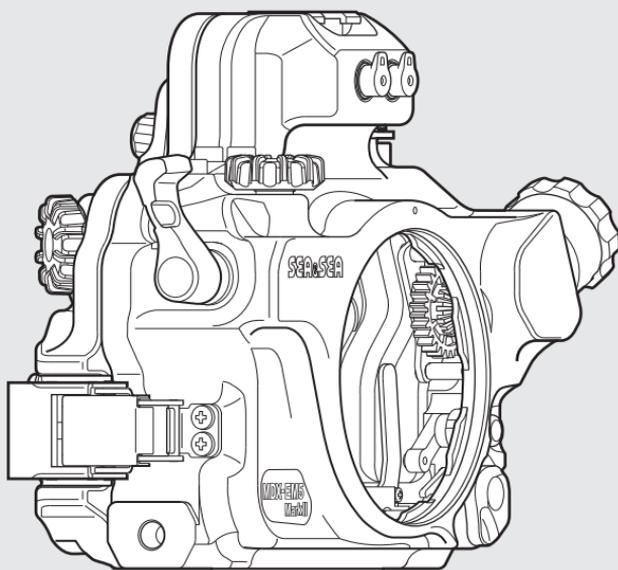


*UNDERWATER HOUSING for
OLYMPUS E-M5 Mark II*

MDX-EM5 Mark II



取扱説明書
Instruction Manual

Introduction

Thank you for purchasing SEA&SEA products.

Please read this instruction manual carefully prior to using this product. Only with a thorough understanding of this manual's content will you be able to use the housing correctly. After reading the manual, please be sure to keep it in a place where you can easily come back to it at any time.

Note:

This products have passed SEA&SEA's criteria-based inspection for pressure resistance.

The appearance of color evenness or weld lines on the external body of the product is normal and will not affect its performance.

Contents

Safety Precautions	E-2
Precautions on Handling the O-ring	E-4
Identification of Parts	E-6
Preparation for Setting Up	E-8
Prepare the housing and port	E-8
Prepare the digital camera	E-8
Prepare the connecting accessories	E-8
Opening and Closing the Housing	E-9
Attaching and Detaching the Port	E-11
Mounting the Camera in the Housing	E-13
External Controls	E-16
Connecting the Strobe	E-18
Attaching the Optional Accessories	E-19
Maintenance and Storage	E-23
Specifications	E-24

Safety Precautions

For safe handling of the product, please read the following precautions carefully before use.

Failure to heed the precautions listed below could result in serious consequences. To prevent injury or damage to yourself and/or others, please observe the precautions as they contain highly important information related to personal and product safety.



WARNING

Situations that could result in severe injury or death.



CAUTION

Situations that could result in property damage or personal injury.



WARNING

- Keep out of reach of children to prevent accidental ingestion. If swallowed, seek medical advice immediately.



CAUTION

- Carefully observe the instruction manual for the compatible camera for this product before use.
- This product must be used in combination with the optional port for SEA&SEA digital SLR camera housings. This product cannot be used alone.
- This product has been designed and manufactured for use at a water depth within 100m / 330ft. Please note that diving to a depth in excess of 100m / 330ft may cause damage to the product or may lead to water leakage.
- Unauthorized disassembling and/or modification could result in malfunction or flooding, and void product warranty. Take the product to a SEA&SEA authorized service center for repair or inspection.
- Should you notice smoke or an unusual smell coming from the product, turn it off and remove the batteries immediately, taking care to avoid burns. Continued operation could result in injury. After removing the battery, take the product to a SEA&SEA authorized service center for inspection.
- Discontinue use and turn the product off immediately should you notice flooding or leakage.
- When the product is flooding, interior pressure may build up. Please be careful when opening the product as water may spurt out or the cap may open explosively and cause injuries.
- The product has been constructed with an airtight seal. When packing the product for airplane travel, do not seal-up the product to alleviate pressure build up due to atmospheric changes.
- Do not open the product in a wet or sandy environment. Protect the interior from moisture and debris in order to prevent malfunction or flooding.
- Avoid strong shocks/impacts or excess stress to prevent malfunction, damage or breakdown. Make sure that the product has been securely mounted to other products in order to prevent injury, fall or missing.

