SYRINX DOPPLER VELOCITY LOG (DVL)

HIGH INTEGRITY, HIGH PERFORMANCE 600 KHZ DVL

Syrinx is a 600 kHz Doppler Velocity Log (DVL) for surface and subsea vehicles and is the latest addition to Sonardyne's acoustic product portfolio. Syrinx is capable of high altitude navigation comparable to a 300 kHz DVL with the high resolution performance of a 1200 kHz DVL. The adaptive bottom lock system Syrinx operates has been demonstrated to provide consistency and reliability over challenging and changing topography. This results in a navigation tool ideal for use on ROVs and AUVs in any environment.

A highly capable and versatile DVL

Syrinx can be used as a standalone DVL, as part of an integrated system, or perform both functions at once due to concurrent Ethernet and serial output capability at ping rates of up to 10 Hz. Its dual capability means that only one DVL/altitude sensor is required for both ROV control and Survey crews, saving on cost and payload weight whilst meeting the requirements of both users.

The unit runs an embedded web server that allows the user to configure, operate and test the device while also providing data visualisation. Syrinx can be connected to and configured using a web browser, removing the need for configuration software*. The hardware and interfacing has been designed to be easy to install, set up and use and can be fitted to existing DVL mounting brackets. With similar dimensions to existing DVLs, there should be no need for physical modifications to subsea vehicles in order to upgrade to a Syrinx DVL. The industry standard PD4 and PD5 telegrams are also supported allowing for seamless integration to third party navigation systems.

When tightly integrated with Sonardyne's SPRINT INS, unmatched DVL aided navigation can be achieved even in challenging conditions. Two way communications allows for enhanced performance through optimisation of data passed between the DVL and SPRINT INS to aid in velocity prediction and outlier rejection.

*For Ethernet connectivity only

Syrinx DVL at a glance

- Class-leading precision and accuracy combining 300 kHz and 1200 kHz instruments in one
- Easy to set up and use
- Reliable and adaptive bottom lock
- 140 metre high altitude range and low noise, low altitude performance
- High update rate even at < 1m altitude
- Embedded web browser interface for configuration, self-test and data visualisation
- Concurrent outputs (Serial and Ethernet) support use by ROV and Survey teams
- Standard 4000 metre rated titanium housing option for Work Class ROVs

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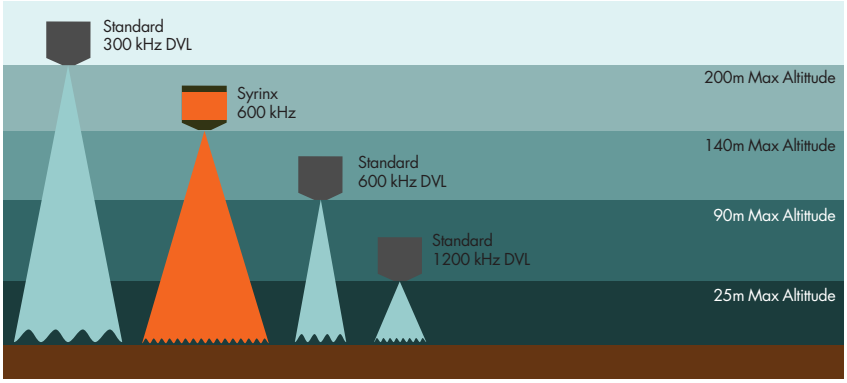
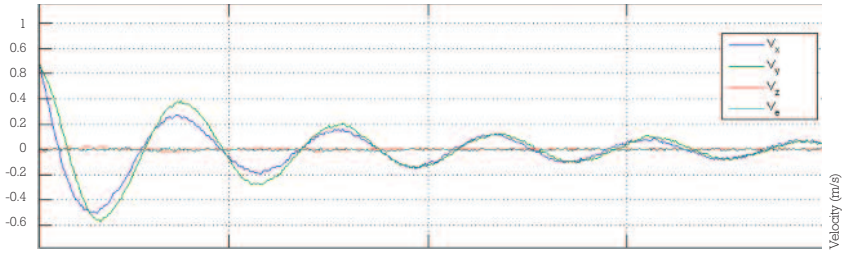
A head for heights

