

# NA - 650D

Underwater Camera Housing  
**Instruction manual**



# Foreword

Thank you for your purchase of a NAUTICAM digital camera housing.

At NAUTICAM, we pride ourselves on the ability to recognise the requirements of professional as well as amateur underwater photographers and fulfill them through the innovative designs of our products. We strive to achieve a high level of user-friendliness by allowing stress-free installation and easy operation of all important functions of the camera.

Each housing is individually inspected and water pressure tested to ensure optimum quality.

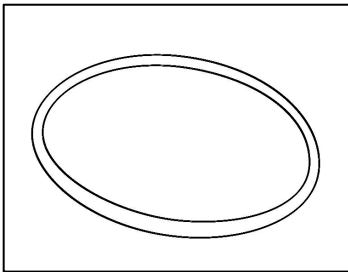
Please read this manual carefully before using the housing, this will maximise its performance as well as its lifetime.

# Warranty

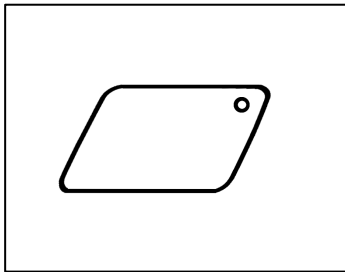
1. All NAUTICAM Products are warranted against any material and manufacturing defects for one year from the date of purchase for consumer use.
2. NAUTICAM accepts no liability for any damage to and defects in the housing caused by improper use and/or poor maintenance; it is the responsibility of the owner to carefully follow the instructions in this manual.
3. NAUTICAM does not hold responsibility for damage, of any nature, to any equipment used with and/or placed within the housing.
4. NAUTICAM accepts no liability for any loss of captured images or the inability to capture images even if it is due to the malfunctioning or leakage of the housing.
5. This warranty only applies to products purchased from authorised NAUTICAM dealers and does not extend beyond the original retail purchaser.
6. Unauthorised modifications and/or repairs of the housing will automatically invalidate this warranty.
7. To return products for service, please contact our regional distributor, normally you would need to notify them by email first and ship them the product by registered mail, along with your contact details and a brief description of the defect.

# Package Contents

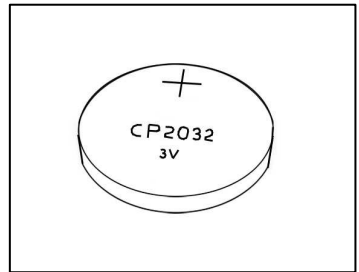
1. NA-650D housing
2. Instruction manual
3. Spare silicone rubber main o-ring
4. O-ring remover
5. CR2032 battery (for moisture alarm)
6. Lubricant
7. Set of Allen keys



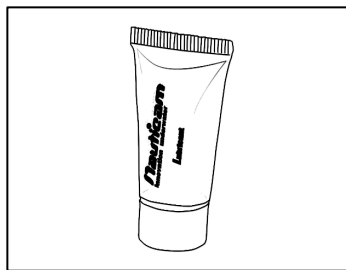
Spare silicone rubber o-ring



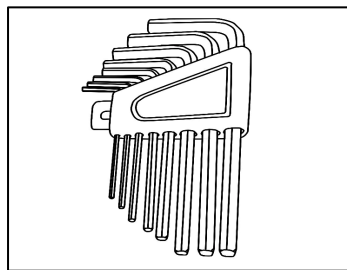
O-ring remover



CR2032 battery



Lubricant



Set of Allen keys

# Precautions

1. A water-tight test without the camera inside the housing is highly recommended when using the system for the first time and after the changing of port and O-ring(s).
2. Do not use lubricants from other brands with the silicone rubber O-ring on this housing, only use the lubricant provided by NAUTICAM.
3. Discontinue use immediately should you notice any leakage.
4. Store the housing in a robust, shock-proof container during transportation; avoid transporting with any equipment, such as a camera, inside the housing.
5. When travelling by air, do not close the housing if the port is installed, as this may lead to a pressure difference between the atmosphere and inside the housing.
6. Care must be taken when opening the housing, as pressure may build up inside the housing which increases the opening force.
7. Do not open the product in a wet or sandy environment. Protect the interior from moisture and debris in order to prevent malfunction or leakage.
8. Do not store the product in an environment of high humidity.
9. Do not leave the housing and the camera in direct sunlight for prolonged periods.
10. Keep out of reach of children, failure to do so could result in injury.
11. Defective products should be shipped to our distributors for service, unauthorized disassembling and/or modifications could result in malfunction or leakage.

