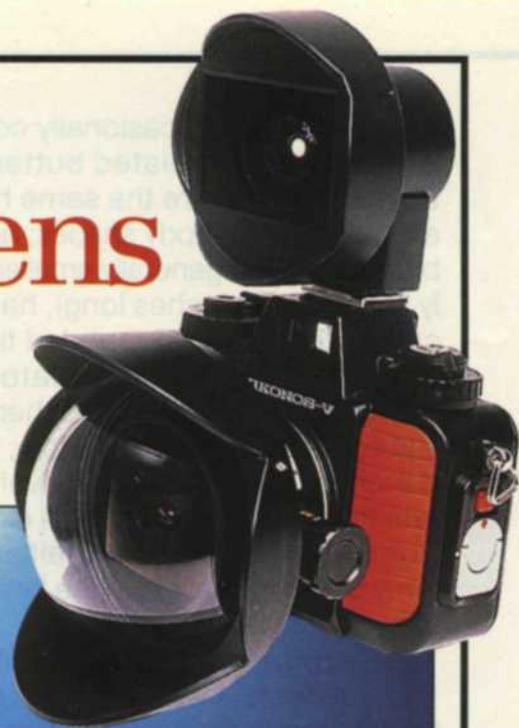


Sea & Sea's 12mm Lens

Full Frame Fisheye Offers a New View of the U/W World



photo/ Joe Liburdi

TEXT AND PHOTOGRAPHY BY JACK AND SUE DRAFAHL

Although Sea & Sea introduced it a little more than two years ago, the 12mm lens has been a sleeping giant. The first fisheye lens developed exclusively for the Nikonos camera, it offers a whole new view of the underwater world.

When you first see this lens, you'll want to let out a "Tim 'the Tool Man' Taylor" grunt. It's really impressive! It offers 167 degrees of coverage, nearly twice that of the 15mm! Before we give you the grand tour of this lens, we'll offer a brief explanation

A Nikonos V and Sea & Sea's 12mm full frame fisheye lens were used to take this reef panorama. It includes not only the clownfish and their host anemone but a midwater background and the sun.

of the two types of fisheyes.

Circular fisheyes basically take a picture of everything in front of the lens. The resulting image is small, circular and about 24mm in diameter. Most of these lenses cover an angle of about 180 degrees. The images are spectacular and the distortion unique but the circle effect becomes tiresome.

Full frame fisheyes produce a flat, full image similar to that taken by a super wide angle lens. The angle of coverage is usually about 165 to 170 degrees. Because the lens does not use the full circle, the resulting photo is sharp edge to edge.

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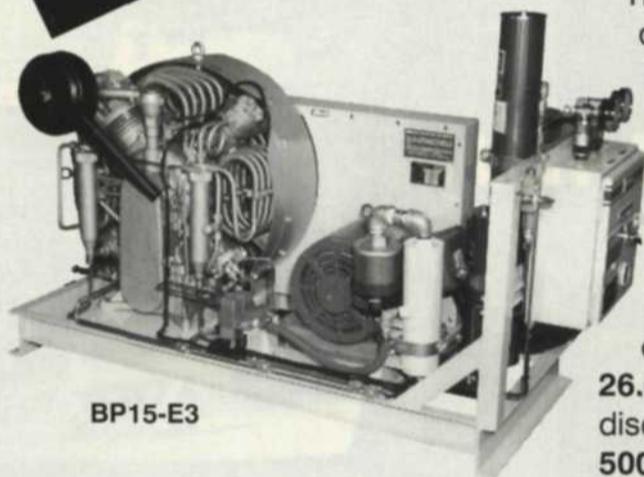
SEA & SEA WIDE ANGLE LENS COMPARISON CHART						
Compatible Camera	Focal Length	Angle of Coverage	Aperture Range	Near Focus	Weight	Rated Depth
Nikonos	12mm	167°	f/3.5 to 22	11.8"	20.0 oz.	200'
Nikonos	15mm	96°	f/3.5 to 22	12.0"	12.0 oz.	200'
Nikonos	20mm	80°	f/3.5 to 22	15.0"	9.5 oz.	200'
Nikonos	16WC	91°	f/5.6 to 22	12.0"	14.0 oz.	150'
Motormarine II-EX	16mm	91°	f/5.6 to 22	12.0"	13.6 oz.	150'
Motormarine II-EX	20mm	80°	f/5.6 to 22	16.0"	9.2 oz.	150'
SX-1000	28 to 70mm	56 to 26°	f/3.5 to 22	19.7"	10.9 oz.	200'
SX-1000	14mm	110°	f/3.5 to 22	7.1"	15.2 oz.	200'
SX-1000	24mm	81°	f/2.8 to 22	7.1"	8.4 oz.	200'

