



# Evolution

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A MAGNETEK MATERIAL HANDLING PUBLICATION

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## DID YOU KNOW?

Dear Customer,

The American Recovery and Reinvestment Act enacted in February of this year contains new tax legislation that allows companies to take a much higher depreciation deduction on the purchase of capital equipment than previously allowed, which should translate to more immediate tax savings.

The increased Section 179 Tax Deduction and the Bonus Depreciation provisions allow companies to deduct, for tax purposes only, their capital expenditures much quicker, meaning realization of tax savings in the current year.

The Section 179 Tax Deduction is geared for smaller businesses making less than \$800,000 in annual capital purchases. Those companies can simply expense in the current period the first \$250,000 of capital acquisitions. For example, if a company purchased a \$100,000 item, and that company was in the 40% tax bracket, the purchase would reduce the company's taxes by \$40,000 in the current year.

The Bonus Depreciation provision applies to companies of all sizes. It allows companies to deduct 50% of the acquisition for tax purposes. So for example, if a large company (not eligible for the Section 179 Deduction) purchased a \$100,000 item, it could deduct \$50,000 immediately, plus take the normal tax depreciation on the remaining \$50,000 (\$10,000 per year assuming a five year recovery period). This equals a \$60,000 total tax deduction. Assuming a 40% tax bracket, this would net the company a tax savings of \$24,000 in year one.

Without the new Bonus Depreciation rule, a \$100,000 acquisition would only yield a tax savings in year one of \$20,000, which at the 40% tax bracket, results in \$8,000 tax savings. So essentially tax savings in year one could be three times as great now as under the old tax depreciation rules.

The tax savings on capital expenditures you are likely to enjoy under the new economic stimulus legislation is certainly an important consideration when developing your capital spending plan.

Best regards,



Marty Schwenner  
Chief Financial Officer  
Magnetek, Inc.

## IMPULSE® DRIVES SUPPORT YOU EVERY STEP OF THE WAY



Magnetek's line of IMPULSE adjustable frequency drives are designed with versatility, reliability, and safety in mind. Models range from more basic, compact low cost units to advanced units featuring our exclusive crane and hoist software. These drives meet the demands of material handling applications from 1/4 HP to 1500 HP. All of our drives are designed, engineered, and produced in the United States.

Our advanced safety and performance features combined with our superior application expertise make IMPULSE®•G+ and VG+ Series 3 Drives the best choice to maximize the performance and safety of your material handling system.

Features include:

- X-Press Programming™, which allows programming initial setup within seconds
- Load Sharing — allows two or more mechanically coupled motors to be controlled in a master/slave torque control fashion
- Intuitive Alarm and Fault Codes — assist in diagnostics and troubleshooting for reduced downtime
- Custom software for grab bucket control, hoist synchronization, static stepless simulation and sway control
- The ability to achieve 300% overcurrent and 60°C ambient in many cases. Contact one of our application engineers at 1.800.288.8178 for more information on these special applications.

### IMPULSE Drives Complete Control Panels Provide the Ultimate Control Solution

Our IMPULSE drives can be integrated into a control panel along with all of the components to provide complete control for overhead material handling applications. Our pre-engineered standard panels are ideal for single motion control. They are easy to install, offer cost-effective and reliable operation, and are available for quick delivery. All panels are tested and quality-approved, and are available in 1 to 30 HP at 230V and 1 to 60 HP at 460V. IMPULSE®•G+ Series 3, IMPULSE®•VG+ Series 3, and our new IMPULSE®•G+ Mini drives can be purchased as part of a complete, pre-engineered motor control system.

For specialized and unique applications, we can design and build custom panels for your specific application requirements. These panels integrate our IMPULSE® and our OmniPulse® crane controls with an unlimited number of configurations, components and accessories, including our extensive line of radio remote controls and receivers.

Our skilled engineering staff can configure our radios to interface electronically with the control panel. We provide a pre-wired and tested system, so everything is structured to work together, eliminating hassles in the field.

All of our control panels are designed to comply with the UL 508A standard. This standard covers control panels intended for general industrial use, operating at a voltage of 600 volts or less. This type of equipment is intended for installation in ordinary locations, in accordance with the National Electrical Code, ANSI/NFPA 70.

