

Instruction Manual

Underwater Case

PT-029

For the digital camera
Stylus 600/ μ DIGITAL 600

En

- Thank you for buying the Underwater Case PT-029.
- Please read this instruction manual carefully and use the product safely and correctly.
- Please keep this instruction manual for reference after reading it.
- Wrong use may cause damage to the camera on the inside from water leakage, and repair may not be possible.
- Before use, perform an advance check as described in this manual.

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Introduction

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- OLYMPUS IMAGING CORP. shall not be responsible in any way for lost profits or any claims by third parties in case of any damage occurring from unsuitable use of this product.
- OLYMPUS IMAGING CORP. shall not be responsible for damage, lost profits, etc. caused by loss of image data because of defects, disassembly, repair or modification of this product by people other than third parties specified by OLYMPUS IMAGING CORP. or for other reasons.

Please read the following items before use

- This Case is a precision device designed for use at a water depth within 40 m. Please handle it with sufficient care.
- Please use the Case correctly after sufficient understanding of the contents of this manual in regard to handling of the Case, checks before use, maintenance, and storage after use.
- OLYMPUS IMAGING CORP. shall in no way be responsible for accidents involving immersion of a digital camera in water.
- OLYMPUS IMAGING CORP. shall not pay any compensation for accidents (injuries or material damage) at the time of use.
- Before use, be sure to read the precautions printed on the package.

For safe use

This instruction manual uses various pictographs for correct use of the product and to prevent danger to the user and other persons as well as property damage. These pictographs and their meanings are shown below.

**WARNING**

This indicates contents for which the possibility of human death or severe injury in case of handling under disregard of this indication can be assumed.

**CAUTION**

This indicates contents for which the possibility of human injury or the possibility of material damage in case of handling under disregard of this indication can be assumed.

⚠ WARNING

1. Keep this product out of the reach of babies, infants, and children. There is the possibility of occurrence of the following types of accidents.
 - Injury by dropping onto the body from a height.
 - Injury from parts of the body getting caught in parts which open and close.
 - Swallowing of small parts. Please consult a physician immediately if any parts have been swallowed.
 - Triggering of the flash in front of the eyes may cause permanent vision impairment etc.
2. Do not store with a battery in the digital camera housed in this product. Storage with a battery inserted may lead to leakage of the battery liquid and fire.
3. If leakage of water should occur with a camera installed in this product, quickly remove the battery from the camera. There is the possibility of ignition and explosion from generation of hydrogen gas.
4. This product is made of resin. There is the possibility that injuries may be caused when it becomes broken because of strong impact with a rock or other hard objects. Please handle with sufficient care.
5. The silica gel and the grease for silicone O-rings for this product are not edible.

⚠ CAUTION

1. Do not disassemble or modify this product. This may cause water leakage or trouble. In case of disassembly or modification by persons other than those appointed by OLYMPUS IMAGING CORP. the guarantee shall not apply.
2. Do not place this product at locations with abnormally high or abnormally low temperatures or at locations with extreme temperature changes. The product may deteriorate.
3. Opening and closing at locations with much sand, dust, or dirt may impair the waterproof characteristic and cause water leakage. This should be avoided.
4. This product has been designed and manufactured for use at a water depth within 40 m. Please note that diving to a depth in excess of 40 m may cause permanent deformation or damage to the Case and the camera inside the Case or may lead to water leakage.

5. Jumping into the water with the Case in your pocket or in your hand, throwing the Case from a boat or ship into the water, and other rough handling may cause water leakage. Please handle with sufficient care, when handing it over from hand to hand etc.
6. If the camera on the inside should become wet because of water leakage etc., immediately wipe off all moisture and confirm the operation.
7. Please remove the O-ring when traveling by air. Otherwise air pressure may make it impossible to open the Case.
8. For safe use of the digital camera in this product, please read the "Instruction Manual" for the digital camera carefully.
9. When sealing this product, take sufficient care that no foreign matter gets caught at the O-ring and the contact surfaces.

Batteries

- Please use one Olympus lithium ion rechargeable battery for cameras (LI-12B).
- Take care that the battery electrodes do not become wet. This may cause trouble or accidents.
- Carefully read the instruction manual for the camera about other cautions regarding batteries.

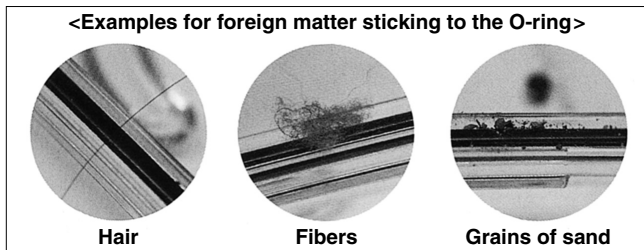
Setting the underwater shooting scene mode

- The Stylus 600/ μ DIGITAL 600 camera includes scene modes expressly configured to optimize wide-angle and macro shooting under water. Select the mode according to the scene you want to shoot under water.
For details, see "Underwater Shooting According to the Scene Type" in this manual (page E-24).
- For details on mode setting, refer to the digital camera's operation manual.

For Prevention of Water Leakage Accidents

When water leakage occurs while this product is being used, repair of the camera housed in this product may become impossible. Please observe the following cautions for use.

1. When sealing this product, make sure that no hairs, fibers, sand particles or other foreign matter stick not only to the O-ring, but also to the contact surface (flat part of the front cover). Even a single hair or a single grain of sand may cause water leakage. Please check with special care.



