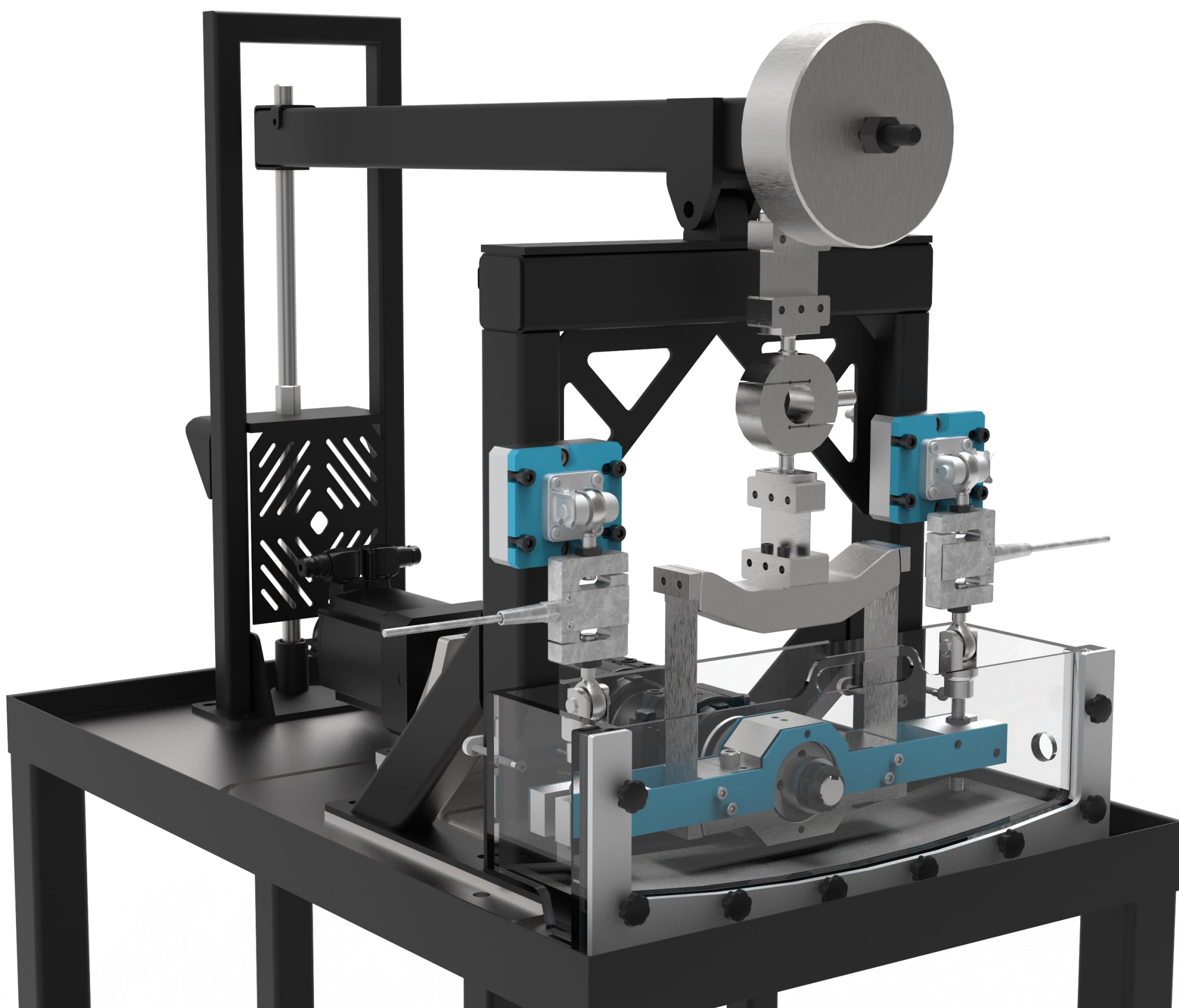


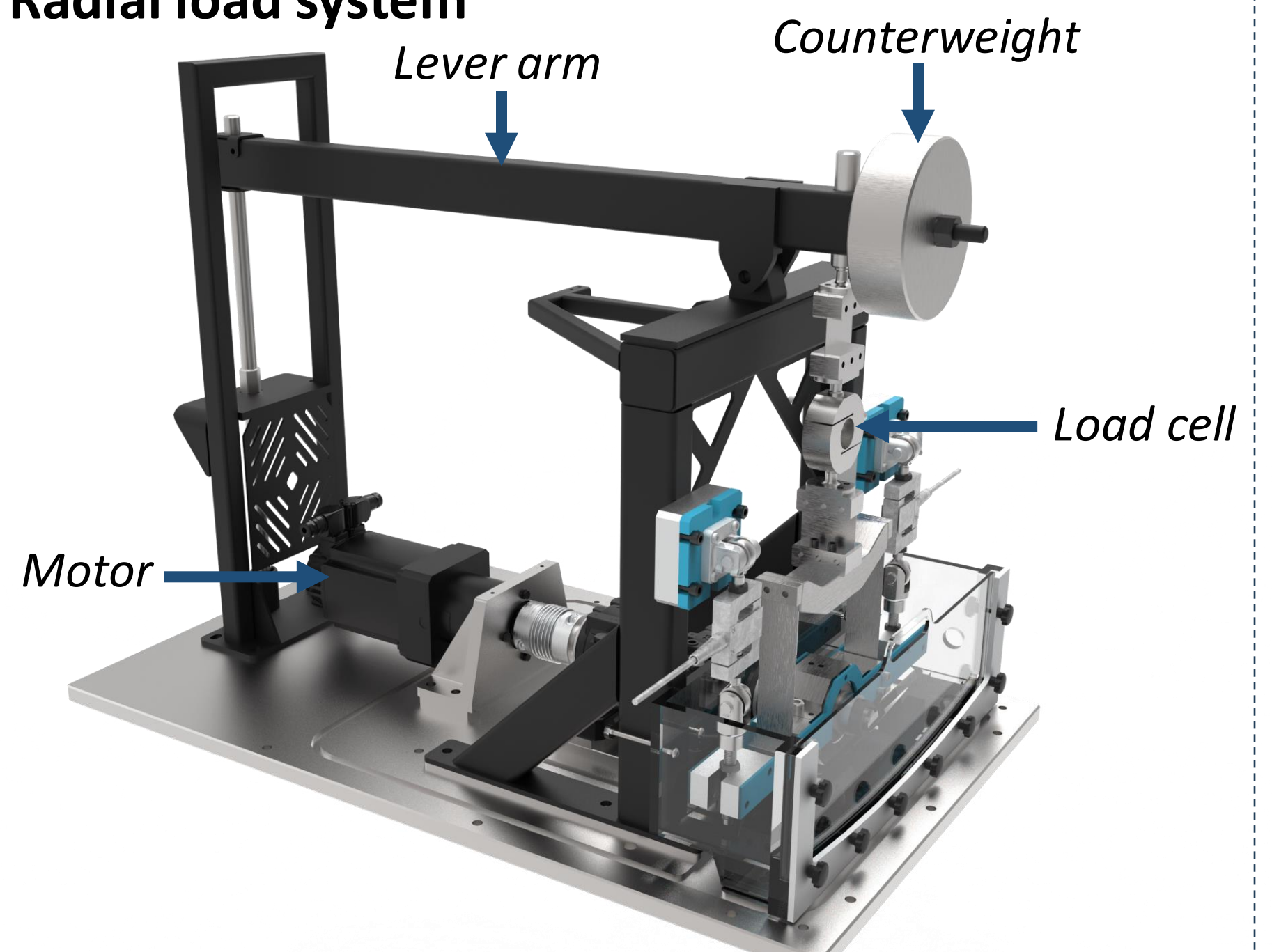
# Test Rig for Tribological Evaluation of Sliding Bearings in Saline Water

As tidal turbines and wave energy converters are new and emerging technologies, there is a limited understanding of the tribological performance of bearings in a saline environment. Our project provides a platform to test sliding bearings to understand their performance under accelerated wear conditions.

