

# AspiROV

Tank inspection and cleaning without draining



Suction module



Thrusters + driven wheels



2 adjustable cameras



Ballast-adjustable



**SUBSEA TECH**

Marine and Underwater Technologies

**The AspiROV robot** is designed for in-service tank inspection and cleaning without draining. It consists of:

- a Guardian Micro-ROV for full visual inspection of the tank;
- a motorized module, mounted under the ROV, for cleaning the tank bottom.

Sediments are removed via a hose connected to a pump located outside the tank, ensuring fast and efficient removal of sediment layers up to 30 mm thick. An optional ballast system allows buoyancy adjustment, facilitating obstacle clearance.

Commercialized since 2009, AspiROV is a portable, reliable, and robust solution for maintaining tank cleanliness and structural integrity without service interruption.



## CAMERAS

The AspiROV robot is equipped with two high-sensitivity Full HD cameras. The rear camera is mounted on tilt, and the front camera is integrated into a Pan & Tilt unit.



## MOBILITY

Equipped with two driven wheels and one idler wheel, the AspiROV offers excellent maneuverability, enabling access to all areas of the tank.



## SUCTION SYSTEM

Transparent suction nozzles allow operators to visually monitor pumping efficiency. Once the siphon is primed, the pump can be stopped and discharge continues through simple hydrostatic pressure.

# TECHNICAL SPECIFICATIONS

## ROV – GENERAL

|                      |                                                                 |
|----------------------|-----------------------------------------------------------------|
| <b>Maximum depth</b> | 100 m                                                           |
| <b>Dimensions</b>    | L 676 mm x W 450 mm x H 567 mm                                  |
| <b>Weight</b>        | 17 kg in air / 6 kg in water or neutral, adjustable via ballast |
| <b>Maximum speed</b> | Navigation: 1.5 m/s<br>Rolling mode: 0.2 m/s                    |

## PROPULSION AND POWER

|                           |                                                                           |
|---------------------------|---------------------------------------------------------------------------|
| <b>Thrusters</b>          | 5 submersible brushless motor thrusters (4 longitudinal, 1 vertical)      |
| <b>Wheels</b>             | 2 rear driven wheels with differential control + 1 front idler wheel      |
| <b>Ballast (optional)</b> | Apparent weight adjustment to optimize traction in rolling mode           |
| <b>Power supply</b>       | External 220 VAC power supply (110 VAC available upon request) - 1 kW max |

## SYSTEM CONTROL

|                                   |                                                                                     |
|-----------------------------------|-------------------------------------------------------------------------------------|
| <b>Surface control</b>            | 17" PC + controller                                                                 |
| <b>Other control options</b>      | Option 1: 14" semi-rugged PC + joystick housing<br>Option 2: Integrated 17" console |
| <b>Ballast control (optional)</b> | Pneumatic compressor for ballast filling and emptying                               |
| <b>Video display</b>              | Screen with on-screen display                                                       |
| <b>Recorder</b>                   | Digital recorder/player on digital storage (SD card)                                |
| <b>Auto functions</b>             | Heading, depth, speed                                                               |

## SUCTION SYSTEM

|                     |                                                                                                     |
|---------------------|-----------------------------------------------------------------------------------------------------|
| <b>Suction hose</b> | 25 m spiral hose + 15 m flexible hose, diameter 50 mm                                               |
| <b>Suction pump</b> | 30 m³/h centrifugal motor pump, 20 m fire-type discharge hose for evacuation to stormwater drainage |

## UMBILICAL

|                 |                                                                                                                              |
|-----------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>Standard</b> | 50 m negatively buoyant umbilical (Ø 6,3mm), Kevlar reinforced (tensile strength > 100 kg), secured along the discharge hose |
| <b>Option</b>   | 50 m standalone umbilical for visual inspection only                                                                         |

## INTEGRATED SENSORS

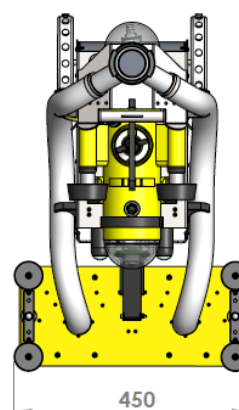
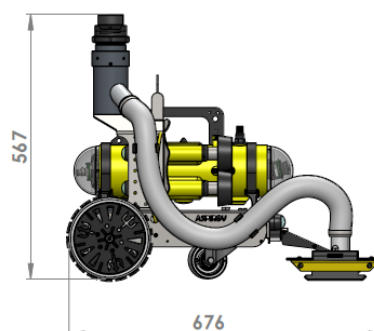
|                           |                                                                        |
|---------------------------|------------------------------------------------------------------------|
| <b>Front/Rear cameras</b> | Full HD 1080p resolution, sensitivity 0.01 lux, 130° lens, 60 fps      |
| <b>Pan &amp; Tilt</b>     | Integrated Pan & Tilt on front camera, tilt on rear camera             |
| <b>Lighting</b>           | Front: 2 × 2400 lumens<br>Rear: 3 × 1000 lumens (adjustable intensity) |
| <b>Sensors</b>            | Compass, depth sensor, temperature, internal humidity sensor           |

## PACKAGING

|                             |                                                                                              |
|-----------------------------|----------------------------------------------------------------------------------------------|
| <b>Transport (optional)</b> | Wooden transport case including the Guardian mini-ROV in its Pelicase, skid, pump, and hoses |
|-----------------------------|----------------------------------------------------------------------------------------------|

## MAINTENANCE AND WARRANTY

|                          |                                                                               |
|--------------------------|-------------------------------------------------------------------------------|
| <b>Documentation</b>     | Operator manual                                                               |
| <b>Maintenance</b>       | No specific maintenance required                                              |
| <b>Warranty</b>          | 1 year parts and labor, excluding transport costs                             |
| <b>Technical support</b> | Response: < 8 hours (business days)<br>Resolution: < 48 hours (business days) |



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