CHASING

EXPLROE THE UNEXPLROED

## CHASING M2 S

**Industrial-Grade Underwater ROV** 



Flexible | Stable | Endless exploration

CHASING M2 S is an industrial-grade revolutionary underwater robot, which adopts an open-body design, intelligent flight control system and image algorithm, bringing unprecedented underwater perception and freedom of movement. 8 vectored-thrusters are symmetric and anti-stuck C-Motor 3.0 provide stable power, while the flagship sealed structure guarantees underwater operation performance. The ROV is compact and lightweight, easy to operate, and efficiently completes inspection tasks in various underwater operating scenarios

in different industries.



## THREE MECHANISMS







# C-Sense control system, flexible and stable



8 Vectoredthrusters



NeptuneX intelligent flight control system



Apex Anti-stuck C-Motor 3.0



Flagship Airtight structure



Butterfly wing outline

### 8 Vectored-thrusters

- Remains the symmetrical vector layout of the eight thrusters of CHASING.
- Adopts a design where translation and rotation are independent of each other.
- Supports 360-degree omnidirectional movement and rotation.



Improves posture response speed and control stability.



## NeptuneX intelligent flight control system

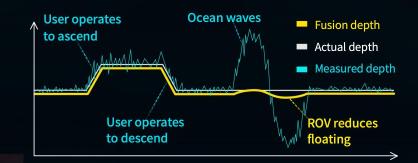
The exclusive CHASING navigation algorithm enables more precise operation; CHASING M2 S can maintain the movement direction even in the presence of external force interference or difficult operating conditions.





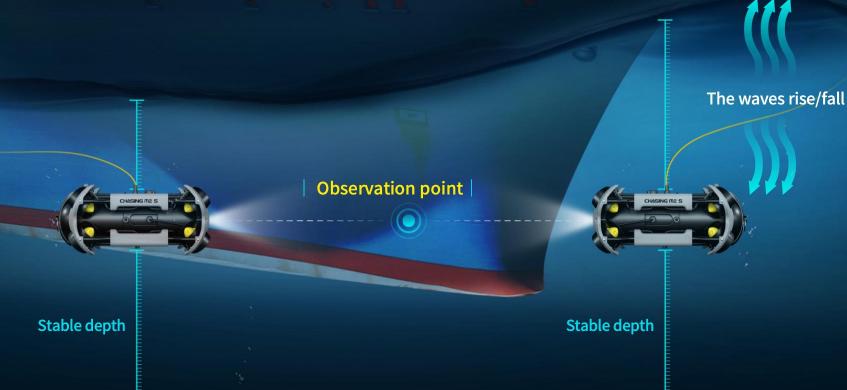
## NeptuneX intelligent flight control system

The Kalman inertial navigation fusion depth observation method greatly reduces the impact of ocean waves on ROV and maintains the depth stable, significantly enhances the vertical flow resistance capability.



\*The specific parameters and functions are subject t

o the actual products on the market.



## Apex Anti-stuck C-Motor 3.0

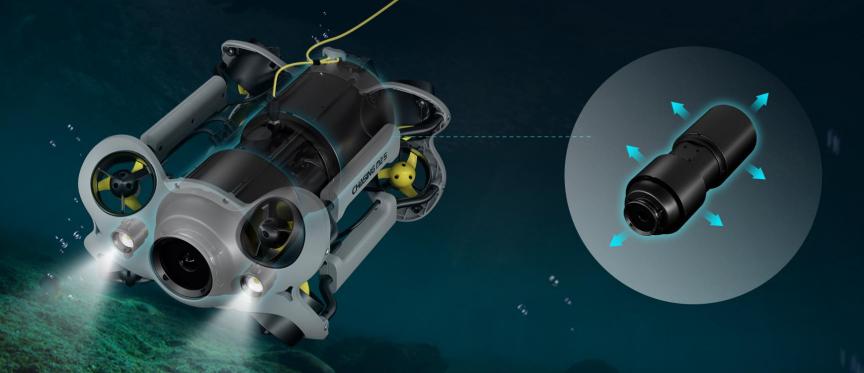
The third-generation Apex Anti-stuck C-Motor 3.0 used in the CHASING M2 S adopts a unique anti-stuck solution and magnet protection technology, which ensures power supply but also greatly reduces electrochemical corrosion and aggregation rust caused by motor wear. The anti-stuck performance is stronger, making it more reliable to use.







Fully innovate the waterproof structure of the main cabin and lighting to further enhance the stability of underwater operations.





## Butterfly wing outline

The streamlined design of the butterfly wing outline at front and rear enhances the recognition and protects the propeller.



# All-scenario Efficient Operation System



A wide working range



Multiple accessories



All scenarios application



Swappable battery



Portable and convenient

## A wide working range

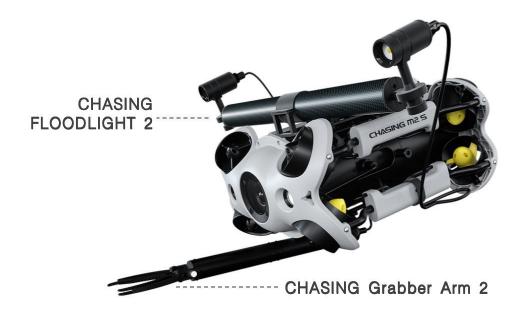
CHASING M2 S can dive to a maximum depth of 100 meters, an operating radius of 200 meters. 400 meters extendable distance.

**100m**Maximum depth to dive

400m Maximum movement radius 200m Movement radius



### Multiple accessories



#### Adapt to CHASING self-developed accessories

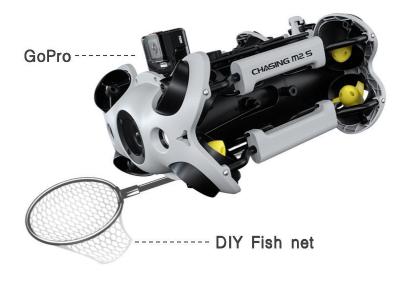




CHASING DISTANCE LOCK SONAR



CHASING WSRC



Suitable for third-party facilities

## All scenarios application

CHASING M2 S is widely applied in various industries, such as underwater photography, hull and dock inspection, fishery and aquaculture monitoring, underwater emergency rescue, scientific exploration, water conservancy and hydrapower inspection, Pipeline inspection, providing efficient solutions for underwater observation tasks.



## Swappable battery

CHASING M2 S has a default 97.68Wh battery that can power up to 4 hours operation.