At Magnetek, our goal is to provide you with the exact product solution you need quickly. To support that goal, our control panel production line uses Demand Flow Technology (DFT). This Lean Manufacturing technique is a mathematically based approach to manufacturing that uses a single piece pull system versus a traditional batch/pull approach. This production process lets us link factory processes together in a flow which increases our ability to respond to changes in customer demand.



After implementing DFT, Magnetek realized several improvements, including a 38% increase in productivity, a 15% reduction in assembly floor space requirement, and a 60% reduction in material/operator travels. This streamlining effort allows us to provide products to our customers with a shortened lead time while ensuring the highest level of quality is consistently met on every order.

With our combination of extensive application experience and leading-edge products, Magnetek provides the ultimate solution for overhead motion control. Learn more about our complete control panels at [www.magnetekmh.com/control.htm](http://www.magnetekmh.com/control.htm).

### Our Product Support Continues After Your Purchase

Your complete satisfaction is critical to us. That's why all Magnetek drives are backed by the industry's best warranty and service policy. Our highly trained team of service technicians offers superior aftermarket support. They're always on call—available to you 24/7, 365 days per year. We offer on-site technical support, emergency crane control replacement, and on-site and in-house training programs.

## MAGNETEK LAUNCHES NEW VERTICALLY MOUNTED MONDEL BRAKE



Magnetek now offers a new vertical design of its AIST-NEMA HI-TORK™ 300M Mill Duty Shoe brake. The new vertical MBT brake is a great fit when space is restricted by related machinery, structural components, or worker access requirements so a standard horizontal brake does not fit. The thruster is mounted above the brakewheel rather than on one side. The vertically mounted brake meets the same requirements as our horizontal MBT brakes and also delivers the same rated torque with minimal maintenance and downtime. Like all of our mill duty shoe brakes, the vertical MBT brake features fabricated steel construction and is designed for heavy-duty environments.

Applications for mill duty shoe brakes include steel mills, stacker reclaimers, shiploaders, port cranes, shipyard cranes, offshore drilling rigs, missile assembly cranes, incinerator cranes, and large gantry cranes. Learn more about all of Magnetek's Mondel brakes on our website at [www.magnetekmh.com/mondel\\_industrialbraking\\_main.htm](http://www.magnetekmh.com/mondel_industrialbraking_main.htm) or contact one of our Inside Sales application professionals at 800.288.8178 to discuss your specific application.

## NEW IMPULSE®•G+ MINI ROLLED-OUT ROHS COMPLIANT

Magnetek's newest adjustable frequency crane control, the IMPULSE®•G+ Mini, is compliant with the Restriction of Hazardous Substances Directive (RoHS). The RoHS Directive originated in the European Union (EU) and restricts the use of these specific hazardous materials found in electrical and electronic products:

- Lead (Pb)
- Mercury (Hg)
- Cadmium (Cd)
- Hexavalent chromium (CrVI)
- Polybrominated biphenyls (PBB)
- Polybrominated diphenyl ether (PBDE)

The IMPULSE®•G+ Mini is labeled to indicate RoHS compliance. Going forward, Magnetek products will be designed to accommodate this directive whenever possible.



## IMPULSE®•LINK 4.1 WIRELESS DIAGNOSTICS SYSTEM NOW COMPATIBLE WITH OMNIPULSE™ DDC

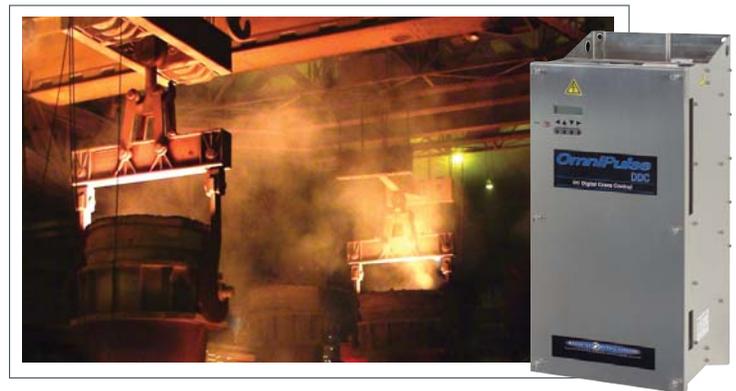
Our IMPULSE®•Link 4.1 Wireless Diagnostics System (WDS) has been successfully used to increase productivity by wirelessly bridging the gap between Magnetek's IMPULSE drives and the user's Ethernet network. Now the WDS can also be used with our OmniPulse DDC Digital DC Drives.

