
CASE STUDY

Yale[®]
By Columbus McKinnon

Heavy Machinery

Galvanizing Crane Hoist Replacement Project



CASE STUDY

Heavy Machinery

Galvanizing Crane Hoist Replacement Project



Since 1742, the galvanizing process continues to be a cost-effective and low maintenance method for protecting steel from corrosion. While the process has evolved over time with advances in technology and chemistry, it is currently broken down into three main steps, surface preparation, galvanizing, and post-treatment. During galvanizing, steel or iron is immersed into molten zinc, triggering a metallurgical reaction that forms a durable, multi-layered zinc-iron alloy coating. This creates a uniform, protective layer to enhance corrosion resistance.

An end user follows this reactive, high-temperature galvanizing process to protect telephone and light poles that line city streets, ensuring they withstand the elements with strength and longevity. To safely move poles through the process, two large top-running cranes with 20/25-foot lifts are used with Yale®-brand Cable King Electric Wire Rope Hoists. Given the volatile, corrosive nature of the galvanizing process, the application requires robust, heavy-duty equipment capable of precise movement to prevent even the slightest malfunction that could halt production.

After 30 years of use in a corrosive environment, the end user considered the wear and tear on their existing Cable King hoists because they were at their typical lifecycle age and due for replacement. Columbus McKinnon industry experts partnered with the end user to determine project specifications and how to upgrade their current solution. The solution included a new fleet of Cable King Electric Wire Rope Hoists and modern enhancements of crane controls by upgrading 2-speed controls to Magnetek® Variable Frequency Drives (VFD).

PRODUCTS

- Yale® Cable King Electric Wire Rope Hoists
- Magnetek® IMPULSE®-G+/VG+ Series 4 Variable Frequency Drives
- Magnetek® Radio Remote Control

CHALLENGE

- Replace existing 30-year-old Cable King hoists at the end of their lifecycle age and experiencing wear and tear from long-term use in a harsh, corrosive environment
- Modernize crane controls from a 2-speed control to one inclusive of advanced control and monitoring capabilities
- Avoid load swing from tank to tank that may occur when using a 2-speed crane control on the trolley
- Improve safety for operators and equipment during lifts to prevent injury to people, equipment, and load damage

SOLUTIONS

- Upgraded all existing hoists to modern, high-performance Cable King hoists capable of precise lifting
- Added eight Cable King hoists to an existing system for an even more robust setup, resulting in enhanced performance and increased safety to equipment, operator, and facility
- Additional spare Cable King hoists will be utilized as needed during the modernization process of the existing hoists to reduce downtime
- Integrated IMPULSE® VFDs to enhance operational safety and significantly extend the lifespan of equipment, delivering both protection and performance
- Upgraded Magnetek Control Panels to NEMA 4X rated and stainless steel for additional protection in the corrosive environment

BUILT TO LAST. BUILT TO PERFORM. THAT'S YALE[®] CABLE KING ELECTRIC WIRE ROPE HOISTS.

Designed with versatility in mind, the Cable King meets the highest standards of durability and reliability. Cable King electric wire rope hoists come standard with a range of performance-enhancing features designed to extend their lifespan and minimize downtime and costs due to maintenance, even in harsh environments. To prevent accidental drops, equipment damage, or injury during lifting operations, each unit includes a redundant braking system ensuring secure stopping and reliable load holding for added safety when it matters most.

As a one-stop source for both lifting and automation technology, Columbus McKinnon equipped the Cable King hoists with integrated Magnetek[®] IMPULSE[®]·G+/VG+ Series 4 Variable Frequency Drives for the control system for a smarter, safer operation. This powerful combination gives the end user real-time access to critical performance data, including motor temperature, continuous detection of hoist overload conditions, motor speed, and more, while providing advanced diagnostics, such as trending data, event history, and equipment usage history. This comprehensive information empowers the end user to detect and correct potential issues before they happen so their operation can continue with minimal downtime.

Columbus McKinnon's industry experts closely collaborated with the end user and channel partner to understand the unique requirements of the galvanizing process and delivered a tailored solution that modernized the process while enhancing safety and efficiency. While the end user managed the installation of the solution independently, Columbus McKinnon industry experts and the channel partner were available throughout the process to ensure a smooth and successful implementation.

Through strategic partnerships, expert consultation, and advanced product integration, including Yale Cable King Electric Wire Rope Hoists and Magnetek VFDs, Columbus McKinnon played a critical role in modernizing the end user's galvanizing operation. The robust, high-performance lifting solution was tailored to the unique demands of the corrosive environment and not only enhanced safety, operational efficiency, and precision but is a durable, high-performance solution that they can rely on for years to come.





ADVANTAGES OF WORKING WITH COLUMBUS MCKINNON

- Over 150 years of experience providing reliable, high-performance solutions for even the most complex application requirements, including highly corrosive and high-temperature environments
- Partnership and guidance from hoist, crane, automation, and linear motion control systems experts
- Enhanced system performance, safety, and operational efficiency for both equipment and operator
- Engineered-to-order systems that can be customized to your application's requirements
- Comprehensive operator and service training to ensure your team performs with confidence when it matters most



CONTACT OUR INDUSTRY EXPERT

Guided by a customer-first mindset and over four decades of expertise in hoists, cranes, and patented track crane and monorail systems, Jim Orme delivers solutions that meet the highest standards for material handling solutions. Serving the industrial manufacturing and assembly sectors, he collaborates with customers, contractors, and engineering firms to create innovative solutions that align with exacting performance and safety standards. Jim's extensive application knowledge, combined with his technical expertise, allows him to interpret detailed specifications and deliver results that consistently meet the highest standards. Contact Jim today to get started on your next project.

Jim Orme
Business Development Manager
Jim.orme@cmco.com
651-357-3531



LIFTING SOLUTIONS



USA

p: 800.888.0985
p: 716.689.5400

CAN

p: 877.264.6478
p: 877.264.6477

CMCOPartners@cmworks.com | cmco.com/yale