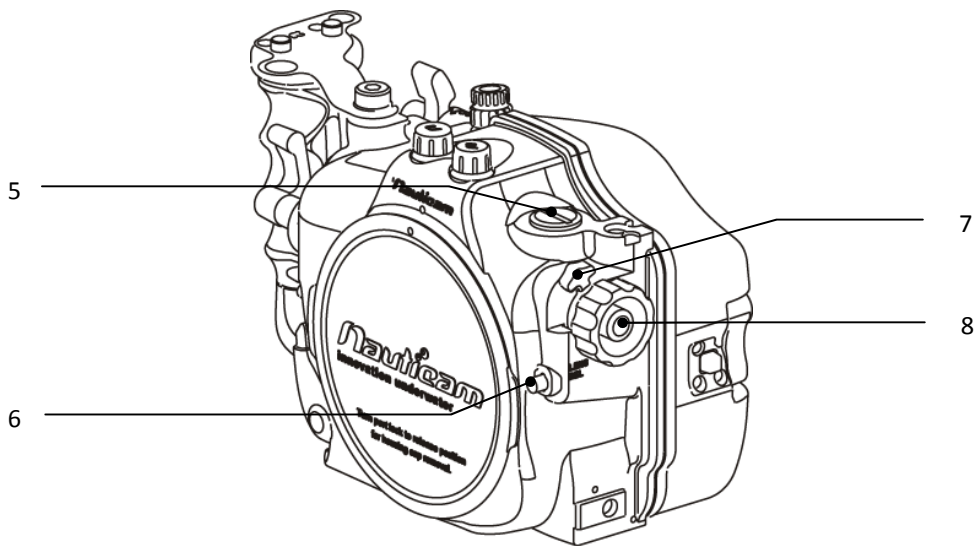
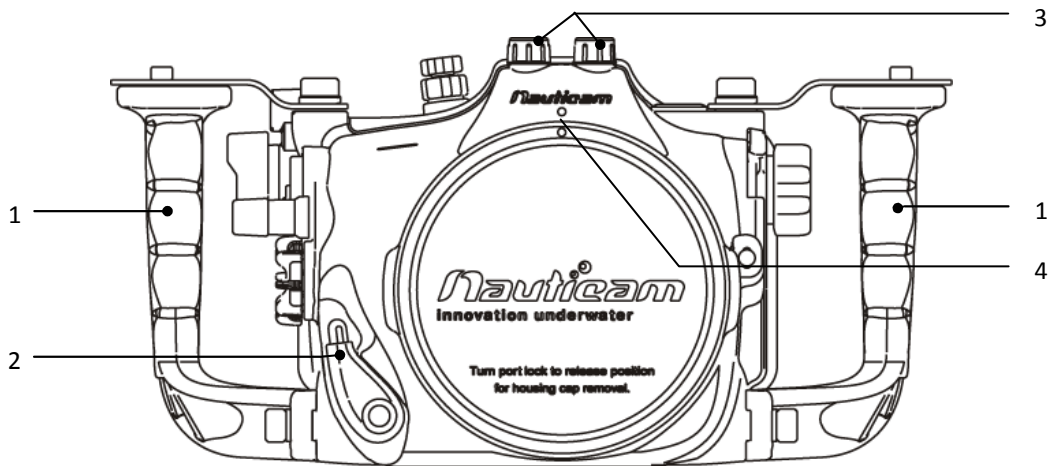
# Table of Contents

<i>Specifications</i>	6
<i>Identification of Parts</i>	7
<i>Preparation of the Housing</i>	10
<i>Opening and Closing the Housing</i>	13
<i>Installing the Camera</i>	14
<i>Mounting the Port</i>	16
<i>Changing the Viewfinder</i>	18
<i>Care and Maintenance</i>	20

# Specifications

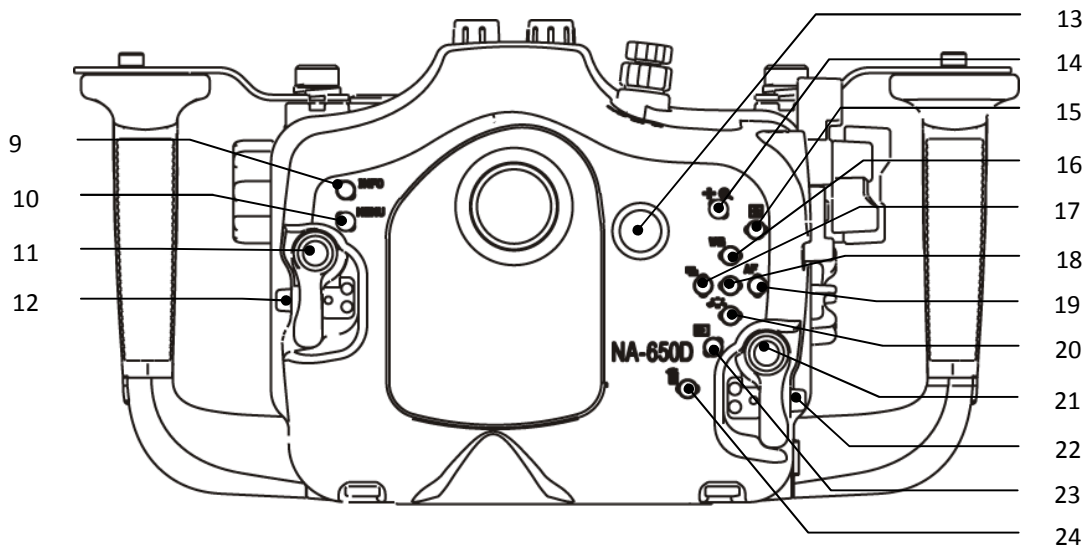
Construction	Housing body:	Aluminium alloy
	Surface treatment:	Hard anodised
	Display window:	Abrasion resistant polycarbonate
	Grip handles:	Polycarbonate and rubber
Dimensions (with handles)	Width:	325mm
	Height:	170mm
	Depth:	134mm
Weight	2.5kg (without camera)	
Buoyancy	Slightly negative	
Depth rating	100 metres	
Features	Moisture alarm:	Blinking LED and audible alarm
	Viewfinder:	0.66X viewfinder
	TTL capability:	Optional Nikonos 5-pin bulkheads (Trigger and Ground connected only)
		Two optical bulkheads utilising camera's pop-up flash as commander
	Port mount:	Patented port locking lever for easy port installation.
	ISO sensitivity lever:	Allows easy ISO adjustments from the right handle.
	Live view/Movie shooting lever:	Enable easy access from the right handle.