The OmniPulse DDC Drive is a micro-processor based, solid state, four-quadrant DC-to-DC control designed for series, shunt or compound wound motors. It employs semiconductor technology to provide better control of motor speed and torque than costly, inefficient DCCP control.

Our IMPULSE®•Link 4.1 WDS can be customized to a specific drive and monitors the parameters providing diagnostic information unique to that drive's application.

Whether you have a single crane or multiple cranes in difficult to access locations, the WDS allows you to easily monitor and diagnose your OmniPulse drives wirelessly. The WDS alerts you of a problem and transmits this diagnostic data to be read by a technician. This allows maintenance workers to be prepared with the right tools and parts to fix the problem before getting up on the crane to do repairs. Valuable time and manpower is saved so the crane gets back on-line efficiently.

The WDS is a digital device with no moving parts, and it consistently monitors the drives without breaks in transmission, providing increased safety, security and reliability.



Existing OmniPulse DDC drives can be easily retrofitted, so few infrastructure updates are needed and no additional training is required for operators and maintenance crews. It uses the same interface as most current hard-wired diagnostic devices. A WDS upgrade to our OmniPulse DDC drives requires only a short installation time.

For more information on the IMPULSE®•Link 4.1 WDS, take a look at our OmniPulse DDC Digital DC Drives Diagnostic Tools brochure on our website at [www.magnetekmh.com/pdfs/OmniPulseDDC\\_08.pdf](http://www.magnetekmh.com/pdfs/OmniPulseDDC_08.pdf).

# MAGNETEK ENGINEERED SYSTEMS PILOTS A UNITED STATES AIR FORCE BASE LEAN TRANSFORMATION PROJECT



This United States Air Force Base's aircraft maintenance group was faced with significantly increased workloads but no increase in personnel or work area. Striving to provide quality jet aircraft parts, on time and within budget, Lean Manufacturing principles were implemented in the facility to reduce flow days and boost productivity through waste reduction.

A customized overhead materials delivery system was designed and installed that automated and integrated nine overhead monorail carriers from two separate wheel and strut delivery lines through a single, shared paint line process.

Magnetek's Engineered Systems Group designed a custom monorail control system that streamlined and automated this wheel and strut paint line process. The monorail carriers were powered by IMPULSE®•P3 Series 2 adjustable frequency drives that are capable of operating in a variety of high performance environments. Programmable Logic Controllers (PLC) were used in conjunction with the IMPULSE Drives to control traffic flow and run the automation process.

A low-profile FABA® Conductor Bar System was installed for power and control of the automated monorail system. A combination of a Telemotive 18K radio control system with SLTX radio transmitters and fixed mounted operator's pushbutton stations were incorporated for manual intervention throughout the system.

Magnetek's Engineered Systems Group provided a complete turn-key controls solution by designing the entire custom monorail control system, programming the PLCs and HMIs, and performing on-site start-up services and performance testing to meet the customer's application requirements.

## Challenge

- Integrate wheel and strut manufacturing lines through a shared paint process line
- Meet stringent requirements to use Lean Manufacturing principles
- Reduce the amount of labor required to manually paint wheels and struts
- Reduce the number of lines to increase efficiency

## Solution

- Engineered a customized system that automated and integrated nine carriers from two lines through a single process line consisting of two paint booths, two ovens and a wash booth
- Automated the painting delivery system of the wheels and struts
- Provided application expertise to achieve maximum performance to fulfill Lean Manufacturing principles
- Increased efficiency by combining two separate lines that share the same process

## Products Used

- IMPULSE®•P3 Series 2 Adjustable Frequency Crane Control
- FABA® Conductor Rail System
- Telemotive 18K Radio Remote Control System
- SLTX™ Transmitters

Read the complete case study on our website at [www.magnetekmh.com/solutions\\_engineeredsys.htm](http://www.magnetekmh.com/solutions_engineeredsys.htm).



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