- Do not rest heavy weight on the product. It might deform the outer casing, damage internal parts, make the waterproofing fail, or result in fire or electric shock.
- Please note that some marks may be left on the camera scraping against the dials or gears of the housing.
- Handle the product carefully so as not to scratch the front port, the lens, the flash window or the finder.
- Always dry the front port, the lens, the flash window or the finder using a soft cloth to prevent stain or salt residue from marring the glass surface.
- Rinse the product with fresh water, after underwater use. Ensure that the product is waterproofed before rinsing. Refer to [Maintenance and Storage] (P.E-23) for details.
- Never use chemicals, cosmetics, any petroleum solvents such as paint thinner, or neutral detergent on the product. They may deform and damage the product.
- Do not leave the product in places with hot temperatures such as inside of a car or in a car trunk in summer. The heat may deform plastic parts of the product, damaging internal parts and resulting in potential fire or electric shock. If the product is sealed tight in hot conditions, heated air expanding inside the product may deform the casing and ruin the waterproofing.
- Do not store the product in wet or high humidity place, to avoid mold, rust, corrosion or malfunction.
- Do not store the product with naphthalene or camphor mothballs, or in locations such as a laboratory where chemicals are used. This environment can cause mold, rust, corrosion or malfunction.
- SEA&SEA SUNPAK Co., Ltd. assumes no liability for compensation of loss of captured images or expenses caused by loss of images, even if you are unable to shoot due to a product defect or malfunction.
- SEA&SEA SUNPAK Co., Ltd. will not be responsible for the replacement or compensation for cameras, lenses or those accessories damaged due to your invalid operation.
- SEA&SEA SUNPAK Co., Ltd. assumes no liability for errors or discrepancies in this manual.
- Carefully observe the O-ring maintenance manual for the handling of O-rings before use.
- The silicon grease included in the product package is inedible.

Precautions on Handling the O-ring

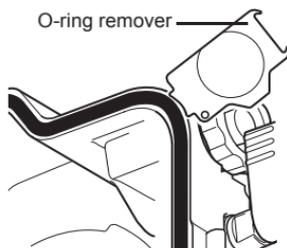
This product is kept watertight by the O-ring. To keep the O-ring functioning properly, please observe the following. Improper handling of the O-ring could cause flooding.

CAUTION

- SEA&SEA products use blue O-rings. These O-rings are impregnated with silicone oil through a special process. The lubricating effect of the O-ring lasts as long as the silicone oil is gradually seeping out from within.
- For the maintenance of these blue O-rings, make sure to use genuine SEA&SEA silicone grease (O-ring grease for use with the blue O-rings that comes in tubes with blue lettering and blue caps). If you use silicone grease from other companies or SEA&SEA's own silicone grease that comes in tubes with black lettering and black caps, the grease you apply will be sucked into the blue O-rings due to their special characteristics, which will result in insufficient grease. If this happens even once, the O-ring will not revert to its normal state and must be replaced.
- If the grease is insufficient, the O-ring will not slide, and it will become harder to open and close the waterproof parts. Because of this, it could become impossible to open or close the housing or it could cause flooding, so please refrain from using the housing with insufficient grease.

Are there any scratches or cracks in the O-ring?

Check the O-ring to make sure there are no scratches or cracks. If there are, replace the O-ring with a new one immediately. When handling the O-ring, do not use pointed metal objects, which could damage the O-ring. Use of the included O-ring remover is recommended.



Be careful about dust, sand, and hair

Check the O-ring to make sure that there is no dust, sand, or hair on the O-ring, in the O-ring's grooves, or on the O-ring's contact surfaces. If any of these things are attached, remove them completely. If used as is, these things could cause flooding.

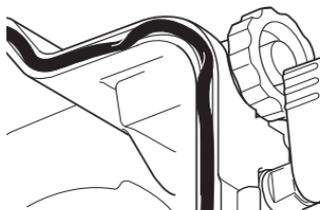
Coat with silicone grease

Silicone grease protects the O-ring from chafing. After checking the O-ring to make sure that there are no scratches, dust, or debris, apply a light coating of silicone grease to the entire O-ring with your finger. Applying too much grease will make it easier for dust and debris to adhere to the O-ring, and could cause flooding.



Do not twist the O-ring

When fitting the O-ring into the O-ring groove, insert it straight into the groove; do not bend or twist it.



Remove the O-ring for inspection before each use

In principle, the O-ring should be removed before each use so that the O-ring, O-ring groove, and O-ring contact surfaces can be checked. This is because you cannot find any sand or debris that may have gotten into the O-ring groove if the O-ring is not removed. For routine maintenance prior to each use, it is advisable to make sure to remove the O-ring.

