



# ROV GUARDIAN 2.1

## Data Sheet



### Main features

**Depth rating:** 150 m  
**ROV Maximum speed:** 4 kts  
**Maximum current:** 2.5 kts  
**ROV Dimensions (mm):**  
 L 470 x W 245 x H 162  
**ROV Weight:** 4.5 kg (10 lbs)  
**Umbilical:** 100 m with wet pluggable Impulse connector (50, 150, 200 m options)  
**External power:** 220VAC (110VAC on demand)

### Vision

2 high resolution (600 lines)/high sensitivity (0,15 lux) **color cameras**

**Pan & tilt** unit on front camera

4 x 900 lumen LED lights, variable intensity

### Navigation

Auto heading  
 Auto depth  
 Auto speed  
 Auto up/down

### Standard Sensors

Compass, depth, temperature

### Options

Sonar  
 Acoustic camera  
 USBL Acoustic Positioning  
 2 functions manipulator  
 Digital thickness gauge  
 Laser pointer  
 Sediment sampler  
 Manual winch  
 Salinity/pH probe  
 Video enhancement system

**Guardian 2.1** is a **high speed** hand portable **observation vehicle**. Especially designed for pipeline inspection and long range missions, it can reach a speed of 4 knots almost instantaneously, thanks to a reduced inertia and 4 powerful horizontal thrusters.



Packaged in **one single waterproof case**, with a total weight of **29,5 kg** (60 lbs), including the umbilical and the control console, it is a highly portable system with no compromises on inspection capabilities. The standard version is equipped with **2 high quality color cameras**. A micro sonar, an acoustic camera, a 2 functions manipulator and many other sensors and tools can be mounted on the ROV thanks to a user friendly **ancillary plug** (power/data/ control) on the external hull of the vehicle and its payload of 0.9 kg.

The control console is contained in a waterproof case and includes a **8,0" LCD video display**, an **integrated digital recorder/reader** (on digital support), 2 video output (for external display or recorder), 2 x 3 axis joysticks (navigation and camera pan & tilt) and a 30 keys soft pad for the multiple automatic or on/off functions of the system.





## GUARDIAN 2.1 Specifications

### Main Features

<b>Rated depth</b>	150 m (500 ft)	
<b>ROV Dimensions</b>	L 470 mm x W 245 mm x 162 mm (L 17.7 in x W 9.6 in x 6.4 in)	
<b>ROV Weight</b>	In air: 4.5 kg (10 lbs) In water: payload 0.9 kg provided with weight for neutralizing/adjusting	
<b>ROV Speed</b>	4 knots (maximum operating current: 2.5 knots)	

### Propulsion and Energy

<b>Thrusters</b>	4 longitudinal thrusters (forward/backward), 1 vertical thruster (up/down)	
<b>Propellers</b>	5 x 3 blade propellers with nozzles	
<b>External Power</b>	220VAC standard (110VAC on demand)	

### Control System

<b>Console</b>	Integrated in a 14" x 11" waterproof case. Video screen and digital recorder/reader in the lid, joystick, keypad and connectors in the base	
<b>Video display</b>	8,0" Color LCD screen Front or rear camera overlay: date/hour, heading, depth, temperature	
<b>Display options</b>	LCD glasses	Option
<b>Digital recorder</b>	Integrated digital recorder/reader with data storage on digital support	
<b>Keypad</b>	30 keys soft pad, with back light, for auto functions and configuration switches	
<b>Auto functions</b>	Auto depth, auto heading, auto up/down, auto speed	
<b>Outputs</b>	2 RCA connectors for additional video display or recorder	
<b>Additional control</b>	Wireless remote joystick control	Option

### Video cameras and lighting

<b>Front camera</b>	Color camera, 600 lines, 0.15 lux	
<b>Rear camera</b>	Color camera, 600 lines, 0.15 lux	
<b>Front lighting</b>	4 x 900 lumen LEDs, with intensity control	
<b>Rear lighting</b>	1 x 65 lumen LEDs, with intensity control	
<b>Pan &amp; tilt</b>	Pan & tilt unit on front camera, optional on rear camera	

### Sensors and tools

<b>On board</b>	Compass, pressure (depth), temperature	
<b>Sonar</b>	Tritech Micron DST sonar or equivalent	Option
<b>Acoustic camera</b>	Blueview acoustic camera (multibeam sonar)	Option
<b>Acoustic positioning</b>	Mini USBL (Tritech Micro Nav) or GIB Lite™ (« Underwater GPS »)	Option
<b>Sampling</b>	Water and/or sediment sampling tool	Option
<b>Thickness gauge</b>	Cygnus Digital Thickness Gauge, with overlay data display ( Console /PC)	Option
<b>Manipulator</b>	2 functions (wrist rotation/grabbing) manipulator	Option
<b>Salinity/PH...</b>	Physicochemical sensors, with overlay data display ( Console/PC)	Option
<b>Video enhancement</b>	LYYN video enhancement system for turbid waters (integrated/external)	Option
<b>Laser pointer</b>	Laser pointer for default measurement	Option

### Umbilical

<b>Standard</b>	100 m umbilical (20 m neutral $\varnothing$ 7.9 mm diameter and 80 m flowing $\varnothing$ 6.3 mm) with Kevlar braid	
<b>Extensions</b>	50 or 100m umbilical extensions (up to 200 m)	Option

### Packaging and documentation

<b>Shipping container</b>	«All in one» case waterproof, lifetime guarantee, with wheels and handle Total weight: 29.5 kg (60 lbs), incl. vehicle, control system and umbilical	
<b>Manuals</b>	Detailed operator + maintenance manual, paper and electronic version	
<b>Warranty</b>	One year warranty parts and labor (excluding transport)	
<b>Support contract</b>	Annual maintenance and reconditioning contract, with free upgrades	Option