# Identification of Parts

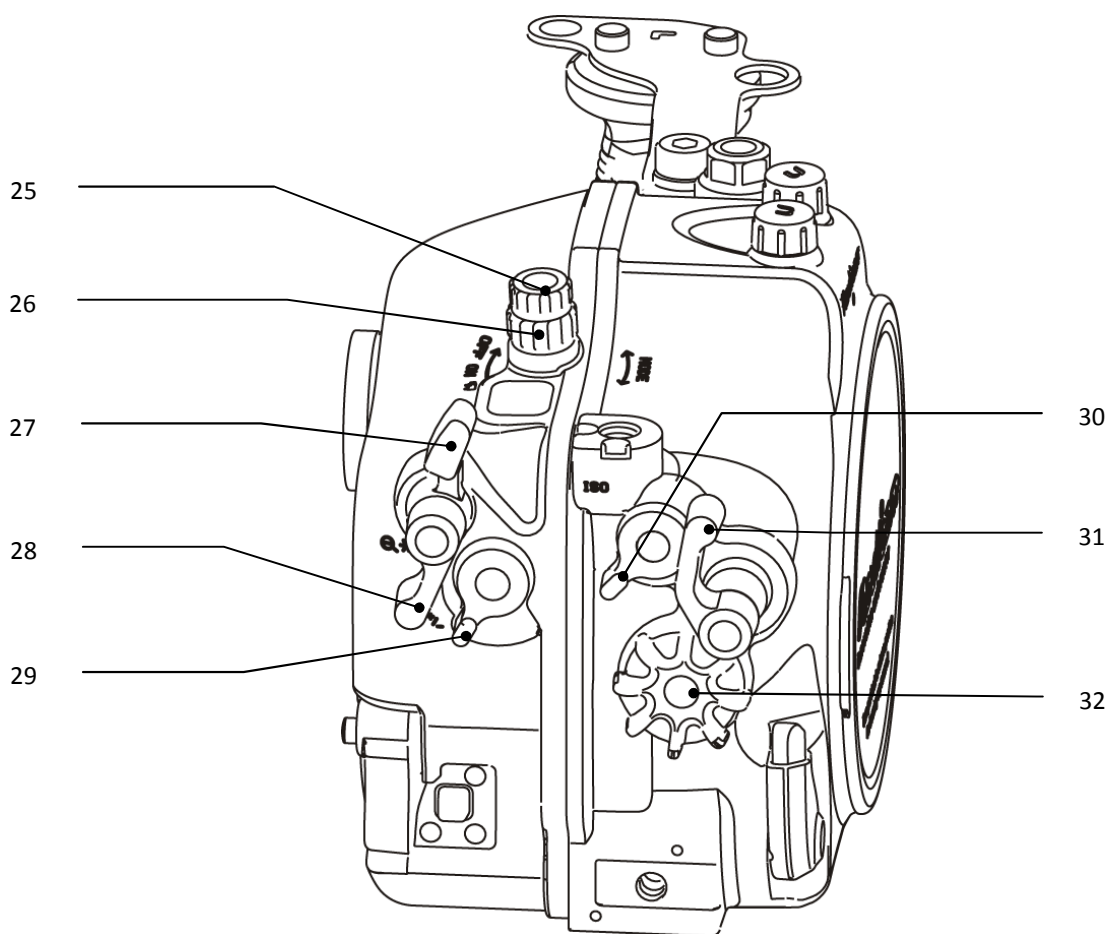


1	Grip handle x 2	5	M16 optional accessory port
2	Port lock/release lever	6	Lens release button
3	Optical bulkhead for strobe connections x 2	7	Zoom/ focus gear disengagement lever
4	Port alignment index	8	Zoom/focus knob





