Non ROV Device Document

Non-ROV FLA
Full Load Amps
2.8 Amps
3 Amp selected based on FLA.

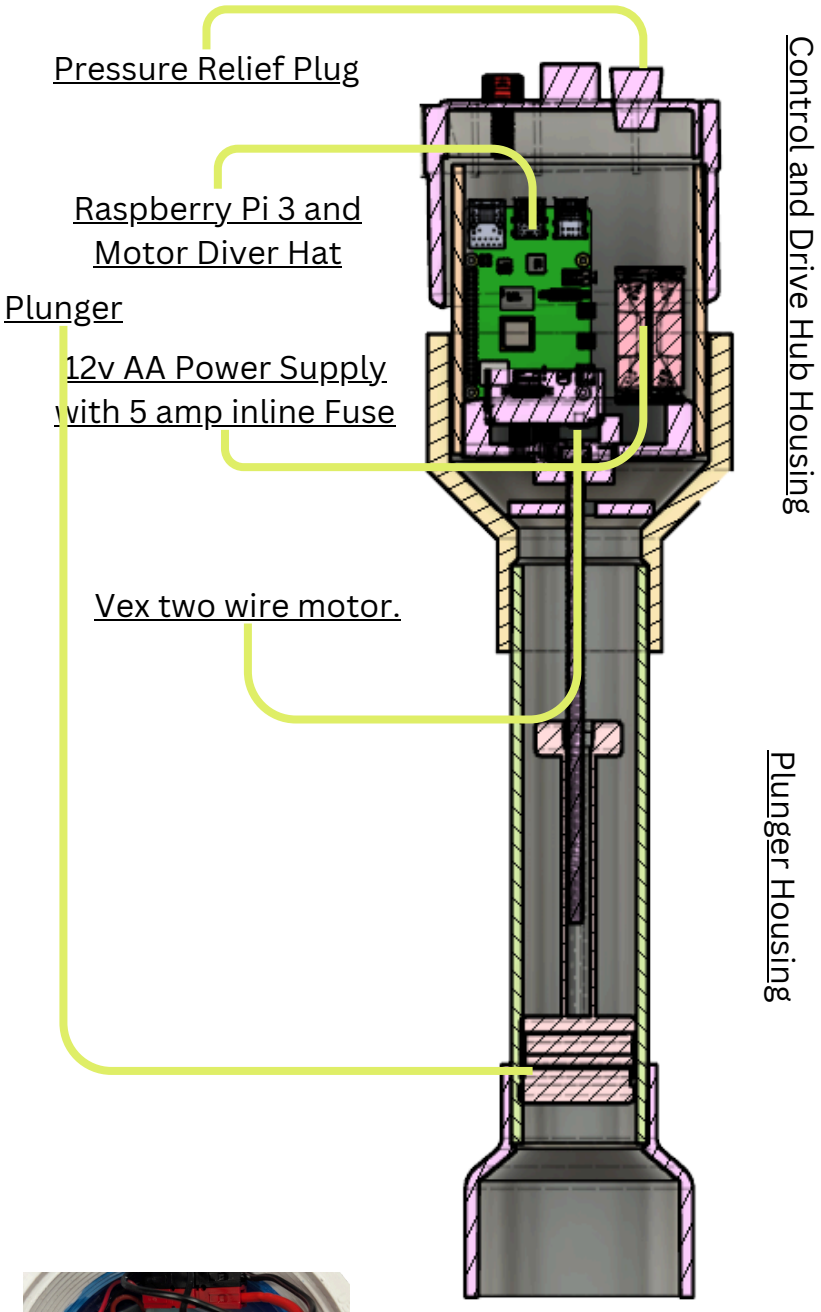
Vertical Profiling Float

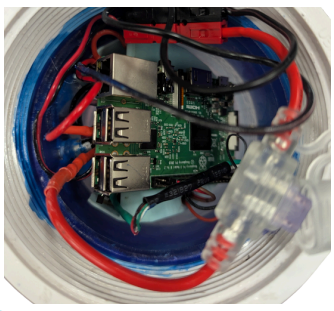
Our team innovated a vertical profiling float that operates using a buoyancy engine. This autonomous vertical profiler gathers data and wirelessly transmits it to a designated shore station.

The design team initiated the development of both the hardware and software for the float. Simultaneously, we began sketching the float and how all the components would integrate. To ensure its functionality, the float had to be neutrally buoyant. Calculations were made regarding the tube size and the necessary water displacement. Based on these calculations, we explored the most efficient method of collecting and exchanging the required water to ensure the operation of the buoyancy engine.

The float is equipped with a Raspberry Pi 3 as the primary controller and powered by eight NiMH AA batteries connected in series, providing a total voltage of 12V. We selected AA batteries for their dual benefits: a sustained power source that could be accommodated within the float's interior and their compact size.

Main Body Housing





The image shows a 3 amp fuse placed inline connect to eight NiMH batteries (12v DC) with Anderson Power pole plugs.