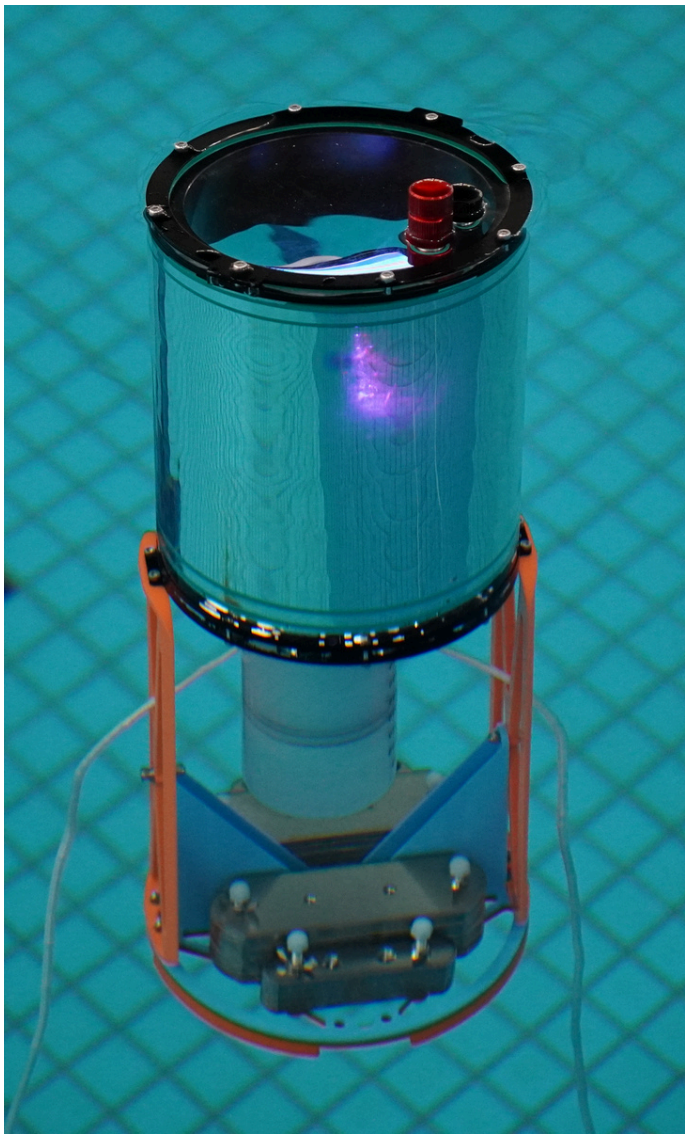
OVER-DEFINED VERTICAL PROFILING FLOAT INSPECTION SHEET

Name: Jellyfish
Diameter: 17.5cm Height: 68cm
Weight: 7.93kg
Power Supply: Powered from 7*1.5V AA batteries connected in series



Design rationale:

The Vertical Profiling Float performs autonomous vertical profiles for a specific duration in water. The electronics are stored in a water-sealed enclosure and turned on by a waterproof switch. The Arduino Nano is responsible for controlling electronic components in the Buoyancy Engine. For example, wireless communication between the control station and the onboard nRF24L01 2.4 GHz antenna, detection of sensors, displaying UTC on the LCD with the built-in RTC clock and control of plunger syringe for vertical profiling.

Operation:

The movement of the Vertical Profiling Float is controlled by a linear actuator. It retracts and extends a piston to either intake or output water in a syringe, thus altering its buoyancy and causing it to ascend and descend.

Safety Features:

- 2A Fuse
- No sharp edges
- Electronics are appropriately labelled and sealed