

## **WATER CONDITIONING UNIT TESTER**

### **INDUSTRY / SITE**

HVAC, Energy Management  
Cooling Technology

Minneapolis, Minnesota

### **PROJECT / APPLICATION**

Water Conditioning Unit Test System that conducts design assurance, performance, and production level test.



### **EXISTING SITUATION**

Our customer developed a new product that removed significant amounts of energy and heat from data centers for a global computer systems and hardware company. This new production line required a system that was capable of design assurance, performance assessment, and production level test requirements.

### **KEY ISSUES**

- Elimination of issues/problems the customer experienced on design efforts with previous vendors
- Real-Time Data Acquisition and Monitoring
- Ease of Operator Interaction
- Integration of an Industrial Chiller & Serial Communications with UUT
- Electro-Mechanical Design, Build, and Integration
- Reuse of test code and sequences
- Use of Test System for next generation products and possible adaptation to existing product test
- Integrate with back-end Relational Database Management System

## **YOUR CHOICE FOR INTEGRATION SOLUTIONS**

**SOLUTION**

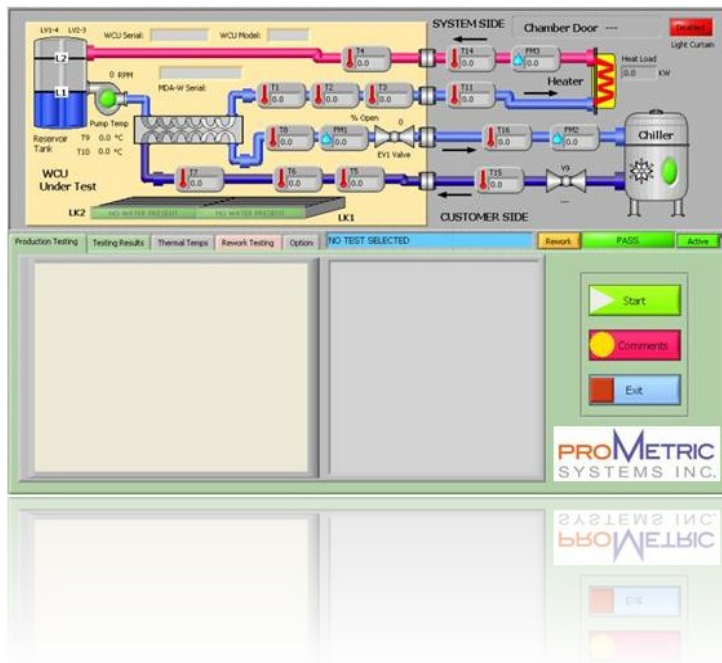
ProMetric engineers worked closely with the customer to eliminate problems that were inherent with previous test system designs produced by other vendors. Our solution consisted of developing a LabVIEW operator interface while deploying a LabVIEW-RT application on a CompactRIO target. ProMetric integrated configuration and test data with a SQL Server database. We implemented Hipot and Ground-Bond analysis in addition to the standard communications and functional tests. The system was manufactured and installed in the customer's production facility.

**RESULTS / SAVINGS**

The test solution provided the flexibility needed for the operator to make necessary adjustments manually or automatically with reliable test results. The system immediately identified firmware issues that were corrected within a couple of days. The test system also decreased production test time and improved the first-run yields.

**SYSTEM HIGHLIGHTS**

- Extruded Aluminum Machine Frame w/ Enclosure
- Complete Piping System
- NI LabVIEW & CompactRIO used to control and acquire data
- Integrated Programmable Power Supplies, Hipot, Industrial Chiller, and 24 kW Heater (PID controlled)
- Test data is available over the network
- Open access to maintenance for PM and calibration
- Flexible test sequence files for multiple test configurations.



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