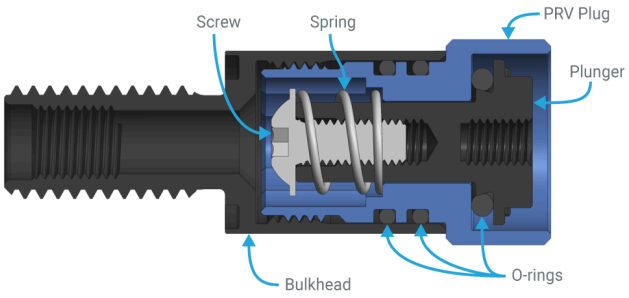
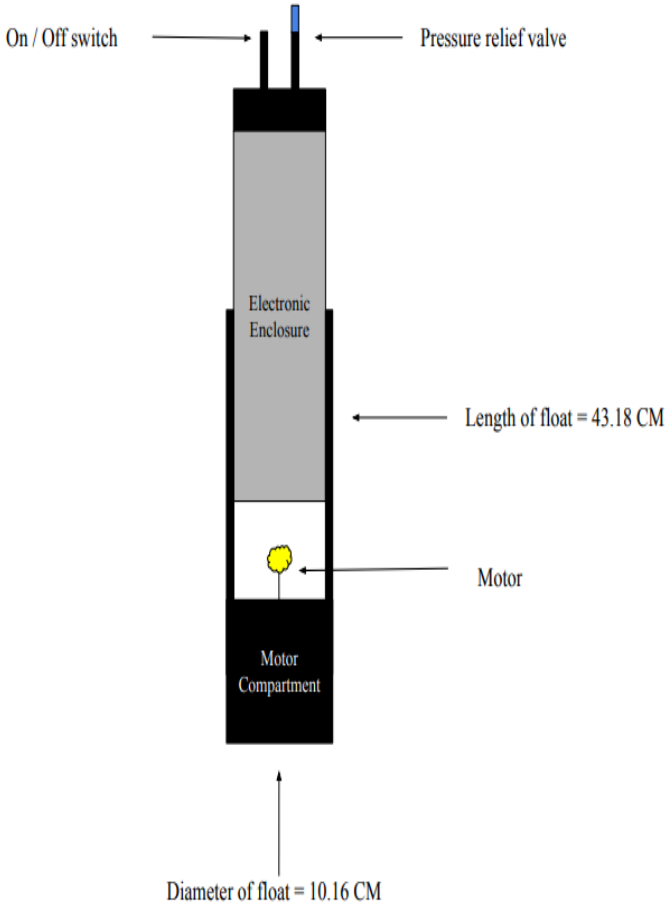
Non-ROV Device

In addition to the TR4-Stingray, a vertical profiling float was constructed to complete the 4th task at the regional and World Mate ROV competition. The teams came to an agreement to name the vertical float OSUG. The OSUG) in figure 1 demonstrates the compartments of the float. These two compartments consist of the motor as well as the watertight electrical enclosure that holds all our devices that run the float. The main idea of the vertical float is to simulate a real world task that consists of measuring information such as temperature, pressure, salinity of water, as well as depth data. In order to accomplish this vertical float must complete 2 Vertical profiles. A vertical profile is the process of the float beginning at the top of the pool and making a descent towards the bottom of the pool, touching the surface, and then ascending back towards the top of the pool above water. The way the float operates is through communication between a forward/reverse timer relay and motor. Our timer relay is set to operate for 25 seconds descending to the bottom of the pool, stop for 5 seconds and then ascend for 25 seconds until the float reaches the top of the pool and in the process. Meanwhile this is taking place, our float will communicate to our mission station through a raspberry pi and a sensor collecting data about pressure, temperature and depth information during the descent of the float and then release that data d to the mission station to process.



Vertical Float Diagram



Blue Robotics Pressure Relief Valve

The Pressure Relief Valve (PRV) automatically releases any excess pressure built up inside a watertight enclosure. It works automatically.

Pressure Release Rating	0.8 ± 0.2 bar