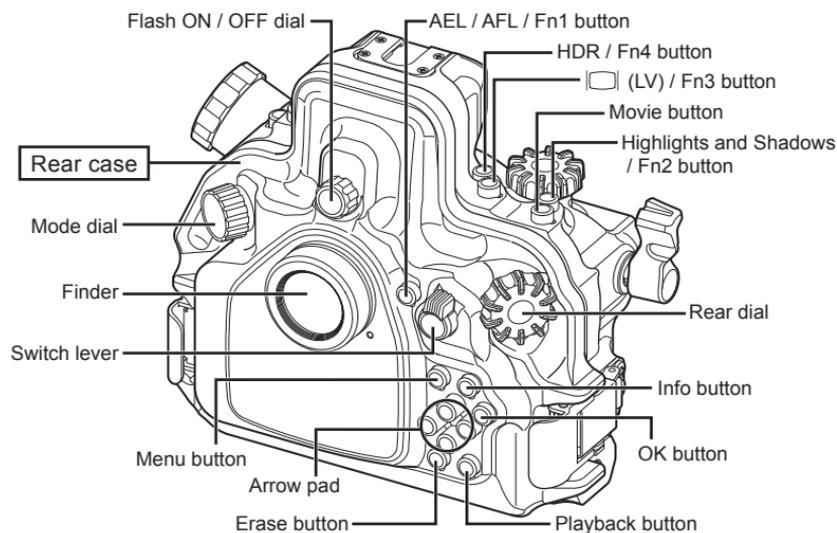
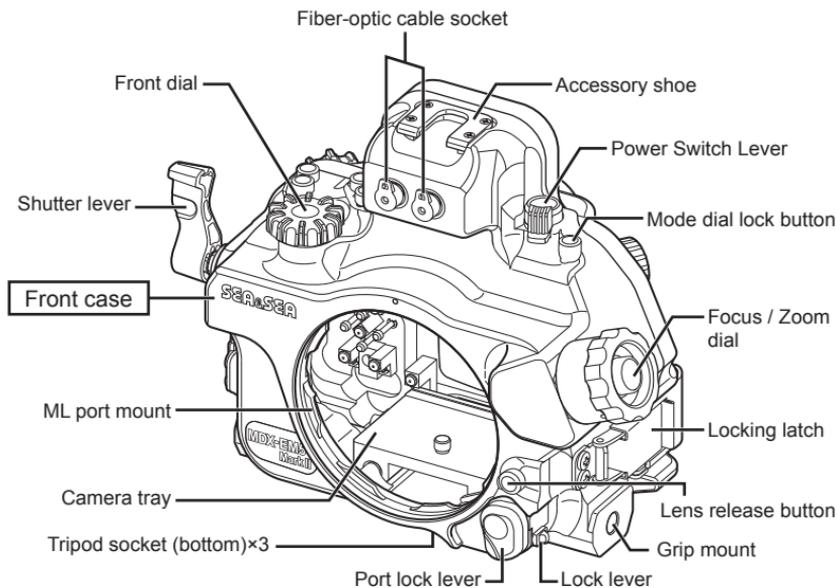
Be careful about how you store O-rings

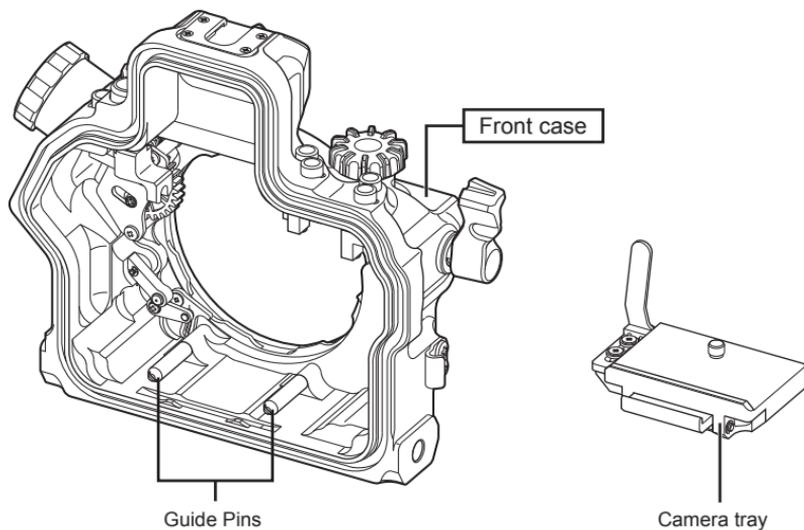
When storing spare O-rings or O-rings that you have removed from the housing, keep them in a cool place out of direct sunlight. Also, when storing O-rings, do not place heavy objects on them or twist them.

O-rings last for one year

Although it depends on how well they are maintained, how often they are used, and how they are stored, O-rings generally last for one year. It is advisable to inspect them before use, and replace them early.

Identification of Parts





Preparation for Setting Up

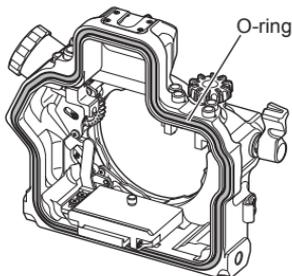
This product must be used in combination with the optional equipment (digital camera, port, strobe, accessories etc.) for underwater photography. In order to set up the equipment, prepare each item correctly.

Prepare the housing and port

Maintaining the O-ring

This product is kept watertight by the O-ring. To keep the O-ring functioning properly, please observe the following before setting up.

- Make sure to remove the O-ring when maintaining.
- For detailed O-ring maintenance methods, please see the O-ring maintenance manual.



⚠ CAUTION

- Make sure to fit/install the O-ring into the groove properly after maintenance.

Prepare the digital camera

This product is exclusively designed for use with OLYMPUS E-M5 Mark II digital camera. Other cameras are not compatible with this product.

