

# INON

## INON Dome Lens Unit II for UWL-H100

Thank you for purchasing INON product.

Installing INON Dome Lens Unit II for UWL-H100 on compatible INON UWL-H100 series lens, enables you to 「take more wide image」 and 「get more closer to subject」 comparing to sole use of UWL-H100 series lens.

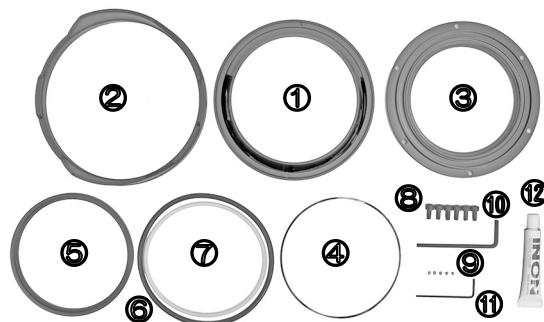
This product can not be used by itself and must be used with compatible INON UWL-H100 series attachment lens. Compatible UWL-H100 series lens and other necessary parts is option. As a nature of this product to keep airtight during self assembly, please read through this user manual carefully before you commence assembly of this product.

### Features

- The Dome Lens Unit II functions as a **Semi-Fisheye Converter** when attached to an INON UWL-H100 series wide conversion lens. The Dome Lens Unit II enables the UWL-H100 underwater angle of view to increase close to that of the UWL-H100 when used in air.
- While the special optical design enables wider angle of view, the Dome Lens Unit II also allows closer focusing distances for **ultra wide macro imaging**.
- The Dome Lens Unit II is specially designed for optimum performance with the UWL-100 series/UWL-H100 series attachment lens and is made of optical glass with an inside anti-reflection multi-coating. Optimum design and the highest quality optics, together with the detachable protector, minimize flare and ghost for clearer images.

**Compatible attachment lens :** • UWL-H100 28LD (\*1)  
(as of December 2010)

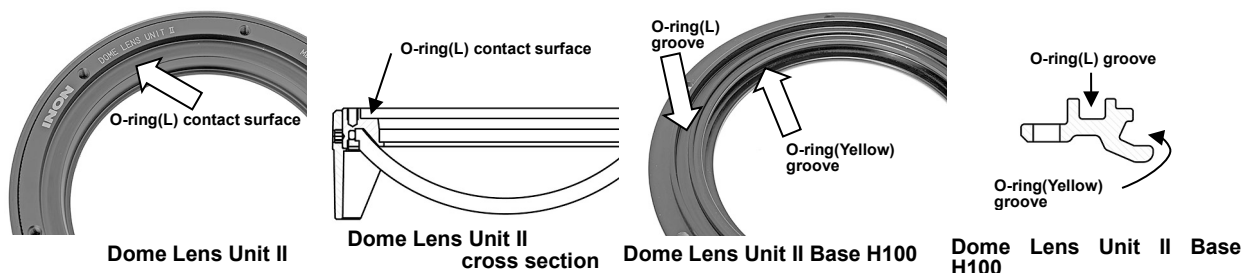
<b>Package contents :</b>	• Dome Lens Unit II	① ×1
	• Protector	② ×1
	• Dome Lens Unit II Base H100	③ ×1
	• Dome Lens Unit Washer	④ ×1
	• Dome Spacer for UWL-H100	⑤ ×1
	• O-ring (L)	⑥ ×1
	• O-ring (Yellow)	⑦ ×1
	• Cap Screw	⑧ ×6
	• Hollow Screw	⑨ ×5
	• Allen Wrench (3.0mm WAF)	⑩ ×1
	• Allen Wrench (1.5mm WAF)	⑪ ×1
	• INON Grease	⑫ ×1
	• This user manual	×1



- UWL-100 Inspection:**
- **Check your UWL-H100 28LD to make sure there is no scratches or other surface defect on the angled face of the lens barrel (indicated by arrow in image right).** If you find any damage on the surface, contact your purchasing dealer for inspection and possible repair. Damaged surface will cause flooding of the Dome Lens Unit II.
  - Check lens condition of your UWL-H100 28LD to make sure there is no heavy spotting or discoloration on the subject side lens. If your UWL-H100 28LD has heavy spotting / discoloration, it would affect on image and it may be necessary to replace the lens. Contact your purchasing dealer for inspection and replacement.



