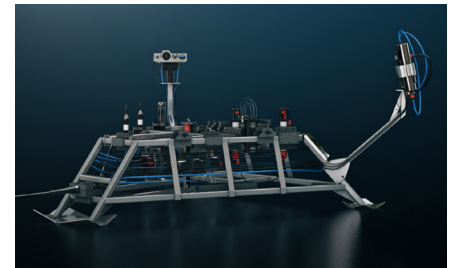


Phosphate Sensor and Reagent Housing deployed on a V-Wing. Powered from EM tow cable

Platform-Mounted



- Phosphate Sensor
- Reagent Housing
- Dual Mount Bracket
- Typical configuration on platform with power



Phosphate Sensor and Reagent Housing mounted on Multi-Sensor Seafloor Platform (MSSP) by COVE

Specifications

Weight		Dimensions:	[Sensor]	[Reagent]
- In Air	5.0 kg (11.0 lbs)	- Diameter	11.4 cm (4.5 in)	13.9 cm (5.5 in)
- In Salt Water	2.2 kg (4.85 lbs)	- Length	50.8 cm (20 in)	40 cm (15.75 in)
Sample Rate:	Programmable 3 per hour	Depth Rating:	20 m (65 ft)	
Intake Filter:	0.45µm pore size (default)	Power Draw:	Sleep: 0.23W; Idle: 0.9W; Peak: 8.5W	
Reagents:	<ul style="list-style-type: none"> • NIST traceable standards • Blue method (modified EPA 365.2) standard • Yellow method upon request 	Data Output:	<ul style="list-style-type: none"> • Ethernet file upload/download, RS232 115200 baud 8N1 • Binary, Hex 	
Concentration Range:	0.15 µM - 25 µM [orthophosphate] 15 ppb - 2.4 ppm [orthophosphate] 0.014 mg/L - 2.4 mg/L orthophosphate] 0.005 mg/L - 0.78 mg/L [orthophosphate-P]	Options:	<ul style="list-style-type: none"> • Mounting brackets • Software visualization • Real time data output • External battery case (Lithium Primary) • Hard, floodable reagent case 	

* Based on DOT Phosphate reagent chemistry kit



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