- Make sure that there is sufficient battery power remaining and the image storage medium has enough room for the number of pictures.
- Remove the eyecup from the camera.
- Remove the strap or the LCD monitor cover from the camera, if any of these accessories are attached.
- If the lens has a focus mode switch, set it properly.
- Make sure the camera is operating correctly, referring to the camera's instruction manual for details.

Prepare the connecting accessories

When using external strobes, lights or other accessories in combination with this product, prepare the equipment before setting up.

- If the accessories are kept watertight by O-rings, make sure the O-rings are properly maintained.
- If the accessories are powered by batteries, make sure that there is sufficient battery power remaining.
- Make sure the equipment is operating correctly, referring to the instruction manual provided with the equipment.

Opening and Closing the Housing

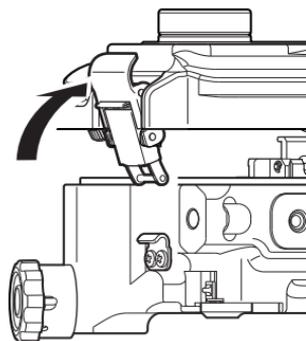
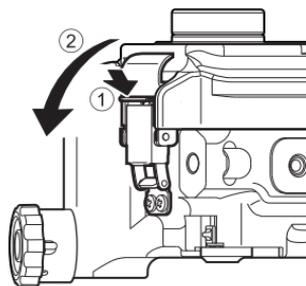
Opening and closing the housing is done with the locking latches. Here we will explain how to open and close the locking latches.

Opening the locking latches

- 1 With the surface of the rear case facing up, press and hold the right and left locks (①) and remove the locking latches from the hooks (②)

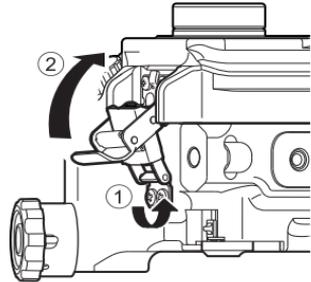
CAUTION

- When removing the locking latches, be sure to use the tips of your fingers, not your fingernails.
- If you lock the locking latch after it is removed from the hook, it is easier to remove the rear case.



Closing the locking latches

- 1 Align the front case with the rear case and press them together
- 2 First, put the right and left locking latches on the hooks (①), and close the locking latches simultaneously (②)



CAUTION

- Before aligning the rear case and front case, make sure there are no specks of dust, scratches, or deformities on the O-ring and the O-ring contact surfaces.
- Check to make sure that the locking latches are securely locked.

Attaching and Detaching the Port

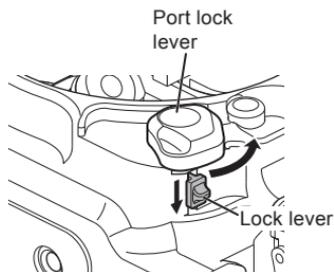
In order to use this product underwater, the optional port for the camera lens must be attached to this product.

CAUTION

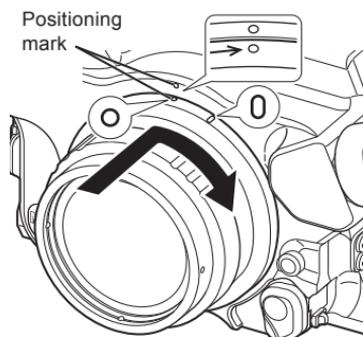
- Only the optional ports designed for SEA&SEA digital SLR camera housings can be attached to this product.
- Ports have different depth rating. Check the depth rating for each before use.
- This product is delivered with a housing body cap attached to the port mount. Make sure to remove the housing body cap when attaching the port.
- The housing body cap has no watertight capability.
- When attaching the port to the housing, always refer to the instruction manual provided.

Attaching the port

1 Lock lever on the front case by sliding it in the direction of the arrow as shown in the diagram, and rotate the Port lock lever toward OPEN (in a counterclockwise direction) until it stops



2 Align the positioning mark (○) on the front case with the positioning mark (○) on the port, insert the port into the front case, and then rotate the port in a clockwise direction until it stops

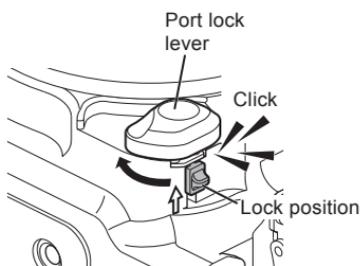


CAUTION

- Before attaching the port, make sure there are no specks of dust, scratches, or deformities on the O-ring and the O-ring contact surfaces.