Syrinx excels at all altitudes thanks to its improved reliability adaptive bottom lock combined with low noise electronics and fully linear signal processing techniques. These techniques have been refined to avoid any loss in output measurements including when navigating over undulating and challenging terrain of any type. Unlike many DVLs, Syrinx's signal processing technique can continue to output data at very high update rates when operating at very low altitudes (< 1m).

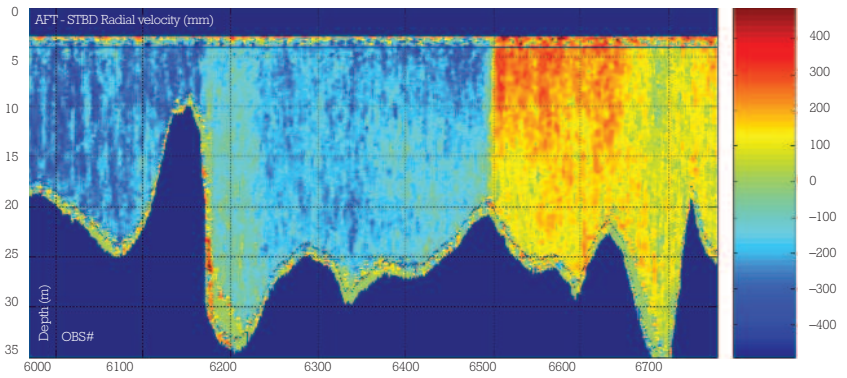
A 4,000 metre titanium version of the Syrinx DVL is available to meet the requirements of modern Work-Class ROVs. 3,000 metre and 6,000 metre models are also available. The transducers used in Syrinx have been designed, built and tested in house to provide maximum performance. Not only this, the design also enables each transducer to be individually replaced. Therefore should any operational damage occur, this feature reduces both repair time and costs. Syrinx has also been tested to the industry standards for subsea equipment, ensuring that Syrinx is certified and suitable for the intended working environments.



(Above) The Syrinx 600 kHz DVL has been designed and developed to offer an altitude range that is comparable to a 300 kHz DVL, with the precision previously only achieved using a 1200 kHz DVL.

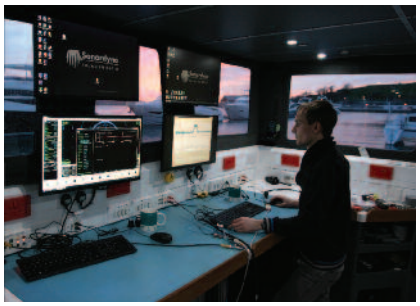


(Above) Syrinx outputs high resolution velocity computations in X, Y and Z (Janus) or beam orientation.



(Above) Syrinx's ADCP capability has been proven in trials at our test facility in Plymouth and independently by a leading UK university.

Tested in all environments
In extensive sea trials in Plymouth, UK, Syrinx delivered class-leading precision in a wide range of water depths and bottom types. These included steep drop offs, whirl pools and flat muddy areas.



The DVL really is in the detail
The ability to log raw data and diagnostic information is extremely important when trying to attain the best possible performance. Software enables raw data to be reprocessed and visualised to optimise Syrinx for customers' specialist applications.

Summary Specifications

Operating Frequency	600 kHz
Long Term Accuracy	±0.2% ±0.1 cm/s
Min/Max Altitude	0.5 m / 140 m
Depth Rating	3,000 m, 4,000 m or 6,000 m
Housing Material	Aluminium or Titanium
Communications	Concurrent RS232 and Ethernet
Data Output Rate	10 Hz max
Internal Logging	64 GB Internal