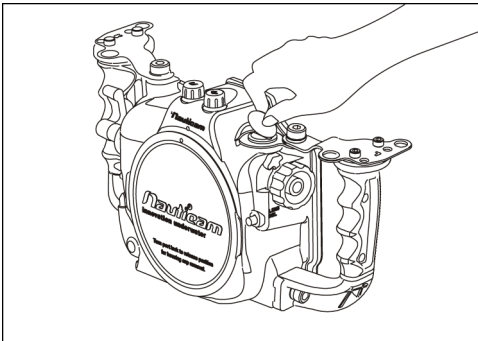
9	Info button	17	Drive mode selection/ Left selection button
10	Menu button	18	SET button
11	Housing lock (L)	19	AF operation selection/ Right selection button
12	Housing lock safety button (L)	20	Picture style selection/ Down selection button
13	Moisture alarm window	21	Housing lock (R)
14	AF point selection/ Magnify button	22	Housing lock safety button (R)
15	Quick control button	23	Playback button
16	White balance selection/ Up selection button	24	Erase button



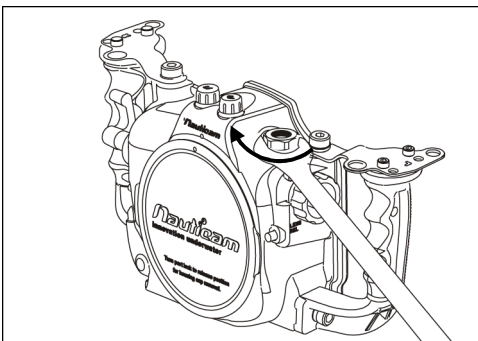
25	Mode dial	29	Aperture/Exposure compensation lever
26	On/off/video dial	30	ISO speed setting lever
27	Live view shooting/Movie shooting lever	31	Shutter release lever
28	AE lock/FE lock/Index/Reduce lever	32	Main dial

# Preparation of the Housing

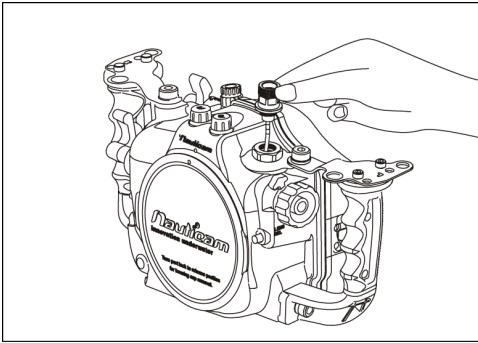
1. After verifying that the main O-ring is in good condition, lightly coat it with the lubricant provided.
2. Make sure the O-ring groove located in the front part of the housing is free from any foreign material; the groove can be cleaned with the aid of a microfiber cloth.
3. Place the main O-ring into the groove by gently pushing it, first at the corners, then the whole perimeter.
4. If necessary, spacers can be used to increase space between the grip handles and the housing; please use the longer screws provided to attach the grip handles and the spacers to the housing.
5. (optional) To install the Nikonons 5-pin bulkhead:



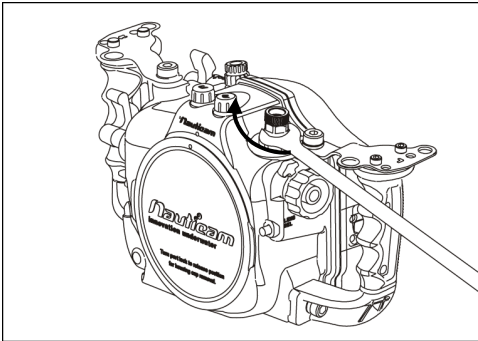
- i. Remove the M16 plug from the threaded hole with a coin.



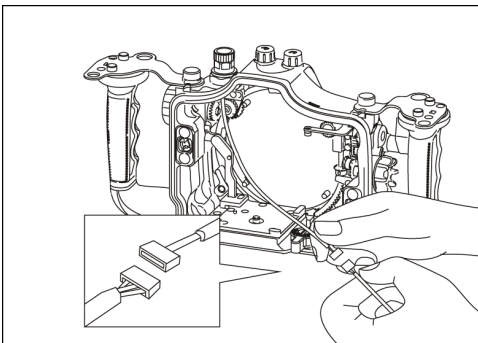
- ii. Install the M16 to M14 step down adaptor with a spanner.



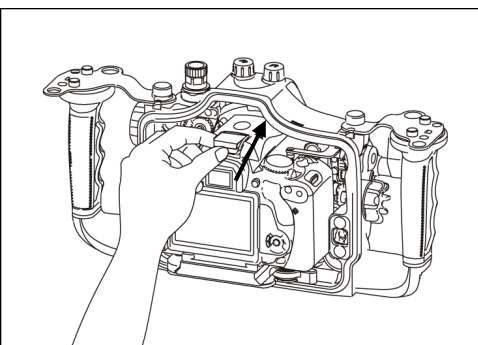
- iii. Insert the 5-pin bulkhead through the threaded hole.



- iv. Tighten the 5-pin bulkhead with a spanner.

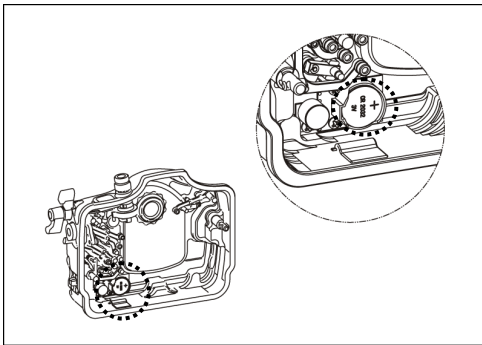


- v. Connect the 5-pin bulkhead to the accessory shoe plug.

