

Rokinon 18mm F/2.8 Lens

by Phil Rudin

Since 1979 Samyang Optical Company LTD, the Korean based company has continued to push the boundaries for innovation and craftsmanship in the camera lens industry.

Rokinon is owned and operated by Elite Brands Inc. which is the sole provider of Rokinon, Xeen by Rokinon and Samyang branded products in North America, Central America and South America. Samyang/Rokinon lenses and accessories are distributed in over fifty countries world wide. Samyang has focused on manual focus fixed focal length camera lenses and the XEEN Cinema lens line for years.

This review will be the third in a series of lens reviews using third party “budget” lenses for high resolution cameras. The lenses I will be testing cost anywhere from one-half to one-third the price of the camera manufactures proprietary lenses. In addition to third party lenses, bargain hunters can also find many last generation camera bodies which are discounted as well.

The Sony A7R III released just over three years ago is an excellent example, discounted during frequent

sales in the US by around \$700.00 from Sony’s original \$3200.00 retail price when it was first released. Canon EOS R and Nikon Z-7 have also been reduced in price now that second generation cameras like Nikon Z 7 II and EOS R5 have been released.

These reductions make many full frame mirrorless cameras very competitive with newer APS-C and even M43 cameras. Underwater housings and accessories in both the new and used market are also very competitive and often cheaper than those for full frame and APS-C DSLR cameras.

My first experience with a Rokinon lens was for a review of the Sony A7R II and Ikelite housing for UWPMAG.com May/June 2016 back issue #90 using the manual focus Rokinon 12mm F/2.8 ED AS IF NCS Fisheye. Fast forward to May 2016 to the Samyang/Rokinon announcement of their first ever auto focus lenses exclusively for Sony full frame mirrorless cameras.

The first offerings were the Samyang 50mm F/1.4 AS IF UMC and the 14mm F/2.8 ED AS IF UMC. Unlike the 12mm fisheye I tested the new 50mm F/1.4 and 14mm F/2.8



The Rokinon AF 18mm F/2.8 for Sony retail price is \$399.00 but can be found online in the \$299.00 price range.

Turtle, North Florida Springs, Sony A7R IV, Rokinon 18mm F/2.8, Nauticam housing, Nauticam 180mm optical glass dome port, Two Inon Z-330 flashes, ISO-500, F/11, 1/100th sec.



are designed for the flange distance of the Sony FE mount full frame mirrorless cameras.

The 12mm fisheye is a manual DSLR lens with an extension added to the rear of the lens replicating the distance from the rear of the lens to the sensor if a mirror box was included in the mirrorless camera body.

My Rokinon AF 14mm F/2.8 for Sony review is in back issue UWP #112. For an 18mm F/2.8 comparison you may also want to read my review of the much more expensive (\$1499.00US) Zeiss Batis 18mm F/2.8 AF for Sony FE in UWP back issue #92 from Sept/Oct 2016.

The Rokinon 18mm F/2.8 Lens

Before I jump into the body of this review I should first explain why I think an 18mm equivalent lens with a 100 degree angle of view should be in your underwater kit regardless of the sensor size of your camera.

For years I used the Nikonos 15mm and Nikonos RS Rene Aumann 18mm lenses with the Nikonos film cameras. These were my go to wide angle lens from the 1960s' until 2006 when I started shooting digital underwater.

During most of that time period more dive magazine cover shots were made with these two film lenses than just about all other lenses combined. The Nikonos 15mm F/2.8 is an all manual lens with an angle of view of 94 degrees and a minimum focus distance of 0.3m. The Nikonos 15mm is a water contact optic designed for underwater use only.

The Rene Aumann lens is an after market lens designed for the Nikonos RS auto focus camera which maintained the full 100 degree AOV. The

lens is basically an U/W housing with an eight inch dome port built around the guts of a Nikon 18mm F/2.8D AF-Nikkor lens. This lens would auto focus and could be used for shooting splits just like a housed 18mm lens.

Rene Aumann also made the TC-RS 2X teleconverter which I used for years with the Nikonos 50mm F/2.8 R-UW AF macro lens a 1:1 macro. The Nikonos RS system also included an outstanding 13mm full frame fisheye which I also used and which had the advantage of excellent image sharpness, better in the corners than the 18mm but with the same distortion associated with all fisheye lenses.

