



## Navis Autonomous Profiling Float

**Product #:**

**NAVIS**

USD Price:  
Available

Contact Sea-Bird

### Autonomous profiling float for Argo and other programs

The Navis float has a traditional layout, with the sensor head at the top, and the buoyancy bladders at the bottom. The Navis buoyancy engine uses a positive displacement piston pump to transfer silicon oil from internal to external reservoirs to increase the float volume and cause it to rise. This system provides improved energy efficiency, better parking stability, and increased depth range over existing floats.

The Navis buoyancy engine is augmented at the sea surface by inflation of an air reservoir. This surface-following function provides excess buoyancy to improve surface communications. The open-loop air buoyancy system uses a seamless, natural-rubber, external bladder and oil-augmented bladder crush prevention.

At the surface, Navis uses a Garmin 15xL-W GPS to acquire positional information. It then transmits the acquired data via an Iridium Transceiver 9523. The Iridium antenna is mounted on the CTD end cap, and is supported by the CTD cell guard.

The Navis aluminum hull has a smaller diameter and length than existing floats, providing a lightweight and cost-effective package that requires less energy to operate. The float is powered by twelve lithium DD batteries in a Sea-Bird battery pack. The battery pack provides sufficient power for 300 CTD profile cycles to 2000 dbars.

#### For Long-Term Deployments

Sufficient power for 300 CTD profile cycles to 2000 dbars.

#### Data Quality

Includes SBE 41 CTD, the Argo standard.

#### Communications

Iridium continuous circuit switched, 2-way communications for low-cost download of large amounts of data.

#### Easily Deployed

Lightweight and easy to deploy (< 18.5 kg).

#### Package Flexibility

Expandable and scalable design for future missions, such as biogeochemical floats, deep floats.

## Specifications

Ballasting:	Self-ballasting, 1 day to equilibrate
Communication:	Iridium Transceiver 9523 — RUDICS, circuit switched
Depth Rating:	2000 dbar
Dimensions:	Hull diameter 14 cm, Ring diameter 24 cm, Total length 159 cm

Internal Batteries:	4 packs of 3 DD lithium sulfuryl chloride cells (cannot ship in passenger aircraft; Class 9 Dangerous Goods)
Material:	Aluminum hull, seamless natural-rubber external bladders
Memory:	CTD stores one 2000 decibar CTD profile; Navis stores 64 2000-dbar CTD profiles
Park Interval:	1 - 15 days
Position:	GPS, Garmin 15xL-W
Power Endurance:	300 2000 dbar profiles (mission-dependent, excludes optional sensors)
Self-Activation:	Starts operating automatically on deployment, when pressure reaches user-programmable setpoint
Weight:	Less than 18.5 kg in air (excludes optional sensors)