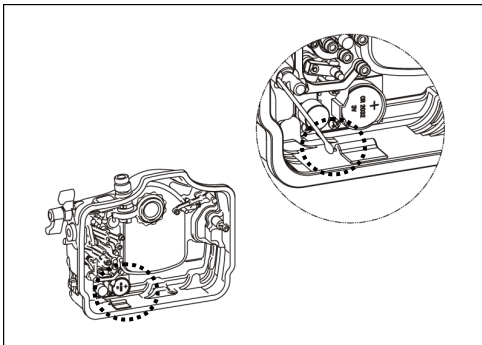


- vi. Slide the accessory shoe plug of the housing into the accessory shoe of the camera.

## Setting up the moisture alarm



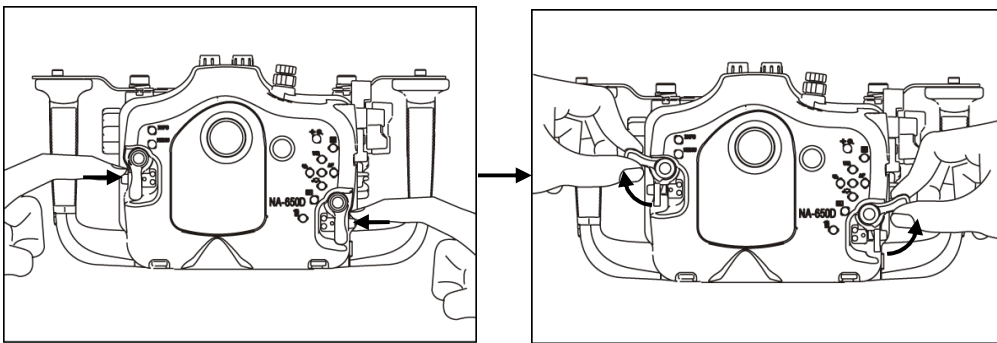
1. Install the CR2032 battery provided into the battery compartment on the circuit board inside the rear part of the housing.



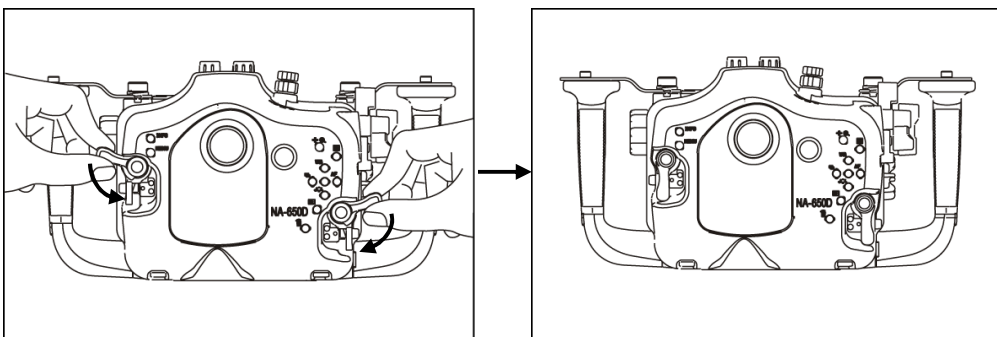
2. Test the alarm by contacting the two wires near the bottom of the housing with a damped cotton bud; the alarm should start giving out a repeating “beep” sound along with a flashing red light. The “beep” sound and the light should keep on going for 5 seconds after the removal of the damped cotton bud.

# Opening and Closing the Housing

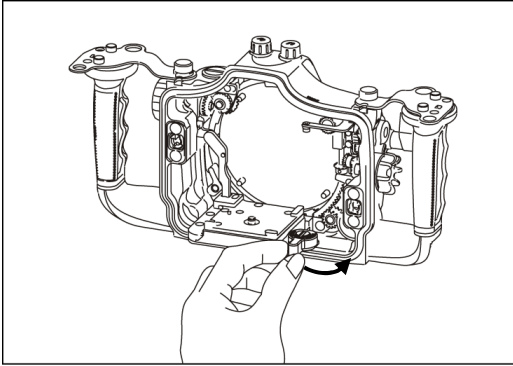
1. Always open and close the housing with the front facing down, place the housing on a flat surface or in your lap.
2. When closing, make sure there is nothing caught between the closing surfaces of the two halves of the housing.
3. The housing can be opened and closed by operating the two housing locks; when opening, press the safety buttons, then turn the locks outwards.



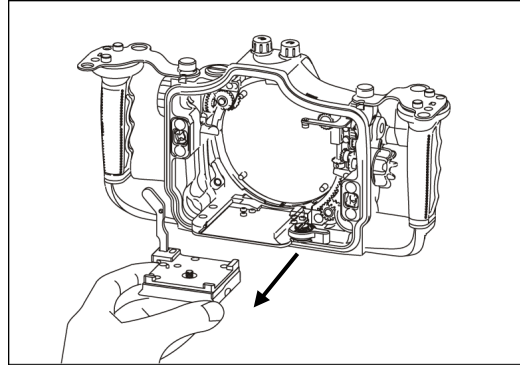
4. To close, turn the locks towards the housing, and then make sure they are locked in place securely.