The Rokinon 18mm F/2.8 AF lens tested for this review is a wide angle prime lens with a 100.1 degree rectilinear angle of view on full frame and a 27mm 76 degree AOV with Sony APS-C. The Rokinon AF 18mm is what Full frame mirrorless users would wish for in a lens, it is compact at just 63.5 X 60.5 mm (2.5 X 2.38") and weights in at only 141g (5.12 oz.).

The lens has nine multicoated Elements in eight Groups. Eight specialized lens elements, three extra-low dispersion elements, three aspherical elements and two high refractive index elements which combine to reduce color fringing and chromatic aberration in order to produce better color rendering and greater clarity. The lens has a multi-coating to help reduction ghosting and flare.

The lens accepts 58mm filters and ships with a very small bayonet lens hood, lens caps and a zipper pouch for travel. The diameter of the lens allows it to be mounted from the rear of any Sony A7/A9/A7c series housing with 100mm or 120mm port openings.

The minimum focus distance is 25 cm (9.8")



Blue Gill, North Florida Springs, Sony A7R IV, Rokinon 18mm F/2.8, Nauticam housing, Nauticam 180mm optical glass dome port, Two Inon Z-330 flashes, ISO-160, F/14, 1/100th sec.

with a 0.09x max magnification. The aperture range is from F/2.8 to F/22 with seven diaphragm blades. The lens has an interior focus design which uses a linear STM autofocus motor that allows it to focus both fast and accurately using Sony full frame

bodies.

The Rokinson 18mm is a no frills lens with no lens stabilization, no manual aperture control, no AF-Manual focus on/off switch, no weather sealing listed on the Rokinson web site and no preset buttons for control from the lens. These are not shortcomings when using the lens in a housing. All of the Sony cameras have excellent in-body image stabilization that works well underwater.

Currently the Rokinson AF 18mm F/2.8 for Sony retail US price is \$399.00, it can be regularly found on sale in the \$299.00 price range. The only other 18mm AF lens for Sony FE is the Zeiss Batis 18mm F/2.8 which currently retails for \$1499.00 and was reviewed by me in uwpmag.com back issue #92, not a budget lens by any means.

For land photography the lens has a smooth manual focus ring which works very well for things like astro photography. I have manual focus set on my Sony bodies so that as soon as I turn the focus ring the area around the focus box is magnified about ten times in the viewfinder. Once I achieve critical focus and half press the shutter the image in the viewfinder returned to the full frame view. I also have focus peeking set to red which assists with achieving critical focus. This lens is quite robust but still has a bit of a plasticky feel.

Mounted on the camera the lens seems really small and light compared to the Zeiss 18mm. Be aware that Rokinson

