



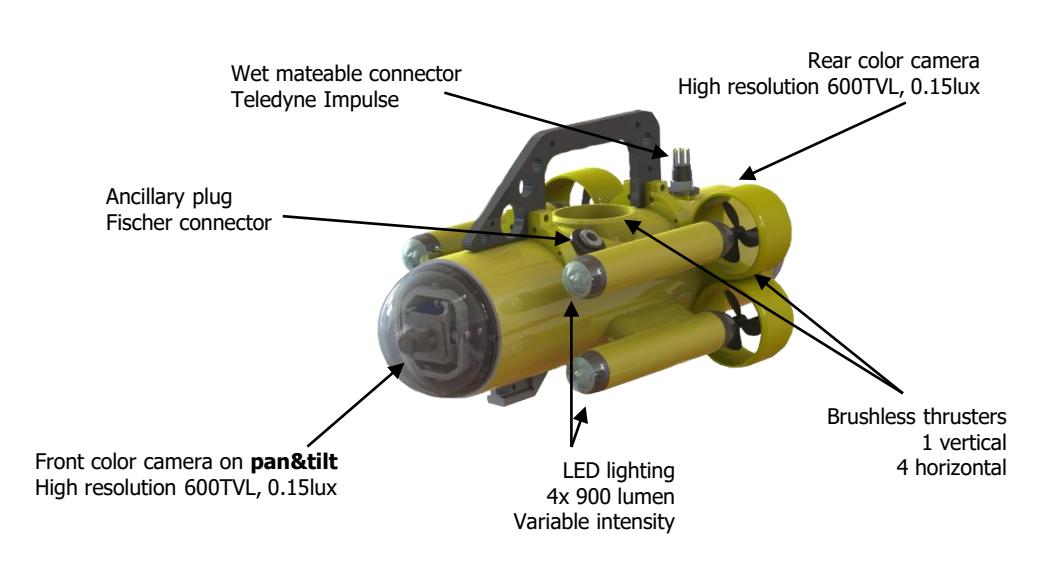
**Mini-ROV
Guardian 3.0**

Depth 150m
5 thrusters
2 color cameras

The **Guardian 3.0** is an **ultra portable underwater inspection robot**, thanks to its 4 horizontal and one vertical thrusters, it can be operated down to **150m depth**. Fitted with **two high resolution color cameras**, one on pan&tilt, and **LED lighting**, it has been especially designed for long range missions (> 400 m in canalizations). Thanks to an ancillary plug, various accessories such as sonars, gauges and a manipulator arm can be easily mounted on the Guardian. The **control console** is fitted with a 8" LCD screen, a **digital recorder/reader**, joysticks and touchpad to select the **automatic modes**, and **two video outputs** for additional screens or recorders. The complete system with its umbilical is packaged in one single transport case with a **total weight of 29kg**.



Canalization inspections
Long range missions
Civil works inspections
Ship hulls & propellers inspections
Wrecks & objects search





Technical specifications

Main features

Depth rating	150m
ROV dimensions	Length 47cm, Width 25cm, Height 16cm
ROV weight	In air: 4,5kg / In water: payload 800g, adjustable weights provided for neutral balancing in fresh and sea water
ROV max. speed	4 knots (max. operational current 2 knots)

Propulsion and energy

Thrusters	5 thrusters magnetic coupling: 4 horizontal, 1 vertical
Propellers	5x3 blade propellers with protection nozzles
External power	220 VAC (110 VAC on demand)

System control

Piloting	Console integrated in a waterproof case: screen and digital recorder/reader in the lid; joysticks, touchpad and connectors in the base
Video display	8" LCD color screen, front or rear camera, date/time, compass, depth, temperature
Display options	LCD glasses for outside vision
Recorder	Digital recorder/reader on SD card
Touchpad	Touchpad with 30 keys for automatic functions and configuration
Auto functions	Heading, Depth, Up/Down, Speed
Outputs	2 RCA connectors for additional screen or recorder

Integrated sensors

Front/rear camera	Color camera, 600TVL, 0.15 lux
Pan&Tilt	Pan&tilt unit integrated on front camera, optional on rear camera
Front/rear lighting	Front LED lighting 2x900 lumen, rear LED lighting 2x65 lumen, intensity control
Sensors	Compass, Depth, Temperature, Leak detector

Umbilical

Standard	100m with 20m neutral (dia. 7,9mm) and 80m buoyant (dia. 6,3mm), integrated Kevlar braid, 100% neutral or buoyant on demand
Optional lengths	Extensions with customized lengths up to 450m max on demand

Packaging and documentation

Transport	All in one transport case (60x50x38cm) with wheels and handle, total weight 29kg (vehicle, console, 100m cable)
Maintenance	No specific maintenance needed
Documentation	Operator manual in paper and electronic version
Warranty	1 year parts and labor excluding transport cost

Options

Acoustic camera	Teledyne BlueView 2D imaging sonar 450kHz / 900kHz / 2250kHz
Mechanical scan sonar	Tritech Mircon DST sonar or equivalent
Acoustic positioning	Tritech MicronNav Mini-USBL
Thickness measurement	Cygnus gauge with data as overlay on console display
CP measurement	Buckleys gauge with data as overlay on console display
Physico-chem. measures	Physico-chemical gauges (salinity, ph, turbidity, etc.)
Manipulator	2 functions manipulator arm (wrist rotation + open/close)
Sampling	Water and sediment samplers
Laser pointer	Laser pointer with software for defaults/objects measures
Video enhancement	LYYN system for turbid waters (integrated to console or external)
Wifi link	Wifi video transmission system on external screen
Support contract	Annual maintenance contract with free updates
Other options	On demand

