

Large diameter dome ports

by Phil Rudin

Matty Smith is a professional underwater photographer based in Australia who specializes in shooting split images using custom ports designed specifically for split imagery.

Split shots take us from the terrestrial world into the underwater world we all love so much. Splits allow us to capture wildlife and human activity at or near the surface and in some cases to identify the location where we are shooting.

Many Splits, also called Over/Under shots, are regular award winners in a number of prestigious international photography contests held around the world. During the 2022 Underwater Photographer of the Year contest featured in UwP issue #125 out of the 4200 images entered by some 500 photographers sixteen of the winning shots were splits distributed over a verity of contest categories.

Back in the film days, 1990 to be exact, David Haas, Ruth Petzold, myself and four others were lucky enough to attend a workshop in south Florida with celebrated Underwater Photographer David Doubilet. Among the many pearls of wisdom I took away from that week was that both the over and the under parts of a split shot need to be interesting if you want to engage the viewer. Ideally this involves bring together several elements, first would be having both the top and bottom half of the image in focus.

The prevailing wisdom in this regard is to use very wide rectilinear or fisheye lenses, a very large dome port 200 mm or more and high F/numbers in the F/13 to F/22 range. The next issue is getting a proper exposure for both the top and bottom parts of the image. The third issue is keeping the top half of the dome as free from water droplets as possible.

Next you need a high enough shutter speed to freeze the subject and the surface water which is always in motion. Subject selection, location and water conditions should also be taken



into consideration. Typical wide angle dome ports are sold in the 180mm to 230mm range with the 230mm models being most desired for split shots.

Matty Smith sells a line of optical grade acrylic and anodized marine aluminum dome ports with port mounts for sixteen different housing styles for both stills and videos. My test port is the 12 inches (305mm) dome with the Nauticam N120 port mount. Other sizes include 17 inch (432mm) and 18 inch (457mm) models. All models ship with a neoprene port cover and the 17 & 18 inch models come with a bolt on carry handle and a bracket and strap for attaching counter weights for better balance.



Prices range from AU \$1775.00 to \$3650.00 plus shipping or around \$1190.00 to \$2446.00 in US dollars. International shipping cost run around \$115.00 US or AU \$118.00 Australia wide. Be aware that these ports are designed strictly for surface use and should be submerged more than two meters.

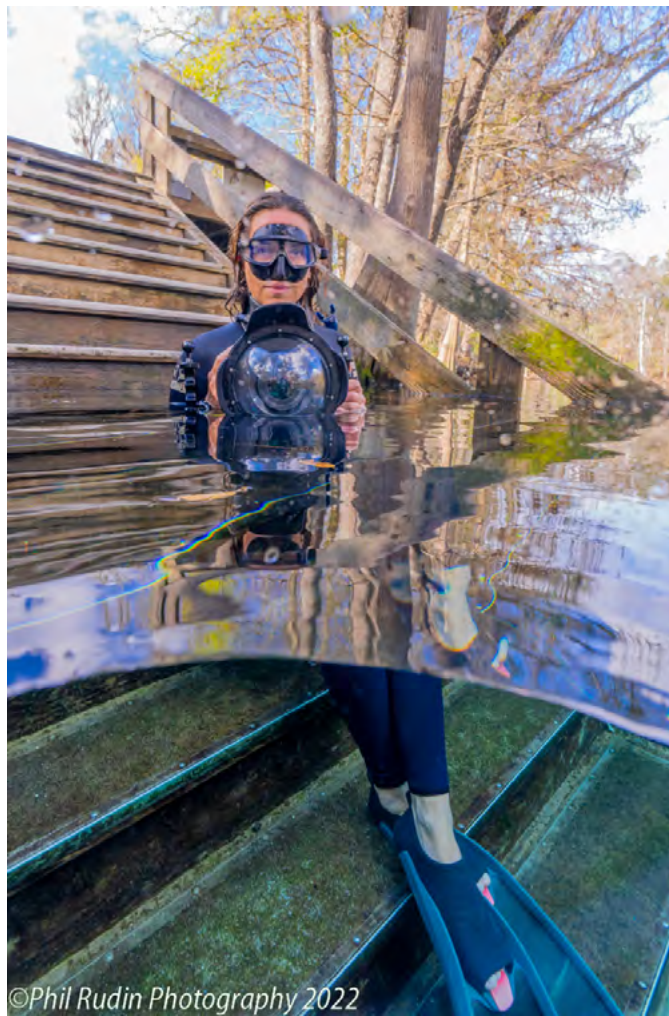
You may want to read my splits review in UwP back issue #115 for insight into lens and camera setting selections. The prevailing wisdom is that the very widest fisheye and rectilinear lens should only be used with port sizes like the 230mm. Second that the highest f/numbers should be used to assist in focus both above and below water and that high shutter speeds will help to stop the



Florida Manatee, Silver Glen Springs, Ocala National Forest USA, Sony A1, Sony FE 12-24mm F/2.8 at 23mm, Marelux MX-A1 housing, 12 inch (30cm) Matty Smith Dome, ISO-500, F/14, 1/125th sec.

motion of the water along the waterline.

With the larger Matty Smith ports the advantages include better front to back sharpness with reasonable aperture and shutter speeds. The ability to use a wider verity of lenses while still



Krissy, Ginnie Springs, High Springs, Florida USA, Sony A1, Sony FE PZ 16-35mm F/4 at 16mm, Marelux MX-A1 housing, Matty Smith 12 inch port, ISO-640, F/9, 1/100th sec.

getting excellent DOF with better corner sharpness.