2. The O-ring is a consumption product. Please replace it at least once a year by a new one. Also perform maintenance for every use.
3. Deterioration of the O-ring will progress according to the use conditions and the storage conditions. Immediately replace the O-ring by a new one if it is damaged, shows cracks, or has lost its elasticity.
4. At the time of O-ring maintenance, clean the inside of the O-ring groove and confirm the absence of dirt, dust, sand, and other foreign matter.
5. Apply the specified silicone O-ring grease to the O-ring.
6. The waterproof function is not effective when the O-ring is not installed correctly. When installing the O-ring, take care that it does not project from the groove and that it is not twisted. Also, when sealing the Case, close the lid after confirming that the O-ring has not come out of the groove.
7. This product is an airtight construction made of plastic (polycarbonate). When it is left for a long time in a car, on a boat, at the beach, or at other places reaching a high temperature, or when it is subjected for a long time to uneven external force, it may be deformed and the waterproof function may be lost. Pay sufficient attention to temperature control. Also do not place heavy objects onto the product during storage or transport, and avoid unreasonable storage.

8. When the O-ring contact surface is pressed strongly from the outside of the Case, or when the Case is twisted, the waterproof function may be lost. Take care not to exert excessive force.
9. Please use the Case after performing the advance test and the final check.
10. If you should notice drops of water or other signs of water leakage while taking pictures, immediately stop the dive, remove any water from the camera and the product, test according to the item "Final check", and confirm whether leakage has occurred or not.

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Handling the Product

- Use or storage of the product at the following locations may cause defective operation, defects, trouble, damage, fire, internal clouding, or water leakage. Always avoid these locations.
 - Locations reaching high temperatures such as those under direct sunlight, in an automobile, etc.
 - Locations with open fire
 - Water depths in excess of 40 m
 - Locations subject to vibrations
 - Locations with high temperatures and much dust or with severe temperature changes
 - Locations with volatile substances
- This product is made of polycarbonate resin with excellent impact resistance, but it may be damaged by scraping against rocks etc. It also may break when it hits hard objects or is dropped.
- This product is not a case to soften impacts to the camera inside the product. When this product with a digital camera inside it is subjected to impacts or heavy objects are placed onto it, the digital camera may become damaged. Please handle the product with sufficient care.
- When the product is not used for a long time, the waterproof performance may drop because of deterioration of the O-ring etc. Before use, always perform the advance test and the final check.
- Do not apply excessive force to the tripod mount or the accessory mount.
- When a flash is used while the Case is being used, shadows may appear at the edges of the picture. This is especially notable when taking pictures in macro mode on the wide-angle side. Please use a flash after image confirmation.

- Do not use the following chemicals for cleaning, corrosion prevention, prevention of fogging, repair or other purposes. When these are used for the Case directly or indirectly (with the chemicals in vaporized state), they may cause cracking under high pressure or other problems.

Chemicals which cannot be used	Explanation
Volatile organic solvents, chemical detergents	Do not clean the Case with alcohol, gasoline, thinner or other volatile organic solvents or with chemical detergents etc. Pure water or lukewarm water is sufficient.
Anticorrosion agent	Do not use anticorrosion agents. The metal parts use stainless steel or brass, and washing with pure water is sufficient.
Commercial defogging agents	Do not use commercial defogging agents. Always use the specified desiccant silica gel.
Grease other than specified silicone grease	Use only the specified silicone grease for the silicone O-ring, as otherwise the O-ring surface may deteriorate and water leakage may be caused.
Adhesive	Do not use adhesive for repairs or other purposes. When repair is required, please contact a dealer or a service station of OLYMPUS IMAGING CORP.

- Do not perform operations other than specified in this instruction manual, do not remove or modify parts other than specified, and do not use parts other than specified.
Any troubles in taking pictures or with the equipment resulting from the above actions shall be outside the guarantee.
- OLYMPUS IMAGING CORP. shall be in no way responsible for accidents involving immersion of a digital camera in water.
- OLYMPUS IMAGING CORP. shall not pay any compensation for accidents (injury or material damage) at the time of use.

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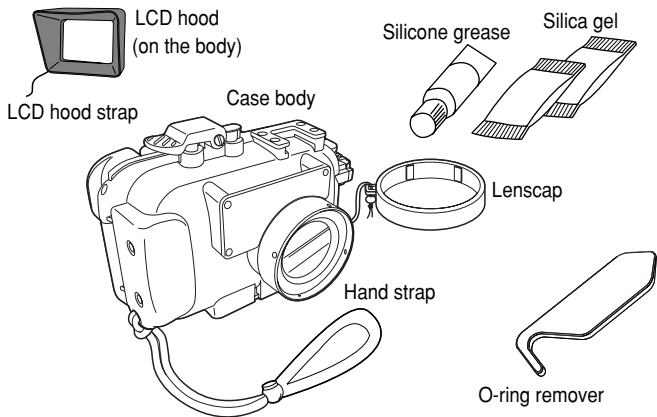
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1. Preparations

Check the contents of the package.

Check that all accessories are in the box.

Contact your dealer if accessories should be missing or damaged.



(Check that the O-ring is normal.)

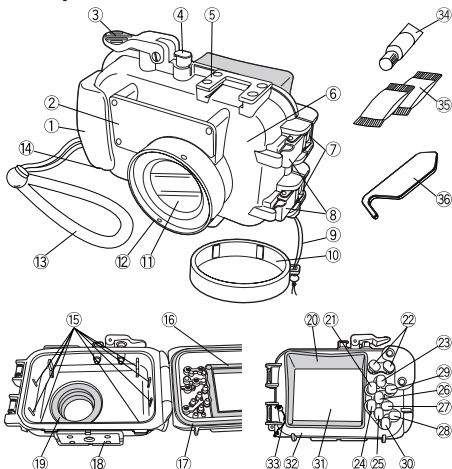
Instruction manual
(this manual)



