



# Performance Testing

## Guaranteed Performance

### Quality Assurance

Performance testing is vital to ensure the quality and efficiency of any system. That's why performance testing is a requirement for ALL Systecon systems, regardless of size or application.

Developed from decades of experience, our testing and control procedures allow us to guarantee certified performance of our systems.

Our in-house flow test stand can handle up to 30,000 GPM so systems can be tested up to full design flow – something that field-built systems can't always accommodate. Systecon's factory test also includes full simulation of the control sequences – pump staging, chiller staging, valve operation, failure modes, and transmitter signals. Every component is validated to confirm that your system meets the predicted performance before it leaves our factory.

### Maximizing Efficiency

Factory testing reveals the true efficiency of your system. During the design phase, Systecon can use Wire-to-Water Efficiency (WWE) to help determine the proper pump selection and sequencing to optimize the performance of your pump system. The WWE report is then used during testing to verify the sequencing, ensuring the efficiency of the pumps, motor, drive, and control combination. And since the tests are performed in a certified testing facility, the results can be kept for future reference, so your system stays calibrated, avoiding wasted energy usage.

### Systecon Test Stand

- 20,000-gallon storage tank
- 30-inch supply header
- Capable of 30,000 GPM
- NIST certified measurement instruments (including flow, pressure & electrical metering)

### Benefits

- Can test up to full design flow
- Full simulation of the control sequences
- Maximizes system efficiency
- Minimizes your risk
- Witness performance testing
- Simplifies installation, start-up and commissioning

### Guaranteed Performance

- We find and fix any issues with your system *before* it's delivered to your job site.





## Factory Testing is Best

Testing in the manufacturing environment is ideal. It guarantees the performance of your system upon installation, eliminating most problems found during start-up and commissioning since any problems are found and addressed before the system is delivered to your job site. That in turn, means you have a much faster, simpler start-up and commissioning process.

### Why Not Test in the Field?

- It's very difficult to get the maximum system flow or the flow ranges required to achieve an accurate test in the field.
- Field instrumentation is not always installed and is almost never certified or NIST traceable, particularly flow meters.
- Arranging a certified test in the field is far more expensive than factory testing.
  - You have to make electrical arrangements to measure and record volts, amperes, and power factor - kW meters, watt transmitters, and data recorders are needed.
  - Piping must be stabilized to guarantee the accuracy of the flow measurements.
  - Flow meter and pressure gauges must be calibrated and NIST traceable.
  - A qualified professional must be hired to conduct the tests and certify the results.
- If problems are detected in the field, they can be time-consuming and costly to find and fix since they'll likely require additional equipment and labor.

### Why Don't Other Manufacturers Factory Test?

- They don't have the space or material handling equipment to test large systems.
- They don't have quality assurance technicians or electronic engineers required for a complete factory performance test.
- They don't have the testing procedures and documentation to certify a factory performance test.
- They don't have a registered professional engineer on staff to certify the test results.
- They don't integrate the control system into the pump package and can only test the pumps individually, not as a system.

The fact is, factory performance testing elevates the value and advantage of Systecon's modular, factory-built systems compared to traditional field-built systems and those of other modular manufacturers.