The battery compartment is ready to use, 200Wh backup battery is also optinal to meet the needs of long-time operation.





# HD Visual image Transmission System



4K+EIS Image Stabilization, F2.8 Aperture



CHASING Aquavision image algorithm, fully upgraded imaging



Removable SD memory card, online live-stream and share



User-friendly interaction

### 4K+EIS Image Stabilization, F2.8 Aperture

Clearly capture every detail underwater



4K Video



12 Megapixel



1/2.3" CMOS



F2.8 Aperture



EIS



Floodlights



## CHASING Aquavision image algorithm, fully upgraded imaging

The color restoration algorithm design based on underwater light, physical light route, and environmental, as well as the visual identification and tracking system, completely upgrade image transparency, clarity, reducing color layering, and noise.



## Removable SD memory card to save photos and videos, Support online live-stream and share











Social media sharing



**HDMI** output



Take pictures while recording video



Time-lapse photography



Quick editing tools

## User-friendly interaction

Easy to interact between operator and ROV. Professional remote controller and CHASING App. The operator can record depth, temperature, and other parameters.



Support VR



Observer mode



Multiple devices watching



### Product parameter

#### ROV

Size(mm)	380*267*165mm
Weight	≈4.5KG
Maximum Depth	100m
Runtime (Actual duration is subject to the App prompt)	4h
Battery Capacity	97.68Wh (Optional battery)
Operating Temperature	-10°C~45°C
Load(forward/upward/sideways)	3.2/2.6/2.6kg

#### **Remote Controller**

Size(mm) 16	60*155*125mm
Weight 68	85g
Battery capacity 25	500mAh
Battery life ≥	6H(Depend on working condition)
Wireless W	/i-Fi
Wired interface type Li <sub>1</sub>	ightning,Micro USB,USB-C
HDMI Su	upport
Phone/tablet clip Su	upports up to 10 inches

#### Charger

Power	2.9A/25.2V
ROV charging time	2.5H
Controller charging time	2H

<sup>\*</sup>For product information, please refer to the actual products on the market. For the latest information, please refer to the official website:www.chasing.com

#### Camera

CMOS	1/2.3" CMOS
Aperture	F2.8
Focal scope	0.3m ~ ∞
ISO Range	100-6400
Field of View	150°
Maximum Image Resolution	12M
Image File Types	JPEG/DNG
Video resolution	4K: 3840 × 2160@25/30fps 1080P: 1920 × 1080@25/30/50/60/100/120fps
video resolution	Slow motion4X: $1920 \times 1080@30fps$ (120fps) Slow motion8X: $1280 \times 720@30fps$ (240fps)
Video Maximum Stream	60M
Video Type	MP4
SD Card (Standard)	64G

#### **LED Lights**

Brightness	2x1200LM	
Color Temperature	5000K~5500K	
CRI	85	
Dimming	Three Gears	

#### Sensor

IMU	Three-axis gyroscope/acceleration/compass	
Depth Sensor	<±0.25m	
Temperature Sensor	<±2°C	

CHASING

EXPLROE THE UNEXPLROED

## CHASING M2 S

**Industrial-Grade Underwater ROV** 



Flexible | Stable | Endless exploration

## CHASING M2 PRO

Hybrid power supply Stronger power More accessories



Light Industrial grade underwater ROV for professional and enterprise customers.



#### **CHASING M2 Pro**

is a professional underwater ROV designed for professional users and industrial applications. M2 Pro has 8 Vectored Thrusters layout which allows OMNI movement in all directions. Compared to the CHASING M2, the M2 Pro motor has been upgraded by 50%. The Maximum Depth is 150 meters (492 ft) and the maximum horizontal radius is 400 meters (1312 ft). M2 pro support AC and battery hybrid power supply to achieve unlimited battery life. Not only compatible with sophisticated attachments such as Grabber Claw, Floodlight and laser scaler etc, but also compatible with Control Console (High-brightness Screen), Docking station, USBL underwater positioning, 700Wh battery, Multibeam sonar, Auxiliary Camera and other M2 Pro Exclusive Enhanced Accessories, CHASING M2 Pro offers a built in 4K/ 1080p and 12 megapixel EIS image stabilization camera, 4000 lumen LED lights, removable battery and removable Micro SD memory card. The aluminum alloy compact body (weighs less than 6KG / 13lbs) allows single person operation and Quick-Deployment in 3 minutes. The CHASING M2 Pro is your portable, easy use and reliable light industrial underwater ROV.



Motor upgraded Stronger power



4 hours battery life



Unlimited battery life with AC power supply



USBL underwater positioning, Multibeam sonar and more accessories



Maximum dive depth 150 meters (492 ft)



4K+EIS Image Stabilization, F2.8 Aperture

## Motor upgraded Stronger power

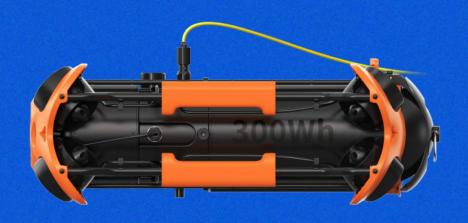
8 Vectored-Thrusters Layout, Anti-Stuck Motor.

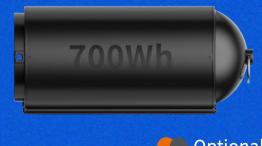
Single motor power 150W.



## 4 hours long battery life

The default 300Wh lithium battery, Optional 700Wh Replaceable Battery (support Hybrid power supply) will make your operation time unlimited.



