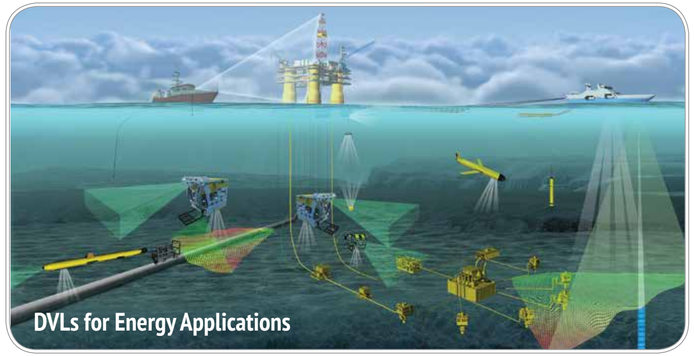
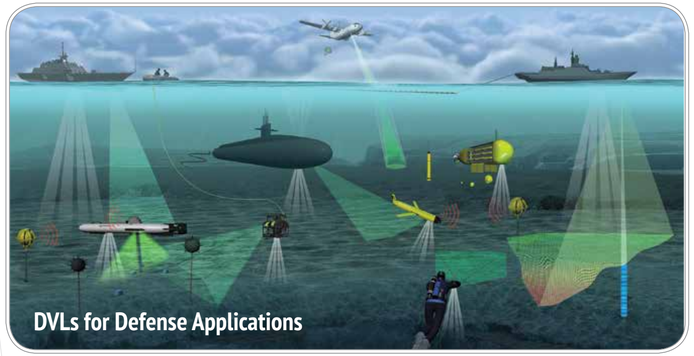
How and where is a DVL used?





Autonomous Underwater Vehicles

Teledyne RDI's DVL is ideally suited to provide navigation onboard Autonomous Underwater Vehicles (AUVs). The unit's compact size and low power requirements, combined with its versatile, proven technology make it the undeniable tool of choice for AUV designers and manufacturers around the world.

Remotely Operated Vehicles

Hundreds of DVLs are currently in use on board ROVs to monitor vehicle motion and speed. DVLs can also be used to enhance current industry-standard automatic control modes (heading, depth) to include station-keeping. This works in the same manner as a vessel DP system, providing true ROV dynamic positioning capability, allowing an operator to automatically control vehicle motion and position.

Towed Vehicles

Our DVLs provide enhanced platform navigation and survey/vehicle positioning on board towed platforms, including side scan sonars, deep tow systems, magnetometers, mine sweeping instrumentation, synthetic aperture systems, etc.

Manned Submersibles

Custom and standard Teledyne RDI DVLs are installed on a wide variety of military and scientific manned submersibles, including submarines and swimmer delivery vehicles, to provide inertial system aiding, precision positioning, and speed log capability.

Surface Vessels

Teledyne RDI's DVLs are installed on a wide array of commercial and scientific research vessels to aid in navigation in case of GPS outages and signal shading under bridges, in tunnels, and around structures, which can lead to gaps in navigation data. The integration of DVL position data greatly improves this situation, providing high rate dead reckoning position information.

Diver Applications

Teledyne RDI's leading-edge Doppler velocity technology can be used to aid in diver navigation systems.

Pick your DVL solution...a simple 3-step process.

Step 1: Select your **Application**
Step 2: Select your **Product Specs**
Step 3: Select **Optional Features**







