



## Flunder

### Power, speed and maneuverability for the most adverse situations

Based on the well-known and proven **Commander MK III**, this Observation/Light Work Class ROV has been designed keeping the field operativity in mind.

In this model, Mariscope prioritizes function (*Form follows function*) by focusing on a structure that allows the buoyancy to be varied at any time and the payload of the equipment to be adjusted.

ROV speed and maneuverability, along with pilot training and skill, are in many operations the limiting factors in logistics efficiency after improving travel efficiency through the use of fast boats and reduced dead times.

The characteristics of this ROV reduce its hydrodynamic resistance and improve its maneuverability in all kind of situations. Thus, it achieves excellent performance in all conditions reducing travel and inspection underwater times.

Its manufacture maintains the quality materials that characterize the brand's vehicles:

Strong and robust **AISI 316L stainless steel structural chassis**, hand welded (TIG) and crystal blasted.

**Modular structure** that allows the expansion of equipment and instruments to be carried on board, even in a second phase after the initial acquisition.

**Robust housings** of the new-generation motors with **electronic protection**.

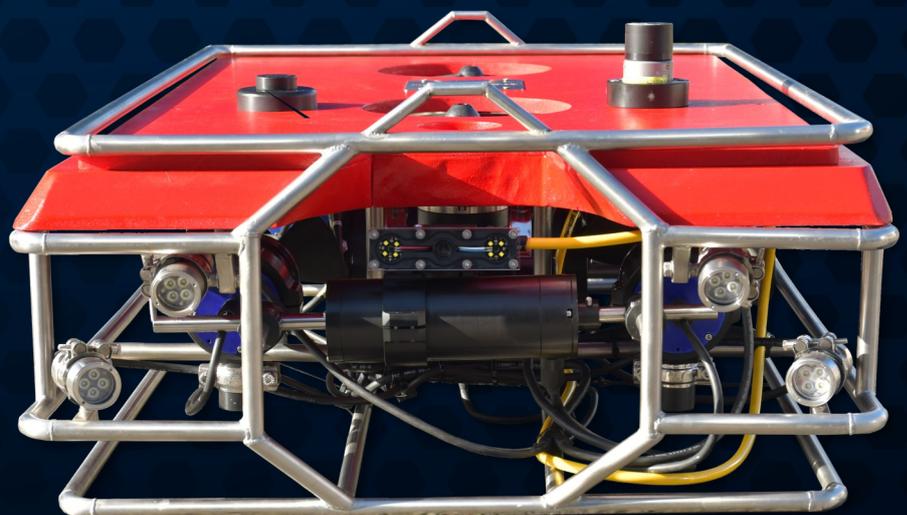
**High resolution cameras** (Full HD/4K) with **high power LEDs** integrated in the tilt mechanism, or external in robust aluminum housings.

**Standard sensors** of all the company's range of ROVs (*Depth Gauge, Compass, ROV and Tilt mechanism inclination, Power consumption*).

**Automatic functions** (*Auto Depth/ Auto Dive/Auto Head, Auto Gimbal*).

It has a **self-regulating power supply unit (PSU)** that automatically regulates the voltage loss of the umbilical cable, ensuring delivery of the maximum power needed for the motors and increased motor efficiency.

This ROV also has the **lifetime warranty** that Mariscope offers with its products. It is the only manufacturer in the world to offer this warranty on its systems, with **no working hours limit**.