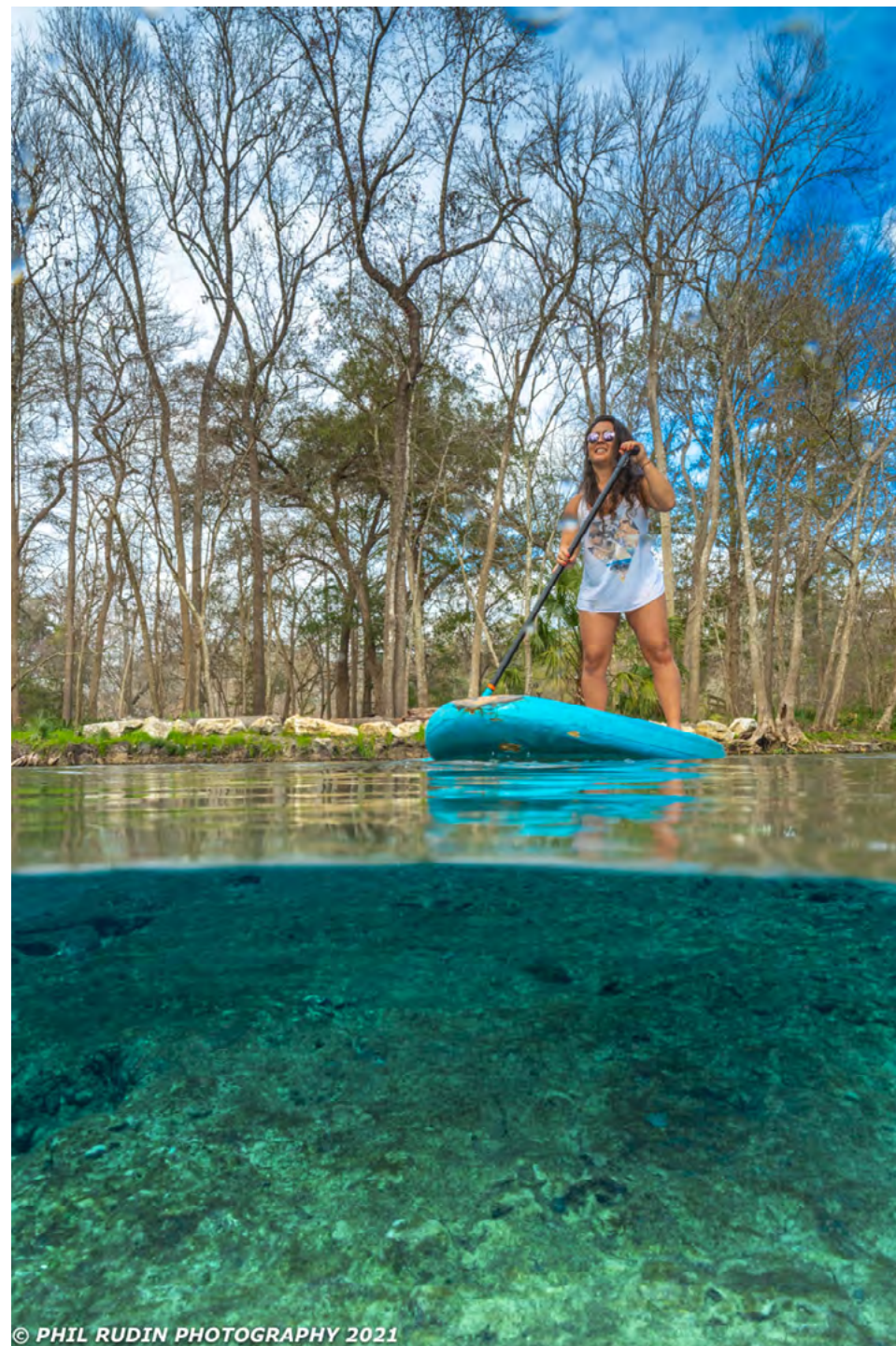


bundles a “lens station for Sony E mount” with several of the for Sony FE full frame auto focus lenses they sell including the 18mm. The lens station has the Sony E mount and is used to update firmware for the Rokinson AF lenses.

You first download the lens station software for Windows or Mac then chose the AF lens firmware you want to update using the provided mini USB cord. So far I have found seven of the nine Rokinson auto focus lenses for Sony full frame cameras offer firmware updates.

I have tested four of Rokinson’s Sony AF lenses and they all arrived factory new needing the firmware

Paddle border Split, Ginnie Springs, High Springs, Florida, Sony A7R IV, Rokinson 18mm F/2.8, Nauticam housing, Nauticam 180mm optical glass dome port, Two Inon Z-330 flashes, ISO-1400, F/14, 1/60th sec.



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updates. This is a good thing for photographers because it allows new camera bodies to be added and lens quality can continually be tweaked for better results. The Rokinson lens station for Sony FE sells for around \$60.00, when bundled with a lens the cost remains about the same. Rokinson AF full frame lenses are also coming for both Canon and Nikon FF mirrorless cameras with the AF 14mm F/2.8 for Canon already hitting the market and also needing a firmware update.

Currently the Rokinson AF 18mm F/2.8 and AF 14mm F/2.8 are not included on the Sony A7-series, A9-series or A7c port charts for Aquatica, Ikelite, Isotta, Meikon/Sea Frogs, Nauticam, Sea & Sea or Subal housings. As a result I was on my own to come up with a dome port and extension combination to support the Rokinson 18mm lenses.

For the Aquatica A7rIV Pro housing review I used the Aquatica 200mm (eight inch) acrylic dome port and the 28.5mm port extension for the Rokinson 14mm F/2.8. For even better corner sharpness I would recommend the Aquatica 230mm (9.25 inch) optical glass dome port. For the Nauticam housings for A9, A7 & A7R II, III & IV and A7c with an N100 to N120 35.5mm port adapter I selected the Zen Underwater 230 mm optical glass dome port and a 20 mm port extension for the 14mm and no extension for the Rokinson 18mm. Because of the small size of the lens I don't think a port extension will be needed for the 18mm with ports in the 170mm to 230mm range. Further the smaller Zen 170mm and Nauticam 180mm ports or like options should work very well for most

situations.