Authorised distributors list/
Authorised service centres list



Names of the parts

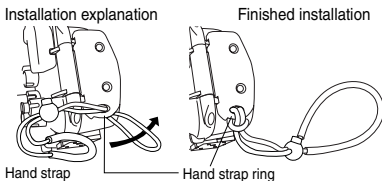


- | | | |
|--|---|--|
| ① Palm grip | ⑭ Hand strap ring | * ⑳ AF LOCK (Note 1)/
Cross-Cursor button |
| ② Diffuser plate &
diffuser plate cover | ⑮ Loading guide rail | * ㉑ Exposure correction/ Cross-
cursor button |
| * ③ Shutter lever | ⑯ LCD inner hood | * ㉒ Flash mode/ Cross-cursor button |
| * ④ POWER ON/OFF button | ⑰ O-ring | * ㉓ OK/MENU button |
| ⑤ Accessory mount | ⑱ Tripod mount | * ㉔ DISP. button |
| ⑥ Front lid | ⑲ Light shield hood | * ㉕ Erase button |
| ⑦ Buckle hook | ⑳ LCD hood | ㉖ LCD monitor window |
| ⑧ Buckle lock/unlock lever | * ㉑ Play button | ㉗ Rear lid |
| ⑨ Lens cap strap | * ㉒ Zoom buttons | ㉘ LCD hood strap |
| ⑩ Lens cap | * ㉓ Shooting mode (P-AUTO)
/SCENE button | ㉙ Silicone O-ring grease |
| ⑪ Lens window | * ㉔ Macro/Cross-Cursor button | ㉚ Silica gel |
| ⑫ Lens ring | (Note 1) The Down button of the Cross-
Cursor button functions as the AF
LOCK button in the underwater wide-
angle 1 and underwater macro modes. | ㉛ O-ring remover |
| ⑬ Hand strap | | |

Note : The Case operation parts marked by * corresponds to the operation parts of the digital camera. When the operation parts of the Case are operated, the corresponding functions of the digital camera will operate. For details of the functions, refer to the instruction manual for the digital camera.

Install the strap.

Install the strap on the Case body.



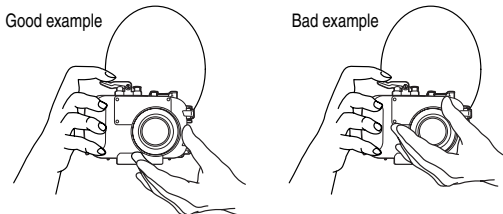
CAUTION : Please install the strap correctly as shown above. OLYMPUS IMAGING CORP. shall bear no responsibility for damage etc. caused by dropping the Case because of incorrect installation of the strap.

Master the basic operation.

Please master the basic operation of the Case before taking pictures.

Holding the Case

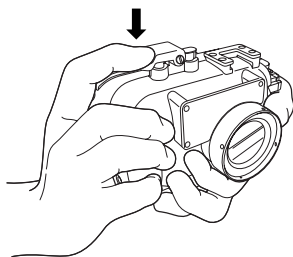
Hold the Case securely with both hands, keep your elbows close to your body, and hold the Case so that you can confirm the picture on the LCD monitor of the digital camera through the LCD monitor window of the Case.



CAUTION : • Do not exert excessive force onto the lens window or the lens ring.
• Take care not to put your fingers etc. over the lens window and the flash diffuser.

How to Press the Shutter

When pressing the shutter lever, press it gently, so that there will be no movement of the camera.



Note: • For detailed operation of the shutter, refer to the instruction manual for the digital camera.

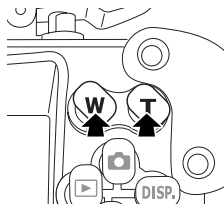
Using the Shooting mode/SCENE button

Press the Shooting mode/SCENE button to switch the digital camera between the Shooting mode (P-AUTO) and SCENE mode. Each press of the button toggles between the Shooting mode (P-AUTO) and SCENE mode. The selected mode can be checked on the LCD monitor.



How to Use the Zoom Buttons

Zoom operation is possible by pressing the zoom buttons on this Case that correspond to the zoom buttons on the digital camera inside the Case.



2. Advance Check of the Case

Advance test before use

This Case has been the subject of thorough quality control for the parts during the manufacturing process and thorough function inspections during the assembly. In addition, a water pressure test is performed with a water pressure tester for all products to confirm that the performance conforms to the specifications. However, depending on the carrying and storage conditions, the maintenance status, etc., the waterproof function may be damaged.

Before diving, always perform the following advance test and the water leakage test after installation of the camera.

Advance Test

1. Before installing the digital camera in the Case, immerse the empty Case to the intended water depth to confirm that there is no water leakage.
2. Main causes of water leakage are as follows.
 - The O-ring has not been installed.
 - A part of the O-ring or the entire O-ring is outside the specified groove.
 - O-ring damage, cracks, deterioration or deformation
 - Sand, fibers, hair or other foreign matter sticking to the O-ring, the O-ring groove or the O-ring contact surface on the front lid
 - Damage to the O-ring groove or the O-ring contact surface on the front lid
 - When closing the Case, check for catching of the hand strap and silica gel after the above causes have been eliminated.

△ CAUTION : • The most suitable method for checking water leakage is to immerse the Case to the intended water depth. When this is difficult, water leakage also can be checked at a shallow depth with no water pressure. Do not feel that this is troublesome, but perform this test.

• If the advance test should show water leakage with normal handling, stop using the Case and contact your dealer or an Olympus service station (listed on the rear page of this instruction manual).

3. Install the digital camera.

Check the digital camera.

Check the digital camera before loading it in the Case.

Battery Confirmation

As the LCD monitor is used for picture confirmation while taking pictures under water, the battery life becomes short.

Confirm that the remaining battery capacity is sufficient.

Do not use alkaline batteries, as it is quite possible that they will become unusable during a dive.

Note: • In order to avoid losing shutter chances due to an exhausted battery, you should always replace a battery with a fully charged battery before each dive.