- Preparation before assembly :**
- Dome Lens Unit II, Dome Lens Unit II Base H100 and UWL-H100 28LD **must be completely dry before assembly** in order to prevent dew condensation during use.
  - **Clean lens surfaces** of the Dome Lens Unit II and UWL-H100 28LD as necessary.
  - Check and confirm **there is no scratches or debris on O-ring Grooves and O-ring Contact Surface** of the Dome Lens Unit II and Dome Lens Unit II Base H100 (as shown in images below).
  - Check and confirm **there is no cuts, cracks or attaches debris** on the O-ring (L) and O-ring (Yellow).

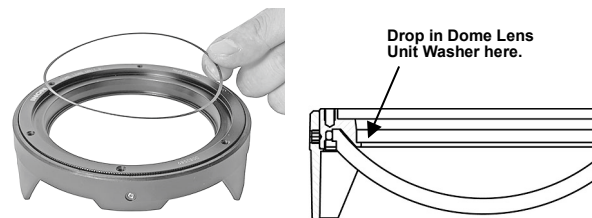


## How to assemble :

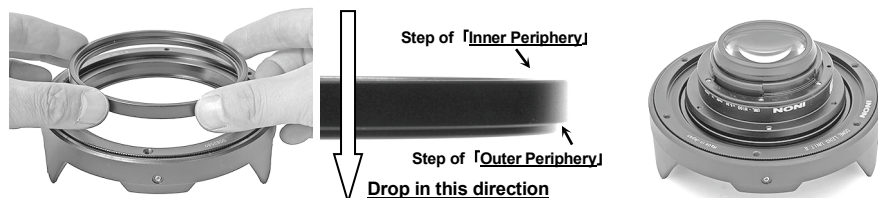
### • **Attach Dome Lens Unit II on UWL-H100 28LD**

To avoid dew condensation, **assemble in a cool and dry area.**

First, place the protector front side down and put the Dome Lens Unit II on it then drop in the Dome Lens Unit Washer according to the arrow in the diagram right. **Make sure it is seated completely and uniformly.**

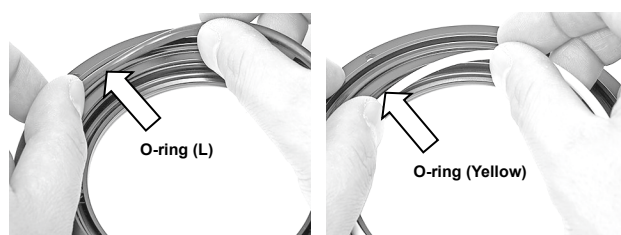


Drop the Dome Spacer for UWL-H100 on the Dome Lens Unit Washer so that its 『Step of Outer Periphery』 facing down. Make sure the spacer is seated completely and uniformly. Then slowly put the UWL-H100 28LD on the spacer at its 『inner groove』.

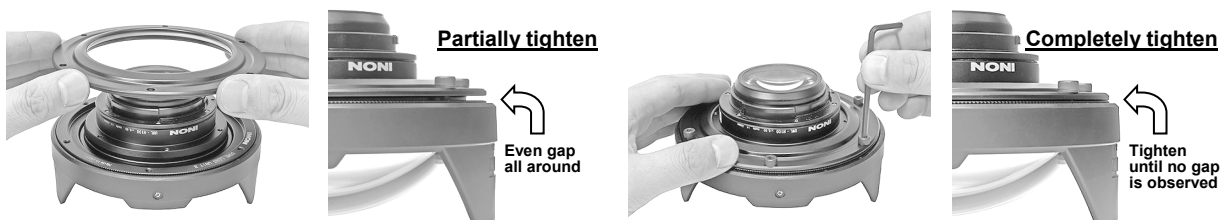


Apply thin film of INON grease on the O-ring (L) and O-ring (Yellow).