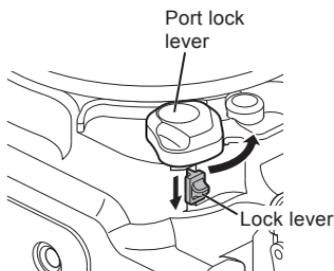
3 Make sure that the positioning mark (○) on the front case and the positioning mark (○) on the port are aligned

- 4 Rotate the Port lock lever clockwise until it 'clicks' into position



Detaching the port

- 1 Lock lever on the front case by sliding it in the direction of the arrow as shown in the diagram, and rotate the Port lock lever toward OPEN (in a counterclockwise direction) until it stops



- 2 Hold the front case firmly and rotate the port in a counterclockwise direction

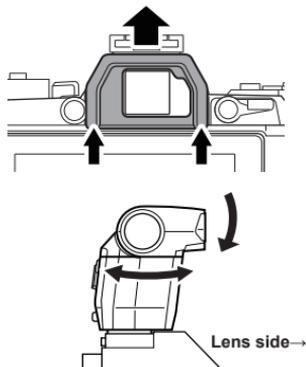
⚠ CAUTION

- Do not attempt to detach the port with the Port lock lever locked. This could result in damage to the housing

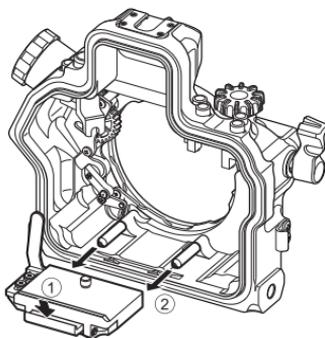
Mounting the Camera in the Housing

⚠ CAUTION

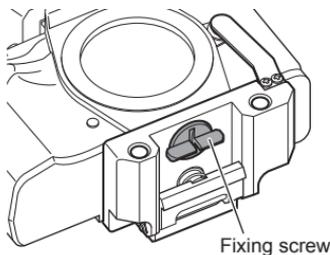
- Make sure to remove the eyecup from the camera. If used with the eyecup in place, it could cause flooding.
- Set the head of the camera's accessory flash to its original position (as shown).
- Remove the strap or the LCD monitor cover from the camera, if any of these accessories are attached.



- 1 Whilst depressing the knob (①), pull the camera tray to remove from the guide pins (②)



- 2 Firmly mount the camera to the camera tray using the camera fixing screw.



- 3 Attach the lens to the camera, and then set the focus mode (AF or MF)

⚠ CAUTION

- Turn off the EVF Auto Switch by depressing the camera's  (LV) button for seconds. The viewfinder will be deactivated and the monitor will be activated. Repeat procedure to turn the EVF Auto Switch back on and deactivate the monitor. When the EVF Auto Switch is ON, the viewfinder will be activated because the housing back is close to the camera's eye sensor.

4 Set the camera's Power Switch to OFF position, then pull the housing's Power Switch Lever and turn to OFF position.

5 Align the guide pins with the two holes in the camera tray and then push the camera forward until it clicks

Pull the focus/zoom dial out and rotate so that the convex part of the dial is not engage in either of the grooves. This locks out the internal gearing.

Location of Power Switch Lever inside the housing.

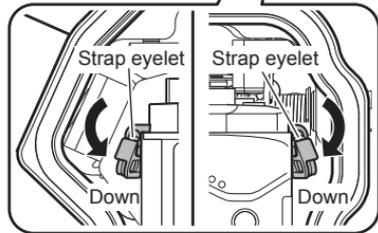
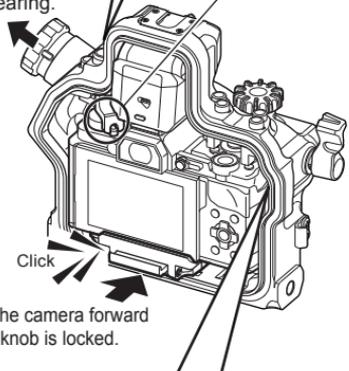
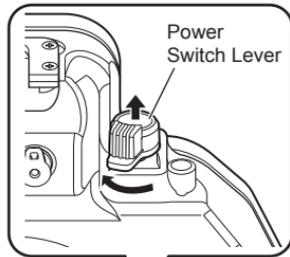
⚠ CAUTION

- Put the camera's strap eyelets in the positions shown by the arrows.
- Pull the focus/zoom dial out and rotate (to lock out the internal gearing so the lens gear and internal gear do not impact) then slide the camera in the housing.

➡ See:

"External Controls" (P.E-16)

6 Align the camera's Power Switch with the housing's Power Switch Lever and then push the housing's Power Switch Lever into place.



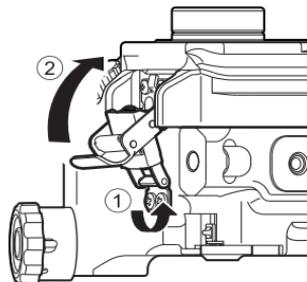
7 Align the front case with the rear case and press them together

8 Close the locking latches

➡See:

“Opening and Closing the Housing”
(P.E-10)

- Make sure that the O-ring is properly fitted in the O-ring groove before setting of the rear case.



