UNIFIED

PROPATH™

AUTOMATED WORKSTATION CRANE
The ProPath Automated Workstation Crane combines our industry-leading Enclosed Track Aluminum (ETA) Rail Systems with semi- or fully automated “smart” material handling solutions to increase the safety, productivity, and uptime of your facility.

Unified Industries provides superior products combined with innovative motion control technology to achieve maximum performance. As a leader in overhead material handling since 1953, Unified Industries continues to pioneer products and systems designed for high-production movement. To move product around a plant floor safely and effectively, this robust system can be designed in semi- or fully automated configurations. You can customize each system to match application needs, choosing from an extensive portfolio of crane solutions products such as variable frequency drives, powered chain and wire rope hoists, radio remote controls, articulating arms, vertical reaction lifters, and much more.
The ProPath Automated Workstation Crane is unique to the industry, packaging high-quality hardware with innovative controls to provide the best in performance and safety. Two automation configurations are available for varying levels of control, which can include wireless communication, positioning components, and diagnostics and analytics for efficient, precise operation. The ProPath Automated Workstation Crane is easy to install with lightweight ergonomic components and backed by Unified Industries warranty and service, making it the ideal solution for aerospace, automotive, and general manufacturing applications.

The strength, reliability, and intelligence of Unified Industries, Magnetek, CM®, Yale®, Shaw-Box®, and STAHL CraneSystems brand products are combined in this uniquely designed system for material handling.
In its semi-automated configuration, also known as auto-dispatch, the ProPath™ enables automated movement, while also utilizing human assistance for precise actions. This allows multiple areas to share a single crane and for finished product to travel through one, all, or a combination of work locations.

An operator initiates movement via Magnetek brand Flex EX2 Radio Remote Controls or tethered SBP2® Pendant Pushbutton Stations, which direct the crane to travel to a specific location. Magnetek IMPULSE® Variable Frequency Drives power the bridge, trolley, and hoist motions for precise control within a half inch. Using specialized software, specifically designed for material handling applications, parameters such as hook height, load status, and speed can be programmed, monitored, and adjusted as necessary. After the task at a workstation is complete, an operator may send the crane and the load to the next station or to a different operator. The semi-automated configuration incorporates the most innovative technology to minimize wasted effort while enabling operator input into the process.

OPERATOR ASSISTED CONTROL

- Automated Movement with Human Initial Commands
- Automatic Material Flow to Maximize Productivity
- Obstruction Detection for Equipment and Operator Safety
- Configurable No-Fly Zones Available to Limit Risk of Collisions
FULLY AUTOMATED CONFIGURATION

The fully automated ProPath™ delivers intelligence. Accurate, repeatable processes provide enhanced process flow, reduced idle time, consistent operation, and improved cycle times for increased productivity.

Drives power the bridge, trolley, and hoist motions and continuously verify position through feedback devices, such as encoders, limit switches, barcodes, or lasers. Critical, real-time data is delivered to a laptop, tablet, or human-machine interface (HMI), which can also remotely start, program, monitor, and troubleshoot the entire system. Once the crane reaches its destination, the PLC determines if the Unified Industries Lift Assist can safely pick up the material. The PLC then determines a destination and the crane traverses to the new location. If the new location is verified, the PLC directs the Lift Assist to lower the load. The sequence repeats for multiple locations without human interaction. Setting the standard in full automation, we are dedicated to maximizing the performance of each ProPath Automated Workstation Crane.

To initiate crane motion, the ProPath Workstation Crane’s sensors detect that material is present. A programmable logic controller (PLC) completes safety checks and ensures all parameters are met before operation begins. Variable Frequency Drives power the bridge, trolley, and hoist motions and continuously verify position through feedback devices, such as encoders, limit switches, barcodes, or lasers. Critical, real-time data is delivered to a laptop, tablet, or human-machine interface (HMI), which can also remotely start, program, monitor, and troubleshoot the entire system. Once the crane reaches its destination, the PLC determines if the Unified Industries Lift Assist can safely pick up the material. The PLC then determines a destination and the crane traverses to the new location. If the new location is verified, the PLC directs the Lift Assist to lower the load. The sequence repeats for multiple locations without human interaction. Setting the standard in full automation, we are dedicated to maximizing the performance of each ProPath Automated Workstation Crane.