- Replication of the operating conditions of an underwater tidal turbine bearing (underwater environment with 1 Hz and 90° movement).
- Up to a 5 kN radial load applied.
- Both continuous and reciprocating capabilities.
- Measures the friction of the bearing.
- LabView is used to acquire and save data.

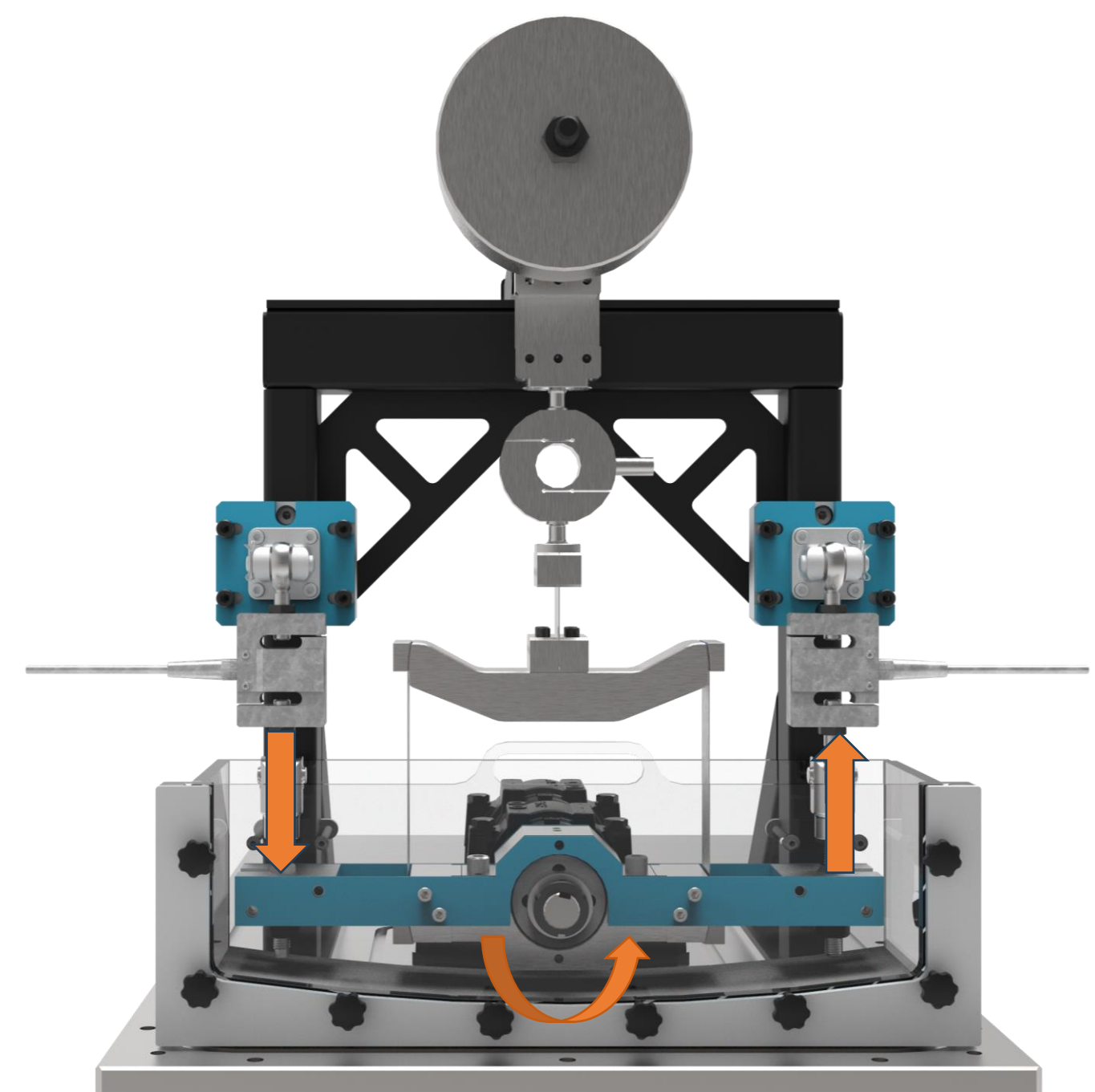


## Radial load system



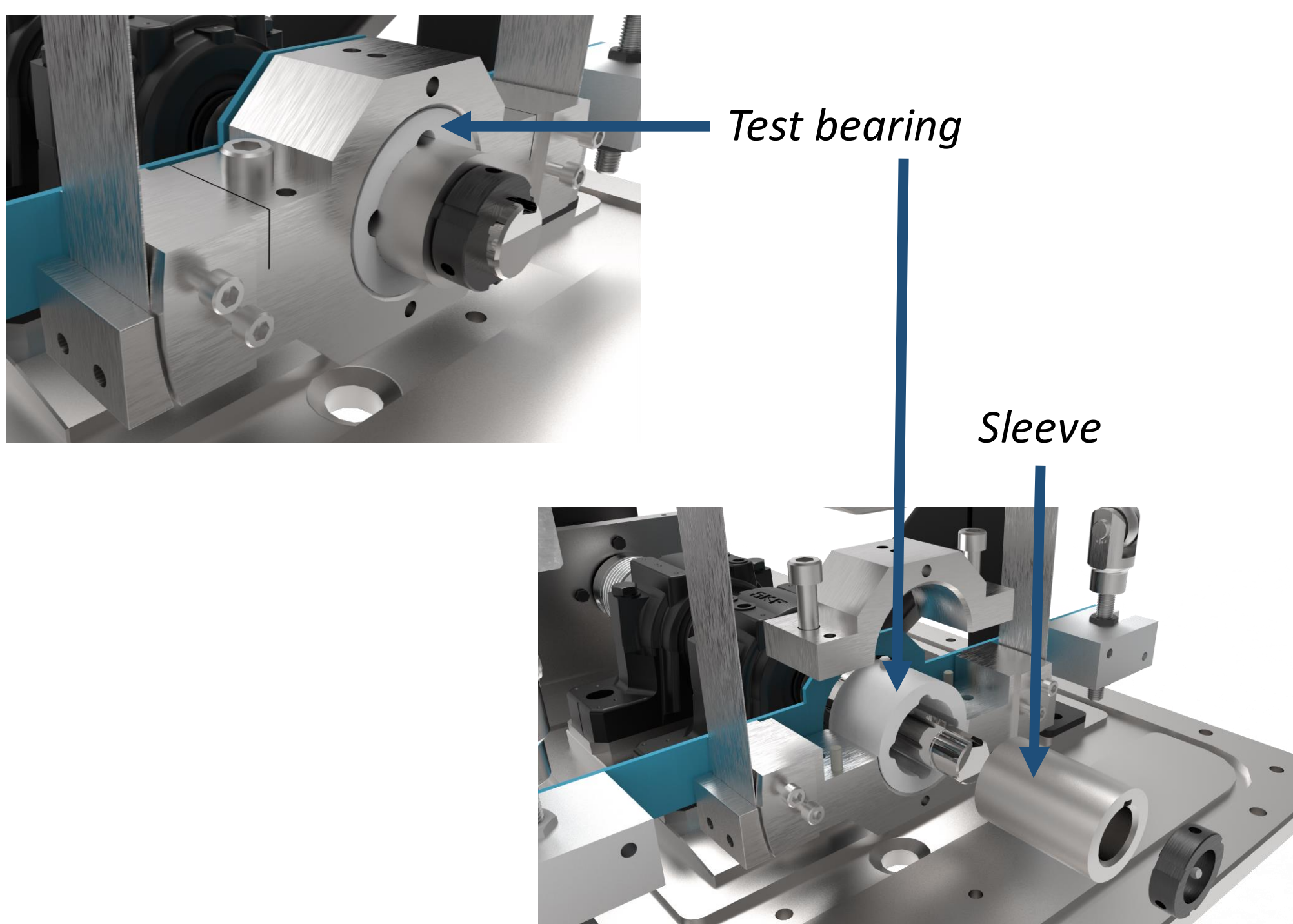
The radial load is applied using a lever arm system.

