

Syrinx DVL for Flagship Canadian Ocean Science ROV



Doppler Velocity Log (DVL) technology from Sonardyne (USA) has been selected to help navigate Canada's flagship undersea research vehicle, *ROPOS*. The order for a 4,000 metre depth rated, 600kHz Syrinx DVL was placed by the Canadian Scientific Submersible Facility (CSSF), the not-for-profit corporation who operate *ROPOS*, following a trial to evaluate its capabilities. This concluded that Syrinx was able to maintain, and regain bottom lock over a wide range of altitudes and seafloor terrains including soft fine sediment and rugged steep slopes close to hydrothermal vents.

ROPOS (Remotely Operated Vehicle for Ocean Sciences) is a modular work-class ROV which can be reconfigured to operate at different depths and from different size vessels depending on the science mission. In the setup Syrinx has been chosen to support,

ROPOS is a free-flying 4,000 metre-rated vehicle equipped with HD cameras, powerful lighting and a comprehensive suite of environmental probes, sampling skids and sensors.

[Sonardyne's Syrinx DVL](#) characterises itself through its use of fully linear signal processing, low noise electronics and adaptive bottom lock. These features enable Syrinx to operate at altitudes up to 50 percent higher than conventional 600kHz DVLs with the high resolution performance of a 1200kHz DVL, all whilst navigating over undulating and challenging terrain of any type.

Alongside its class-leading precision and accuracy, Ethernet and serial output means that Syrinx can be employed as a standalone DVL, as part of an integrated navigation system, or perform both functions at once, allowing both vehicle pilots and science teams to simultaneously share the output from Syrinx.

Syrinx has been designed to be easy to install, set-up and use, and can make use of existing DVL mounting arrangements on host vehicles. Available in depth ratings up to 6,000 metres, CSSF selected the 4,000 metre rated, corrosion resistant titanium model for *ROPOS*. It will be fitted to the vehicle's dedicated navigation instrument skid which keeps any offset errors between sensors to a minimum.

Vincent Auger, IT and Navigation manager at CSSF said the first dive with Syrinx installed on *ROPOS* was on an active hydrothermal vent site in the Indian Ocean. The bottom there is very rugged; essentially as rugged as it gets, but Syrinx coped with the challenge very well and demonstrated reliable bottom lock throughout the mission.

Kim Swords, senior application engineer with Sonardyne in Houston said to be delighted that CSSF is the latest scientific organisation to recognise the ownership benefits offered by our new Syrinx. It takes away the need for DVLs of different operating frequencies and it has lower servicing costs thanks to innovations such as individually replaceable transducer capsules.