

Nauticam N85 glass dome port & Olympus 8mm F1.8 fisheye

by Phil Rudin

I am frequently contacted through social media, photography forums and E-mail asking my opinion about lens and port combinations for Micro four-thirds camera systems being used underwater. One of my most frequent inquiries for the past six months has been for information about the new Olympus M.Zuiko Digital ED 8mm F/1.8 Fisheye PRO lens and the available dome systems for that lens.

In a July/August 2014 review for UWPMAG.com I talked about my experience with the Panasonic 8mm F/3.5 Fisheye and the Zen Underwater DP-100 port. I concluded that the fisheye lens was a must-have for M43 shooters and that the Zen DP-100 port provided the very best optical quality for a port of its size in combination with the Panasonic 8mm Fisheye.

A friendly debate has been waged on social media for years above the virtues of smaller ports verses larger ports for a verity of fisheyes lenses. The debate has included prime Fisheye lenses from Canon, Nikon, Olympus, Sigma and more plus zoom Fisheye lenses like

the Canon 8-15mm Fisheye Zoom which I reviewed for the Nov/Dec 2016 issue of this magazine using the Zen DP-100 port, the new Nikon 8-15mm Fisheye zoom the Tokina 10-17mm Fisheye zoom for APS-C cameras and more.

I have used several of these fisheye lenses over the years with large ports like the Zen Underwater DP-170/DP-200 and Nauticam N120 180mm optical glass ports. These three ports all have a 110 mm radius of curvature while the smaller Nauticam 140mm is 69 mm and Zen DP-100 is 50 mm.

Physics is not my strong suit but the prevailing wisdom is that domes with the greatest radius of curvature and diameter should yield the best corner sharpness IF the entrance pupil (or nodal point) for the lens is properly located at the center of the sphere. Getting the dome into the proper position relative to the lens is most often accomplished by adding various port extensions between the housing and dome.

This is the point where the debate begins to fall off the rails for me and



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Model Roman, Ginnie Springs Florida, Olympus E-M1 II, Olympus M.8mm F/1.8, Nauticam NA-EM1III housing and 140 mm port, two Inon Z-240 strobes, ISO 400, F/9, 1/200 sec.



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the mathematics involved make my head what to explode. We all have differing views on how important corner sharpness is, some feel corner to corner sharpness is essential with all lenses while others are more focused on overall image quality when viewed at the display size being used for any given project. About the only thing everyone will agree on is that fisheye lens render better corner sharpness than rectilinear lenses with all things being equal.

The other common debate is over how large a dome should be used for any given fisheye lens. We basically have two camps those that favor the smaller ports like those listed above and those in the larger port camp. The first group argues that smaller ports allow for better close focus wide angle, a more compact size for getting the housing into smaller places, better strobe light placement, a lighter overall weight and a smaller travel footprint.

Those in the larger port group are looking for better split (over/under) image quality, better corner to corner sharpness, less vignetting, the ability to carry only one port for both fisheye and wide rectilinear lenses and more.

Nauticam N85 140 mm Fisheye dome

Nauticam Optical glass dome



ports are available in four sizes 140 mm, 180 mm, 230 mm and 250 mm. The port openings for Nauticam housing include the N85, N100, N120 and N200 mounting sizes. The range also includes ports rated from 40 to 100 meters of depth in saltwater.

All of the Nauticam optical glass ports have been manufactured to the highest standards of optical technology and use nothing but the highest quality materials. The body construction and port shades are anodized aluminum alloy and the optical glass has a multi layered broad band anti-reflective coating on the inside.

The Nauticam N85 140 mm Fisheye dome port is rated to 100 meters, has a 69 mm radius of curvature and a fixed shade which protects the dome glass but can-not be removed.

All new Nauticam optical glass port include an excellent hard sided protective case with foam padding for



travel and storage, a neoprene port cover and a rear storage cap to keep dust from getting into the port when it is not being used.

The N85 140 mm Fisheye port works with the same iconic Nauticam port locking system feature found on all mirrorless and DSLR housings. It also features state of the art precision manufacturing standards used for all Nauticam optical glass ports and the multi layer broad band anti-reflective coating inside. The N85 140 mm port retails for \$900.00 / £832.00 (inc. VAT).

Olympus M.Zuiko Digital ED 8mm F/1.8 Fisheye PRO lens

The very fast Olympus 8mm F/1.8 Fisheye is an excellent choice for underwater photographers using M43 system cameras.

The wide F/1.8 to F/22 range, 12cm (4.72") minimum focus distance, 0.2X magnification and stellar auto focus speed make this lens a joy to use especially with the most advanced auto focus system cameras like the Olympus EM-1 II.

The 315g (11.11oz) lens, at 62 x 80mm (2.44 x 3.15") is slightly heavier, longer and wider than the Panasonic 8mm and at around \$798.00US/£599.00 the Panasonic is also more economical than the Olympus at \$899.00US/£699.00 .

The most obvious differences between the two lenses is that the Olympus lens is two stops brighter, which allows for shallower depth of field resulting in the ability to use higher shutter speeds and lower ISO numbers. It has faster AF speeds and it is weather-sealed an obvious plus when working around water.

The Olympus lens is an excellent top side lens as well with superior astro photography capabilities, better indoor venue capabilities and more.



