



This newsletter highlights Rockland Scientific's MicroPods S, T, and EM. These include essential pressure case components manufactured by Rainhouse for high precision mechanical elements embedded in the ocean sensor instrumentation.



Rockland Scientific specializes in designing and manufacturing sensors and software to study large bodies of water. Their mission is to help scientists understand climate change by creating tools to measure, research and analyze ocean mixing.

Ocean mixing is a significant factor in climate change. This has led Rockland Scientific to develop tools to assess characteristics such as temperature, flow speed, salt, and sound on oceans, lakes, and reservoirs. Measuring these characteristics is critical given that our oceans take billions of tonnes of CO<sub>2</sub> from the atmosphere every year. To establish a comparison, this is even more than what trees take.



Oceans' heat sequestration helps buffer the emissions from human activities. As CO<sub>2</sub> concentration in the atmosphere increases, more of it gets dissolved on the water surface. Once in the water, the CO<sub>2</sub> mixes down and starts to sink in cold waters when entering the deep sea. Here, the CO<sub>2</sub> can stay held up for hundreds of years and slowly move back into the atmosphere.

Another consequence of this phenomenon is the creation of limestone. When oceans sequester CO<sub>2</sub> and the carbon dioxide turns into calcite rocks, these can stay for millions of years and contribute to harming coral reefs and the ocean's ecosystem.

Much like Rainhouse, Rockland Scientific works to strengthen the supply chain. They operate from Vancouver Island, and most of their products and processes happen locally. We share the same values of collaboration, and we are both on a mission to continue to grow locally and within the industry.

Rockland has also been re-investing in the company resulting in the commercialization of new products that take advantage of emerging technology. Now, Rockland's catalog of products, like the MicroPod, are integrated on a variety of autonomous ocean observation robots, which empower scientists to gather an unprecedented amount of information in previously inaccessible places.

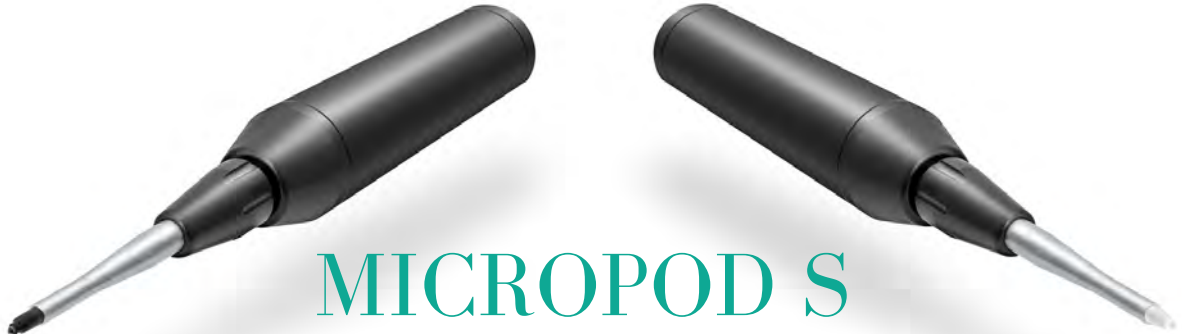
At Rainhouse, we are proud to satisfy Rockland Scientific's particular needs for parts and products that require high quality, specific tolerances, and high precision.

The following pages highlight Rockland Scientific's S, T, and EM MicroPod ocean sensor instruments, built with high precision pressure case components manufactured by Rainhouse.



# MICROPODS

*MicroPods are single sensor units that provide analog data and can be used in laboratory installation or in conjunction with autonomous underwater vehicles. Up to 8 MicroPods can be combined by utilizing a DataHub to provide signal input for the different modules.*



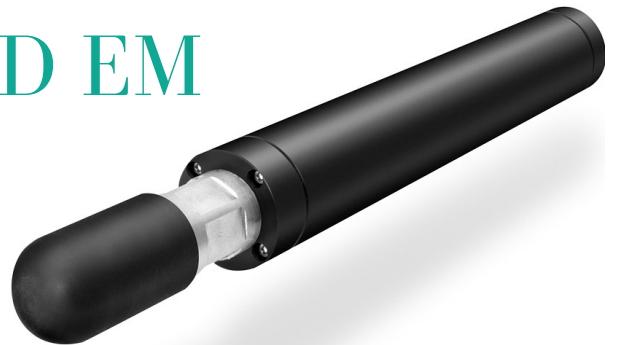
## MICROPOD S

*MicroPod S is a velocity shear module and will help measure the water speed.*



## MICROPOD T

*MicroPod T is a fast response temperature module. This module helps measure and transmit temperature variances that could create turbulence.*

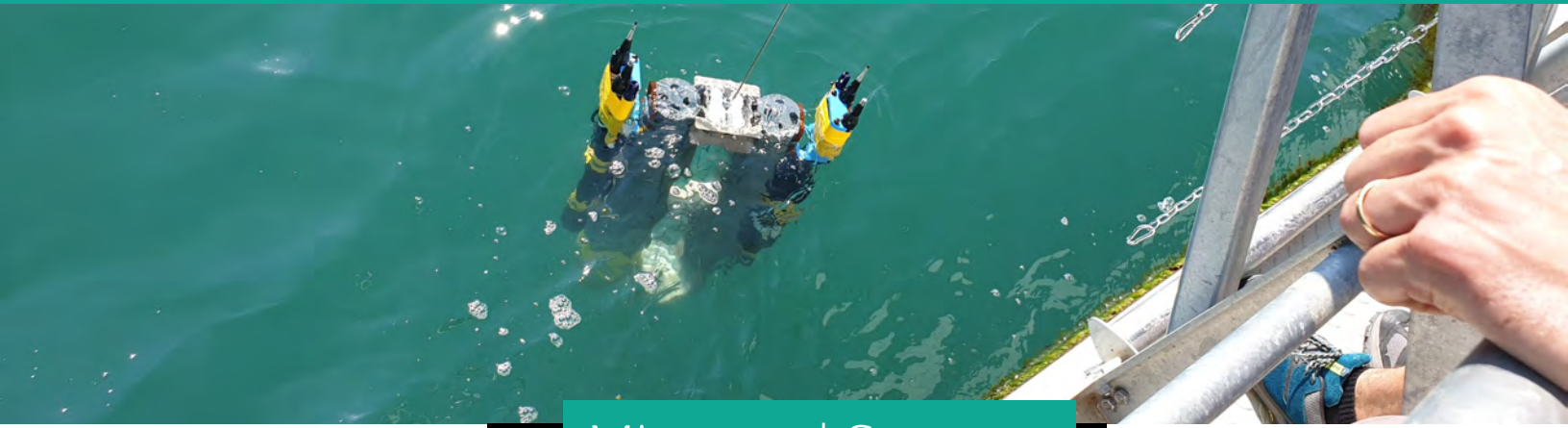


## MICROPOD EM

*MicroPod EM is an electromagnetic flow sensor designed to measure the flow speed of water.*



# Additional images of Micropods and its implementation



## Micropod Systems



## Micropod System in AUV