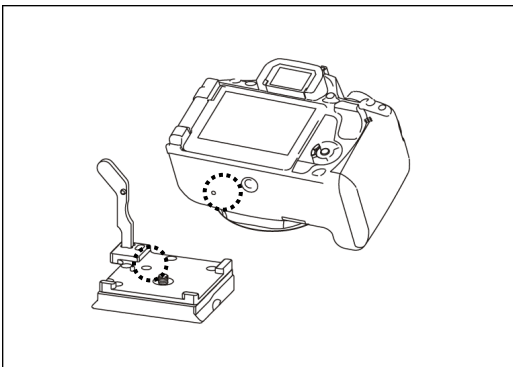
# Installing the Camera



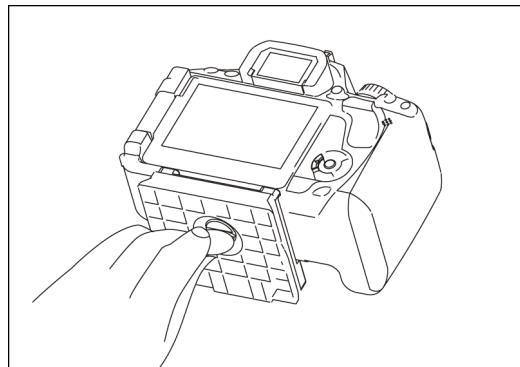
1. Turn the locking lever on the tray of the housing to the “open” position.



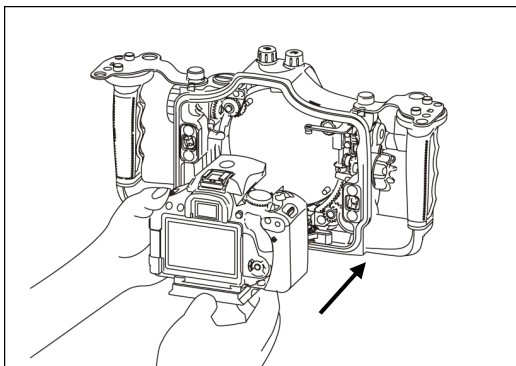
2. Remove the camera saddle from the housing..



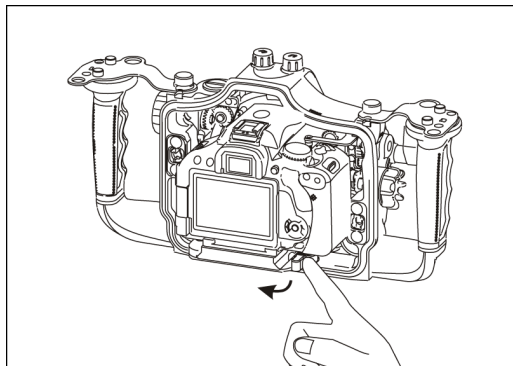
3. Align the pin on the saddle with the opening in the bottom of the camera as indicated in the diagram.



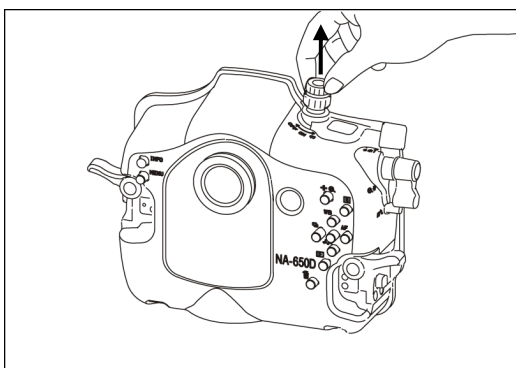
4. Attach the saddle to the camera by tightening the screw to the tripod socket of the camera with a screwdriver or a coin.



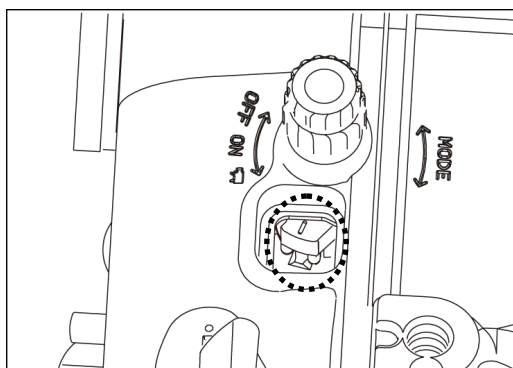
5. Mount the camera by sliding the attached saddle along the rail in the housing until it cannot go in any further.



