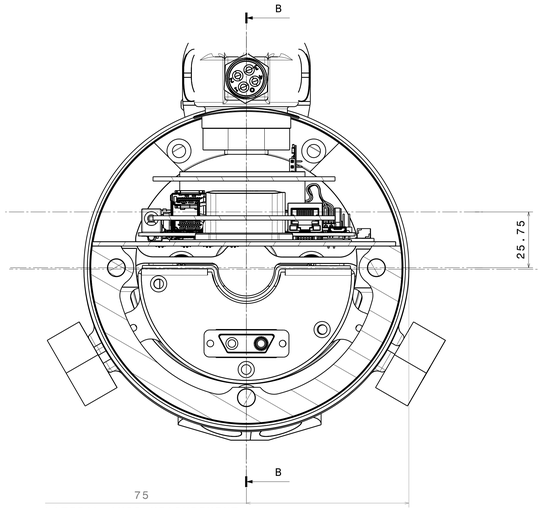
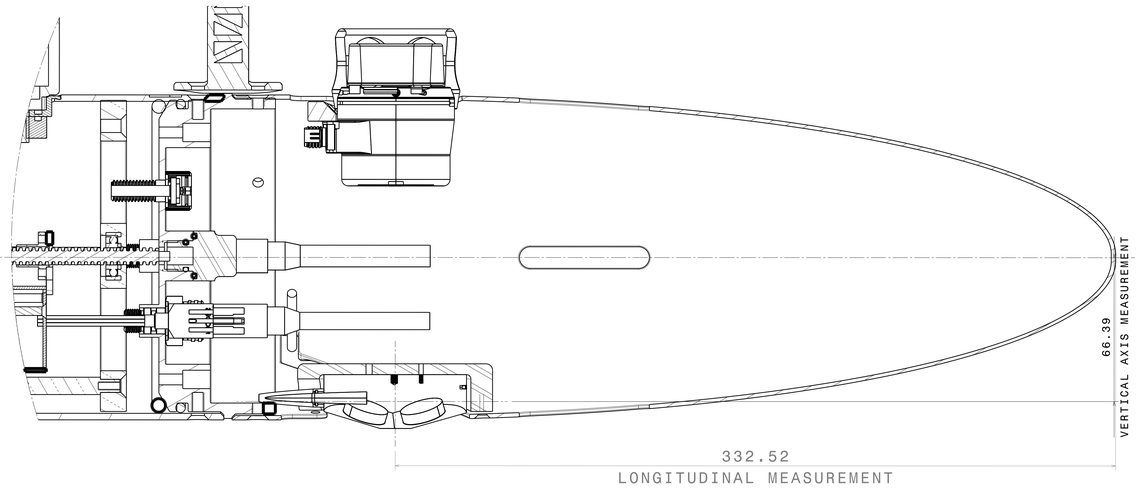
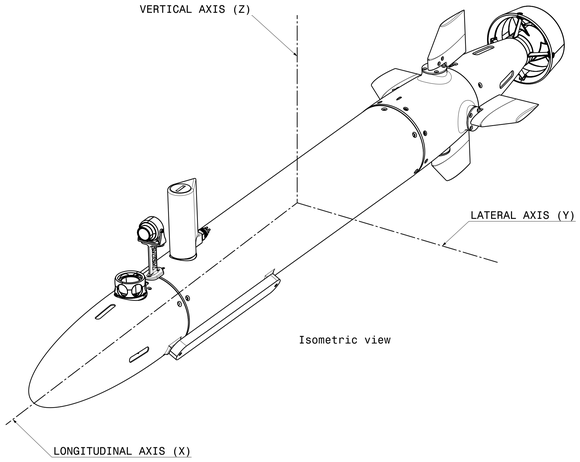
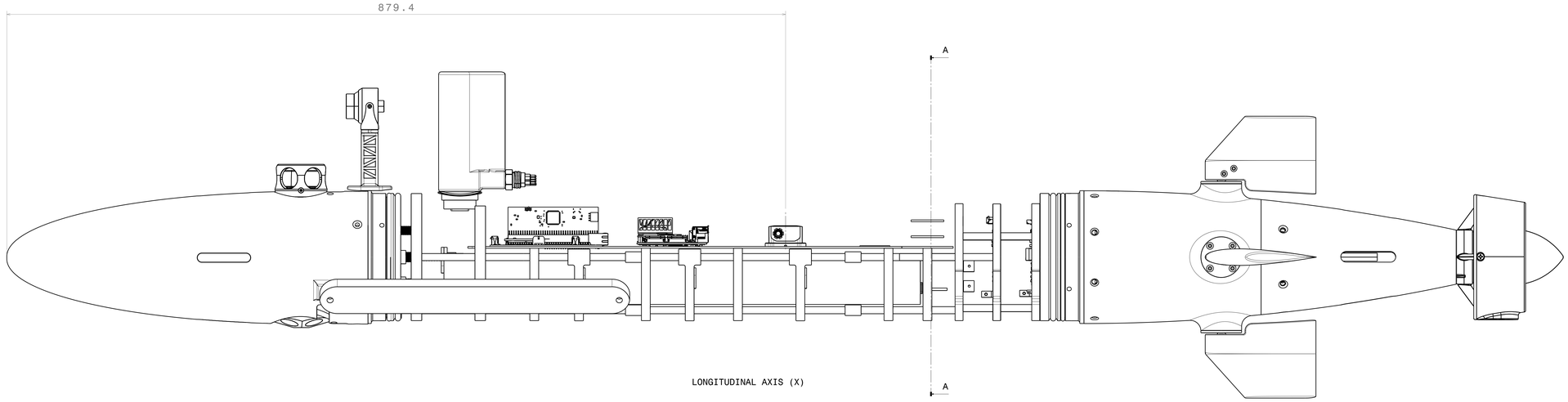


