

FLUIDION DRONE (Remote Sampling and Analysis Platform)

The first onboard laboratory for complete analysis of aquatic environments

The FLUIDION DRONE is a fully portable, remotely controlled platform that represents an evolutionary step forward for metrological testing of aquatic environments under strong anthropic pressure. The FLUIDION DRONE is able to acquire certified representative samples, as well as perform full analysis and quantification of microbiology, physical chemistry and bathymetry: a versatile platform for environmental monitoring!



A drone for all aquatic environments

The FLUIDION DRONE is a navigational platform which allows remotely controlled water analysis and pollution source identification. The drone is equipped with real-time video feed for safe maneuvering in hard to reach areas, as well as powerful quad motors for fast mission deployments in lakes, rivers and coastal waters. The system is capable of acquiring grab samples which can be returned to shore for subsequent laboratory analysis and/or run onboard analysis autonomously with real-time data transmission to the cloud. With up to 4 hours continuous running time, and 2 km operational distance the FLUIDION DRONE makes complex water sampling and analysis operations as simple as a click!

A complete array of sampling and analysis tools

Whatever the environment or application of interest, the FLUIDION DRONE proves itself as a versatile measurement and acquisition tool. On-board GPS and compass allow precise positioning for sampling and analysis, with a wide array of measurements available. The platform allows complete mapping of microbiology (*E. coli*, enterococci), chemistry (nitrites, phosphates, pH) and physical properties (temperature, turbidity, conductivity, dissolved oxygen, multi-wavelength fluorescence). The FLUIDION DRONE is also capable of acquiring 100% representative samples, thanks to the ETV-certified sampling system. Additionally, an ultrasonic depth sounder can complete the instrumentation suite for depth mapping.

An impressive range of applications

The FLUIDION DRONE can be used for multiple applications related to aquatic environments. The onboard microbiological analyzer (ALERT System) makes it possible to map out sources of bacterial contamination and perform high-resolution monitoring of bathing sites and sensitive areas. Combined in-situ detection of algae and cyanobacteria with grab sampling for subsequent laboratory verification, the FLUIDION DRONE is transformed into a true risk-assessment tool. In-situ chemical measurements can additionally be used to map nutrient concentrations gradients and understand their dynamics. The ultrasonic depth sounder transforms the platform into a rapid bathymetry tool, while the real-time video feed allows for biodiversity observations in sensitive environments as well as safe maneuvering. The wide array of tools available allow the user to configure and transform the FLUIDION DRONE into a true multifunctional instrument for environmental analysis, adaptable to specific aquatic monitoring needs.

fluidion is a high-technology company that designs and manufactures innovative sample collection and chemical/microbiological in-line analysis instruments for water quality monitoring and environmental applications. The core technology relies on *fluidion's* proprietary patented fluidic systems.

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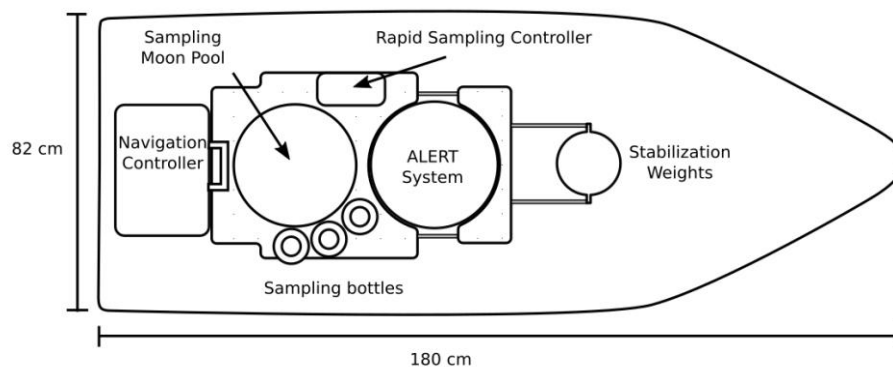
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TECHNICAL SPECIFICATIONS

Dimensions	<i>L: 180cm, W: 82cm</i>	Positioning	<i>GPS, Electronic compass</i>
Propulsion / Maneuvering	<i>4 independent electric thrusters with rudder</i>	Sampling Module (option)	<i>Rapid Sampler Drone Model - 3-14 samples, 250mL</i>
Endurance	<i>Up to 4 hours</i>	Microbiology Module (option)	<i>ALERT Drone Model - (E.coli or Enterococci in-situ)</i>
Control	<i>Digital, LoRa radio, Line of sight: 2000m</i>	Chemistry Module (option)	<i>eCHEM Drone ANALYZER - (PO₄, NO₂, NO₃, pH, UV spectrum)</i>
Communication	<i>Radio telemetry, GSM</i>	Bathymetry (option)	<i>Ultrasonic Depth Sounder</i>
Video feed	<i>5.8GHz Camera, Smartphone</i>	Physico-Chemical (option)	<i>Multiparameter Sonde: T°, DO, fDOM, pH, ORP, conductivity, turbidity, chlorophyll, phycocyanin</i>
Batteries	<i>Li-ion Rechargeable</i>		

SYSTEM CONFIGURATION



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