Confirmation of the Remaining Number of Pictures to be Taken

Confirm that the image storage has a sufficient remaining number of pictures to be taken.

Remove the hand strap from the digital camera.

When a strap is attached to the digital camera, the hand strap must be removed.

⚠ CAUTION: • When a digital camera is loaded without removing the strap, the strap may get caught between the Case lids and may cause water leakage.
• When removing the strap, handle the digital camera with sufficient care. OLYMPUS IMAGING CORP. shall not be responsible for damage caused by dropping the camera etc.

Prepare the camera.

Which digital cameras can be used?

This Case (PT-029) can only be used with the Stylus 600/ μ DIGITAL 600 camera.

Turn on the camera.

Press the digital camera's POWER ON/OFF button to turn it ON. The camera goes into the standby mode when it hasn't been operated for about 3 minutes. Pressing any button (such as the zoom button) cancels the standby mode. If the camera is left for about 15 minutes without being operated, the power switches OFF completely to save battery power. In this case, the camera can be turned ON by pressing the POWER ON/OFF button.

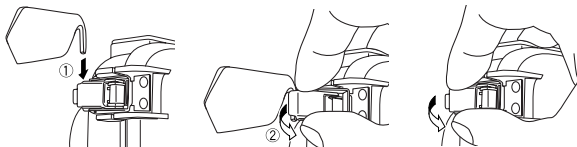
Check camera operation.

Confirm camera operation as described in the camera's operation manual. After completing the check, press the camera's power switch to turn it off.

Open the Case.

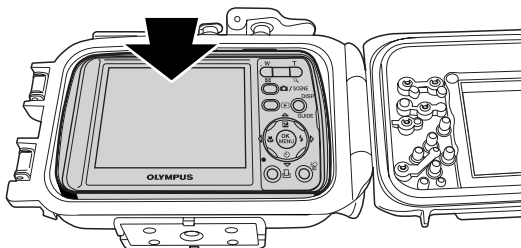
Use the provided O-ring remover as described below.

- ① Insert the hook section below the buckle lock/unlock lever.
- ② Slowly pull the O-ring remover.
- ③ If the O-ring remover is not available, push the buckle lock/unlock lever from the left and right with your thumb and index finger, and pull up the lever gently.



Put the digital camera into the case.

Make sure the digital camera is turned off, then insert it gently into the case.

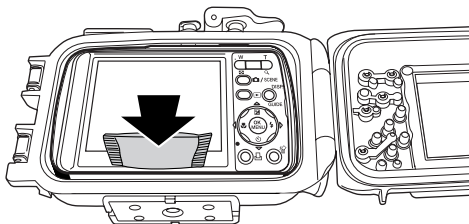


⚠ CAUTION : • If the digital camera is not inserted properly, it may not be possible to seal the case so that it is airtight. Alternatively, some controls may become inoperable. Note that imperfect sealing may result in water penetration.

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Insertion of silica gel

Before sealing the Case, insert the accessory silica gel bag for prevention of fogging between the bottom of the camera and the Case.



Pay attention to the orientation.

- ⚠ CAUTION :**
- Insert the silica gel all the way at the specified location and with the specified orientation. When the orientation is not correct, the silica gel bag will be caught when the Case is sealed and water leakage will be caused.
 - When it is tried to seal the Case with the bag inserted only part of the way, the silica gel bag will be caught by the O-ring and water leakage will be caused.
 - Once silica gel has been used, the moisture absorption performance will be impaired. Always exchange the silica gel when the Case is opened and closed.

Check the loading status.

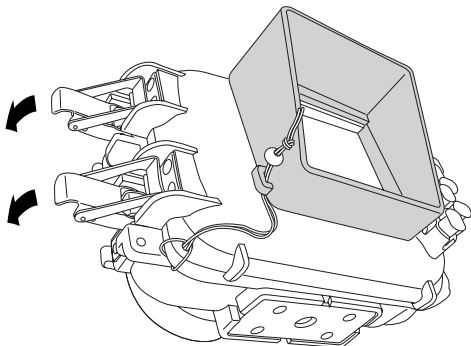
Always perform the following final checks before sealing the Case.

- Has the digital camera been inserted properly?
- Has the silica gel been inserted all the way at the specified position?
- Has the O-ring at the Case opening part been installed properly?
- Are the O-ring and the O-ring contact surface on the front lid free of dirt and other foreign matter?

Seal the Case.

When the rear lid is closed (quietly, so that the O-ring will not come out of the groove), the buckles are engaged with the edge of the rear lid, and the buckle lock levers are pushed down in arrow direction, the Case will be sealed airtight.

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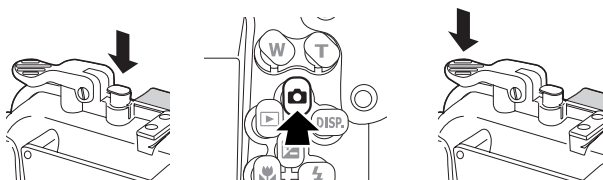


⚠ CAUTION : • Seal the Case by turning both buckle lock levers down in arrow direction. When one of the buckles is left open, the Case will not be sealed and water leakage will be caused.

Perform the final checks after loading.

After sealing the case, perform the following final checks to confirm proper operation of the camera.

- Push the POWER ON/OFF button on the case to see if it can turn the camera ON and OFF.
- Push the Shooting mode/SCENE button on the rear of the case to see if it can switch the camera's Shooting mode properly.
- Press the Case's shutter level and see if the camera shutter can be released accordingly.
- Press other buttons on the Case to see if the camera functions accordingly.



CAUTION: • If the camera does not function properly, restart the digital camera installation procedure from “Check the digital camera.” on page E-14 of this manual.

