Capillary Flow Experiment (CFE)

Objective:
Capillary Flow Experiment (CFE) is a suite of fluid physics experiments that investigate capillary flows and flows of fluids in containers with complex geometries. Results will improve current computer models that are used by designers of low gravity fluid systems and may improve fluid transfer systems on future spacecraft.

Hardware Description:
- CFE provides improved design knowledge in the storage and transport of liquids in space thereby increasing system reliability, decreasing system mass, and reducing overall system complexity.
- Each test unit displays relevant capillary resulting phenomena, critical wetting in discontinuous structures, large length scale contact line damping, and capillary flow in complex containers.
- Each test represents passive fluid transport and control common in critical phase separation.
- System for passive gas-liquid separations
- Technology in space uses capillary forces to position and transport fluid.
- Currently being used to study bubble mitigation in the ISS Urine Processing Facility.

CFE is a system for passive gas-liquid separations. It also obtains improved design knowledge in the storage and transport of liquids in space.