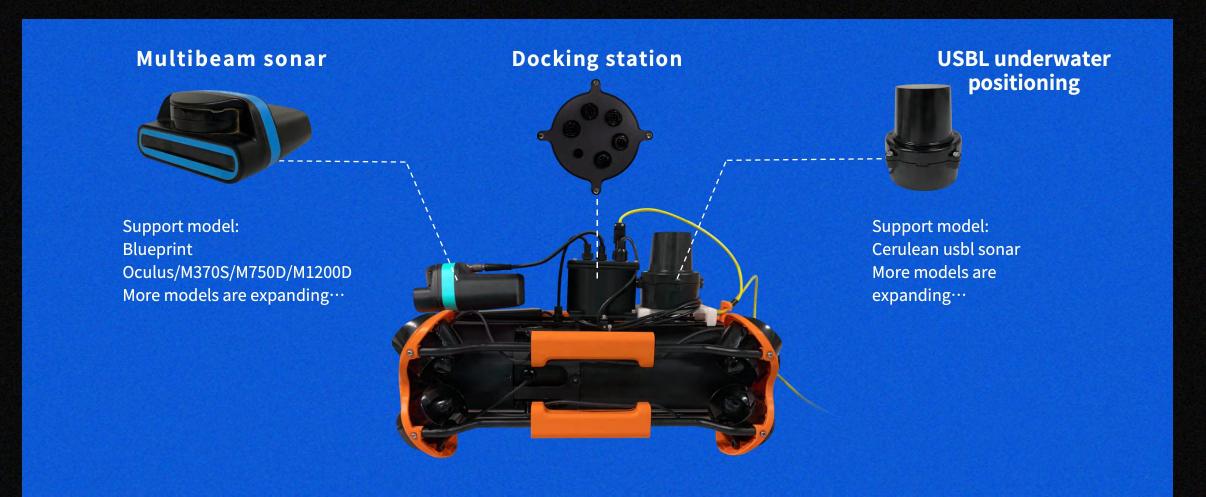






## USBL underwater positioning, Multibeam sonar and more accessories

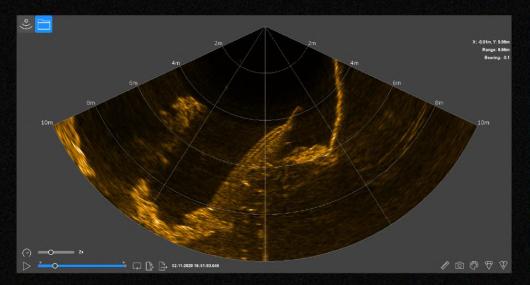
Control Console (High-brightness Screen), Docking station, USBL underwater positioning, 700Wh battery, Multibeam sonar, Auxiliary Camera and other M2 Pro Exclusive Enhanced Accessories