Check the shooting scene and shooting scene mode

When the case is used, the camera's Scene/Shooting mode can be confirmed with the Scene/Shooting mode indicator on the camera's LCD monitor.



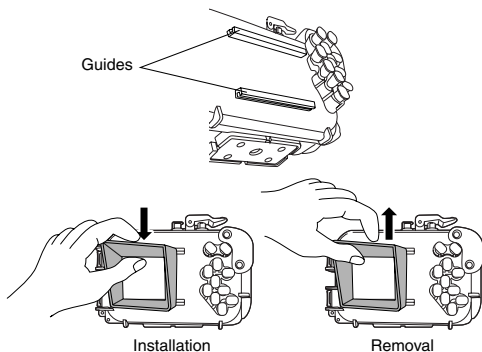
Installation and Removal of the LCD Hood

Installation

Strongly push the mounting projections of the LCD hood as shown in the figure into the guides above and below the LCD monitor window.

Removal

Remove the mounting projections of the LCD hood from the guides above and below the LCD monitor window by widening the LCD hood.

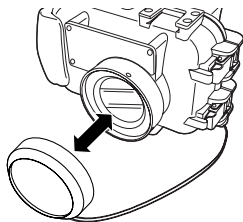


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Mounting and Removing the Lens Cap

Fit the lens cap onto the lens ring as shown in the figure. Be sure to remove the lens cap before shooting.



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Perform the final checks.









Visual Inspection

After sealing the Case, check the sealing part of front and rear lid visually to confirm that the O-ring is not twisted or out of the groove and that no foreign matter has been caught.

△CAUTION: • Hairs, fibers, and other narrow items are not very apparent, but they may cause entry of water, so that special attention is required.

Final Test

The final test after loading the camera is explained below. This is the only way to eliminate worry about possible entry of water! Always perform this test. It can be performed easily in a water tank or a bathtub. The required time is about five minutes.

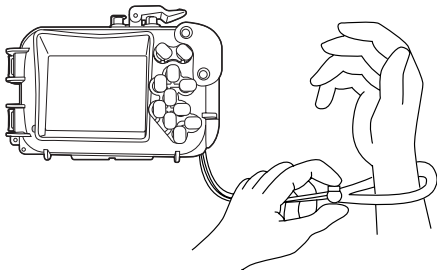
	Simple water immersion test	Explanatory image	Hints
1	Place the Case slowly into the water.		As the Case is transparent, waterdrops entering into it can be confirmed easily.
2	At first, immerse the Case for only three seconds.		In case of trouble with the O-ring, three seconds are enough for water to enter. Are there air bubbles coming out between the lids? Please check carefully.
3	Check that no water has entered into the Case.		Remove the Case from the water and check that no water has accumulated at the bottom of the Case. Is there any water trickling down?
4	Next, immerse the Case for 30 seconds.		Check carefully for air bubbles! Do not perform any operation yet, but just observe.
5	Check that no water has entered.		Remove the Case from the water and check that no water has accumulated at the bottom of the Case. Perform very careful confirmation.
6	Next, check by immersing for three minutes.		Check carefully for air bubbles! Try operation of the buttons used frequently. Check carefully for air bubbles! If there is still no entry of water, everything is OK!
7	This is the final check. Has the silica gel become moist?		This is very important! Has the silica gel become moist? Please check carefully! As the inside can be seen, the inspection for entry of water also can be made securely!
8	Now everything is all right.		Now everything is all right! Have a nice dive!

Note : The PT-029 is not provided with a balance weight.

4. Taking Pictures Under Water

How to Use the Hand Strap

Pass your hand through the accessory hand strap and adjust the length with the stop button.



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Take pictures carefully.

Confirm the picture on the LCD monitor.

Note that, when this Case is used, the shooting scene can be confirmed only on the LCD monitor.

Quietly press the shutter lever.

When pressing the shutter lever, hold the Case securely with both hands and operate the lever quietly to prevent camera shake.

Cautions when using the flash

When taking macro pictures on the wide-angle side, the flash light may be missing in some parts or the light volume may not be uniform.

Flash reaching range (Land shooting without the Case)	W : Approx. 0.2 m to 4.0 m
	T : Approx. 0.2 m to 2.5 m

During underwater shooting, shooting conditions (water clarity, suspended matter, etc.) can have a significant effect on the range of the flash.

Always check your pictures on the LCD monitor after shooting.
(Pressing the play button puts the camera in play mode. To return it to the Shooting mode, press the Shooting mode/SCENE button.)

5. Underwater Shooting According to the Scene Type

The camera incorporates the following shooting scene modes. Select the one best suited to the underwater scene you are shooting.

Underwater shooting modes

Underwater Wide-Angle 1

Suitable for shooting a scene that extends across a wide range such as a school of fish swimming through the water. Background blues are vividly reproduced.

(Examples)



Underwater Wide-Angle 2

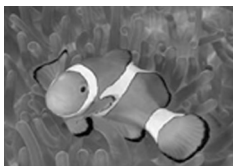
Suitable for shooting a large, slowly moving subject such as a dolphin or manta.

In many dolphin-watching locations, use of a flash is not permitted to avoid frightening the dolphins. Although this mode was originally designed to work without the flash, it can also be enabled if required, for example when shooting a manta.



Underwater Macro

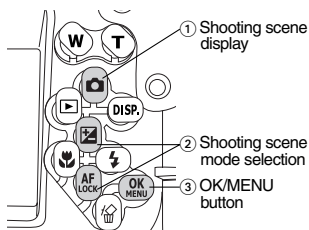
Suitable for close-up shooting of small fish and other underwater creatures. Natural colors underwater are accurately reproduced. Red tones can be enhanced by using the flash.



