



EXRAY™

world's first
wireless ROV

Technical specifications

EXRAY™ ROV

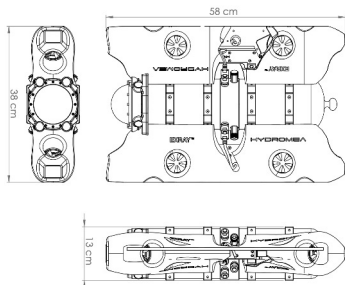
EXRAY™ is a professional underwater inspection robot specifically developed for detailed inspections of complex submerged assets.

Slim, light, agile, smart, and highly modular with increasing roster of payload sensors, it is an excellent tool for tough underwater inspection missions.



VEHICLE SPECIFICATIONS

Dimensions (LxWxH)	58x38x13cm (23x15x5in)
Weight in air	9kg (20lbs)
Weight in fresh water	Neutrally buoyant, with adjustable buoyancy for other environments
Depth rating	100m (328ft)
Max speed	2 knots (1m/s) forward/back
Thrusters	Rim-driven hubless hydro-lubricated design. 4 vectored + 4 vertical. Power train consumption: 50W hovering, 70W average, 200W in strong currents
Dexterity	6 DOF
Lights	Adjustable, up to a total of 4800 lumen
Construction	HDPE, anodized aluminum, POM
Endurance	6h (typical), 8h (maximum)
Internal memory	16Gb (4h recording), additional slot for a microSD card 256Gb max
Operating temperature	0/+40°C (32/104°F)
AUX Ports	2x Serial RS232/RS485+CAN, 2x Ethernet 10/100, 1x Gigabit
Automation	Auto depth, auto pitch; station hold (with optional DVL)
IMU sensor	9 axes, accelerometer, magnetometer
Depth sensor	0-30 bar range, 0.2 mbar resolution
Optional payload (inquire if missing)	Gripper, UTM sensor, CP sensor, DVL, Scanning sonar, Multi-beam sonar, cleaning brush, SPEERA™ vacuum cleaner, sampler, etc



CAMERA SPECIFICATIONS

Video	FHD, 24Hz, .mkv
Images	FHD, 4K, RAW, .jpeg
Tilt	±70°; horizontal FOV: 110°
Focal length	2.8-12mm (0.11-0.47in)
Zoom	5-20m (16-66ft)

TETHER SPECIFICATIONS

Type*	Twisted copper pair, ruggedized (optional: single mode fiber up to 2'000m (6'561ft))
Length*	100m (328ft)
Diameter*	4mm (0.16in) low drag
Weight in water	Neutrally buoyant
Min breaking strength	155kgf (342lbf)
	*adjustable on request

SWAPPABLE BATTERIES

Type	Lithium Ion stackable (max ROV load – 4 batteries)
Nominal voltage	16.8V
Nominal capacity	6.4Ah per battery
Nominal energy	97Wh per battery
Weight in air	415g (0.9lbs) per battery
Charge time	40min per battery



EXRAY™ WIRELESS SYSTEM

EXRAY™ ROV can be extended with an EXRAY™ FLYOUT that transforms a tethered ROV into a zero-latency wireless inspection robotic system using proprietary high-bandwidth wireless communication system LUMA™.

EXRAY™ FLYOUT is docked to EXRAY™ ROV and the system behaves as one vehicle. Once a pilot brings the system into an asset to inspect, the pilot can detach the wireless FLYOUT from ROV, remote control it and receive real-time HD video as if it were connected with a tether.

Except that it is not...

