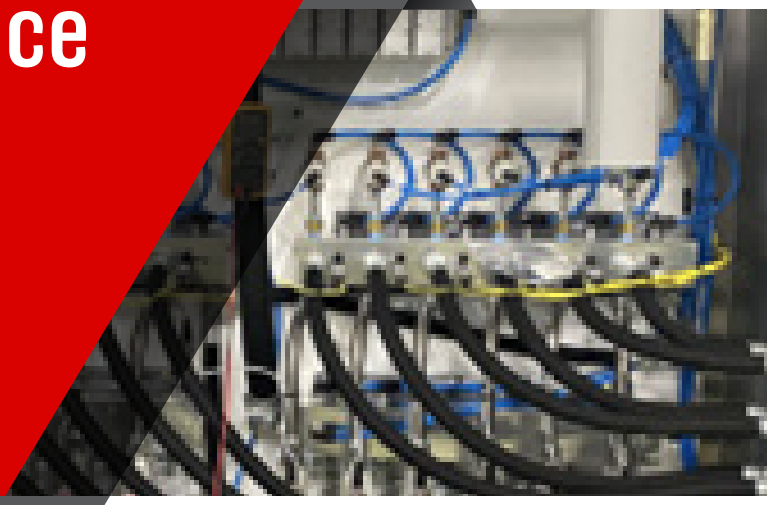
TRI-PHASE AUTOMATION

Engineering Excellence

SUCCESS STORY

Pneumatic System Saver: Connected Controls



THE COMPANY

The customer is a leading provider of critical infrastructure solutions, specializing in the rail industry. They focus on delivering high-performance automation and pneumatic systems that ensure operational efficiency, safety, and compliance. With years of experience, they are known for creating reliable, innovative systems that help clients meet regulatory requirements while optimizing performance and minimizing downtime.

OVERVIEW

The customer required an upgraded testing system to automate the testing of train car brakes. The existing system, while functional, was large and complex, with numerous pneumatic fittings, tubing, and hoses that led to leaks and maintenance challenges. Additionally, the system needed to comply with strict testing timeframes to avoid heavy fines imposed for delays in train yard operations. The goal was to create a solution that was more compact, reliable, and easier to maintain, while also reducing costs.

CHALLENGE

The existing system was large, with numerous pneumatic fittings and hoses, leading to leaks and maintenance issues. These problems caused downtime and inefficiencies, and the system had to meet strict testing timeframes to avoid costly government fines. The customer needed a more compact, reliable solution that reduced connection points, improved performance in cold weather, and lowered costs.

SOLUTION

The new system was developed with the goal of addressing the challenges posed by the original setup while providing a more efficient and reliable solution. By focusing on reducing the system's size and complexity, the updated design improves overall performance, minimizes maintenance issues, and reduces operational costs.

Compact Control Panel:

The prototype was ¼ the size of the previous system, allowing for better space utilization without compromising performance.

Custom Pneumatic Blocks:

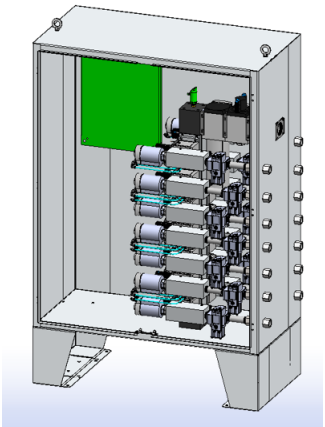
By reducing connection points, the custom blocks minimized leaks and failure risks, enhancing system reliability.

Smart Data Integration:

The system incorporated IO Link sensors for smarter data capture, easier installation, and more efficient monitoring of system performance.

BEFORE

AFTER



RESULTS & OUTCOMES

The new system provided substantial improvements in both operational efficiency and cost savings, addressing the challenges of the original setup while ensuring compliance with regulatory standards. With a focus on reducing downtime, enhancing reliability, and providing faster testing, the updated design delivered outstanding results that optimized performance and lowered operational costs.

REDUCED DOWNTIME

By eliminating unnecessary connections and reducing complexity, the new system resulted in fewer maintenance issues, leading to less downtime and higher overall productivity.

FASTER TESTING TIMES

The high-flow manifold system ensured quicker charge times, allowing the testing to be completed within the specified timeframes, thus avoiding fines for delays.

IMPROVED RELIABILITY

Custom pneumatic blocks reduced leaks and failure points, improving the system's overall reliability and performance, even under cold weatheR conditions.

LOWER OPERATIONAL COSTS

The streamlined design with fewer connections resulted in a significant reduction in production and maintenance costs, offering long-term savings for the customer.

TRI-PHASE AUTOMATION

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