? TIP : • When the Underwater Wide-Angle 1 or Underwater Macro scene mode is selected, you can easily lock the focus position (AF lock operation) by pressing the cross-cursor Down button (AF LOCK button) on the rear of the protector. When the focus is locked, the AF lock indicator (Q) appears on the top left of the LCD monitor screen of the camera.

Selecting the shooting scene mode

Press the Shooting mode/SCENE button (1) on the case to set the camera to the SCENE mode. When the mode selection display appears, press the cross-cursor Up or Down button (2) to select Underwater Wide-Angle 1, Underwater Wide-Angle 2 or Underwater Macro. Press the OK/MENU button (3) to enter the selection.



Locking AF during underwater shooting

When Underwater Wide-Angle 1 or Underwater Macro is selected, the cross-cursor Down button on the case functions as the AF LOCK button. Pressing the button once activates the AF lock mode. With focus locked, you can concentrate on operating the shutter whenever a perfect picture opportunity arises.



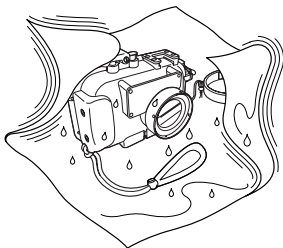
Functions as the AF LOCK button in the Underwater Wide-Angle 1 and Underwater Macro modes.

Note: • To cancel the AF lock status, press the down cross-cursor button (AF LOCK) again. For details, refer to the digital camera's operation manual.

6. Handling After Shooting

Wipe off any waterdrop.

After completing the shooting and returning to land, wipe off any waterdrop sticking to the Case. Use air or a soft cloth not leaving any fibers to thoroughly wipe any waterdrop etc. from the joint between the front and rear lid, the shutter lever, the palm grips, and the buckles.

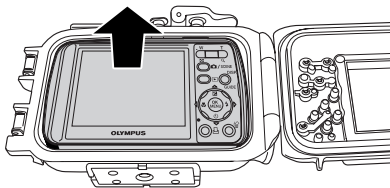


- ⚠ CAUTION :**
- Especially when waterdrops remain between the front and the rear lid, they may spill to the inside when the Case is opened. Take special care to wipe off all waterdrops.
 - When opening the Case, take sufficient care that no water will drop from your hair or body onto the Case and the camera.
 - Before opening the Case, make sure that your hands or gloves are free of sand, fibers, etc.
 - Do not open or close the Case at locations where water or sand is to be sprayed. When this cannot be avoided because you have to exchange the battery or the image storage, place a sheet downwind from some object and take care that no water or sand is sprayed.
 - Take care not to touch the digital camera or the battery with hands wet with sea water.

- Note:**
- Moisten a towel etc. in advance with pure water and keep it in a plastic bag, so that you can wipe the salt from your hands and fingers before handling the camera.

Take out the digital camera.

Open the Case carefully and take the digital camera out.

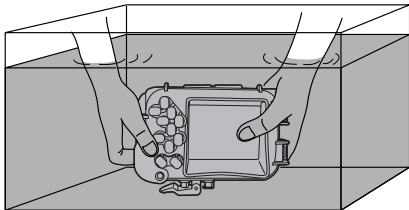


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- ⚠ CAUTION** : • Always place the opened Case with the O-ring side facing up. If the Case is placed with the O-ring side facing down, dirt or other foreign matter may get on the O-ring or the O-ring contact surface and may allow water penetration during the next dive.
- For details on storage of pictures and other details, refer to the digital camera's operation manual.

Wash the Case with pure water.

After use, seal the Case again after taking out the camera and wash it sufficiently in pure water as soon as possible. After use in sea water, it is effective to immerse it for a fixed time in pure water to remove any salt.



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- ⚠ CAUTION** : • Water leakage may be caused when a high water pressure is applied locally. Before washing the Case with water, take out the digital camera from it.
- Operate the shutter lever and various buttons of this product in pure water to remove salt adhering to the shaft. Do not disassemble for cleaning.
 - Drying the Case with adhering salt may impair the function. Always wash off any salt after use.

Dry the Case.

After washing with pure water, use a soft cloth without any salt on it and not causing any fibers to wipe off any waterdrop and dry the Case completely at a well ventilated location in the shade.

- ⚠ CAUTION** : • Do not use hot air from a hair drier or the like for drying and do not expose the Case to direct sunlight, as this may accelerate deterioration and deformation of the Case and deterioration of the O-ring, leading to leakage of water.
- When wiping the Case, take care not to cause scratches.

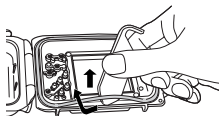
7. Maintaining the Waterproof Function

Remove the O-ring.

Open the Case and remove the O-ring from the Case.

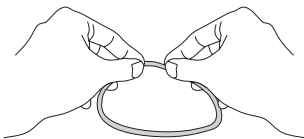
Removal of the O-ring

- ① Insert the O-ring remover between the O-ring and the O-ring groove.
- ② Pass the tip of the inserted O-ring remover below the O-ring. (Be careful not to scratch the O-ring groove with the tip of the O-ring remover.)
- ③ Hold the O-ring with your fingertips after it has come out of the groove and remove it from the Case.

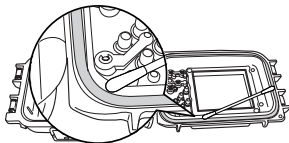


Remove any sand, dirt, etc.

After visually checking that dirt has been removed from the O-ring, checking for attached sand and other foreign matter, as well as for damage and cracks can be done by squeezing the entire circumference of the O-ring lightly with your fingertips.



Remove any foreign matter attached to the O-ring groove using a lint-free clean cloth or cotton swab. Also remove any sand or dirt attached to the O-ring contact surface on the front lid of the case.