A wider verity of lens opens up more creative possibilities like shooting portraits with lenses in the 50mm to 24mm full frame range. The larger ports also achieve a thin and more precise waterline

across the entire horizon with a better transition between air and water.

The buoyancy of these ports allows you to limit the number of water droplets that form on the dome which improves image quality. Smaller ports cause a virtual image that makes a submerged subjects disproportionate to reality, I.E. making the image areas appear closer. As a result even extreme wide lenses need high F/numbers in the F/22 range to maximize DOF so the about water and below water parts of the image will remain in focus. With larger ports submerged subjects look less disproportionate allowing the use of lower f/ numbers as wide as F/8 with a fisheye lens.

The larger ports also work better in choppy open water where the dome will ride over swells rather than being submerged by a swell. Finally large domes work great as a shield when photographing animals like sharks and crocodiles at or near the surface.

Field testing the twelve inch dome

For my tests I used the Matty Smith twelve inch dome port with the Sony A1, Sony FE PZ 16-35mm F/4, Marelux MX-A1 housing with the Nauticam to Marelux 20 adapter and a Marelux 30 extension. Matty Smith's port extension recommendations are to use the extension length recommended by the housing manufacture for the largest port.

In the case of Marelux the recommended extension for the 16-35mm f/4 PZ is 50mm with the 230mm dome port. Be aware that the Matty Smith ports do not have a dome shade so extra care is needed to avoid scratching the acrylic port.

The first thing I noticed about the twelve inch port was the extra number of pumps I needed to



Florida Manatee, Silver Glen Springs, Ocala National Forest USA, Sony A1, Sony FE 12-24mm F/2.8 at 24mm, Marelux MX-A1 housing, 12 inch (30cm) Matty Smith Dome, ISO-500, F/13, 1/125th sec.

draw the vacuum, the different is noticeable compared to a 230mm port. Second was how light the housing and port were verses my Marelux 230mm optical glass port.

My tests were done in clear spring water without any flash or flash arms. In fresh water the housing tended to float dome up with very little water coming up onto the dome. Matty recommends using mask defog as the best option for preventing water droplets followed by other common methods like spit, potato juice or a combination of the both.

I found the mask defog worked well until I ran out and switched to the dunk and shoot quick method. I used a verity of f/numbers, ISO settings and shutter speeds.

I found the larger port much easier to tilt down and balance verses the 230mm glass port. I shot both landscape and portrait with ease and with little water droplet issues until running out of defog. The water droplet issue was not as noticeable because the drops do not appear as enlarged as they do with smaller ports. I was also able to easily push

the entire housing under water far enough to shoot fully submerged subjects and selfie type shots without any issues.

Like all domes and especially acrylic domes I had a number of images with the lens information reflected back into the image. The Sony FE 16-35mm F/4 has the white markings around the front element of the lens and this is always a problem. I have other lenses without this issue I intend to test but for this review I did not cover the white lettering. Ikelite makes 24 different anti-reflection rings (\$10.00 US) with different thread sizes for specific lenses to prevent this problem. I have also used flat black tape to cover the lettering. Shooting with your back to the sun can also reduce this issue which is only visible at or near the surface. The Sony PZ lens is not supported by Ikelite but I am sure one of the other 72mm anti-reflective rings may work. I intend to review the Sony FE 16-35mm F/4 PZ lens at some point but be aware that if you shoot newer Sony cameras like the A1, A7 IV or A7R V the power zoom can be set to a pair of control buttons to avoid the need for a zoom gear. I have my Sony A1 set to wide on the OK button and tele on the down arrow button which works well. The zoom speed can be set to any of eight different speeds to fit your needs. This lens has much better

image quality than the original Zeiss branded 16-36mm F/4. As a footnote I will use the Sea & Sea conversion lens when I review the 16-35 F/4 PZ but for this review it was not used because it could distort the above water part of the image. I found F/ numbers in the F/9 to F/20 range worked well with shutter speeds in the 1/60th to 1/125th range at ISO-640. I intend to followup on this review with additional lens and camera setting combinations.

For traveling photographers the Matty Smith ports present an excellent opportunity for unique imagery. Because this combination can be easily moved through the water I think that in addition to splits this would be a great combo for subjects like Whales, Whalesharks, Sailfish, Jellyfish and other critters that move around near the surface of the water. This combination would also work well for models both in the field and in a swimming pool setting.

If you are interested in more information on the full line of dome ports checkout Matty Smith's website for further details and pricing in your area of the world.

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www.mattysmithphoto.com

Don't settle for 2nd best



Film - No Filter No White
Balance



Digital - No Filter Manual
White Balance



Magic Filter Manual White
Balance

Digital cameras have opened up new possibilities to underwater photographers. For available light photography manual white balance is an invaluable tool for restoring colours. But when you use it without a filter you are not making the most of the technique. You're doing all the hard work without reaping the full rewards. These three photos are all taken of the same wreck in the Red Sea. The left hand image was taken on slide film, which rendered the scene completely blue. The middle image is taken with a digital SLR without a filter; using manual white balance. The white balance has brought out some of the colour of the wreck, but it has also sucked all the blue out of the water behind the wreck, making it almost grey. The right hand image is taken with the same digital camera and lens, but this time using an original Magic Filter. The filter attenuates blue light meaning that the colours of the wreck are brought out and it stands out from the background water, which is recorded as an accurate blue.

www.magic-filters.com