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occasional moray, turtle or Jewfish.

Additional diversity can be found at the eastern end of Guanaja. Shallow dives here normally produce Nurse Sharks in shallow coral labyrinths. In deeper water is a series of fish-crowded coral sea-mounts and ridges. There are nearly 50 permanently moored reef sites around the island. Occasionally, the Bayman Bay Club schedules an all day picnic trip to the wilderness island of Barbareta, 12 miles away.

In addition to the normally scheduled resort functions, island and town tours can be arranged. The Bay Islands are some of the most convenient dive destinations in the world to combine exciting and adventurous above water travel. The



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The Bayman Bay Club is where the jungle meets the sea in beautiful Honduras. Call your travel agent or Terra Firma Adventures at (800) 524-1823, (954) 572-1902, fax (954) 572-1907. The Internet address is <http://bayman.lwm.com/bayman>.

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edge, with minimum distortion. The Sea & Sea 12mm, with 167 degree coverage, is a full frame fisheye. Enough of the lectures, let's get on to the tour.

The 12mm has the same bayonet mount found on all Nikonos lenses. When it is twisted into position, two small pins on the back of the lens lock it firmly

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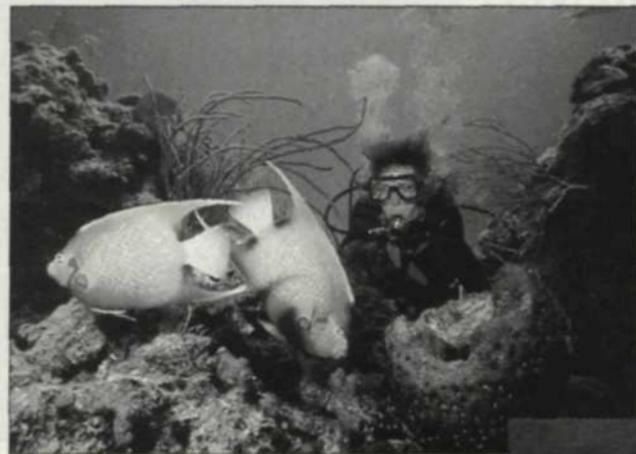
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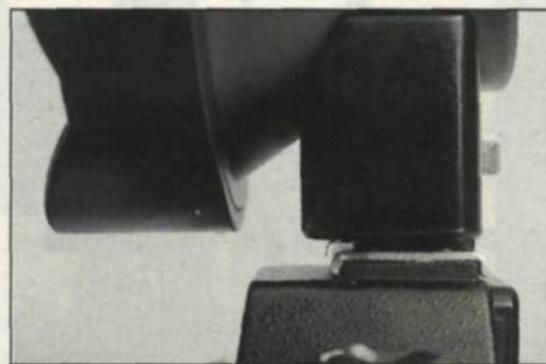
SEA & SEA

in place. The 12mm features a built-in lens hood. The back of the lens mount has the same spring loaded action found on other Nikonos lenses, allowing constant focus as depths change.

