

Measurement  
System,  
Float Controller,  
and  
Satellite  
Communication

CTD science  
package  
measures  
Temperature,  
Salinity,  
Pressure

Iridium / GPS  
antenna —  
satellite  
communications

Dissolved Oxygen  
sensor

Stability ring —  
helps float  
follow surface  
waves

Science package electronics  
(CTD, Oxygen, Iridium, GPS)  
and float control system

Air  
pump

Potentiometer

Internal  
oil reservoir

Return flow  
regulation

Filter

Oil pump

HP filter and  
Check valve

Air  
bladder  
(external)

Oil  
bladder  
(external)

### Air System

External air bladder  
fills at surface to  
adjust buoyancy —  
improves satellite  
communications

*Batteries in  
clamshell packs  
surround the  
oil pump  
(not shown)*

### Oil System

External oil bladder  
fills to increase float  
buoyancy — Navis  
ascends to surface

Internal oil reservoir  
fills to decrease float  
buoyancy — Navis  
descends

