Solutions in Action

A New Standard in Clean-In-Place Mobility





Challenge

Central States Industrial needed to create a truly automated CIP system at a price point that budget-conscious customers could afford.

Solutions

- Micro850° controllers provide flexible communications and I/O capabilities
- PanelView[™] 800 graphic terminals provide high performance processes with Ethernet to support a variety of networks
- PowerFlex[®] 525 AC drives support fast and easy installation and configuration
- Stratix[®] 2000 unmanaged Ethernet switches, ideal for small control networks, do not require configuration

Results

- Reduced engineering time and cost
- Robust and accurate instruments
- Consistent and repeatable data tracking and recording



Fully automated controls



Excellent build quality with a powerful system

Background

Central States Industrial (CSI) is an innovation leader in equipment and services for the food, dairy, beverage, pharmaceutical, and personal care industries. CSI, headquartered in Springfield, Missouri, has more than 160 employees at five facilities across the United States.

CSI distributes a wide range of sanitary processing equipment and installation materials. From fittings, tubing, and hangers to advanced pumping and heat transfer technology, they are prepared to supply whatever their customers need for their process.

Challenge

Clean-in-place (CIP) is a method of cleaning sanitary process lines, vessels, and equipment commonly used in process plants. The process of CIP involves passing a cleaning fluid across a surface to remove product soils.

Manual cleaning prevents consistency and repeatability, regardless of how rigorously it's performed. Automated processes alleviate this type of error and neglect by allowing the computer to perform a set of instructions at specified levels the same way every time.

CSI needed to create a truly automated CIP system for budget-conscious customers, that is able to meet parameters and achieve cleaning requirements while remaining affordable, functional, mobile, and compact.







Mobile with a small footprint

Solution

The Compact CIP is an economical, single tank, mobile unit that's more than an industry standard – it's a value-added differentiator. CSI's team of engineers utilized instrumentation from Endress+Hauser and IFM to create this reliable and repeatable system that's mobile and powerful – and is half the price of an average entry-level CIP skid.

CSI relies on Rockwell Automation as an industry leader, and most CSI customers request Rockwell Automation in their specifications.

CSI is leveraging a Compact CIP controls system designed for the modern production plant using Allen-Bradley® products, including Micro850 controllers, PowerFlex 525 AC drives, PanelView 800 graphic terminals, and Stratix 2000 unmanaged Ethernet switches as standard.

The CSI team selected easy-to-install Micro850 controllers designed for larger standalone machines and remote automation applications that require flexible communications and I/O capabilities. PanelView 800 graphic terminals offer touch screens with display sizes compatible with small controllers. Featuring high-performance processors and high-resolution displays, the built-in Ethernet and serial communication ports support a variety of networks and offer improved usability with remote monitoring capability.

PowerFlex 525 AC drives feature an innovative, modular design to support fast and easy installation and configuration. The compact drives offer embedded EtherNet/IP[™] communications, USB programming, and standard safety features.

Stratix 2000 unmanaged Ethernet switches are ideal for small control networks. These industrial-grade switches do not require configuration and use simple cable connections for easy connection with Logix-based controllers.

This Compact CIP solution provides ease of skid integration to The Connected Enterprise, connecting to processing plants via Wi-Fi or Ethernet communication and can provide data logging for critical process parameters.

Results

With this solution, CSI offers a Compact CIP system with a standard, proven design for nearly instant quoting.

"This automated CIP solution is ideal for a market that could not afford a full-scale CIP system," said Trent Bullock, CSI Process Engineer.

The accessibility of the equipment allows small businesses to utilize this advanced technology to achieve a clean process and high product quality. Larger companies can use the technology to help prevent allergen crossover – a great safety benefit to their end-users – while also reducing resource and chemical use, and machine footprint.

The results mentioned above are specific to Central States Industrial's use of Rockwell Automation products and services in conjunction with other products. Specific results may vary for other customers.

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