⚠ CAUTION

- After the camera is mounted in the housing, make sure to check that all of the housing's control parts work properly and the camera functions correctly.

Removing the camera from the housing

1 Open the locking latches

2 Remove the rear case

3 Pull the Power Switch Lever

4 To remove, depress the knob and pull the camera backwards to disengage the camera tray from the guide pins in the front case

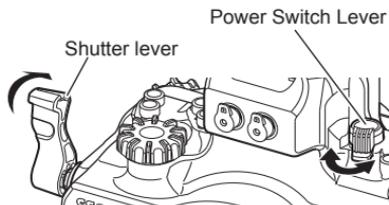
⚠ CAUTION

- If you find the fix screws are too tight, use a coin or similar object to loosen the screws.

External Controls

Power Switch Lever

By rotating the knob as shown, you can turn the power ON/OFF and operate the illumination switch.



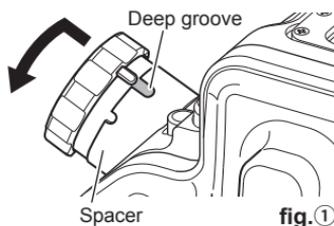
Shutter lever

Push the lever to operate them.

Focus / Zoom dial

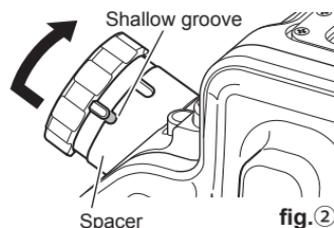
① When using an Olympus focus / zoom gear:

Pull the focus / zoom dial out and rotate it so that the convex part of the dial is set in the deep groove on the spacer.



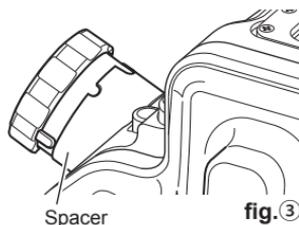
② When using a SEA&SEA focus / zoom gear:

Pull the focus / zoom dial out and rotate it so that the convex part of the dial is set in the shallow groove on the spacer.



③ When shooting without a focus / zoom gear: When mounting the camera in the housing:

Pull the focus/zoom dial out and rotate so that the convex part of the dial is not engaged in either of the grooves on the spacer.

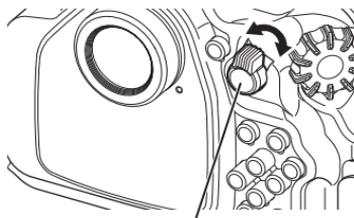


! CAUTION

- The focus / zoom dial cannot be used if there is no gear mounted on the lens.
- When using a zoom gear, you cannot shoot with manual focus.
- When auto focus is used with a lens gear mounted on the lens, the focus/zoom dial must not be set in a groove (see ③ above). Doing so may damage the lens.

Switch lever

The functions that can be set with the dials depend on the position of the lever.



Switch lever

Other controls

Other control parts on the housing correspond to the operation parts of the digital camera. Refer to the camera's instruction manual for details of each function.

CAUTION

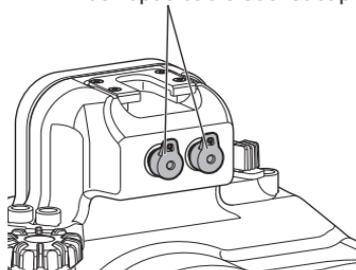
- After mounting the camera in the housing, make sure to check that all of the housing's control parts work properly and the camera functions correctly before underwater use.

Connecting the Strobe

When triggering an external strobe with the camera's accessory flash, connect the housing and external strobe with a SEA&SEA Fiber-Optic Cable II.

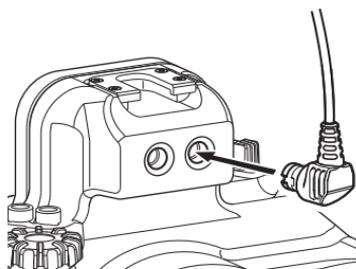
1 Remove the fiber-optic cable socket caps

Fiber-optic cable socket cap



2 Insert the fiber-optic cable's connector into the socket until it stops

- Do not remove the caps from fiber-optic cable socket not in use to keep light from entering in.



CAUTION

- Before inserting the fiber-optic cable, check to make sure that there are no scratches or dirt on the connector surface. Scratches or dirt may cause the strobe to malfunction.
- To protect the surface from scratches or dirt, do not remove the caps from the fiber-optic cable sockets when the cable is not inserted.
- There is no possibility of water leaking from the fiber-optic cable socket even if the fiber-optic cable/cable socket cap is removed underwater.
- After the strobe is connected to the housing, make sure to check that the connected strobe functions correctly before underwater use.

Attaching the Optional Accessories

This product accepts SEA&SEA optional accessories. By using this product in combination with those accessories, you will be able to try various shooting techniques.