- ⚠ CAUTION :**
- When a mechanical pencil or a similar other sharp object is used to remove the O-ring or to clean the inside of the O-ring groove, the Case and the O-ring may be damaged and water leakage may be caused.
 - When the O-ring is checked with the fingertips, take care not to stretch the O-ring.
 - Never use alcohol, thinner, benzene or similar solvents or chemical detergents to clean the O-ring. When such chemicals are used, it is to be feared that the O-ring will be damaged or that its deterioration will be accelerated.





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Install the O-ring.

Confirm that no foreign matter is attached, apply a thin coat of the accessory grease to the O-ring, and fit the O-ring into the groove. At this time, confirm that the O-ring does not stick out from the groove.

How to Apply Grease to the O-ring

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1	Apply the exclusive lubricant to each O-ring.		Make sure that your fingers and the O-ring are free of dirt, and squeeze about 5 mm of lubricant onto a finger. (5 mm is the most appropriate amount.)
2	Spread the lubricant all over the O-ring.		Surround the lubricant with three fingers and spread it over the ring. Be careful not to use excessive force as this may stretch the O-ring.
3	Check that the O-ring is free of scratch or unevenness.		After spreading the lubricant, check visually and by touch that the O-ring is not scratched and that its surface is flat. If it is damaged in any way, replace it with a brand-new O-ring.
4	Apply lubricant on the O-ring contact surface.		Use the lubricant remaining on the fingers to clean and lubricate the case's contact surface.

- △CAUTION:**
- Always perform maintenance of the waterproof function even when the Case has been opened to exchange the battery or the image storage during shooting. Neglecting this maintenance may become the cause of water leakage.
 - When the Case is not to be used for a long time, remove the O-ring from the groove to prevent deformation of the O-ring, apply a thin coat of silicone grease, and store it in a clean plastic bag or the like.
 - When drying is done with salt attached, it is likely that a function impairment will be caused. After use, always wash off any salt.



Replace consumable products.

- The O-ring is a consumable product. Independent of the number of times the Case is used, it is recommended that the O-ring should be replaced by a new one at least once a year.
- Deterioration of the O-ring is accelerated by the use conditions and the storage conditions. Replace the O-ring even before a year has passed if it shows signs of damage, cracking or loss of elasticity.

Note: • Please use original Olympus products for the silicone O-ring grease, the silica gel, and the O-ring. These consumable products also can be purchased at an Olympus service station.

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8. Appendix

Q & A on the use of the PT-029

Q1 : Which digital cameras can be used?

A1 : The PT-029 is only for the models Stylus 600/ μ DIGITAL 600.

Q2 : What cautions must be observed when loading the digital camera into the Case?

A2 : Pay special attention to the following items when loading the camera into the Case.

- (1) Check that the remaining capacity of the battery in the digital camera is sufficient.

This should be checked as the LCD monitor is used under water, and the battery consumption becomes faster.

- (2) Check the remaining number of pictures on the image storage.

Please use a card with a sufficient remaining number in order to reduce the number of times the Case has to be opened and closed.

- (3) Remove the strap from the digital camera.

When the camera is loaded without removing the strap, the strap may get caught when the Case is sealed and this will cause water leakage.

- (4) Before sealing the Case, confirm that the O-ring has been installed properly in the groove in the rear lid of the Case.

- (5) Confirm that the O-ring and the O-ring contact surface on the front lid are free of dirt, hairs, and other foreign matter.

- (6) Insert the silica gel for defogging. Please use silica gel for the Olympus Case.

Q3 : What cautions must be observed when using and storing the Case?

A3 : Pay special attention to the following items.

- (1) When the O-ring contact surface is pressed strongly from the outside of the Case, or when the Case is twisted, the waterproof function may be impaired and water leakage may be caused.

- (2) When the Case is used, left or stored at the following locations, defective operation or trouble may be caused. Always avoid such locations.

(a) Places where the Case can reach high temperatures under direct sunlight or in a car, places with extremely low temperatures, and places with extreme temperature variations

(b) Places with open fire

(c) Places with volatile substances

(d) Places with vibrations

- (3) In case of the following handling with a camera loaded into the Case, trouble or breakage may be caused for the Case and/or the loaded camera. Always avoid such handling.
 - (a) Hitting other objects
 - (b) Dropping
 - (c) Placing heavy objects on top of the Case
- (4) When the Case is not used for a long time, trouble from formation of mold etc. may be caused. Before use, confirm the operation of all operation parts and perform the advance test and the final test.

Q4 : What cautions must be observed when opening and closing the Case?

A3 : Pay special attention to the following items.

- (1) Do not open and close the Case at locations with water spray or sand spray.
- (2) Wipe off all waterdrops from the gap between the front lid and the rear lid and around projections and recesses such as the buckles. When this is not done, entry of waterdrops into the Case is to be feared at the time of opening and closing.
- (3) When opening the Case, take care that no water will drip from your hair or body into the Case or onto the camera.
- (4) When the Case is open, check that there is no attachment of sand, fibers or other foreign matter to the O-ring and the O-ring contact surface on the front lid.
- (5) Do not touch the camera or the image storage with your hands to which sea water is sticking.
- (6) If you should detect waterdrops or other signs of water leakage while shooting, immediately end the dive, perform the water leakage test again, and confirm that there is no leakage. If the camera is wet, wipe off any moisture and check the operation.

Q5 : How should the Case be handled after use?

A5 : After use, take out the camera as soon as possible and wash the Case with pure water. In case of use in the ocean, it is effective to immerse the Case for a certain time in pure water to remove any salt. Operate the buttons and levers under water to turn the shafts and wash off any salt. After washing, use a dry cloth without any salt on it to wipe off any moisture and dry the Case in the shade. Do not use hot air from a hair drier or the like and do not dry the Case under direct sunlight. Exposure to high temperatures or direct sunlight may cause deformation, discoloration or breakage

of the Case and deterioration of the O-ring. Wipe the inside of the Case with a soft cloth not causing any fibers. Remove the O-ring, wipe off any salt, sand, dust, etc., and also clean the O-ring groove and the O-ring contact surface in the same way and then dry them. When an object with a sharp tip is used to remove the O-ring from the groove, the O-ring may be damaged and water leakage may be caused. Always use the provided O-ring remover.