	Tasman		Pathfinder	Navigator			Pioneer		
Application	300	600	600	300	600	1200	38	150	300
AUV—Large Diameter (7" min. ID)	●	●	●	●	●	●			●
AUV—Small Diameter (4" min. ID)			●						
ROV—Work Class	●	●		●	●	●	●	●	●
ROV—Inspection Class	●	●	●	●	●	●			●
Towed Vehicle (TOW)	●	●		●	●	●		●	●
Manned Submersible/LDUUV/XLUUV	●	●		●	●	●	●	●	●
Surface Vessel	●	●	●	●	●	●	●	●	●
Diver Navigation & Mapping—OEM			●						●
Product Specifications									
Transducer	Removable Phased Array 30° Beam	Removable Phased Array 30° Beam	Phased Array 30° Beam	Piston Array 30° Beam			Oil-filled Phased Array 30° Beam	Phased Array 30° Beam	Phased Array 30° Beam
Beam Configuration	4-Beam Janus Config.	4-Beam Janus Config.	4-Beam Janus Config.	4-Beam Janus Configuration			4-Beam Janus Configuration		4-Beam Janus Configuration
Frequency (kHz)	307.2	614.4	614.4	307.2	614.4	1228.8	38.4	153.6	307.2
Long Term Accuracy (ECCN 6A001 License Controlled)	±0.08% ±0.1 cm/s (<8 m altitude) ±0.3% ±0.1 cm/s (>8 m altitude)	±0.06% ±0.1 cm/s (<4 m altitude) ±0.2% ±0.1 cm/s (>4 m altitude)	±0.3% ±0.2 cm/s	±0.4% ±0.2 cm/s	±0.3% ±0.2 cm/s	±0.2% ±0.1 cm/s	±1.0% ±0.5 cm/s	±0.6% ±0.2 cm/s	±0.3% ±0.1 cm/s*
Long Term Accuracy (ECCN 6A991 Export License-Free)	±1.15% ±0.1 cm/s	±1.15% ±0.1 cm/s	±1.15% ±0.2 cm/s	±1.15% ±0.2 cm/s			±1.15% ±0.2 cm/s		±1.15% ±0.2 cm/s
Bottom Track Range (m)	0.3 to 275 (optional 420)	0.15 to 100 (optional 160)	0.15 - 89 (150 optional)	1 - 200	0.7 - 90	0.5 - 25	12 - 2500 (3 km opt)	3 - 500	0.6-275 (400 optional)
Current Profile Range (m)	4.5 m to 150 m	1.9 m to 60 m	1.9 - 45	1.9 - 110	1.2 - 50	0.8 - 15	22 - 1100	8 - 275	4.5 - 150
Operational Depth Rating (m)	4000/6000	4000/6000	300/1000	3000/6000			1000 m (4 km opt)	1000 m	1000/4500/6000
Weight in Air (kg)	7.58	7.58	1.15/1.9 (OEM/SC)	15.8 / 20.1		12.4 / 18	364	46	7.2/9.9/17.4
Weight in Water (kg)	4.08	4.08	0.7 (SC)	8.8 / 13.6		6.1 / 12.1	282	32	2.9/5.5/11.6
Communication	Ethernet/ Serial RS232	Ethernet/ Serial RS232	Ethernet/ Serial RS232	RS232 / RS422			RS232 / RS422		4 x RS232 / RS422
Integrated Compass	SBG Ellipse-A (AHRS)	SBG Ellipse-A (AHRS)		●	●	●	Custom Option		SBG Ellipse-A (AHRS)
Optional Features									
Enhanced Low Altitude Bottom Tracking (cm)		● (15 cm)	● (15 cm)			● (0.25m)			
Current Profiling Option (ADCP)	●	●	●	●	●	●	●	●	●
Integrated Pressure Sensor	●	●		●	●	●			●
3rd Party Sensor Interfaces	●	●					●	●	●
HEM (Health Monitoring)/Leak Sensor	●	●	●						●

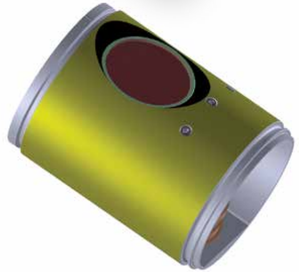
* 50 cm altitude or greater

What is a DVL?

Teledyne RDI's Doppler Velocity Log (DVL) is a multi-function Commercial-Off-The-Shelf (COTS) acoustic sensor that provides highly accurate velocity information. In addition to providing speed over ground and speed through water, the instrument uses other sensors to provide position updates for both subsea and surface platforms. The DVL provides information by collecting, compiling, and processing a full suite of data parameters which include:

- Velocity
- Depth
- Pitch and Roll
- Altitude
- Heading
- Temperature

The DVL can be used as a stand-alone navigation system or incorporated into an existing marine navigation system to significantly enhance system performance.



Where is it used?

Teledyne RDI's DVLs are ideally suited for a wide variety of scientific, military, and commercial applications. Typical DVL platforms include:

- Autonomous Underwater Vehicles (AUV)
- Remotely Operated Vehicles (ROV)
- Towed Systems
- Surface Ships
- Unmanned Surface Vehicles (USV)
- Submarines
- Autonomous Surface Vehicles (ASV)
- Competition Sailboats

What sets our DVL apart?

Experience:

Teledyne RDI's DVLs are the industry standard for Doppler aided navigation around the globe. Our DVLs are operating on board over 95% of the world's commercial and military AUVs. Only Teledyne RDI has the critical combination of technology, experience, and support required for your precision navigation needs.

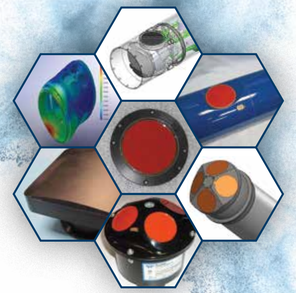
Technology:

- Broadband Doppler Processing
- Highly Accurate, Precise and Reliable Data
- 4-Beam Janus and Patented Phased Array Configurations
- Built-in Redundancy
- Bottom Tracking
- Built-in Data Quality Control
- Quieter, Faster Measurements for Real-time Navigation

Service:

- Research and Development
- Custom Engineering
- Systems Integration
- Data Analysis Support
- Free Online Training
- Field Support
- 24/7 Customer Service
- On-site Training

Vehicles come in all shapes and sizes. So should your DVL.



Your vehicle is unique.

That's why, in addition to our full line of standard Doppler Velocity Logs, Teledyne RD Instruments has designed hundreds of custom DVL solutions in partnership with vehicle manufacturers around the globe.

Whether you require a one-off custom DVL or multiple DVLs built to your unique specifications, only Teledyne RD Instruments has the long standing experience, talent, and technology you need to deliver your unique navigation solution.

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NAVIGATION
Product Selection Guide

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