## USBL underwater positioning, Multibeam sonar and more accessories

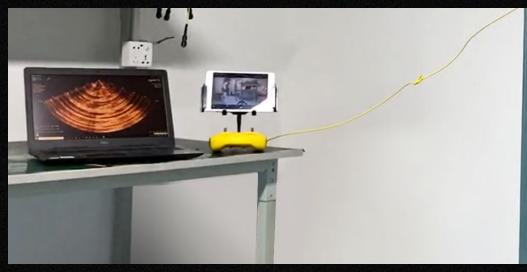


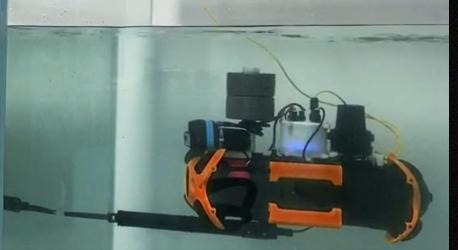
#### Multibeam sonar — ship



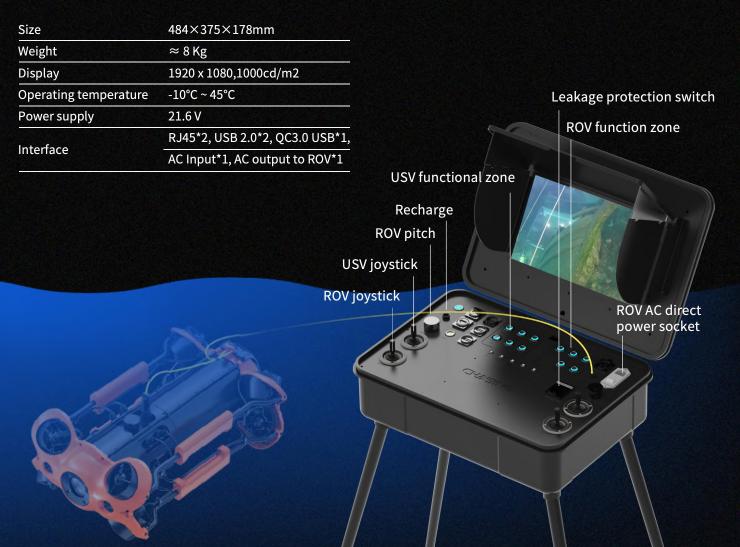


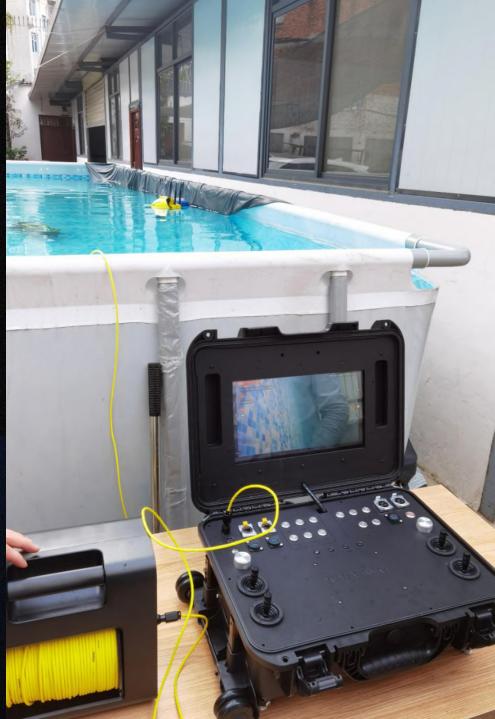
#### Multibeam sonar — test

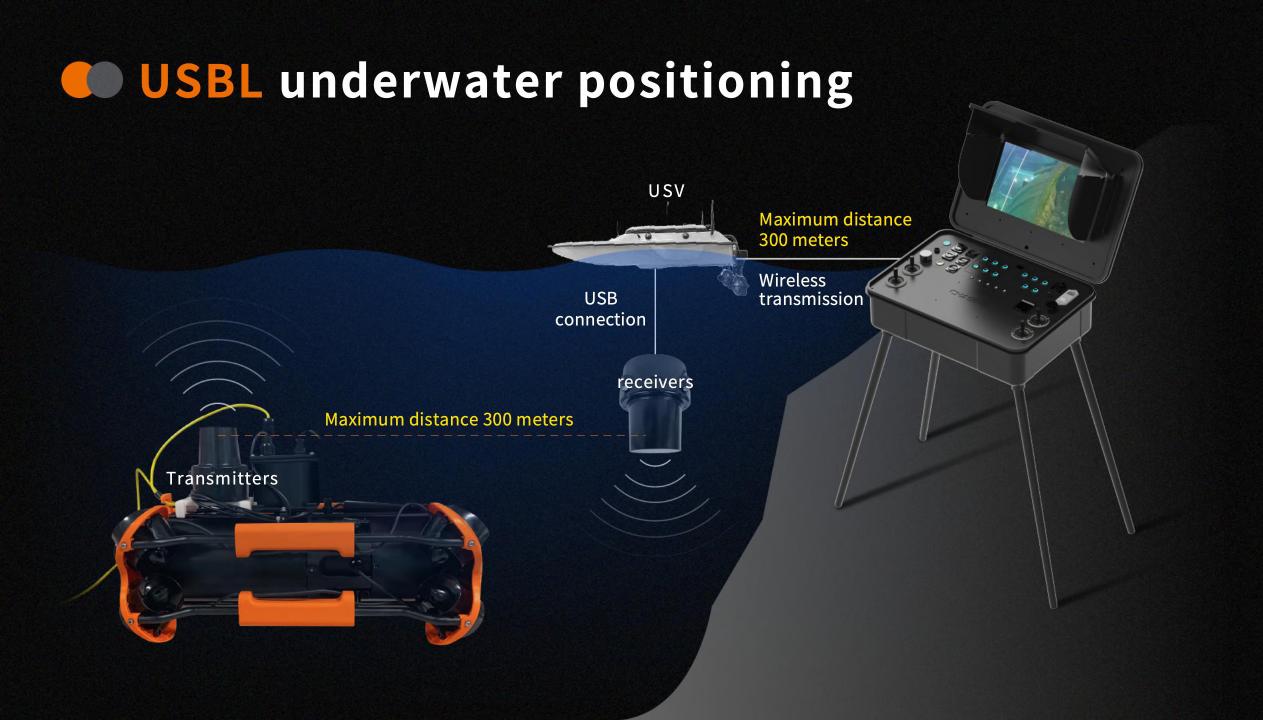




## Control Console, be visible in sunlight





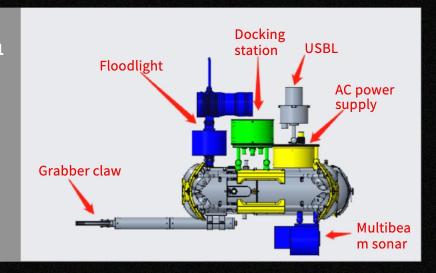


### **M2 PRO Exclusive Enhanced Accessories** combination diagram

#### **Combination 1**

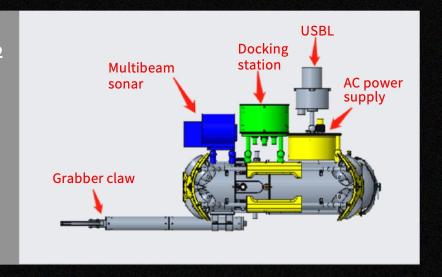
Floodlight Docking station

AC power supply Multibeam sonar Grabber claw



#### **Combination 2**

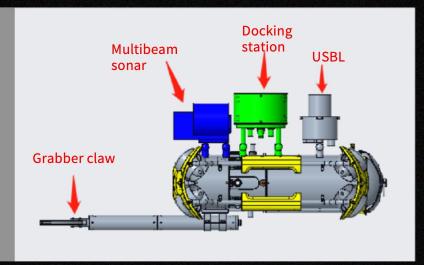
Docking station AC power supply Multibeam sonar Grabber claw



#### **Combination 3**

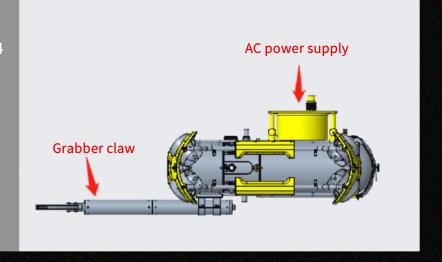
Docking station USBL

Multibeam sonar Grabber claw



#### Combination 4

AC power supply Grabber claw



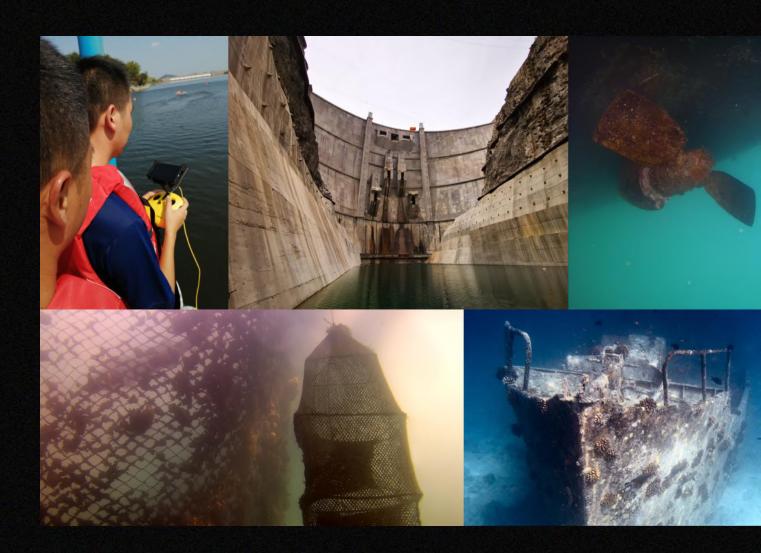


4K+EIS Image Stabilization, F2.8 Aperture

M2 Pro offers 4K and 1080p video and 12 megapixel photos. Equipped with 1/2.3" CMOS, EIS anti video-shake feature, with 4000 lumen LED lights to capture underwater details.

