

SUPERCritical STEAM FLOW LOOP SYSTEMS

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OVERVIEW

Cortest HPHT Recirculating Flow Loop Systems are typically used to test materials in high purity, supercritical water environments. **The complete system includes a flow loop with pumping system, preheaters, heat exchangers, filters, thermocouples, and dissolved oxygen, dissolved hydrogen, pH, and conductivity probes and instruments.** The flow loop feeds conditioned water to the autoclave and CERT/SSRT load frame. Tensile tests, slow strain rate, corrosion fatigue, and crack growth studies are performed using Cortest's proprietary pull-through autoclave. Control of the flow loop, autoclave, load frame, and crack growth measurements are integrated into a single computer and control module.

CATEGORIES : NUCLEAR | RESEARCH

STYLES AVAILABLE
CONDUCTIVITY DO, pH, DH
(Custom Configurable)

PRESSURES UP TO

35 MPa
(5,076 PSI)

TEMPERATURES UP TO

600°C
(1,112°F)

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SYSTEM FEATURES

- Materials of Construction: 316 S.S. and Inconel 625
- Pressures Up to 35 MPa (5,076 PSI)
- Temperatures Up to 600°C (1112°F)
- Recirculating Flow Rates Up to 150 mL/min
- 7.5-Liter Glass Water Column with Gas Sparging Tube
- Demineralizers and In-Line Filters to Ensure High Purity Flow
- Heat Exchangers for Rapid Cooling and Heating
- CERT/SSRT Load Frame
- HPHT Pull-Through Autoclave

CONTROLS

- Cortest Proprietary System Control
- Test Loop Control Enclosure with the Following Displays
 - Autoclave Return and High Pressure Pump Pressure Display
 - Autoclave Supply/Return and Heat Exchanger Temperature Display
- Preheater Temperature Controls with High-Limit Set Points
- Over Temperature and Variable Pressure Safety and Alarms
- Default Data Acquisition System Records the Following Data
 - All Test Loop Sensors
 - Test Loop Thermocouples
 - Test Loop Pressure Transducers
 - Test Loop Flow Rate
 - Test Duration

TYPICAL APPLICATIONS

- Supercritical Steam
- Nuclear Research
- Crack Growth Studies (DCPD)
- High Temperature, High Pressure Stress Corrosion Cracking

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