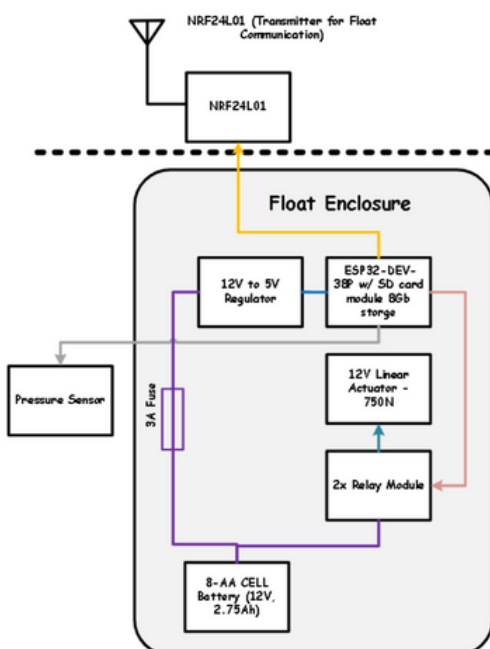
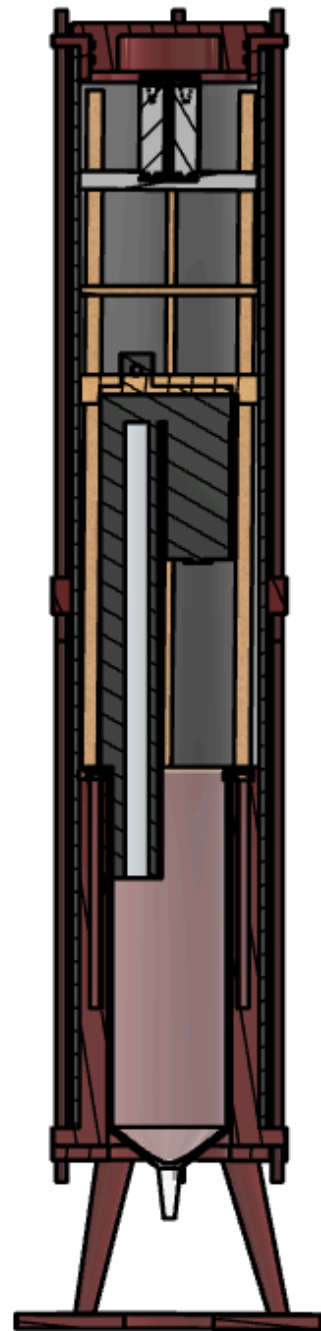


Non-ROV Device

➔ Design & Operation

The float houses a vertical profiling system and internal electronics within a cylindrical ABS hull for uniform pressure resistance. End caps sealed with nitrile O-rings are joined by a 3D-printed flange and threaded rods to improve sealing and lower the centre of mass. Buoyancy is controlled by a 750N linear actuator driving a 500ml syringe, with limit switches ensuring precise, repeatable motion. Powered by 8 AA batteries in series, the system includes a centrally mounted BarO2 pressure sensor for depth feedback. ABS landing gear protects against impact during deployment and ascent.



750N Linear Actuator: ~0.8 A
ESP32 with SD card: ~0.25–0.3 A
2-Channel Relay Module: ~0.15 A
Pressure Sensor (Blue Robotics BarO2): ~0.01 A
12V to 5V Regulator (including conversion losses): ~0.2 A
Total estimated current draw: ~1.5 A