#### **Applications**

- Underwater search and rescue
- Water conservancy and hydropower inspection
- Scientific exploration
- Hull&Dock inspection
- Aquaculture inspection



#### **Parameters**

#### ROV

Size(mm)	480*267*165mm
Weight	≈5.7KG
Maximum Depth	150m
Runtime (Actual duration is subject to the App prompt)	4h
Battery Capacity	300Wh (Optional battery)
Operating Temperature	-10°C~45°C
Load(forward/upward/sideways)	3.9/3.2/3.0kg

#### Remote Controller

Size(mm)	160*155*125mm
Weight	685g
Battery capacity	2500mAh
Battery life	≥6H(Depend on working condition)
Wireless	Wi-Fi
Wired interface type	Lightning,Micro USB,USB-C
HDMI	Support
Phone/tablet clip	Supports up to 10 inches

#### Charger

25.2V/8A	
2.5H	13.3
2H	A.V.
	2.5H

#### Camera

CMOS	1/2.3" CMOS
Aperture	F2.8
Focal scope	0.3m~∞
ISO Range	100-6400
Field of View	150°
Maximum Image Resolution	12M
Image File Types	JPEG/DNG
V6 doo yoo lukion	4K: 3840×2160@25/30fps 1080P: 1920×1080@25/30/50/60/100/120fps
Video resolution	Slow motion 4X: 1920×1080@30fps (120fps) Slow motion 8X: 1280×720@30fps (240fps)
Video Maximum Stream	60M
Video Type	MP4
SD Card (Standard)	128G
LED Lights	
Brightness	2x2000LM
Color Temperature	5000K~5500K
CRI	85
Dimming	Three Gears

#### Sensor

IMU	Three-axis gyroscope/acceleration/compass
Depth Sensor	<±0.25m
Temperature Sensor	<±2°C



#### EXPLROE THE UNEXPLROED





#### **CHASING M2 PRO MAX**

Industrial-Grade Underwater ROV



Easy | Powerful

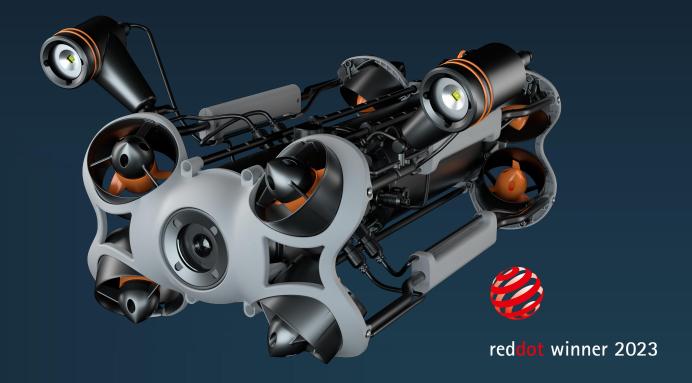


#### **CHASING M2 PRO MAX**

is an industrial-grade underwater remote operated vehicle (ROV) designed for government and enterprise users. It is equipped with eight vectored thrusters, allowing 360-degree omnidirectional movements. The ROV can dive to 200 meters deepwater, and move around a maximum horizontal radius of 400 meters.

CHASING M2 PRO MAX adopts the quick assembly and disassembly technology, enabling tool-free quick assembly and disassembly of more than 20 accessories such as sonars, CHASING USBL KIT, and CHASING Water Sampler. In addition, CHASING M2 PRO MAX has an integration of five ports, which simplifies the installation of multiple accessories. Up to five accessories can be mounted at a time. The ROV is powered by the second-generation anti-stuck motor C-MOTOR 2.0, which has 30% more power for a better anti-stuck capability. The second-generation shore-based power supply system (C-SPSS) is an optional accessory. It adopts the battery compartment design, with 1500W upgraded output power, ensuring M2 PRO MAX constantly works at full power without an outage. The external 8000-lumen floodlights can achieve the best beam angle at 150°, which resolves the reflection of floating debris and clearly illuminates every detail.

CHASING M2 PRO MAX provides easier-to-use, more professional, and more reliable underwater solutions for various industrial applications, such as underwater emergency rescue, hull and dock inspection, aquaculture inspection, water conservancy and hydropower inspection, scientific exploration, and offshore wind power facility inspection.





#### **Easy and Convenient Assembly and Disassembly**

The Quick Accessory Assembly and Disassembly Technology allows you to install accessories on the ROV by combining the <u>slide-in mounting platform</u> and the ROV support rod. The process is convenient and reduces assembly and disassembly time and effort.



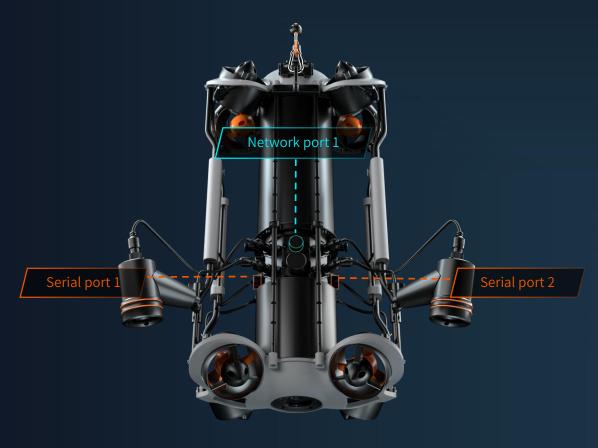


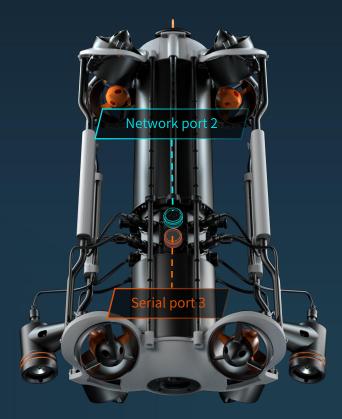
#### Five Ports Integrated Simplifies the Installation of Multiple Accessories





The docking station is integrated into the ROV, simplifying the installation of multiple accessories. The new layout of the five reserved ports supports up to five accessories at a time.