Set the O-rings in the O-ring grooves on the Dome Lens Unit II Base H100. **Make sure that the O-rings are seated uniformly and completely with no twists.**



Flip over the Dome Lens Unit II Base H100 on to the Dome Lens Unit II / UWL-H100 28LD with lining up their screw holes. **Make sure that O-rings on the Dome Lens Unit II Base H100 remain completely seated.** Insert 6 cap screws through the Dome Lens Unit II Base H100 and into the Dome Lens Unit II screw holes, and partially tighten them evenly with fingers then **completely tighten with supplied Allen Wrench (3.0mm WAF) by making star pattern.** DO NOT tighten too much or unequally to prevent accidental damage/flooding of the Dome Lens Unit II.




### • **Adjust/Fix Protector Position**

Separate the protector from the Dome Lens Unit II and attach combined lens unit on a camera system. Grasping UWL-100 lens barrel, screw the combined lens unit into the housing completely. Refer to respective user manual of a lens for detail of installation method. Put grease in screw holes on the protector and attach the protector on the Dome Lens Unit II again so that the large flanges are at the 12:00 and 6:00 o'clock positions. Then fasten the protector with hollow screws by supplied Allen Wrench (1.5mm WAF) without changing the protector position. **When tightening hollow screws, tighten alternately and evenly by making cross pattern.** Do not tighten too much or tighten unequally to prevent accidental damage on the Dome Lens Unit II or protector.



**Dome Lens Unit II, Dome Lens Unit II Base 100 and UWL-H100 28AD must be completely dry before assembly and assemble must be conducted in cool and dry area in order to prevent dew condensation during use.**

- Leak Test** :
- After assembly and before using, **always confirm that the Dome Lens Unit II has been assembled properly and is watertight by conducting a “Leak Test.” Immerse the Dome Lens Unit II / UWL-H100 28LD Lens assembly in a bathtub or tank of water (30°C /86°F or less). No water should come between the Lens and Dome Unit.** If water leaks between the two, disassemble, dry and reassemble again.
- Usage** :
- **Attaching to Housing**  
Attaching the Dome Lens Unit II/UWL-H100 28LD Lens assembly to the housing is same as installing on an INON 28LD Mount Base. Refer to UWL-H100 28LD user manual for detail of Installation method. Make sure no air bubbles are trapped between the lens rear element and the housing port. If necessary, **install underwater**, or **partially unscrew the lens and tighten again underwater** to allow air bubbles to escape.
  - **Setting Camera Zoom Position**  
**Set camera zoom at wide end. Depending on the camera and housing used, there may be vignetting in the image corners. In this case, crop the image when editing or zoom forward just enough to eliminate the vignetting.** The Dome Lens Unit II is designed to obtain best image quality and results when the zoom is set at this setting.
  - **Setting Camera Focus Mode**  
Generally, set **Macro Mode to ON**.  
However, for some cameras, depending on the particular focus range and aperture capabilities, some subjects at farther distances may not be in focus. In such cases, set Macro Mode to OFF. For various camera's focus settings and actual focus ranges (distance from the subject to dome surface) see the specification charts at the end of this Manual.
- Maintenance** :
- After using, **always remove from housing**, soak for several hours in fresh water (at 30°C / 86°F or less) to dissolve salt deposits, **blow off water droplets with compressed air, wipe off any remaining moisture on the lens surfaces** and store in a shade area with good ventilation. (It may take several days to completely dry).
  - **Then, after completely drying**, remove the Dome Lens Unit II from the UWL-H100 28LD using the reverse of the previously explained assembly process. Clean the O-rings, O-ring grooves and contact surfaces, and grease screw holes on the Dome Lens Unit II and protector.
  - Do not store in areas with solvents or chemical fumes, with high humidity, high ozone or extreme temperature fluctuations. Storage in such conditions may lead to water leakage or other damage such as lens surface degradation, discoloration or mold.
- 
- Handling Precautions:**
- Due the inherent design and characteristics of the Dome Lens Unit II as an add-on accessory to the UWL-H100 28LD Lens, even if the camera zoom position is optimum, compared to the UWL-100 alone, image quality may be somewhat less, in particular at the edges of an image. **Setting the aperture size as small as practically possible can improve image quality.**
  - **After using, always make sure no water droplets or moisture remains on the optical surfaces. Never put wet lens covers on the Dome Lens Unit II.** Doing so may cause degradation of the glass surface, or cause spotting or discoloration. Slight spotting or discoloration will have minimal adverse effect on the image, but heavy surface degradation would necessitate replacing the damaged dome lens element. Contact purchasing dealer if you require a dome lens element replacement.
  - **Especially if air temperature is relatively high where remaining water on the lens surface will be vaporized very quickly, the lens has high chance to get spot/burn with remaining water on the lens surface even for a short period of time.**
  - **Do not disassemble this product.** Doing so could cause damage and subsequent flooding, and will void warranty. Also, when removing the Dome Lens Unit II/ UWL-H100 28LD assembly from the housing **do not grasp and twist the Dome Lens Unit II portion of the assembly. Instead grasp the middle area of the UWL-H100 28LD lens barrel where you see product name and sticker.** Grasp this middle area and rotate to remove. Applying torque or rotational force to the Dome Lens Unit II could cause loosening of internal parts, causing damage and subsequent flooding.
  - Do not subject Dome Lens Unit II to large shocks or vibrations, which can lead to damage and possible flooding.
  - Do not leave exposed to strong sunlight, especially on such surfaces as a boat deck, car dashboard etc. as the optical elements will collect and concentrate the sunlight, creating a fire hazard.
  - Never look at sun through Dome Lens Unit II.
  - Do not expose to extreme heat, such as the inside of a hot car, or in hot direct sunlight, such as a beach or boat deck. Doing so may cause damage and subsequent flooding.
  - The Dome Lens Unit II will block the camera's built-in flash light from reaching the subject. We recommend using an external strobe such as the INON D-2000.