■ designed,  
■ engineered &  
■ made in Germany

# BUILT TO LAST



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## STRUCTURAL AND OPERATIONAL SPECIFICATIONS

<b>Operating depth</b>	500 / 1.000 meters <i>(The ROV is structurally rated for 1.000 mts. Depending on the type of buoyancy used, the working depth will correspond to it's maximum depth).</i>
<b>Speed</b>	3-5 knots
<b>Dimensions</b> (Length x Width x Height)	1000 x 1200 x 400 mm
<b>Structural chassis</b>	Structural chassis made of AISI 316L stainless steel, hand welded (TIG) and crystal blasted.
<b>Weight</b>	60 - 120 Kg (depending on the equipment)

## PROPULSION

<b>Type of thrusters</b>	Brushless electric motors with magnetic coupling. Motors in saltwater resistant aluminum housing with anodized surface and zinc sacrificial anode.
<b>Thrusters power</b>	400 W each in standard version (power can be increased on request up to 900 W).
<b>Number of thrusters</b>	4 horizontal vectorized thrusters 2 vertical thrusters

## IMAGE AND LIGHTING

<b>Camera</b>	Full HD (1920 x 1080) camera with integrated laser pointers in salt water resistant aluminum housing with anodized surface. Installed on external tilt system (160° swivel angle).
<b>Type of lighting</b>	High-intensity submersible LEDs (> 2,900 lumens each) in saltwater-resistant aluminum housings with anodized surface.
<b>Lighting configuration</b>	4 total LED spotlights: <ul style="list-style-type: none"><li>• 2 LED spotlights attached to the same camera tilt system that rotate simultaneously with it to ensure correct illumination at any camera position.</li><li>• 2 fixed LED spotlights installed to optimize front illumination.</li></ul> This configuration can be easily customized by the user, as the LED spotlights are attached to the chassis by specially designed fasteners to fit the ROV frame.

## STANDARD SENSORS AND AUTOMATIC FUNCTIONS

<b>Standard sensors</b>	<ul style="list-style-type: none"><li>- Depth gauge</li><li>- Digital compass</li><li>- ROV and Tilt mechanism inclination sensor</li><li>- ROV power consumption</li></ul>
<b>Automatic functions</b>	<ul style="list-style-type: none"><li>- Auto Depth / Auto Dive</li><li>- Auto Head</li><li>- Automatic Gimbal (automatic tilt correction to maintain the observed horizon)</li></ul>



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## SURFACE UNITS

### Video Console

Installed in waterproof Pelican case.  
21.5" monitor, industrial computer with forced cooling and SSD recording drive with 500 Gb capacity.  
Real-time Full HD transmission to surface via high-speed Ethernet.  
On-screen display of piloting functions and sensor information.



### Steering Console

Installed in Pelicase Hull IM2050 case with carrying strap.  
Wireless, with range up to 500 meters and rechargeable LiPo batteries.  
2 joysticks for ROV operation.  
Control of lights on/power (by potentiometer) and all available piloting functions.



### PSU

### (Power Supply Unit)

The PSU automatically regulates the voltage to compensate for the voltage drop along the umbilical cable, thus ensuring delivery of the maximum power needed for the motors and higher motor efficiency.  
In vehicles equipped with standard motor power (400 W) the PSU is integrated in the Video Console, while for higher power the PSU is provided installed in a waterproof Pelican case with wheels.



## CABLE AND REEL/WINCH

### Umbilical cable

Multipolar with polyethylene or polyurethane coating, high visibility yellow color and neutral buoyancy.  
With Kevlar reinforcement and 2 ton tensile strength.



### Reel / Winch

Stainless steel AISI 316L made, with 18-way gold plated slip rings in sealed version, in an additionally sealed container box.  
For cable lengths up to 500 meters, it is supplied with manual reel.  
For lengths of 500-1000 meters it is supplied with electric winch with the same characteristics.





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## POWER REQUIREMENTS

**Electrical power required** 3 - 6,5 kW

**Type of power required** Input selectable between single-phase 230 V AC or three-phase 380 V AC.

## DURATION OF THE WARRANTY

**Time** Lifetime

**Working hours** No limits



## OPTIONAL ACCESSORIES

Special sensors for measuring CO<sub>2</sub>, H<sub>2</sub>S, CTDO, oil in water, UTM/CP probes, and others on request

Special cameras and EOD lighting on request

Forward-looking or high definition/multibeam sonars on request

Different types of USBL tracking systems are available upon request

Customized manipulators specially adapted to customer requirements

Cavitation cleaning units



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