6. Lock the camera into place by turning the locking lever to the "lock" position.



7. Make sure the On/off/video mode dial is in upwards position before aligning the rear housing with the front housing.



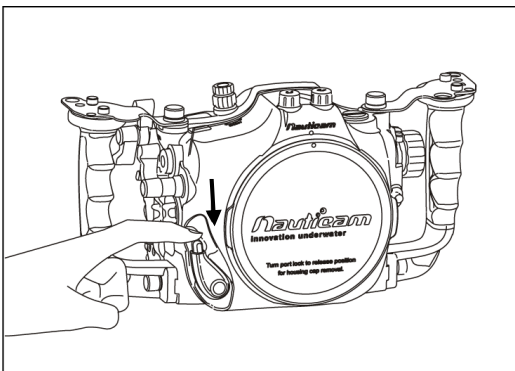
8. Align the white line on the On/off/video mode dial with the camera's lever. Gently push the dial downwards ensuring the actuator correctly engages with the camera's lever.
9. Confirm that all the controls of the housing are correctly engaged.
10. For removal of the camera from the housing, reverse the above procedures.



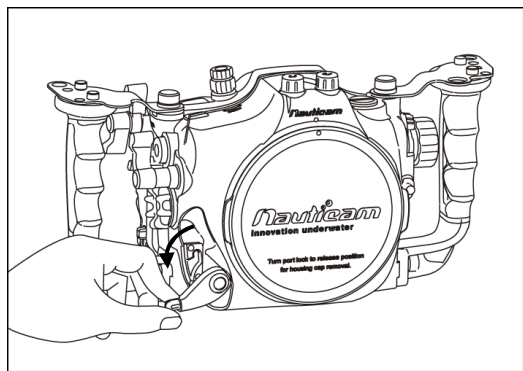
# Mounting the Port

Please refer to the NAUTICAM port system chart for a range of compatible ports; note that extension rings may be needed for certain lenses and adaptors are available for the attachment of ports of other manufacturers.

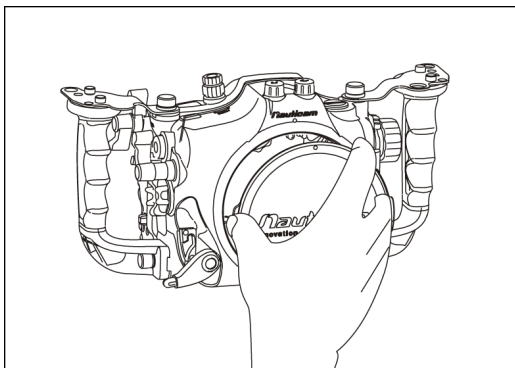
To remove housing cap:



1. Push the safety button of the port locking lever downwards.



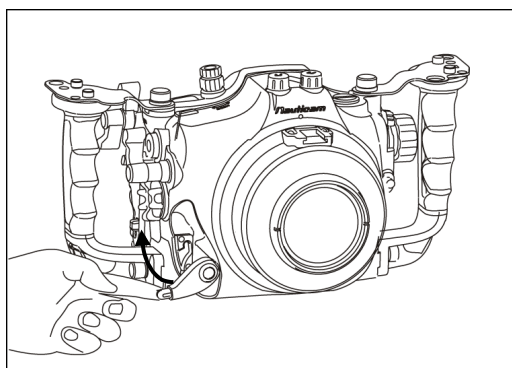
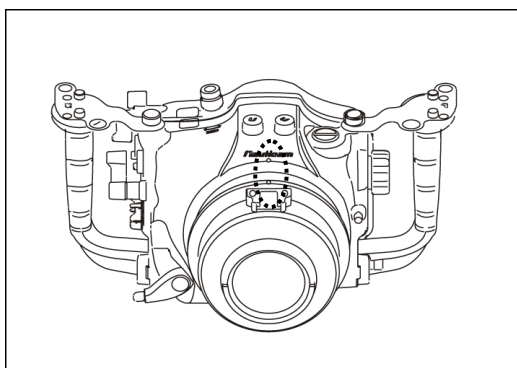
2. Turn the port locking lever to the release position as shown..



3. Lift housing cap.

To mount port:

4. Remove the O-ring from the port, inspect for any damage and lightly coat it with the provided lubricant before placing it back into its groove.
5. Verify that the port opening of the housing is clean and free from foreign material.

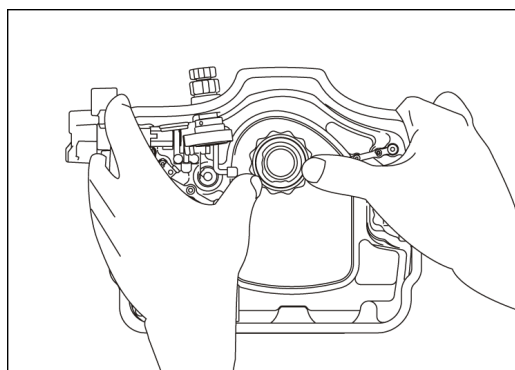
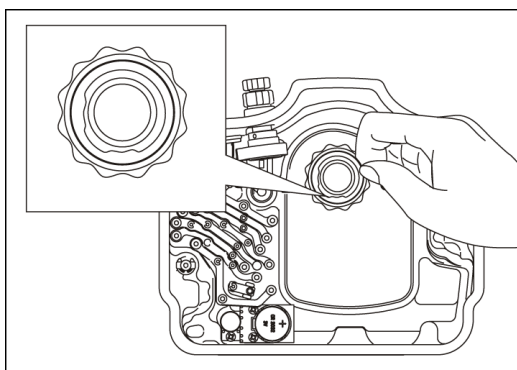


6. Align the mounting indices of the port and the housing; these appear as white circles on both the port and the housing.
7. Gently push the port into the opening of the housing, until it cannot go in any further.
8. Lock the port into place by turning the port locking lever to the inward position. To ensure that the port is securely mounted, confirm that the green line on the safety button of the port locking lever is visible.
9. To remove the port from the housing, simply turn the port locking lever to the outward position and gently pull it out.