VERTICAL AXIS (Z)

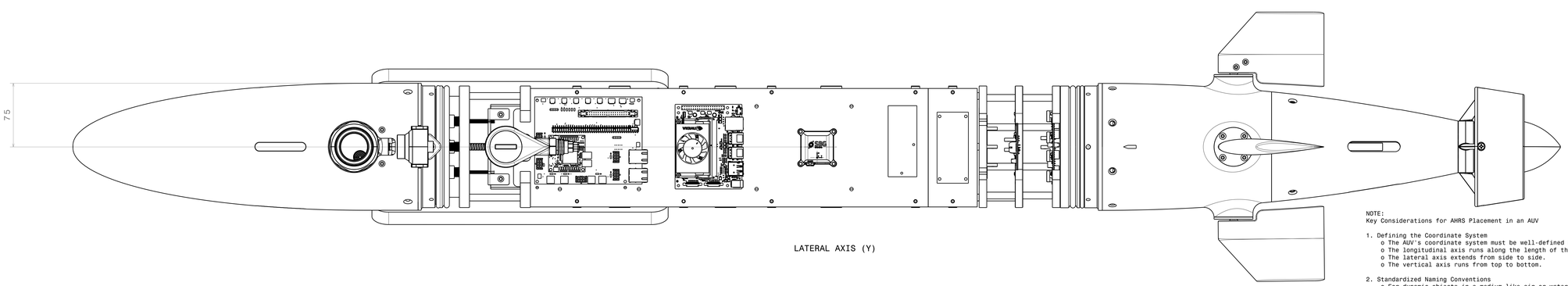


DVL POSITION FROM REFRENCE
LONGITUDINAL & VERTICAL AXIS





LONGITUDINAL AXIS (X)



LATERAL AXIS (Y)

NOTE:
Key Considerations for AHRS Placement in an AUV

1. Defining the Coordinate System
    - o The AUV's coordinate system must be well-defined to ensure accuracy.
    - o The longitudinal axis runs along the length of the AUV.
    - o The lateral axis extends from side to side.
    - o The vertical axis runs from top to bottom.

2. Standardized Naming Conventions
    - o For dynamic objects in a medium like air or water, it is essential to follow standardized technical terminology.
    - o When viewed from the front (nose) position, the left side is referred to as the port side, and the right side is the starboard side.
    - o This avoids confusion in reference points during discussions and documentation.

3. AHRS Placement Relative to AUV's Axes
    - o Front View (Longitudinal Axis): The AHRS is positioned 879.4 mm from the nose.
    - o Top View (Lateral Axis): The AHRS is positioned at 0 mm, indicating it is centered laterally.
    - o Side View (Vertical Axis): The AHRS is positioned 25.75 mm from the global axis center.

By considering the volumetric center of the AHRS and ensuring proper alignment with the AUV's coordinate system, we can optimize performance and avoid potential errors in navigation and control.