Since the purpose of this review is to offer less expensive options that offer excellent high resolution image quality I would also suggest that several acrylic dome ports like the Ikelite compact eight inch port should also work well with the proper or no port extension.

Acrylic dome ports are about one-third to one half the cost of optical glass ports. You can also choose what you already own if it supports the lens. Larger acrylic ports have a tendency to turn port up putting extra strain on the wrist while the optical glass ports are much heavier but still have a large air pocket.

Weights can be added to the dome shade for acrylic ports to help offset the added port buoyancy. I prefer the optical glass ports for split images because they appear to shed water better and I see less ghosting and reflection in the images.

Field testing the Rokinson 18mm F/2.8

I tested the Rokinson 18mm F/2.8 lens with the 62MP Sony A7R IV and Nauticam NA-A7R IV housing with a borrowed Nauticam 180mm optical glass dome port and no extension. I also used two Inon Z-330 flashes using manual power settings and fired with Nauticam fiber optic cables.

I choose the Nauticam 180mm optical glass dome port because the



Pool Test with the Nauticam 180mm port, Rokinson 18mm shot with no port extension my preferred configuration for this lens. ISO-400, F/22, 1/160th sec.

Nauticam port charts recommend this port for the Zeiss 18mm with a 20mm port extension. The Nauticam 180mm port retails for \$1379.00 making the cost difference between the 180mm and the ZEN 230mm optical glass port I own \$520.00 and with the Nauticam 230mm optical glass fisheye port II \$862.00.

Since the object here is budget equipment the smaller port makes sense. Nauticam also has an N120 mount 8.5 inch acrylic dome port which lists for \$724.00 which would also be an excellent option without any port extension. Ikelite recommends the eight inch and eight inch compact ports with a 28mm extension for the Zeiss 18mm so I would test the same ports without the extension for the Rokinon 18mm.

The A7R IV camera was setup using AF-C and Lock-on AF Expand Flexible Spot, with ISO sensitivity ranging from 100 to 640 and aperture settings from F/5.6 to F/18. I first tested the lens in a swimming pool to see if my port selection was in a range where I would have sharp corners without vignetting. The 5.5 stops of image stabilization in camera allowed me to shoot at shutter speeds as slow as 1/20th of a second while maintaining excellent sharpness in the image with static subjects, anything much slower than 1/20th sec. is not very useful for most underwater work.

As you will see from the attached images I found myself using the lens in both Portrait and landscape orientation. In portrait orientation using the two Inon Z-330 flashes you need to reposition the lower flashes to avoid blowing out the lower half of the image by having the flash to close to the bottom.

Above water the Rokinon 18mm F/2.8 lens has issues with corner sharpness and vignetting from F/2.8 to F/4. With full frame underwater the rule of thumb for acceptable corner sharpness is to start in the F/13 range. I have several images attached to the review where the lens was opened wider than F/13 and I will let the reader judge the corner results. The debate over sharp corners is one of the most talked about subjects regarding lens/port choices on the net. This is a deal breaker for some and if you are not willing to shoot at higher F/ numbers perhaps a smaller sensor size would make sense.

I was easily able to lock focus with a half shutter press and drag the focus point around the frame for best composition without dropping the focus point. For humans the eye auto focus locked on even with divers wearing a black mask.

With all wide lenses flash placement is critical to avoid backscatter and like all wide lenses looking into the corners of the EVF



Tech Diver, Devils Eye Springs, High Springs, Florida, Sony A7R IV, Rokinon 18mm F/2.8, Nauticam housing, Nauticam 180mm optical glass dome port, Two Inon Z-330 flashes, ISO-500, F/11, 1/100th sec