Very noticeable distortion of the horizon and water surface common with all fisheye lenses, Ginnie Springs Florida USA, using the same equipment, ISO-400, F/9, 1/200th sec.

Field testing the Olympus 8mm and Nauticam port

For this review I used the Olympus 8mm F/1.8 with the Olympus EM-1 II camera, Nauticam NA-EM1 II housing, Nauticam N85 140 mm dome port, Nauticam Mini extension ring 17 mm with lock for N85 ports, Nauticam 60 mm x 250 mm buoyancy arms with 200 mm ball arms and two Inon Z-240 strobes. The

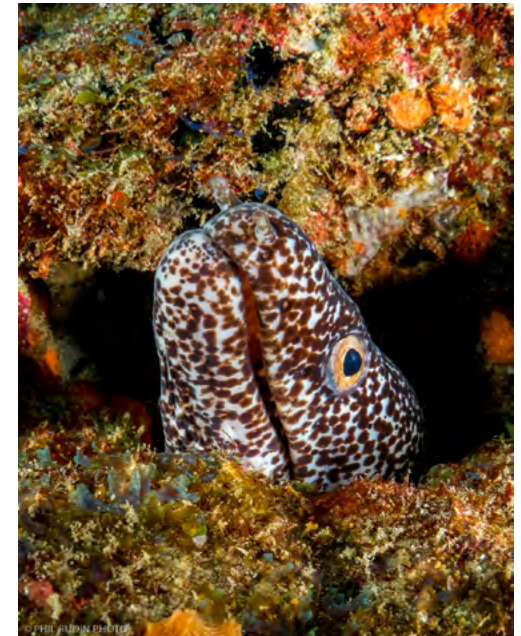
Nauticam 17 mm extension retails for \$180.00/£167.00.

With the Nauticam Mini extension ring 20 mm (\$180.00/£167.00) the 140 mm port can also be used with the Olympus 12mm F/2 lens which is an excellent close focusing portrait lens for both fish and people. The 8mm fisheye can be mounted from the rear of the housing while attached to the camera with the port in place on the housing.



Model Roman with fingers on the dome glass, Ginnie Springs Florida USA, Olympus E-M1 II, Olympus M.8mm F/1.8, Nauticam NA-EM1II housing and 140 mm port, two Inon Z-240 strobes, ISO 400, F/7.1, 1/200 sec.

Spotted Moray Eel, Breakers Reef, Palm Beach, Florida USA, Olympus E-M1 II, Olympus M.8mm F/1.8, Nauticam NA-EM1II housing and 140 mm port, two Inon Z-240 strobes, ISO 400, F/11, 1/125 sec.





Nurse Shark, Breakers Reef, Palm Beach, Florida USA, Olympus E-M1 II, Olympus M.8mm F/1.8, Nauticam NA-EM1III housing and 140 mm port, two Inon Z-240 strobes, ISO 400, F/10, 1/125 sec.



Loggerhead Turtle, Olympus EM1, Olympus M.8mm F/1.8 Fisheye, Nauticam housing and port, two Inon Z-240 strobes, ISO-320, F/5.6, 1/200th.

The Olympus fisheye does not have a mounting point for filter gels at the rear of the lens like some DSLR fisheye lenses do.

Once assembled the system is very well balanced in the water and can be easily used with one hand. The Olympus 8mm will focus all the way to the glass port with excellent sharpness. I have attached an image of the models finger resting on the port glass to give an idea of the subject size for close focus wide angle shots with the 140 mm port.

For CFWA I would recommend an F/8 or higher F/stop for the foreground and background subjects to be in focus. Lens curvature is most

notable when you are very close to your subject and when you place the horizon (reef/water interface) high or low in the frame.

Downward and upward angles also tend to distort and darken in the corners of the frame as in the case of snell's window created by direct upward angles. This distortion is common with all fisheye lenses and with a little practice can be use to your advantage.

I tend to keep my strobes well behind the dome port with the front of the strobes next to the housing grips and parallel to the lens glass. When shooting near or at the surface the excellent Nauticam anti-

reflective coating prevented any reflection from the lens engravings to be captured on the image sensor, an issue commonly associated more with acrylic ports.

Making an effort to have the sun at your back can also help to reduce this problem. I found the Nauticam 140 mm port worked well for split images in relatively calm water, using f/8 and above. I commonly shoot this lens between f/4 and F/11 at ISO-100 to 400 at 1/60th sec. and above. Much slower shutter speeds can be used if needed on stationary or very slow moving subjects.

Corner to corner sharpness surpasses my needs and image quality is outstanding with this combination. Serious M43 shooters should consider adding this lens and port to your kit. It is easy to travel with and covers a very wide range of subjects.

Regarding the debate between the Panasonic and Olympus M43 fisheye lenses, if you can afford the Olympus lens and optical glass port it is well worth the extra expense especially if the lens is going to be used above water for travel and other needs.

Contact your local authorized Nauticam dealer



for additional information and pricing for the N85 140 mm Fisheye Port and special thanks to Nauticam USA for assistance and technical information for this review.

Phil Rudin

Small ads



SOLD! – Ikelite housing for a Canon 5D MKII

Ikelite housing for a Canon 5D MKII, Ikelite 8" dome port (no scratches) for a Canon fish eye lens, Ikelite ports Canon 17-40mm and a macro 100mm IS lens. I am based in Scarborough, U.K. £1100 ovnoroaminrobin@hotmail.com

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