

# NEWTON

## Sub-Sea Laser Scanner

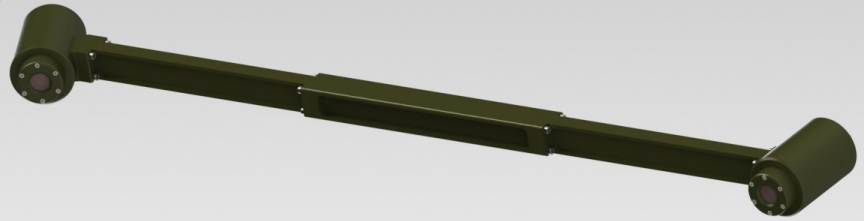
PL3200UW—LW

5KG

3200m rated

Designed for ROV/AUV  
Deployment

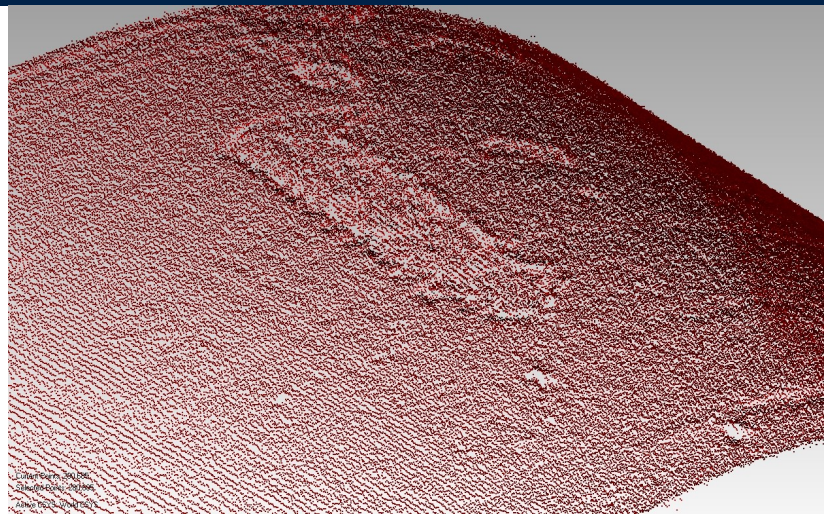
Simple IMU integration



Underwater Laser Scanners that capture sub-millimeter measurement for sub-sea metrology and IRM analysis.

### Product Details

- Accurately captures dimensions, corrosion and other as-built features
- Depth rated up to 3200m
- Captures large data fields
- Easily integrates with IMU's
- Live camera view allows operator to view scan target
- Fixed laser line designed for ROV/AUV Deployment
- Scanning range between 1-10 meters
- Requires Gig Ethernet connection on board ROV/AUV



Depth of Field (Distance to Object)	Field of View		Approximate CAD Model Accuracy
	Height	Width	
1.5 m	1.26m	1.01m	+/- 0.031 mm
3 m	2.52m	2.01m	+/- 0.124 mm
5 m	4.2m	3.35m	+/- 0.343 mm
7 m	5.88m	4.69m	+/- 0.672 mm
10 m	8.4m	6.7m	+/- 1.372 mm

Above— Detailed corrosion visible in data from Newton Underwater Scanners

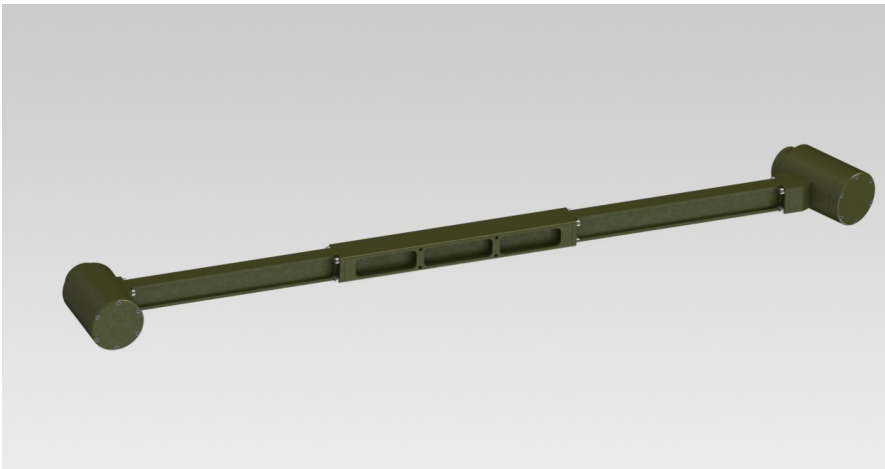
Accuracy statements on left are based on post processing of scanner's raw point cloud data. Scanning conditions can effect the raw data acquisition, but post process can filter out obvious noise in the data.

IMU accuracy and speed of travel impacts final scan results

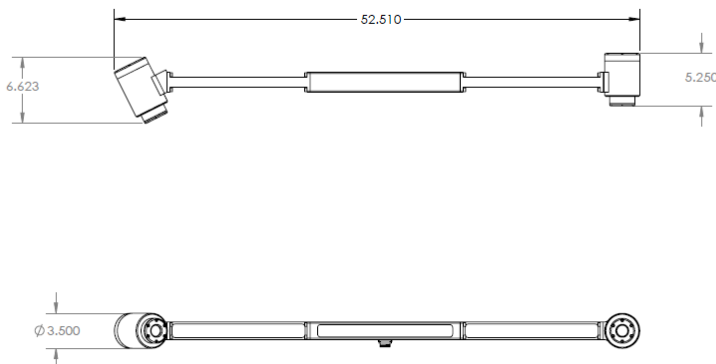
## Sub-Sea Laser Scanning - PL3200UW-LW

Subsea metrology methods are often coarse and unreliable. And Underwater Laser Scanning exceeds traditional underwater measurements by capturing as built point cloud data with sub-millimeter accuracy. The data captured by the Newton sub-sea scanners leaves asset managers with absolute confidence in their IRM analysis.

- **Lightweight** design for easy deployment on ROV/AUV
- **The Newton scanners operate by triangulation** - The laser moves across the target and the high resolution camera records any deformation of the beam as a point cloud.
- **Scan data is integrated with IMU** feedback to correct for external motion
- **In the visual observation mode**, the live camera view gives operators assurance of scan area and coverage
- **Deployment of the scanner head** is designed for ROV/AUV deployment and has simple mounting holes on the back panel .
- **Pipeline scans** can be taken by fixing the laser line and relying on the motion of the ROV/AUV



## Product Dimensions



## Technical Specifications:

Measurement Range	Between 1.5m and 10m
Power Requirements	Power 24v DC from the MUX at less than 1 amp
Communication	Gig Ethernet from the MUX
Weight	5kg (water)
Laser	Class IIIB
Dimensions	See Below
Control Unit Dimensions	Laptop Control Or Newton Control Unit: 24.60" x 19.70" x 11.70" (62.5 x 50 x 29.7 cm)
Newton Control Unit Weight (option)	56 lbs (25 kg)
Newton Control Unit Display	19" (48 cm) Color
Depth Rating	3200 m

## About Newton Labs

Newton Labs is a Seattle area-based privately held developer and manufacturer of machine vision and robotic systems. Newton's powerful, easy to use, and industrially rugged systems provide solutions for wide ranging applications in many sectors, including aerospace, automotive, bottling, electronics, medical, packaging, and nuclear, among others. In 20 years Newton has deployed more than 20,000 machine vision and automaton systems worldwide, many that are first-of-a-kind.