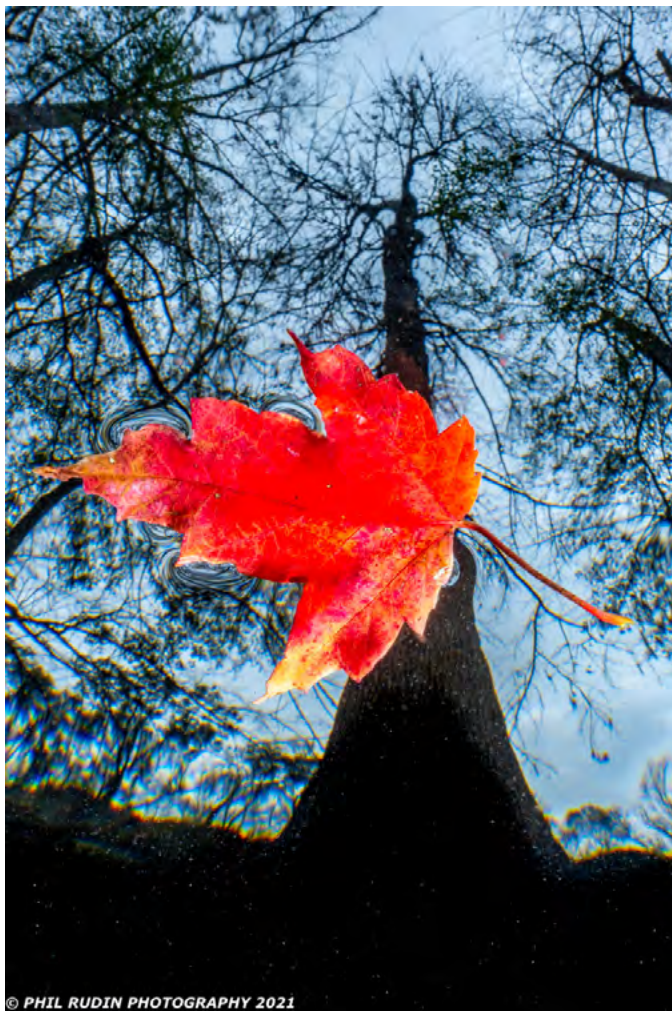
or LCD while composing the image is very important. With the 18mm's 25 cm minimum focus distance the lens focuses very close to the port glass using the 180mm dome.

With domes in the 170/180mm range the port interferes with your ability to shoot extreme CFWA without banging the dome shade on something.

While I was able to get excellent focus at close range extreme CFWA works best with fisheye lenses and a 100-140mm dome port. At the higher F/numbers (11-16) I found corner

sharpness with the Nauticam 180mm optical glass port to be acceptable for publication. I would expect similar results with the ZEN 170mm port.

The Rokinon 18mm is a niche lens for me, my go to underwater W/A lenses on any dive trip remain the Sony FE 12-24mm with the Zen 230 dome port or the Nauticam WACP and WWL-1 water contact lenses. I also use the Canon 8-15 fisheye with 140mm and larger ports but I don't relay on the fisheye nearly as much as many U/W photographers. The up sides for the Rokinon 18mm are its



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Leaf, North Florida Springs, Sony A7R IV, Rokinon 18mm F/2.8, Nauticam housing, Nauticam 180mm optical glass dome port, Two Inon Z-330 flashes, ISO-100, F/13, 1/250th sec.

wide AOV and fast F/2.8 aperture, the ability to get excellent images with a 170/180mm dome port, its smaller size as a travel package, the ability to shoot decent splits including divers and its budget price.

When the image files from the Rokinon 18mm lens are downloaded into LightRoom all of the



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Tech Diver Split shot, North Florida Springs, Sony A7R IV, Rokinon 18mm F/2.8, Nauticam housing, Nauticam 180mm optical glass dome port, Two Inon Z-330 flashes, ISO-1320, F/16, 1/250th sec.

EFIX data appears and lens profiles are accessible. In the LightRoom library the meta data always lists the lens as a Samyang 18mm while in the development module the lens profile appears as a Rokinon/Samyang 18mm.

The Rokinon/Samyang 18mm F/2.8 AF offers

outstanding performance for an under \$400.00 lens and I would highly recommend it as an entry lens for wide angle rectilinear underwater photography along with the under \$600.00 AF 14mm F/2.8. I would expect the results to be similar from the coming Canon and Nikon versions of these lenses.

As a sidebar I would like to add that Nauticam and Ikelite have both releasing housing for the new Sony A7c full frame and FE 28-60mm kit lens. Nauticam's housing is about the same size as the Sony A6600 APS-C housing but with the N100 port mount used for all Sony full frame cameras. Lenses like the Rokinon 24mm F/2.8 and 18mm F/2.8 are the perfect size for this smaller camera for both U/W and land photography. This camera has the 24MP sensor for those not needing the high res specs of the A7R IV. Another upside is that the 28-60 kit lens can be used on all Sony full frame cameras with Nauticam WWL-1, WACP-1 and the sub full frame CMC 1 & 2 closeup lenses. Looking forward to reviewing the Sony A7c soon.

I would like to thank Nauticam USA (nauticam.com) for assistance with the Nauticam 180mm dome port and the technical assistance they provided for this review.

Phil Rudin
Instagram



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