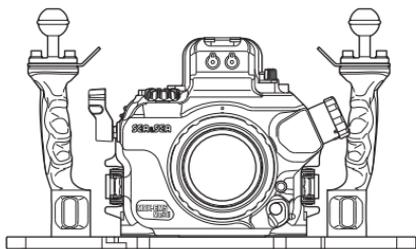
CAUTION

- Lenses, strobes and other accessories have different depth rating. Check the depth rating for each before use.
- Read the instruction manual for each accessory before use.
- After each use in salt water, make sure to remove the optional accessories from the housing, and then thoroughly soak the accessories and housing in fresh water.

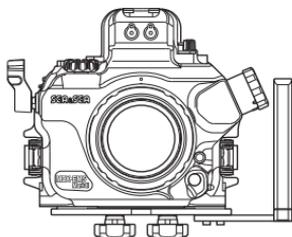
Grips • Stays • Arms

The housing is equipped with tripod holes for the hand grips so you can attach SEA&SEA optional grips, stays or arms.

<Example>



Grip-Stay L II (22128)



SA8 Camera Tray+Grip (22118)

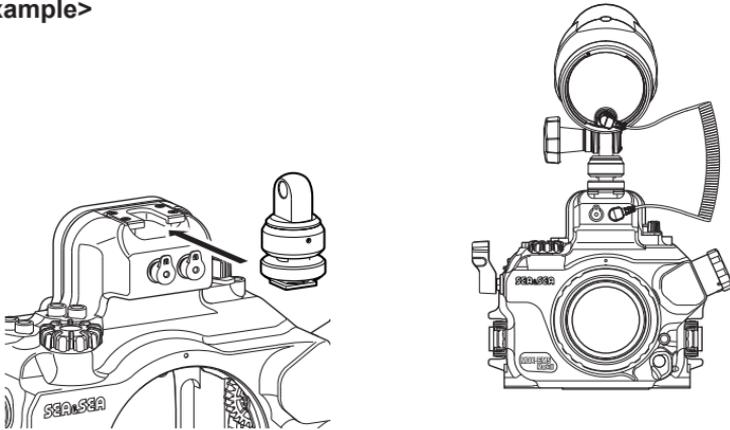
CAUTION

- Always refer to the provided instruction manuals when attaching SEA&SEA grips, stays and arms.

Accessory shoe

Strobes / lights can be mounted to the accessory shoe by using optional Mini Shoe Arm (29511) or Hot Shoe Arm (29501) or SA8 Ball Base for Accessory Shoe (22120) .

<Example>



CAUTION

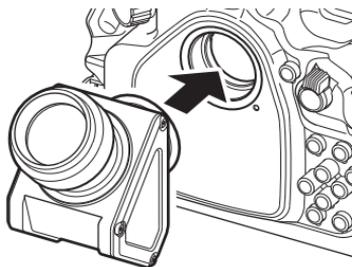
- The max. weight of an accessory that can be mounted to the accessory shoe is approx. 1050g / 26.3oz .
- Remove the accessories from the accessory shoe when carrying the housing out of water.
- When attaching the accessories to the accessory shoe, always refer to the instruction manual provided.

Finder

This product comes equipped with a 0.5x pick-up finder. The finder can be replaced with an optional finder so you can change the finder magnification to match your shooting conditions.

Replacing the finder Unit

The optional VF45 1.2x (46111) or VF120 1.2x (46112) enhances magnification by 1.2x and enables subtle framing and focusing of subjects.



! CAUTION

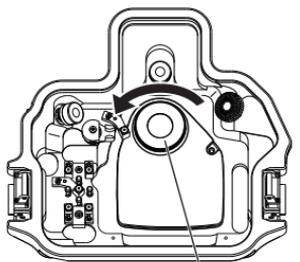
- When replacing the finder unit, always refer to the instruction manual provided.

Replacing the pick-up finder

1 Rotate the finder unit mounted on the rear case in a counterclockwise direction to remove it

- The screw areas are coated in grease, so be careful not to touch them.

2 Rotate the replacement finder unit in a clockwise direction to attach it



Pick-up finder

! CAUTION

- Before attaching the finder, check to make sure that there is no dust, dirt, or debris inside it.
- When replacing the finder, do not touch the surface of the finder lens.
- When replacing the pick-up finder, always refer to the instruction manual provided.

Leak sensor

The optional leak sensor (46115) can be attached on this product.

