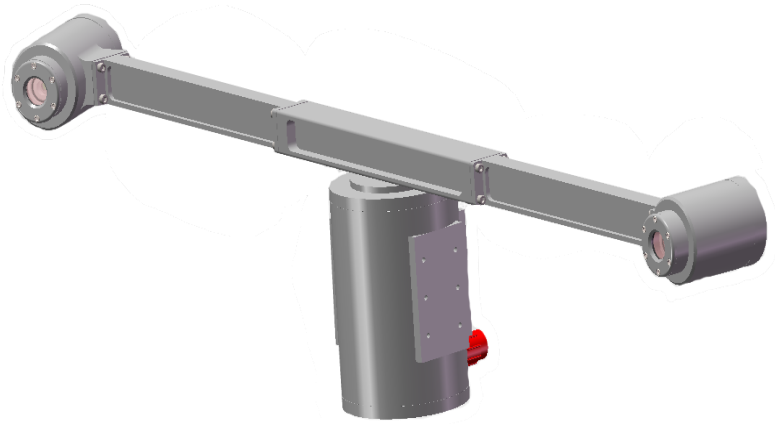


NEWTON

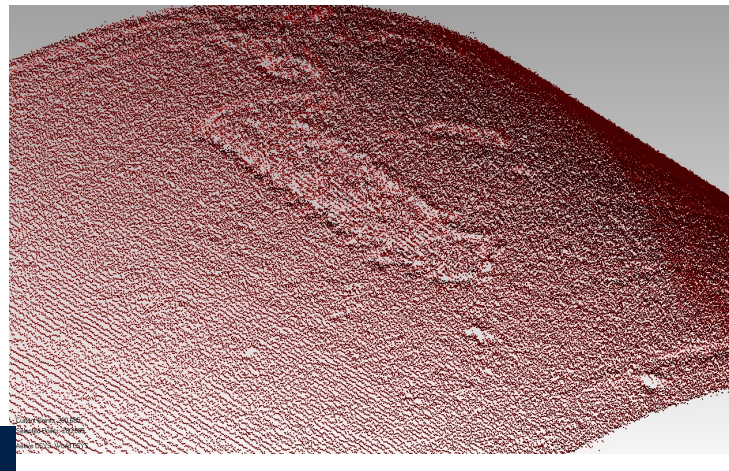
Sub-Sea Laser Scanner 20 Meter Range TP4000UW - 4000m rated Rotating Scanner



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

Product Details

- Large Field of View
- Depth rated up to 4000m
- Rotating Fixed Laser Line to capture large data fields
- Can integrate with IMU or Navigation Program
- Live camera view allows operator to set scanning region of interest.
- Scanning range between 1.5-20 meters
- Requires Gig Ethernet connection



Above—This picture should be something different.—
combing through the files to find something better.

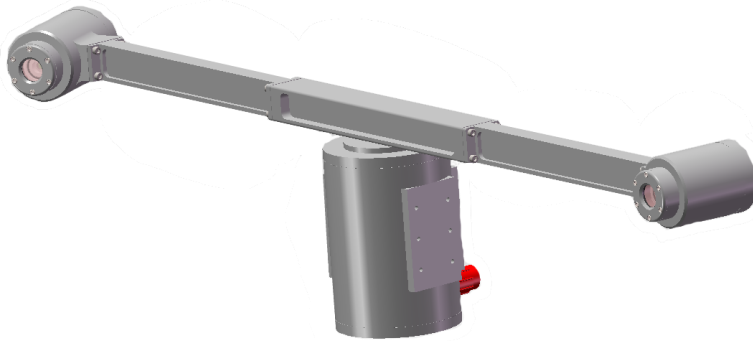
Accuracy statements on left are based on post processing of scanner's raw point cloud data. Scanning conditions can effect the raw data acquisition, but post process can filter out obvious noise in the data.

Depth of Field (Distance to Object from Centerline of the Rotating Scanner (Total Range)	Field of View Height	Field of View Width	Approximate CAD Model Accuracy
1.5 m (3M)	1.26m	1.01m	+/- 0.031 mm
3 m (6M)	2.52m	2.01m	+/- 0.124 mm
5 m (10M)	4.2m	3.35m	+/- 0.343 mm
7 m (14M)	5.88m	4.69m	+/- 0.672 mm
10 m (20M)	8.4m	6.7m	+/- 1.372 mm

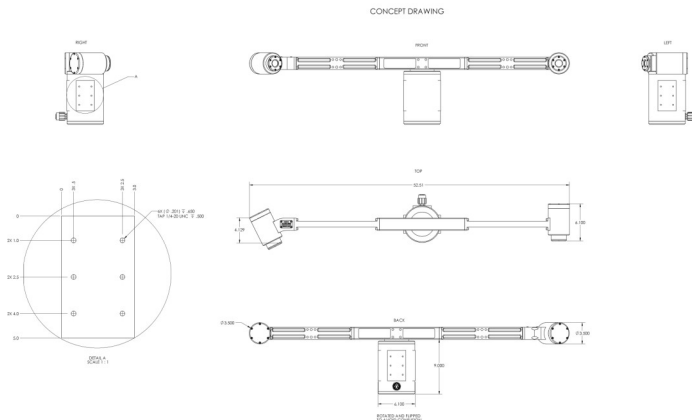
Sub-Sea Laser Scanning - TP4000UW

Underwater Laser Scanning exceeds traditional underwater survey 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.

- **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 can be combined** in post processing software to provide complete CAD models
- **In the visual observation mode**, the live camera view gives operators assurance of scan area and coverage
- Operators can select area within the field of view to acquire data—limiting extraneous data acquisition.
- **Deployment of the scanner;** The TP4000UW is designed for tripod or ROV
- All Digital Data
- All Rotation is with Slip Rings— no cables
- Can continuously rotate— no requirement to back up



Product Dimensions



Measurement Range	Between 1.5m and 20m
Power Requirements	5 Amps at 24VDC from the ROV or MUX
Cable	Requires a Gig Ethernet line for data and control to ROV or MUX
Weight	50bs in air, 38bs in water
Dual Power Laser	Class IIIB Dual Power
Dimensions	See Below
Control Unit Dimensions	24.60" x 19.70" x 11.70" (62.5 x 50 x 29.7 cm)
	Laptop Option Available
Control Unit Weight	56 lbs (25 kg)
	Laptop Option Available
Control Unit Display	19" (48 cm) Color
Depth Rating	4000 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 30,000 laser scanning, machine vision and automaton systems worldwide, many that are first-of-a-kind.