

TIPS AND TRICKS NO 12.

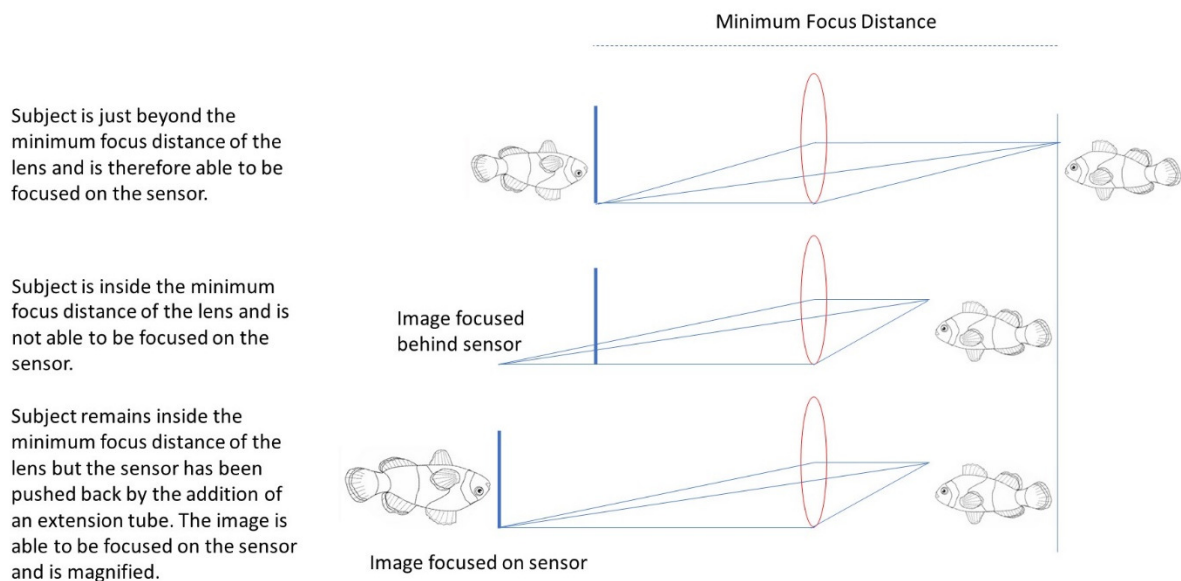
Extension Tubes

Over the years I have done a lot of super macro photography and experimented with wet diopters, teleconverters, long focal length prime lenses and extension tubes. The latter has generally become my go to for super macro underwater photography.

And I have recently started using extension tubes for my super macro cinematography work.

An extension tube is a hollow spacer with no optical elements that sits between your lens and the camera body to alter the minimum focus distance of the lens. They can only be used on cameras with interchangeable lenses. The minimum focus distance of a lens is a measurement of the closest point a subject can be from the camera's sensor, whilst still being able to focus. If a subject is closer to the sensor than a lens' minimum focus distance, you cannot focus on that subject.

When an extension tube used on a lens, magnification increases because you're able to get much closer to the subject and still achieve focus. This means an extension tube can be used to achieve super macro images.



Extension tubes are relatively inexpensive when compared to the cost of a super macro primary lens, diopter or teleconverter. If you decide to go down this track for underwater use ensure you get an extension tube that will pass the electronic signals between the camera and lens so that you can still autofocus and change lens aperture. Also, in moving the lens further away from the sensor you will need a corresponding extension port to go between your housing and lens port.



Extension tubes come in different sizes and can be stacked if needed. The longer the extension tube the greater the magnification that can be achieved.

Using an extension tube, you will no longer be able to focus at infinity but this is of little concern for underwater photographers because we should always try to limit the amount of water between the subject and the camera. Another advantage of using an extension tube is that they don't have any glass elements and therefore do not introduce any optical distortion problems.

There is of course a loss of light at the sensor but this is of little concern if you are using appropriate strobes or video lights. The close focus distance afforded by an extension tube means that light has a very short distance to travel to the sensor.

Of course, once you have committed to set up your camera system with an extension tube you are committed to use it for the whole dive as you can't change it in water. But this won't be of concern if you are diving a site offering small macro subjects.

So, for your super macro underwater photography, consider adding an extension tube and matching extension port to your system. You will be amazed at the results you will get.