<Attaching procedure>

- 1 **Peel off the mount from the backside of the leak sensor and attach the sensor to the position indicated in the figure ①**
Insert the LED in the position indicated in the figure ②

⚠ CAUTION

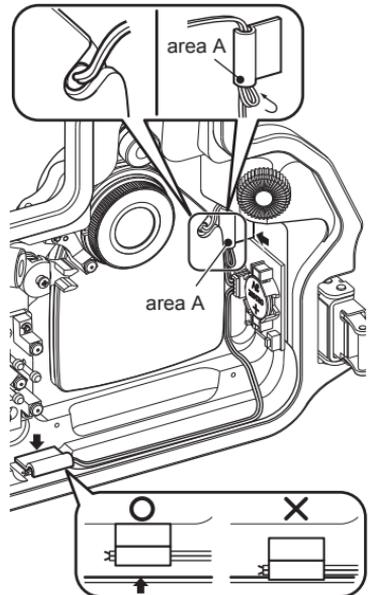
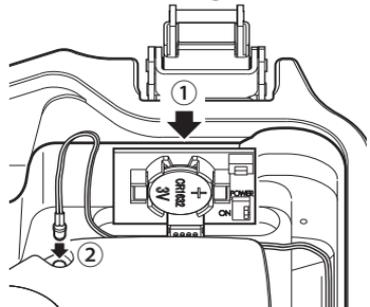
- If any part of the sensor sticks out from the wall edge, the electronic parts may come into contact with the camera and it could be damaged as a result. Locate the sensor in the correct position.
- Before attaching the optional leak sensor (46115) on this product, be sure to read the instruction manual for the leak sensor.

- 2 **Cut each cord clip by 5 mm as shown in the figure below, attach the two clips and pass the sensor cord through them**



The excess LED cord and place in the area A

Locate the sensor so that it does not stick out from the edge of the side wall.

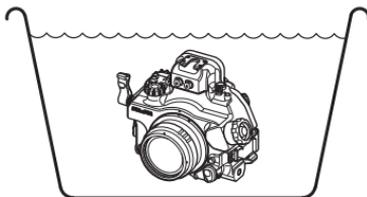


Place the cord clip so it sits behind the line in the bottom of rear case.

Maintenance and Storage

CAUTION

- Never use chemicals, cosmetics, any petroleum solvents such as paint thinner, or neutral detergent on the product. They may deform and damage the product.
- After each use in salt water, make sure it's watertight, then soak it sufficiently in fresh water.
- Insufficient soaking causes damage by salt to the product. Salty residue may be left on the product where it will crystallize as it evaporates. Crystallized salt is hard to dissolve and difficult to be removed once formed, and it will result in water leakage.
- After rinsing, dry the product well with a soft dry cloth, then let the product dry in the shade, out of direct sunlight.
- Do not dry the product by heating (using a hair dryer, for example). Heating can deform and damage the product.
- If you will not use the product for an extended period of time, store it away from high temperatures, high humidity, direct sunlight, or extreme cold.
- Do not store the product with naphthalene or camphor mothballs, or in locations such as a laboratory where chemicals are used. This environment can cause mold, rust, corrosion or malfunction.
- Always remove the camera from the housing after use. Thoroughly wipe off water before opening the housing and avoid any water drops inside the housing.
- After using the product, maintain the O-rings before storing. Examine the O-rings before and after each dive. We recommend early exchange of the O-rings, at least once a year.
- Every two years we recommend a complete overhaul of O-rings regardless of the frequency in use, for the best performance of the product.



Specifications

Compatible camera	OLYMPUS E-M5 Mark II
Controls	ON / OFF lever, Shutter lever, Mode dial, Mode dial lock button, Focus / Zoom dial, Lens release button, Port lock lever, Lock lever, Flash ON / OFF dial, Front dial, Rear dial, Switch lever, AEL / AFL / Fn1 button, Highlights and Shadows / Fn2 button,  (LV) / Fn3 button, HDR / Fn4 button, Movie button, Arrow pad, Info button, OK button, Playback button, Erase button, Menu button
Construction	Body: Corrosion-resistant aluminum alloy
Depth rating	100 m (330 feet)
Dimensions	Approx. 215 (W) × 166 (H) × 122 (D) mm (8.46 × 6.53 × 4.80 inches)
Weight	Approx. 1600g (3.52 lbs.) (housing only)
Accessories	<ul style="list-style-type: none">•Silicone grease•O-ring remover•O-ring maintenance manual•Hex wrench (5mm)•Grip bracket L•Grip bracket R•Bolt A x 2•Bolt B x 2•Instruction manual x 2 Attached accessories to the product : <ul style="list-style-type: none">•Housing body cap•Fiber-optic cable socket caps (factory pre-mounted cap x 2)•Optical Viewfinder 0.5x

* The specifications and appearance are subject to change without notice.

SEA&SEA

シーアンドシー・サンパック株式会社

〒145-0062 東京都大田区北千束1-4-6

TEL.03-5701-5533

カスタマーサービスセンター

TEL.048-255-8512

<http://www.seaandsea.co.jp>

SEA&SEA SUNPAK Co., Ltd.

1-4-6, Kitasenzoku, Ohta-ku,

Tokyo, Japan 145-0062

TEL. +81-3-5701-5533

World Customer Service Center

TEL. +81-48-255-8512

<http://www.seaandsea.jp>

1509-Z-01A

(2015年7月現在 / Current as of Jul.2015)