

Underwater photogrammetry system

Mini TORTUGA HYDRO



Fully integrated photogrammetry sensor



Current resistance > 2 knots



4 vertical thrusters of 5.0 kgf for attitude control



Depth 300m



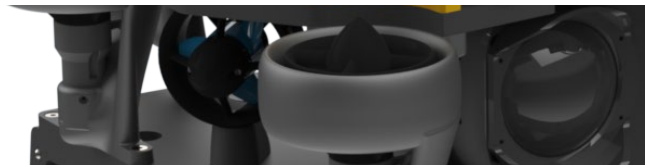
SUBSEA TECH
Marine and Underwater Technologies

The Mini TORTUGA HYDRO ROV

is an ultra-compact underwater inspection robot specially developed to support a HYDRO 300 photogrammetry sensor. It can be deployed up to 300 m and allows the integration of multiple payloads.

The HYDRO 300 sensor from IVM Technologies integrated in the center allows sub-millimeter 3D reconstructions for the inspection of civil engineering structures, offshore structures and metrology campaigns.

The total weight of 43 kg makes it the most compact system on the market.



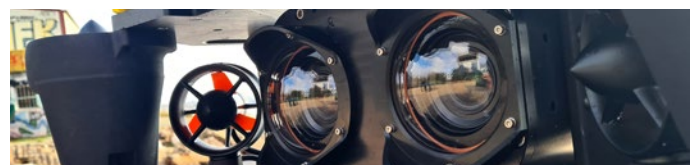
PROPULSION

The Mini TORTUGA HYDRO is equipped with 4 horizontal and 4 vertical thrusters each delivering a maximum thrust of 5.0 kgf.



COMMUNICATION

The Mini TORTUGA HYDRO is equipped with a Gigabit communication with fiber optic umbilical.



HYDRODYNAMICS

The sensor integrated in the center of the ROV gives the system exceptional maneuverability (auto-tilt/auto-roll mode) without disturbing its hydrodynamic behavior.

TECHNICAL SPECIFICATIONS

ROV

Max. depth	300m
ROV dimensions	L 672 mm x W 684 mm x H 500 mm
ROV weight	43 kg in air
Max. ROV speed	3 knots

PROPULSION AND POWER SUPPLY

Thrusters	Horizontal thrusters : - 4 x 5.0 kgf , with manually adjustable orientation. Propellers of 80 mm and protection nozzles. Vertical thrusters : - 4 x 5.0 kgf. Propellers of 80 mm
Power supply	230Vac (mains or generator)
Power requirement	6 kW

SYSTEM CONTROL

Control	Console integrated in a waterproof case 634mm x 505mm x 220 mm
Display	2 screens 21"+17", interchangeable for video, sonar, navigation and other sensors
Controls	2 multi-function joysticks and preset buttons
Recorder	Data saved on the integrated PC
Auto. functions	Heading, depth, attitude. Altitude and position (optional)
Video outputs	2x HDMI, 2x USB, RJ45

INTEGRATED SENSORS

Photogrammetry	HYDRO 300 by IVM Technologies
Front camera	Full HD camera (1920 x 1080 p) 0.001lux Option: Full HD camera on the back
Pan & Tilt	Pan & Tilt on the front camera
Lighting	2x 10,000 lumens LED front lighting with intensity control. LED direction manually adjustable Optional: LED lighting integrated in the rear camera
AHRS	Xsens MT13
Sensors	Pressure sensor (depth), gyroscopic compass + accelerometers.

UMBILICAL

Standard	300m (9.5mm neutral / 8mm flowing), resistance 500kg
Communication	Gigabit fiber optics

CONDITIONING

Standard	Wooden case for the ROV + Pelicases for the whole system
Option	Flight case for the set

MAINTENANCE AND WARRANTY

Documentation	Operator/maintenance manual
Maintenance	Maintenance contract (optional)
Warranty	1 year parts and service support


OPTIONS

Imaging sonar	BluePrint Oculus or Teledyne Blueview M900 multibeam sonars
Profile sonar	Imagenex 831-A
DVL	WaterLinked A50
Acoustic positioning	BluePrint SeaTrac USBL
Thickness measurement	Ultrasonic probes Cygnus
Measure CP	Buckleys UCP1-A probe
Manipulator	Manipulator EG-2F Subsea Tech
Cleaning tool	Brush SBT-70 Subsea Tech
Cavitation cleaning tool	Cavitation lance Subsea Tech
Pan & Tilt	Pan & Tilt on the rear camera



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