

Underwater Camera Anatomy 101: Understanding Digital Camera Housing

Written by OpenDP Staff

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Digital cameras and their accessories can be complex enough on their own. Try adding all the bells and whistles of super underwater digital camera housing equipment and you'll find that a mini-course in underwater digital camera housing could work wonders for your photography needs.

OK, so you **know** where the **shutter button** is and you can figure out **zoom** easily enough, but do you really **understand** how to **use** your **camera underwater** for all its worth?

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For best results with **underwater photography**, potential photographers should read up on underwater digital photography, tips on shooting underwater subjects, and they should definitely become familiar with all the parts of their underwater digital camera's housing.

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To help you along the way, here are some brief explanations of the different parts of an underwater camera housing.

Arms: *Used primarily for strobe and video light, the arms allow flexibility and versatility when it comes to getting great shots underwater.* The arms allow divers to effortlessly move the strobes and lights into position, merely by loosening and tightening clamps.

Body: *This is the main, watertight compartment where your camera is protected as you dive underneath the water.* Typically made of transparent polycarbonate, the body is pretty much the meat and potatoes of an underwater digital camera housing.

Dome port: *Initially designed to correct water's refractive properties, dome ports involve a protective, transparent semi-sphere of consistent thickness around the digital camera's lens.* Dome ports are especially useful in preserving the image geometry and angle of view, particularly for wide-angle lenses. In many cases, dome ports are preferable to flat ports.

Flat port: *Another type of underwater camera port, flat ports protect the camera's lens, but do not maintain the integrity of the shot.* Some deviations that may occur when using a flat port include refraction, radial distortion and chromatic aberration. Focal lengths longer than 28mm require flat ports. Flat ports are especially useful for macro photography and shots requiring a long zoom lens.

Housing: *The housing is the unassailable waterproof covering that allows a photographer to take his or her camera underwater.* Housings make use of waterproof seals, ensuring that the electronic device is safely and securely protected beneath the water's surface.

O-ring: *Ingeniously designed to become more and more effective as more pressure is added, the O-ring is part of a sealing system for underwater camera housings.* The rubber O-ring fits into a groove snugly and securely so that water cannot leak through and damage the camera. Keep your underwater digital camera housing in tip-top condition and free from leaks by preventing any bits of dirt from getting into the grooves where the O-rings sit. (If dirt does get into the groove by the O-ring, it may cause a tiny break in the seal that allows water to sneak

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through.

Port: *A port is a transparent viewing area or window found in an underwater camera housing. D*ome ports and flat ports are two kinds.

Rebikoff port/ Rebikoff corrector: *Clever and useful, a Rebikoff port or Rebikoff corrector* rights refraction caused underneath the water, at the boundary between air and water. This special type of lens actually sports a flat surface on the water side and a concave surface on the inside of the camera housing.

Tray: *To aid in attaching a supporting arm for flash, strobe or other lighting units, the tray is also known as a "saddle," a "stay," a "rail" or a "bracket."* Typically made of plastic or metal, the tray provides support and stability to the underwater housing.