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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