## Friction measurement system



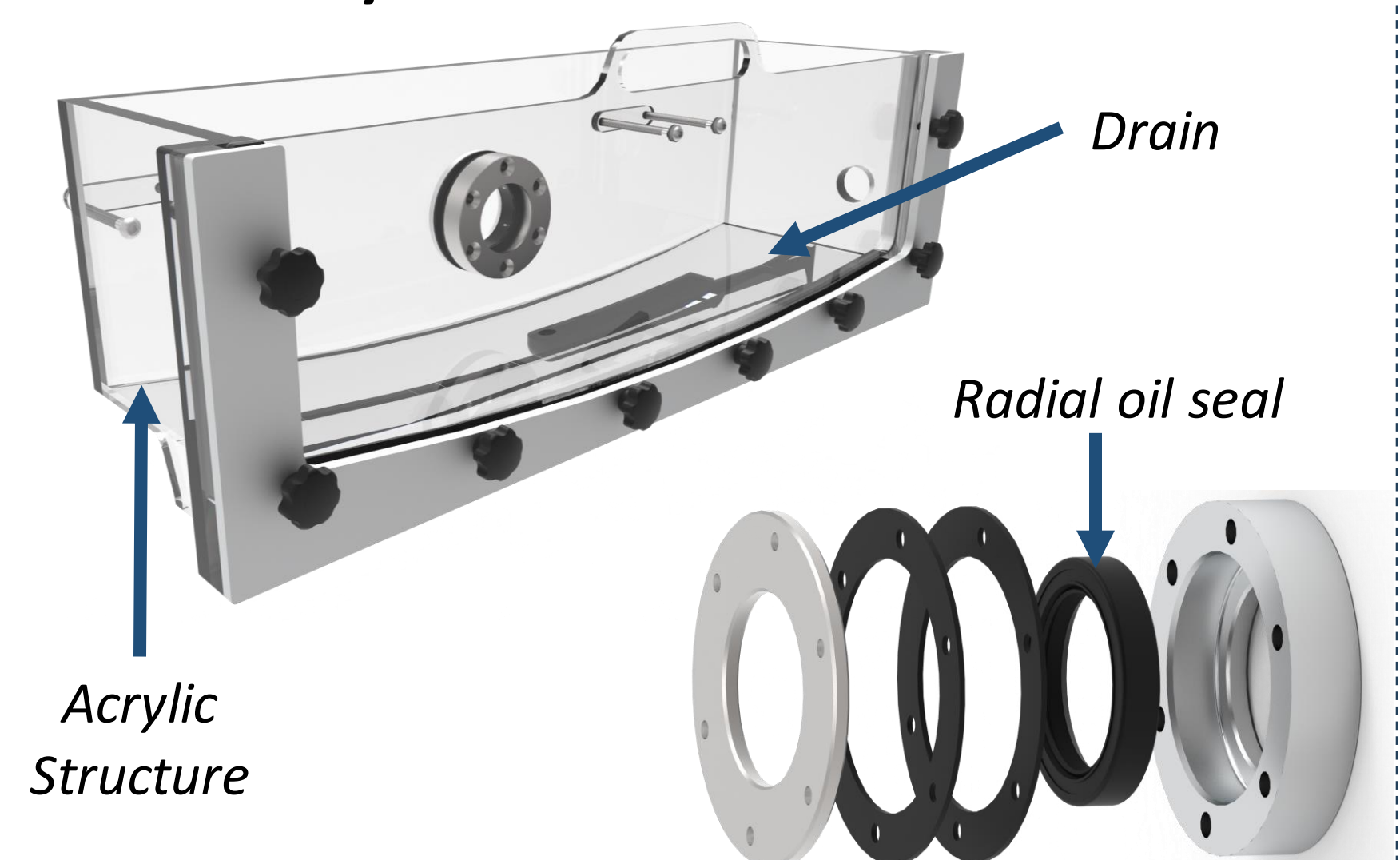
The difference in loads on the sensors corresponds to the friction between the sliding bearing and the sleeve.

## Test Bearing Assembly



The test bearing oscillates on the surface of the sleeve, and various material combinations can be tested.

## Tank Assembly



The water tank has a removable front panel, providing access to the assembly.