PROGRAMMED CONTROL

- No Human Assistance Required Beyond Setup
- Continuous Diagnostics and Analytics
- Planned Rather Than Preventative Maintenance
- Repeatable Machinery Movement to Reduce Collisions
- Efficient, Effective Manufacturing Processes
SYSTEM COMPONENTS

UNIFIED INDUSTRIES ENCLOSED TRACK ALUMINUM RAIL
Ergonomically superior to standard steel bridge crane and monorail systems, our line of lightweight Enclosed Track Aluminum (ETA) Rail Systems and components are designed to maximize productivity while maintaining the highest standards of safety. ETA-4, 5, and 8 Rail Systems consist of a full suite of components, including hangers, end trucks, load trolleys, stops, festooning, inspection gates, splices, telescoping rail, limit switches, and more. ETA rail provides smooth, quiet operation and can be used on both runways and bridges.

Electric or Air Tractors, lightweight and compact alternatives to heavy traditional tractors, provide movement for the ProPath™ Automated Workstation Crane along the ETA rails and are easy to access for maintenance.

MAGNETEK VARIABLE FREQUENCY DRIVES
Incorporating Magnetek’s reliable IMPULSE® Variable Frequency Drives into the ProPath Automated Workstation Crane creates a one-of-a-kind, intelligent solution for lifting applications. IMPULSE Variable Frequency Drives maintain safe thresholds, which decreases mechanical fatigue and increases reliability and uptime.

The IMPULSE®-G+ Mini enables expanded speed adjustments, improved load control, high duty cycles, and increased equipment life. IMPULSE- G+ Mini’s compact size permits the use of smaller control enclosures, reducing the overall cost of an installation. Hardware and software are designed and extensively tested specifically for the operating conditions seen in material handling applications. One IMPULSE- G+ Mini controls each motion (bridge, trolley, and hoist) in a standard ProPath Automated Workstation Crane, while applications that operate with two hoist motions may utilize Magnetek IMPULSE®-G+/VG+ Series 4 drives.

STANDARD IMPULSE·G+ MINI DRIVE FEATURES
SAFE OPERATING WINDOWS™
Reduce the possibility of programming unsafe parameters.

MOTOR THERMAL OVERLOAD PROTECTION
Reduce the possibility of motor damage.

X-PRESS PROGRAMMING™
Allows programming for initial setup within seconds.

QUICK STOP™
Reduces the possibility of crane collision.

SWIFT-LIFT™
Allows overspeeding with light loads or empty hook.

REVERSE PLUG SIMULATION™
Allows operators to smoothly and quickly stop and change directions without setting the brake.

AUTO-TUNING™
Non-traditional auto-tuning for performance demanding applications.

UL RECOGNIZED ELECTRONIC THERMAL OVERLOAD
With our history of expertise and advanced solutions, we can design an advanced ProPath™ Automated Workstation Crane to your exact specifications. We offer a variety of options for the Z-axis motion and control panels, as well as those to enhance the communication, positioning, and safety of your system. Consult the factory for additional options and customization.

**COMMUNICATION**
- Interlocks
- Dry Contacts
- Ethernet Protocol

**POSITIONING**
- Barcode Readers
- Laser Measurement
- String Encoders

**SAFETY**
- Remotely Mounted E-Stops
- Configurable No-Fly Zones
- Light Curtains
- Safety Mats
- Door Mounted Safety Switches
- Compliance with Safety Categories 1-4 (Customer Specified)

**Z-AXIS**
- CM® Powered Chain Hoists
- Yale®, Shaw-Box®, or STAHL CraneSystems Wire Rope Hoists
- Z-Servos
- Vertical Reaction Lifters
- Articulating Arms
- End Tooling

**CONTROL PANELS**
- External/Internal Dynamic Braking Resistors
- Human Machine Interface (HMI)
- Remote Door Keypad
- Finger-Safe Guarding
- Weight Verification System
- Preventative Maintenance Predictor
- DataLogger Keypad for Data Collection