

FLUIDION® DRONE (Remote Sampling and Analysis Platform)

The first onboard laboratory for complete analysis of aquatic environments

The FLUIDION DRONE is a portable, remotely controlled platform that represents an evolutionary step forward for aquatic environments under strong anthropic pressure. The FLUIDION DRONE is able to acquire certified representative samples, and perform measurements of bathymetry and physical, chemical and microbiological water quality parameters at surface or depth: a complete 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 water depth sensing, real-time video feed for safe maneuvering in hard-to-reach areas, and powerful thrusters for fast mission deployments in lakes, rivers and coastal waters. An optional depth profiler completes the payload package. The DRONE collects real-time GPS-tagged sensor data to generate pollution maps and guide sampling operations, and is able to acquire multiple grab samples at surface or depth for rapid

field testing and/or subsequent laboratory analysis. With four hours of continuous running time, and two kilometers of operational distance, the FLUIDION DRONE greatly simplifies complex water sampling and analysis operations!

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 waypoint navigation and precise positioning for sampling and analysis, with a wide array of measurements available. The DRONE allows mapping of microbiology (*E. coli*, Enterococci), chemistry (nutrient concentrations, pH) and physical properties (temperature, turbidity, conductivity, dissolved oxygen, multi-wavelength fluorescence). An ultrasonic depth sensor allows rapid bathymetry measurements, and an optional winch and depth profiler provides additional capability of measurements and sampling at various depths. The FLUIDION DRONE acquires 100% certified representative samples [1] using the on-board RS-14V sampler.

[1] EU Environmental Technology Verification (ETV) Pilot Program (Statement of Verification No. VN20180030).

An impressive range of applications

The FLUIDION DRONE can be used for multiple applications related to aquatic environments:

- High-resolution bacterial monitoring of bathing sites and other sensitive areas
- Real-time detection of pollution / risk-assessment tool
- Current and dispersion mapping, dynamics studies
- Nutrient concentration and gradient measurements
- Rapid bathymetry mapping and depth profiling
- Measurements and biodiversity observations in sensitive environments

The wide array of payloads available allows the user to configure and transform the FLUIDION DRONE into a custom 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 and in-situ analysis instruments for water quality monitoring and environmental applications. The core technology relies on Fluidion's proprietary patented fluidic and sampling systems.

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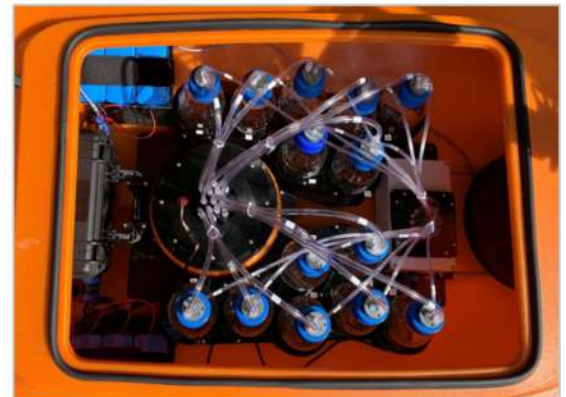
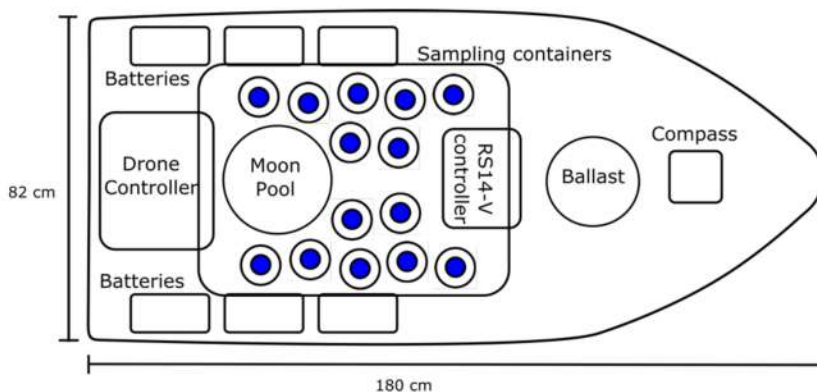
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TECHNICAL SPECIFICATIONS

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|---------------------------------|---|--|--|
| Dimensions | L: 180cm, W: 82cm | Positioning | GPS, compass, waypoint navigation |
| Weight | 30 - 60kg (configuration dependent) | Depth Profiler (option) | Measurement and Sampling 0 - 3 meters (standard) |
| Propulsion / Maneuvering | 4 thrusters w/ rudder (standard) 6 thrusters w/rudder (optional) | Sampling Module (option) | RS-14V Drone Model - Up to 14 samples (250mL, 500mL) |
| Autonomy | Up to 4 hours (continuous) | Microbiological Analysis (option) | ALERT LAB Field Portable Unit - (E.coli, Total coliform or Enterococci) |
| Control | Digital radio (spread spectrum) Line of sight: 2000m | Chemistry Module (option) | eCHEM Drone ANALYZER - (PO ₄ , NO ₂ , NO ₃ , NH ₄ , pH, UV) |
| Communication | Spread spectrum radio telemetry | Bathymetry (option) | Ultrasonic Depth Sounder (30m) |
| Video feed | 5.8GHz Camera, smartphone | Multiparameter sonde (option) | T°, DO, fDOM, pH, ORP, conductivity, turbidity, chlorophyll, phycocyanin |
| Batteries | Li-ion Rechargeable Battery Pack | | |

CUSTOMIZED SYSTEM CONFIGURATIONS



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