

Clean and Fill System for IBM Servers

The Challenge

To design and implement a machine to clean and fill the liquid cooling system of IBM's new high end System Z and Power Systems cabinet servers during the production process.

The Solution



Clean and Fill System at IBM's Poughkeepsie, NY production facility

PVI Systems was selected by IBM to design and build an automated system that would first flush the cooling system with water, and then fill the system with the appropriate amount of BTA coolant.

The system uses a National Instruments cRIO device to control the process, including pump control using an advanced PID algorithm developed by PVI. The fixture is custom engineered to provide easy access to all components.

A simple-to-use operator interface is provided via a touch panel to read machine status and execute various operations. Key operational data is saved to a log file for reporting of process statistics and errors.

Features

- Simple, intuitive user interface developed using NI LabVIEW
- Touch panel control interface (NI TPC-2012)
- NEMA 12 splash-proof enclosure
- Real-Time cRIO embedded controller (NI cRIO-9073)
- Control and monitoring provided by various NI C-Series modules (NI-9203, NI-9476, NI-9481, NI-9421, NI-9265)
- Thornton M300 transmitter for comprehensive liquid analysis
- PID controlled pumping system
- Generation and storage of log files upon cycle completion

For more information, contact us at info@pvisys.com.

Deployment

IBM has installed four PVI Fill and Clean stations at their new production facility in Poughkeepsie NY, and two additional units in Singapore. These highly reliable systems operate with minimal oversight and maintenance.

