

The Husky Explorer Vertical Profiling Float

The Husky Explorer Vertical Profiling Float utilizes a buoyancy engine to complete multiple vertical profiles in the water. It functions by using an air tank to fill a reservoir, which displaces seawater and lowers the density of the float, allowing it to rise to the water's surface. It is negatively buoyant so that it can sink to the ocean floor without the use of any technology. A small hole was created at the top of the enclosure so that the float may once again become negative once it has reached the surface. The hole is small enough so that the float returns to the surface before it becomes negatively buoyant.

The electronics are powered by an Arduino Uno. It tells the air tank to release the air after a certain amount of time has elapsed. All electronics are powered by 8 double A batteries connected in series. Electronics are housed within a waterproof container. One end of the container is designed to pop off if the air pressure inside gets too high. It also features a gauge that measures the air pressure in the tank, and a connector we use to fill the air tank.

The Husky Explorer Vertical Profiling Float is 57 cm tall and 16 cm wide at its widest point. It weighs 2kg.



The Husky Explorer Vertical Profiling Float (Photo Credit: Eric Goulding).

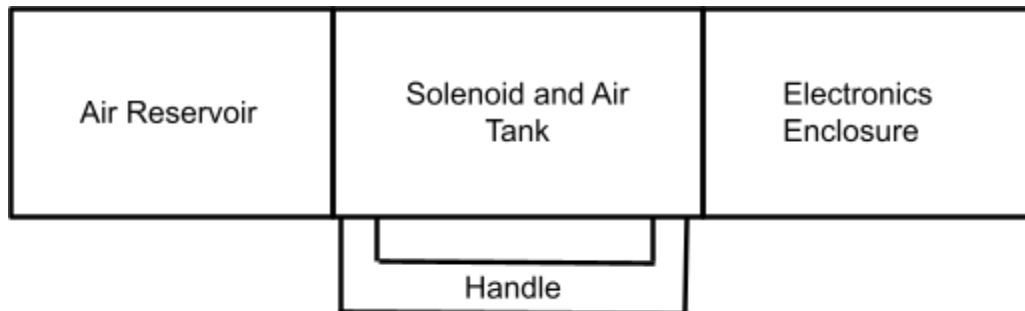


Figure 1: A diagram of the Husky Explorer Vertical Profiling Float detailing where everything is located