As you look down on the top of the lens you will find the f/stop control on the right side and the focus control on the left. A depth of field chart sits between the two. The focus control has readings in both feet (white) and meters (yellow). The minimum focus is one foot. The



The 12mm fisheye lens comes with its own unique protective neoprene cover.



The 12mm lens viewfinder slides into the hot shoe on the top of the Nikonos V and is locked in place with a special fitting.

numbers are very easy to read and the control is easy to turn, even with gloves.

The aperture control starts at f/3.5 and has click stops at each full stop down to f/22. When you combine the best focus and the optimum f/stop you have incredible depth of field. For example, the depth of field for f/8 at two feet is from one foot to infinity. If you have enough light and want to really push the lens, at f/22 everything from five inches to infinity is in focus.

An impressive part of the lens is the large acrylic resin port and its surrounding lens hood. This port is designed to provide the lens optimum sharpness under-

SEA & SEA

water. The trade-off is that the lens does not work in air. The lens is TTL compatible with all Nikonos V functions. It comes with a unique neoprene lens cover and neoprene carrying bag.

A special Sea & Sea viewfinder was designed specifically for the 12mm lens. The angle of view equals about 90 percent frame coverage. The finder itself is about half the size of the lens and mounts to the camera hot shoe. Sea & Sea has

developed a double lock mechanism so you never lose your viewfinder. Once you slide the viewfinder into place, a piece of metal inside the base of the finder wraps around the front edge of the hot shoe as you twist the lock knob. Of all the methods we have seen for attaching a viewfinder, this seems sure fire. Once the knob is locked, there is no way the finder can come off underwater.

Effective use of the Sea & Sea 12mm lens will depend on your understanding of fisheye lenses. On land, these lenses have problems with straight lines, which usually end up curved and distorted. The

underwater world consists of odd shapes, curves and animals, well suited for fisheye lens optics. This lens allows you to cut down the water density by being able to move in close to your subjects. Water visibility of 15 feet will look like 75 feet or more and 60 foot visibility will look like 200.

How many times have you tried to show the folks at home the great shipwreck you explored, only to find you could get just the hull in the picture? With the 12mm fisheye you only have to be a couple of feet away to get the whole ship in the frame. This really comes in handy when you encounter Mr. Big!

If you have tried other wide angle lenses you may have encountered a recurring problem: You have brightly colored coral in the foreground and your dive buddy is hovering just above in perfect form. To make the scene perfect, you need the sun in the picture. It seems no matter which way you angle the lens you either get the sun and diver, or coral and diver—but not all three. With this 12mm wide angle lens you can have it all! Because of its extreme angle, you can have the sun in any photo you want. You are not limited to one angle that captures all three photo elements, you can move around and pick and choose. Just think of all the possibilities! Good photo composition just got easier.

Tests showed us that the lens is very sharp from corner to corner, has an excellent contrast range and has almost no light falloff owing to the extreme angle of coverage. If you decide to use artificial light with this lens, you will get best results with two strobes. Each should be a wide angle strobe, used at 45 degree angles from the camera lens.

Available light photography with this lens is ideal near the surface; weight and drag are not a problem as the lens weighs only 14.7 ounces U/W. Imagine yourself just below the surface surrounded by a school of fish. The sun is bright and you are ready to produce some incredible images. You point the lens up and the circular feel of the lens adds to the motion of the school of fish. Feel the thrill!

Some underwater photographers love capturing close-ups, while others swear wide angle photos are the best. No matter what type of underwater photography is your favorite, once you give the Sea & Sea 12mm fisheye a try, we think that the underwater world will take on a new view. The suggested retail price of the lens is \$1,344; the viewfinder is an additional \$445.95.

For more information on the 12mm fish-eye lens please contact Sea & Sea Underwater Photography USA, 2105-L Camino Vida Roble, Carlsbad, CA 92009; (619) 929-1909, fax (619) 929-0098. 🐠

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