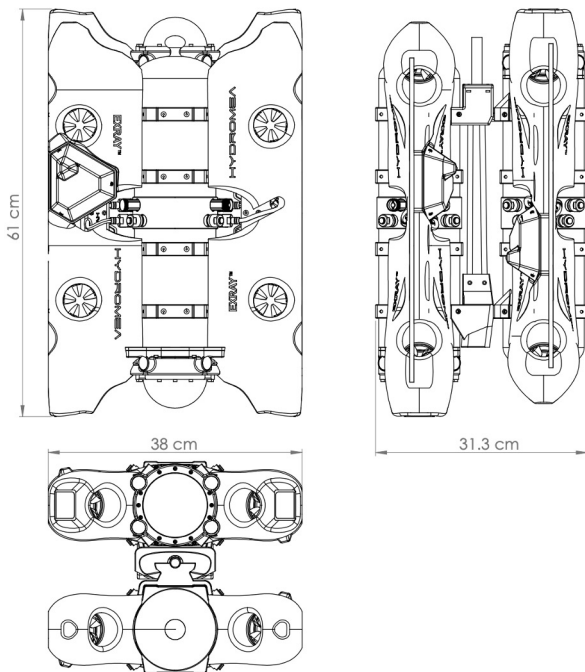


SYSTEM SPECIFICATIONS

Dimensions (LxWxH) 61x38x31cm (24x15x12in)

Weight in air 18kg (40lbs)

Everything else As EXRAY™ ROV



INCLUDED PAYLOAD

DOCKING RAILS

Nominal voltage 16V

Nominal power 15W

Sensors Positioning/locking

Weight in water Neutrally buoyant

OPTIONAL PAYLOAD

Each robot has multiple aux ports: 2x Serial RS232/RS485, 2x Ethernet 10/100, 1x Gigabit.

With these universal ports, most of the sensors used in the industry can be integrated. When an integrated payload is connected to one of the ports, the NAVIA™ intelligent management interface will recognize the payload and the payload functions shall typically be available through NAVIA™ user interface.

New payload is constantly being added to the EXRAY™ inventory and seamlessly integrated into the NAVIA™ interface. The custom integration of any specific payload you require can be done. Please inquire with us.

EXRAY™ PILOT STATION

EXRAY™ INSPECTOR STATION

EXRAY™ PILOT STATION runs on NAVIA™ - an intuitive control management platform for a pilot. It allows for unrestricted control of both the EXRAY™ ROV and the EXRAY™ FLYOUT and all features available for the system.

EXRAY™ INSPECTOR STATION is an optional extension of the PILOT STATION when an inspection mission is followed by another person, such as a class surveyor. This station allows to monitor the mission and add labels and comments to the points of interest using proprietary NAVIA™ workbook data management and analytics.



NAVIA™ MISSION PLATFORM

NAVIA™ leverages latest technology and intuitive user interface to accompany the pilot during dive missions, stream live videos, sonar and sensor data, capture measurements and record media data, all in one place.

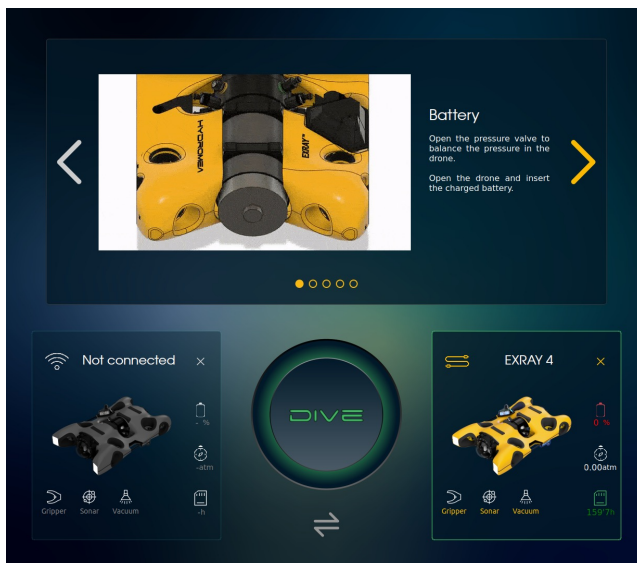
The NAVIA™ data management tool assists in the creation of workbooks for different types of inspection - linked to in-dive mission management - with all the data directly labeled intuitively that can then be auto-generated into a report at a press of a button. Data can also be aggregated from different EXRAY™ ROVs in different missions in one place for the ease of analysis.

NAVIA™ extends to the INSPECTOR STATION with in-dive second screen, capture of POI data with live annotations where needed.