# Changing the Viewfinder

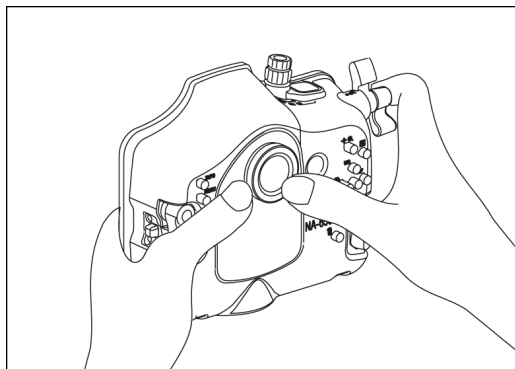
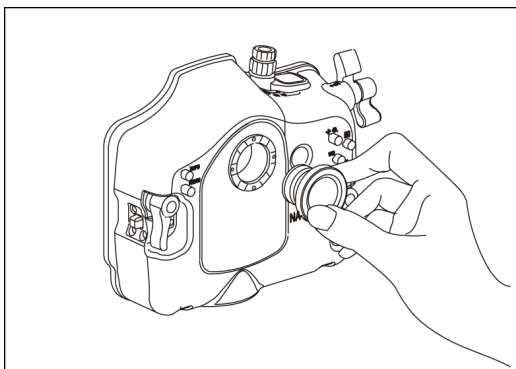
In order that users can change to a preferred viewfinder easily, the 0.66X viewfinder which comes with this housing is designed so that it can be removed and re-installed by following the simple steps described below.

To remove the viewfinder:



1. Remove the retainer O-ring of the viewfinder inside the rear half of the housing by making use of the recess on the viewfinder.
2. Gently push the viewfinder from the inside of the housing.

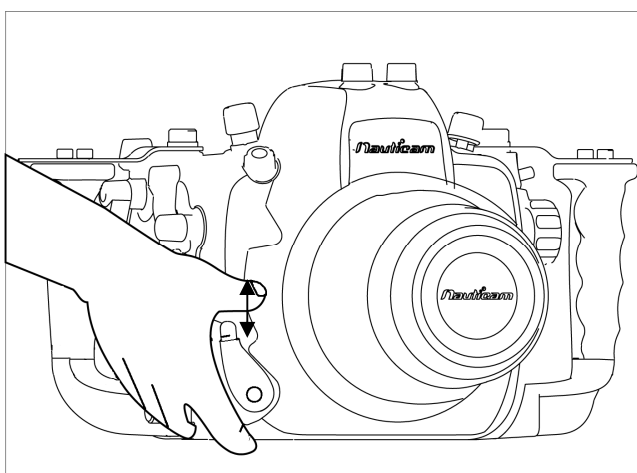
To re-install the viewfinder:



1. Lightly coat the O-rings on the outer periphery of the viewfinder body with lubricant.
2. Align the viewfinder with the sleeve in the display window.
3. Push the viewfinder from the outside of the housing until it cannot go in any further.
4. Place the retainer O-ring of the viewfinder back from inside the housing.

# Care and Maintenance

1. Soak the housing system in fresh water after each salt water use, during which all control buttons/knobs should be operated a few times to avoid the accumulation of salt residue; wipe the housing with a towel before opening.
2. Carefully press the port locking safety button and the two housing lock safety buttons for a few times to avoid the accumulation of salt residue. Hold the port lock in "locked" position while pressing the safety buttons.



3. After each day of diving, it is advisable to have the main O-ring in the front part of the housing removed from its groove with the O-ring remover and inspected for damage. Also check that the O-ring retains its original circular shape; never stretch the O-ring excessively or remove it with a sharp object. The O-ring groove should be cleaned to ensure it is free from any salt deposit or foreign material; lightly coat the O-ring with the provided lubricant before reinstalling it in the groove. A damaged O-ring should be discarded immediately and replaced only with one that is provided by NAUTICAM.
4. Replace the main O-ring annually.
5. It is recommended that you ship the housing to our distributor for a complete overhaul every year or after every 200 dives.

**NAUTICAM International Limited**  
**Room 2203,**  
**CCT Telecom Building,**  
**11 Wo Shing Street,**  
**Fotan, HONG KONG**

**Email: [enquiry@nauticam.com](mailto:enquiry@nauticam.com)**  
**Tel: +852 2690 2711**  
**Fax: +852 2690 9778**