Q6 : How should I take pictures under water?

A6 : Please observe the following items for shooting under water.

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- (1) Fix the protector with the accessory hand strap to your wrist.
- (2) When you place a finger onto the lens window, the finger will appear in the photo. Pay attention to the position of your fingers when holding the Case.
- (3) When pressing the shutter lever, hold the Case securely with both hands and operate the lever quietly to prevent camera shake.
- (4) Check the image you want to shoot by viewing the digital camera's LCD monitor through the Case's LCD monitor window, and start shooting.

To avoid interruption of shooting due to battery depletion, it is recommended to replace the existing battery with a fully charged battery before diving.

Q7 : can I check for water leakage?

A7 : For confirmation, perform the advance test and the final test after loading the camera. The advance test with immersing the Case without the camera to the intended use depth to check for water leakage is the most accurate test, but when this is difficult, it is safer to perform this test even at a depth of 1 m or in a bathtub. The final test also can be performed in a bathtub or a bucket.

Q8 : What are the causes for entry of water?

A8 : The main causes for the entry of water are shown below. Please check them most carefully.

- (1) Forgetting to install the O-ring
- (2) The O-ring is partly or completely outside the groove.
- (3) Damage, deterioration, or deformation of the O-ring
- (4) Sand, fibers, hair or other foreign matter on the O-ring
- (5) Sand, fibers, hair or other foreign matter on the O-ring groove or the O-ring contact surface
- (6) Catching of the strap, the bag of silica gel, etc. at the time of sealing the Case

- (7) Throwing the Case from a boat into the water, jumping with the Case into the water, or other sudden application of strong forces onto the Case. When entering the water, hand the Case over quietly or avoid impacts in other ways.

Q9 : What are the important points for O-ring maintenance?

A9 : Please observe the following items.

- (1) Never use alcohol, thinner, benzene or similar organic solvents or chemical detergents to clean the O-ring. When such chemicals are used, it is to be feared that the O-ring will be damaged or that its deterioration will be accelerated.
- (2) Use the original Olympus silicone O-ring grease (white cap). The grease attached to Cases up to PT-008 (red cap) and the grease of other companies are not suitable for this silicone O-ring, and use of such grease may cause deterioration of the surface and impairment of the waterproof function.
- (3) In order to avoid deformation of the O-ring when the Case is not used for a long time, remove the O-ring from the Case, apply a thin coat of the special grease, and store the O-ring in a clean plastic bag. For reuse, confirm that the O-ring is free of damage and cracks, that it has sufficient elasticity, that the surface is free of stickiness and other abnormalities, and use it after applying a thin coat of the special grease. Excessive application of grease does not improve the waterproof function or the permissible withstand pressure. However, it may facilitate attachment of sand, dirt, etc.
A thin, uniform coat produces the best result.
- (4) The O-ring is a consumable product. Replace it at least once a year.
- (5) Deterioration of the O-ring is accelerated by the use conditions and the storage conditions. Replace the O-ring immediately by a new one if it shows signs of damage, cracking or loss of elasticity.

Q10 : What are the important points for Case maintenance?

A10 : Please observe the following items.

- (1) Never use the following chemicals for cleaning, corrosion protection, defogging, repair or other purposes.
 - Never use alcohol, thinner, benzene or similar volatile organic solvents or chemical detergents to clean the Case. Pure water or lukewarm water is sufficient for cleaning.
 - Do not use anticorrosion agents on the metal parts. The metal parts are made of aluminum, brass or stainless steel. Cleaning with pure water is sufficient.
 - Do not use commercial defogging agents. Always use the original

Olympus defogging silica gel.

- Do not use adhesive for repairs or other purposes. When repair is required, please contact a service station of our company or your dealer.

Q11: Please tell me about repairs.

A11: Please contact a service station of our company or your dealer, if repair should be necessary. Do not try to repair, disassemble or modify the Case yourself. Repair, disassembly or modification by you or third parties not authorized by Olympus invalidates the guarantee.

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Q12: What are the model names of the accessories for the PT-029?

A12: The following accessories are being sold.

- (1) O-ring for the PT-029 body (POL-029): This is a silicone rubber O-ring packing to be installed in the PT-029 body to make it waterproof. O-rings for other Case models cannot be used.
 - (2) Silicone O-ring grease (PSOLG-1): This is a special grease for silicone O-ring maintenance.
 - (3) Silica gel (SILCA-5S): This is a desiccant used to prevent fogging of the glass parts of the Case. The quantity is five bags.
 - (4) LCD hood (PFUD-05): This hood is installed on the LCD monitor window of the Case to make it easier to see the LCD monitor of the camera.
- * You can order in large computer shops and camera mass sale stores.
 - * Please contact your dealer or a service station of our company when replacement is required. Replacement will be made against payment.
 - * The PT-029 is not provided with a balance weight. When underwater (with digital camera mounted), the PT-029 has slightly negative buoyancy.

Specifications

Available models	Olympus digital camera Stylus 600/ μ DIGITAL 600
Pressure resistance	Depth of up to 40 m
Main materials	Body: Transparent polycarbonate Buckles: Stainless steel Grip/Shutter lever: Red polycarbonate Lens window: FL glass Operation buttons: Stainless steel Nickel-plated brass
Dimensions	Width 130.7 mm x height 96.0 mm x thickness 89.5 mm (projections not included)
Weight	320 g (camera and accessories not included)

* We reserve the right to change the external appearance and the specifications without notice.

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