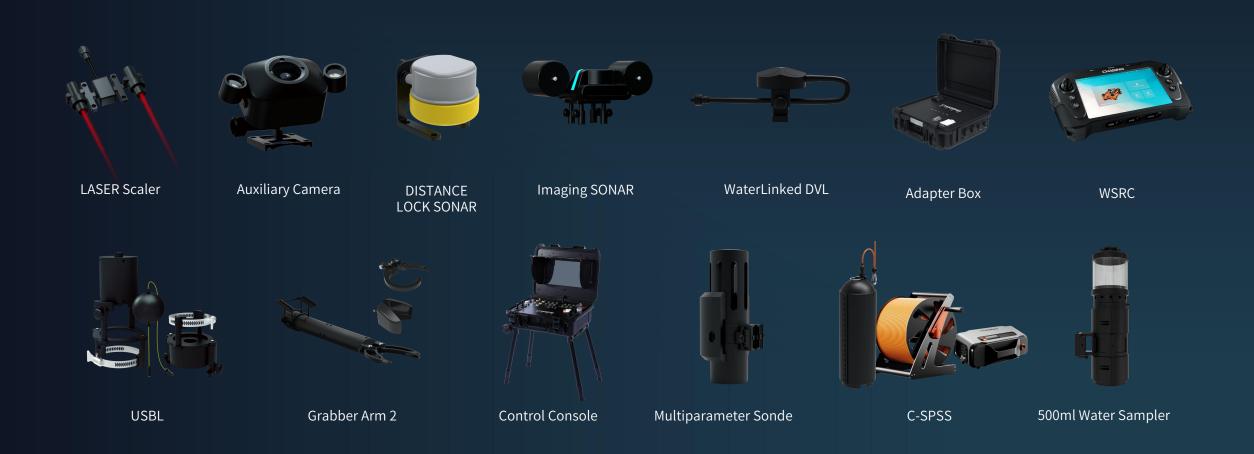


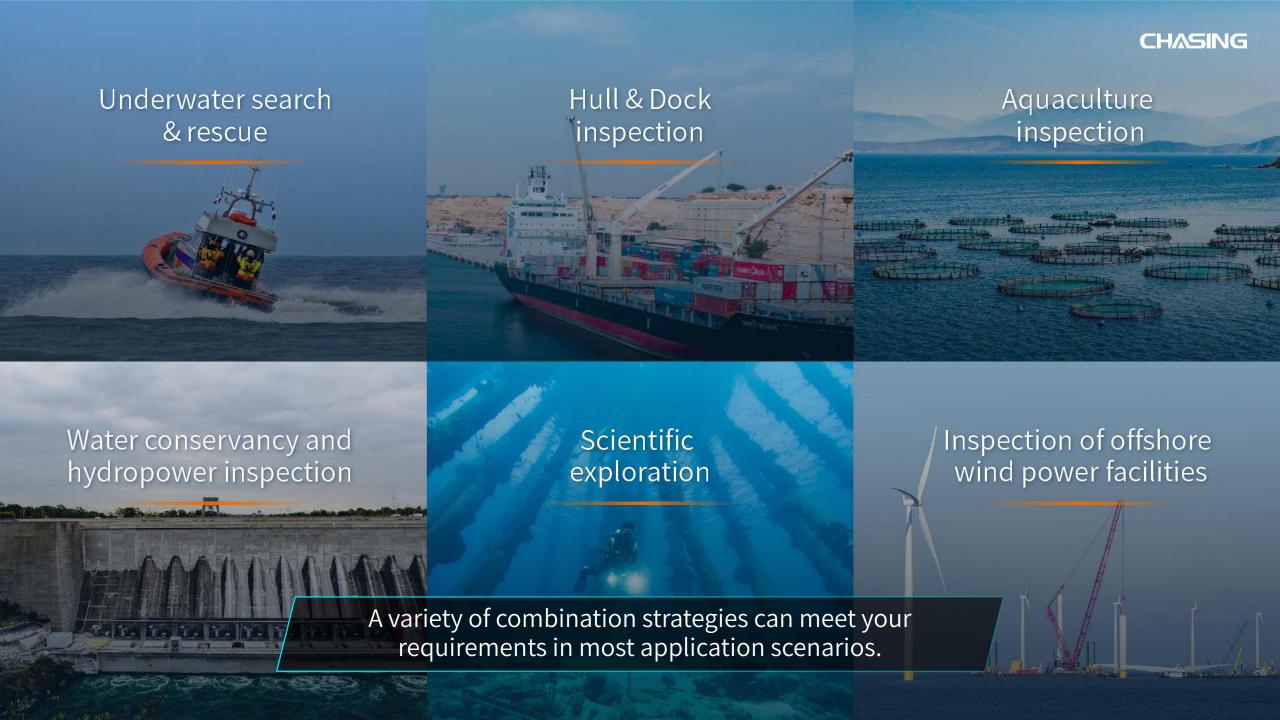


top view bottom view



#### More than 20 innovative CHASING accessories and third-party software and hardware can be installed for extensions.

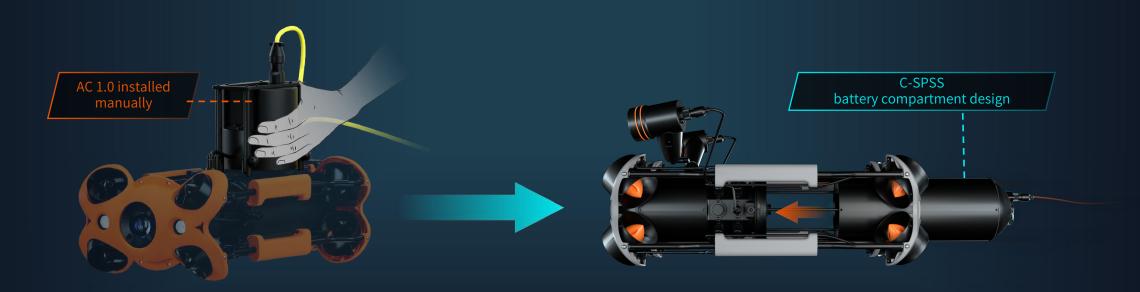






## CHASING Shore-Based Power Supply System (C-SPSS) Enables 24/7 Missions

CHASING shore-based power supply system (C-SPSS) adopts a battery compartment design, which can achieve an easier installation.



CHASING M2 PRO CHASING M2 PRO MAX



## CHASING Shore-Based Power Supply System (C-SPSS) Enables 24/7 Missions

C-SPSS output power is increased to 1500W, ensuring that the ROV can work 24/7 at full power without an outage.





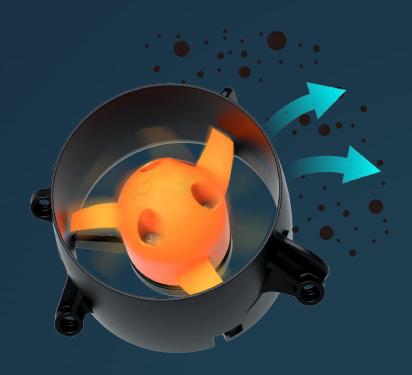
Optional



## CHASING C-MOTOR 2.0 Enhances Power and Reliability



8 thruster vector layout, using new materials, new technology, fluid design, power increased by 30%.



The anti-stuck performance is improved, making the ROV easier to clean and more reliable.



