

# Multiphase Flow and Separation Testing & Analysis

BWX Technologies, Inc. (BWXT) offers high-temperature, high-pressure test facilities for third-party validation of single-phase and multiphase flow equipment and instrumentation. We provide accurate and dependable services to our customers with unparalleled prototyping capability and flow-loop availability.

BWXT has been helping customers for more than 60 years by supporting the development of mission-critical components for a wide range of customer applications. Our experienced staff offers rapid turnaround of proposals for testing and qualifying equipment.



*BWXT's test facility contains a number of flow loops with flexibility to configure components for each customer's unique requirements.*



*BWXT offers dynamic flow visualization for experimental testing through use of an air / water flow loop and high pressure borescopes.*

## Testing Applications

- Multiphase flow meters
- Wet gas flow meters
- Gas volume fraction meters
- Water cut meters
- Multiphase pumps
- Separators – two-phase and three-phase
- Separation equipment
- Sampling systems
- Water level detection
- Water level control
- Heat exchangers, boilers and condensers

## Capabilities

BWXT offers dynamic flow visualization for experimental testing through use of an air / water acrylic flow loop. This loop allows direct visual access to the test section and facilitates the use of tracers to observe flow characteristics. A 48-inch diameter by 90-inch high test vessel is available for use with the loop.

We also offer computational fluid dynamics (CFD) services, which can be used to supplement flow testing or for standalone design and prototyping. Our extensive experience includes single-phase and multiphase flow analysis.

Operating variables and test measurements are sampled by the facility's data acquisition system, and can be configured to provide raw and reduced data live during testing for optimization of the test matrix. BWXT has the capability to fabricate and instrument complex arrangements onsite. Flow loops are also configurable to accommodate large equipment and long piping runs.



*BWXT's data acquisition system includes a wide variety of instrumentation, as well as the capability to provide live data during testing.*



*An onsite machine shop facility is available for rapid prototyping and customized solutions during test programs.*

Our facilities can accommodate a variety of testing configurations:

- Water flow up to 8,000 gpm
- Steam flow up to 500,000 lb/hr
- Pressure up to 1,000 psi
- Temperatures up to 540 °F
- Vertical, horizontal or inclined test-section orientation
- Air, nitrogen, steam
- Water and refined oil
- 2 to 16-inch diameter connections

Note that customized flow loops and test sections can be configured to accommodate wider operating ranges.

People Strong

**INNOVATION DRIVEN** > . . . . .

Headquartered in Lynchburg, Va., BWX Technologies, Inc. (NYSE:BWXT) is a leading supplier of nuclear components and fuel to the U.S. government; provides technical and management services to support the U.S. government in the operation of complex facilities and environmental remediation activities; and supplies precision manufactured components, services and fuel for the commercial nuclear power industry. With approximately 6,250 employees, BWXT has 11 major operating sites in the U.S. and Canada. In addition, BWXT joint ventures provide management and operations at more than a dozen U.S. Department of Energy and NASA facilities. Follow us on Twitter @BWXTech and learn more at [www.bwxt.com](http://www.bwxt.com).

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**BWX Technologies, Inc.**  
Flow Test Facility  
91 Stirling Ave.  
Barberton, OH 44203  
Phone: 330-861-5500  
Email: [flowtesting@bwxt.com](mailto:flowtesting@bwxt.com)