Lastly, NAVIA™ allows to upgrade EXRAY software, configure EXRAY parameters, perform self test, diagnose and communicate issues.

PILOT & INSPECTOR STATIONS

Dimensions (LxWxH)	42x32x18cm (16x13x7in)
Weight PILOT	8kg (18lbs)
Weight INSPECTOR	7kg (15lbs)
Ingress protection	IP68 (closed), IP44 (open)
Screen	15" LCD touch screen
Keyboard, Touchpad	USB
Operating temperature	0/+40°C (32/104°F)
NAVIA™ mission platform	Fully integrated, intuitive professional interface and data management tool
Power PILOT	30W
Power INSPECTOR	20W
Plug	US, UK, EU
External memory	microSD card/USB stick
Remote Controller PILOT	USB 2.0

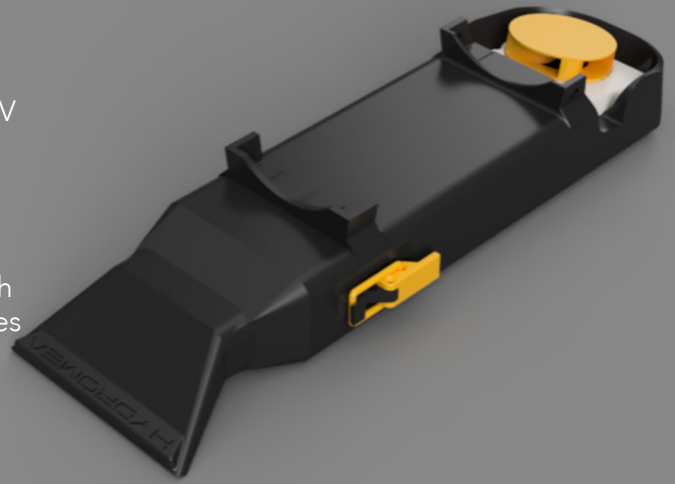


SPEERA™ VACUUM CLEANER

SPEERA™ VACUUM CLEANER turns EXRAY™ ROV into a mighty underwater Hoover that will clean up sediment on the bottom of tanks.

This is an optional streamlined payload that has been uniquely designed for EXRAY™ ROV to reach any remote area thanks to the various nozzle shapes and ROV exceptional maneuverability.

With different mesh and nozzle sizes, it will effectively remove sediments, small rocks and debris. Can be further customized on request.



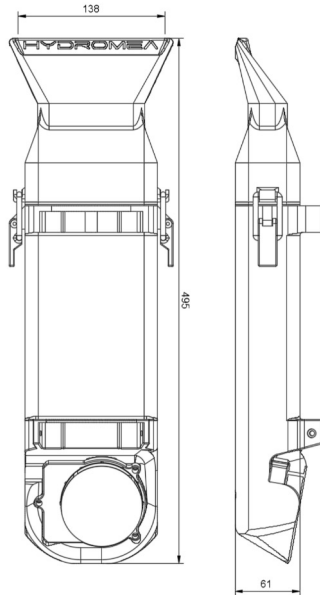
SYSTEM SPECIFICATIONS

Dimensions (LxWxH) 50x14x6cm (20x5.5x2.4in)

Weight in air 800g (1.76lbs)

Rated voltage 16V

Rated power 50W



OPTIONS

LARGE SIZE SEDIMENT

Mesh/inch 100 (150µm)

Nozzle Large and round

Sediments size Max ~ 2cm (0.78in)

Sediments weight Max ~ 20g (0.7oz)

MEDIUM SIZE SEDIMENT (AS SHOWN)

Mesh/inch 200 (75µm)

Nozzle Wide

Sediments size Max ~ 0.5cm (0.2in)

Sediments weight Max ~ 5g (0.17oz)

SMALL SIZE SEDIMENT

Mesh/inch 500 (25µm)

Nozzle Extra wide

Sediments size Max ~ 0.1cm (0.04in)

Sediments weight Max ~ 1g (0.04oz)