#### External Floodlights Illuminate Every Detail

Two external floodlights can provide a sum of 8000 lumens' illumination and achieve the best beam angle at 150°, which can resolve the visual interference caused by the reflection of floating debris. This feature also allows stepless adjustment of brightness in the range of 0-100%, allowing the ROV to illuminate each detail in the underwater environment as needed.

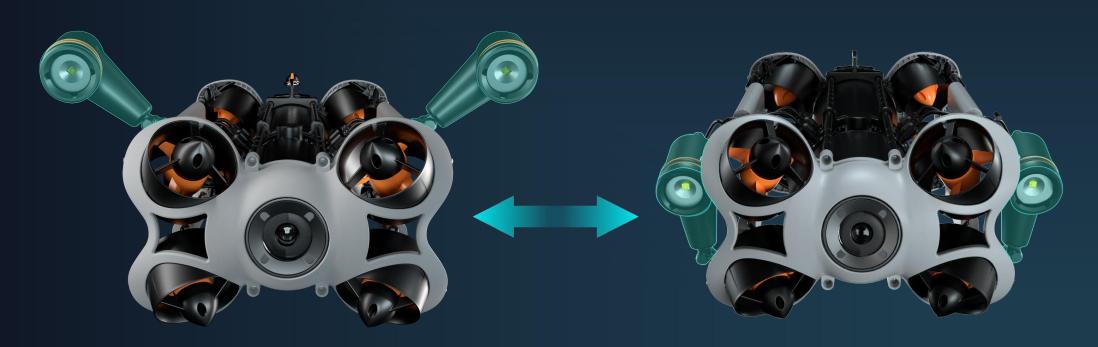






#### **External Floodlights Illuminate Every Detail**

The floodlights can work folded or unfolded underwater, meeting various needs for complicated underwater application scenarios.





#### 200m Depth Rating for a Broader Operating Range

M2 PRO MAX can dive up to 200m (656ft) with a maximum horizontal radius of 400 meters (1312ft). Combining with different lengths of tether cables, it can work in a broader range and meet more needs of underwater applications.



Maximum diving depth 200 meters

Maximum activity radius 400 meters

400 m



#### 4K+EIS Image Stabilization, F2.8 Aperture

M2 PRO MAX supports 4K video resolution and 12-megapixel photos. It is equipped with 1/2.3" CMOS and EIS anti-video-shake

feature, allowing you to capture every underwater detail.

4K and 1080p video

12 megapixel photos

1/2.3" CMOS

EIS anti-video-shake feature





## Removable Micro SD memory card Download your works anytime and anywhere

The default 128G Micro SD memory card is removable. Users can choose micro SD cards with different capacities (up to 512G).





#### **Product Parameters**

	SIZE (mm)	608x294x196 fill lights not included
	WEIGHT	8KG
	MAX DEPTH	200m
ROV	Runtime Actual duration is subject to the App prompt	4h
	BATTERY	300Wh Optional battery
	Operating Temperature	-10 ~45
	Load(forward/upward/sideways)	5.7/4.0/3.6kg
	CMOS	1/2.3''CMOS
	LENS	F2.8
	FOCUS	0.3m ~
	ISO RANGE	100-6400
	FOV	150°
	MAX RESOLUTION	12 Meg Pixel
CAMERA	FORMAT	JPEG/DNG
3, <u>210 t</u>	VIDEO	4K 3840×2160@25/30fps 1080P 1920×1080@25/30/50/60/100/120fps
	VIDEO	SLOW MOTION4X 1920×1080@30fps 120fps SLOW MOTION8X 1280×720@30fps 240fps
	VIDEO STREAM	60M
	VIDEO FORMAT	MP4
	SD Card <b>Standard</b>	128G

	Size <b>(mm)</b>	160*155*125mm
	Weight	685g
	Battery capacity	2500mAh
Remote Controller	Battery life	6H(Depend on working condition)
Controller	Wireless	Wi-Fi
	Wired interface type	Lightning Micro USB USB-C
	HDMI	Support
	Phone/tablet clip	Supports up to 10 inches
	IMU	Three-axis gyroscope/acceleration/compass
SENSOR	Depth Sensor	±0.25m
	Temperature Sensor	±2
	POWER	25.2V/8A
CHARGER	ROV CHARGING TIME	2.5H
	RC CHARGING TIME	2H
	BRIGHTNESS	2x4000 LM
LED	COLOR TEMPERATURE	5000K~5500K
	CRI	85
	DIMMING	THREE GEARS

For product information, please refer to the actual products on the market.

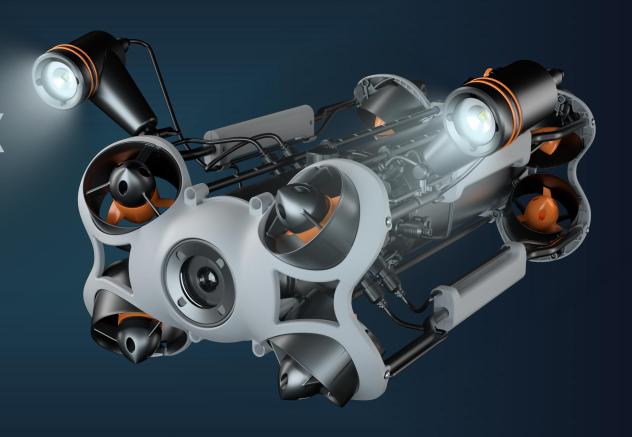
For the latest information, please refer to the official website: www.chasing.com

CHASING

#### **CHASING M2 PRO MAX**

Industrial-Grade Underwater Drone

Easy | Powerful



# **Navigation Posture**

The ROV is able to realize 360° movement such as float/dive, left/right, forward/backward, rolling, and translation. It is basic mode by default, which is suitable for beginners. The control relationship between navigation posture and remote controller in this mode is as follows:

EN

ROV posture	Turn left / turn right		Left/right translation	<b>I</b>	Rolling	(-10+)
Remote controller	Left control stick		Right control stick		Right roller	
ROV posture	Forward / Backward	<b>→</b>	Float/Dive	<b>←</b>	Pitch down/up	
Remote controller	Left control stick	<b>40</b>	Right control stick	<del>+0+</del>	Left roller	CAN THE STATE OF T

- The user can switch modes by long pressing the "Return" key of the remote controller.

  Pull the thumb wheel to achieve rolling and pitching. The ROV will automatically maintain its current angle after releasing the thumb wheel.

  Basic mode: The maximum angle of pitch and roll is about 80°.

  Advanced mode: The ROV can realize 360° full freedom motion (advanced mode is based on the first-person perspective).