## Options

- Dome Lens Unit Cover  
Neoprene cover usable underwater protects lens element. Recommend to cover lens whenever not in use.
- Replacement Spare O-ring Set (for Dome Lens Unit II for UWL-H100)  
A set of one large and one yellow O-ring.  
**Not usable for /Dome Lens Unit II for UWL-100J / /Dome Lens Unit for UWL-100J .**



### INON Dome Lens Unit II for UWL-H100 Specification [(1)]

Outer diameter [(2)]	φ 132.4mm (5.2in.)
Length (standalone / with UWL-H100 28LD)	48.2mm (1.9in.) / 72.7mm (in.)
Weight (standalone on land / with UWL-H100 28LD underwater)	470g(oz)/approx. 505g(oz)
Depth rating	60m (196.9ft)
Body material / finishing	Corrosion resistant aluminum alloy / Black rigid alumite
Glass material / finishing	Optical glass / anti reflection multi-coating (inner side)

### Compatible housing / Focus range (at wide end)

Mfr.	Housing	Camera	Focus range[(4)] (Focus range without attachment lens[(5)])	Vignetting
			Normal mode	Macro mode
Canon	WP-DC38 [(6)]	S95	∞~0cm (∞~5cm)	51.6cm~0cm (50cm~5cm)
				[(6)][(7)]
				(3)

### Actual shooting distance(from Dome) and camera's focus setting

#### with UWL-H100 28LD + Canon S95

Shooting distance(from Dome)[(6)]	Camera's focus setting[(5)]
∞	69.4cm
51.6cm	50.0cm
11.2cm	30.0cm
0cm	14.3cm

- [(1)] Specifications is subject to change without prior notice.  
 [(2)] Including lens protector  
 [(3)] Noticeable vignetting on four corners at zoom wide end. Zoom to telephoto side or crop after shooting.  
 [(4)] Measured distance underwater. Divide by 1.33 for visual distance underwater..  
 [(5)] Focus range/position on land (=visual distance underwater). Multiply by 1.33 for measured distance underwater.  
 [(6)] Angle of view/vignetting may vary depending on housing model even using same camera.  
 [(7)] Based on not using image stabilizer.

INON Inc.

2-18-9, Dai, Kamakura  
 Kanagawa 247-0061  
 E-mail [support@inon.co.jp](mailto:support@inon.co.jp)  
 Fax. +81(0)467-48-2178  
 URL <http://www.inon.jp/>

December 2010