# **Charging Guidance**

## ® ROV & remote controller:

• Charger: ROV main machine: 50.4V/8A (DC)

- When the indicator light of the charger is red, it indicates normal charging, when the indicator light turns green, it indicates the charging is completed. CHASING WSRC: 25.2V/3A (DC)
  - Please unplug the charger in time after the charging is completed.
- $\pmb{A}$  Note: The charging time varies depending on environmental factors, and the actual results may be different.

# **Specification Parameters**

#### ROV

Basic Parameter	
Dimensions	815x653x400mm
Weight	40KG
Max. depth	350m
Pulling force (forward/float/traverse)	500N/150N/180N
Max. battery life	>6h
Battery	1000Wh
Working temperature	2, 09 ~ 2, €-
Camera	
CMOS	1/1.8"
Aperture	F2.2
Focus range	1m to∞
ISO range	100-6400
Field of view	160°
Image format	JPEG/DNG
777	UHD:3840*2160 (4K) 30fps
Ordinary video	FHD:1920*1080 (1080p) 30/60/120fps
Slow-motion video	1080p:4x (120fps)
Time-lapse video	4K/1080p: supported
Max. video bit rate	60M
Video format	MP4
SD card (standard)	128G

32

#### Three-axis gyroscope, accelerometer, compass Charging time of CHASING WSRC: 3.5H Charging time of main machine: 4H ROV main machine: 50.4V/8A (DC) Infinitely adjustable brightness CHASING WSRC: 25.2V/3A (DC) 2 x 6000 lumens 5000K~6000K ±0.25m ±0.1m ± 2°C 90 LED Floodlight Temperature sensor Color temperature Ranging sonar Charger Charging time Depth sensor Sensor Brightness Dimming Power 몽

## **CHASING WSRC**

Basic Parameter	
Appearance Dimensions	292×156×79mm (without light shield)
Overall Weight	1.3kg
Display Screen	7.02-inch, 700cd/m², 1920×1200
Touch screen	5-point industrial touch
I/O interface	USB2.0×2, ethernet port, USB-C, HDMI, ROV port
Control stick, key type and quantity	Single-shaft lever $\times 3$ , dual-shaft hall control stick $\times 2$ , key switch $\times 6$
Applicable adapter specification	Output: 5.0V == 3.0A 15.0W/9V == 3A/15V == 3A/20.0V == 3.25A
Performance Parameters	eters
CPU	Quad-core 64-bit Cortex-A55 with a dominant frequency of 2.0GHz
	ARM G52 2EE
GPU	Support OpenGL ES 1.1/2.0/3.2, OpenCL 2.0, Vulkan 1.1
	Built-in high-performance 2D acceleration hardware
M. Harris	Support 4K 60fps H.265/H.264/VP9 video decoding
Mutimedia	Support 1080P 60fps H.265/H.264 video decoding
Operating system	Android11
Running memory	46
Memory capacity	326

## Battery performance Battery capacity 7000mA, 11.1V

E N

Туре	Non-removable lithium battery
Battery life	≥4h
Charging time	≈3.5h
Wireless communication	ation
Wi-Fi	Frequency 2.4GHZ/5.8GHZ
Bluetooth	Bluetooth 4.2
External mobile network card	Support
Satellite positioning	GPS, Beidou
Product reliability	
Working temperature	-10°C~55°C(14°F-131°F)
Operating humidity	5% - 95% relative humidity, non-condensing
Protective property	IP65

# CHASING DVL Kit (CHASING X)

Basic Parameter	
Dimensions	Ф66 * 37.5mm (including mounting base)
Air weight	198g (including mounting base)
Underwater weight	133g (including mounting base)
Pressure withstand depth	300m
Material	SU316 (backboard), PEEK (shell), AL6063 (support)
Working temperature	2, 09 ~ 2, 5-
Basic Parameter	
Measured height	0.05-50 m (> 35 m depending on seabed conditions, salinity, etc.)
Maximum measured velocity	3.75 m/s
Velocity resolution	0.1 mm/s
Long-period accuracy	$\pm$ 1.01% (high-performance version with $\pm$ 0.1% available)
Terrain follow-up scope	0.5m - 49.5m

## Electronic gimbal



## Manual reel

Basic Parameter	
Dimensions	648x500x458mm
Weight	35KG (with cable)
Max. cable storage length	400 m
Working temperature	-10 °C ~ 45 °C

## **Maintenance and Precautions**

ROV

## Navigation Safety



N N

V

Relatively clear water without dense seaweed

Navigate in sea

area



than 350m deep Dive no more

No dense radio or radar in the vicinity

## Battery protection









temperature: -10°C~+45°C Operating

Keep the SOC at 50%-70% when idle.

Please charge when the SOC is less than 10%

Please do not drain the battery

## 3 Charging protection

Please use the official standard charger;

UHD:3840\*2160 (4K) 25fps

60M bps

Max. video bit rate

SD card

Ordinary video

Image format Video format 128G

Panoramic video MP4 Panoramic JPEG

- The red light indicates it is charging;
- The green light indicates that charging is completed.

## 4 Motor/blade

After using, it is necessary to clean the attachments on the surface of the motor rotor (to avoid personal injury, confirm that the ROV has been completely shut down), rinse it with clear water, and wipe it up with a towel after cleaning.





Please do not idle the motor in the air overheating damage to the motor. for more than 10s to avoid

> rotating motor and blade Please do not touch the

after being used in seawater, run the motor for 10 minutes, and wipe it up with a 🛕 Note: It is highly suggested to soak the ROV body in fresh water for at least 1 hour cleaning cloth

- Warning for the Operation of Underwater Power System:
   1. The underwater power system of the device is powerful. Improper operation may lead to uncontrolled dragging of the tether cable, causing serious personal
- 2. Please ensure that the connection is complete. The operator should keep a safe distance of about 1m from the tether cable before use.
  - 3. Make sure that the reel is in a stable ground environment

## Stepher Tether Cable Connector/external port/Micro SD card interface

- Before use, check whether the sealing covers of the external ports and Micro SD card interface are installed in place, and tighten them with a flat wrench or coin; and check whether the tether cable connector is dry and clean.
   Salt and moisture may corrode the port. In case of water droplet entering the port, please rinse it with clear water, and absorb the water in the socket with
  - paper towel or cotton ball.
- After using, please pay attention to cleaning the external port and tether cable port, and tighten the sealing cover.