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**FOR IMMEDIATE RELEASE**

## AIRMATIC<sup>®</sup> INTRODUCES MARTIN<sup>®</sup> CONVEYOR BELT POWERED GENERATOR



**Malvern, PA, 9 August 2016** – AIRMATIC<sup>®</sup>, a leading distributor of bulk-solids handling equipment in the Northeastern United States, is proud to introduce an innovative technology from its partner and core-product supplier MARTIN ENGINEERING<sup>®</sup>. The technology uses kinetic energy from a moving conveyor belt to generate the power to run a wide variety of electronic systems. MARTIN designed The Roll Gen<sup>™</sup> System to create a self-contained mini power station that allows operators to run electrical monitoring systems and safety mechanisms. Able to be retrofitted on existing idler support structures, operators are not required to maintain a special stock of conveyor rollers, as the generator can be employed on virtually any steel roller. The device is a first step toward eliminating power production obstacles, as conveyors move into the next generation of “smart systems” that will be more sustainable and autonomous.

Running auxiliary power can be both complicated and costly, requiring expensive labor and oversized cables to accommodate the inevitable voltage drop over long runs, as well as transformers, conduits, junction boxes and other components. Using even a small conventional generator to provide power introduces a different set of issues, including flammable fuels. In many operations, this lack of available power means that any monitoring of the conveyor must be done by technicians physically walking the length of the structure, which can be a difficult and time-consuming task when the systems are long and span difficult terrain.

A more efficient approach is to employ sensors to transmit important data from remote points to a central location where it can be monitored in real time and recorded for later analysis. But intelligent monitoring systems for any conveyor system require power for extended operation. Due to the distances involved, cabled communication systems are not ideal, and therefore wireless communication systems are more advantageous. Options such as solar power are not well suited to the general conditions of a conveyor system, as monitoring devices are often required in an enclosed structure without access to sunlight, or for continuous operation during both day and night.

“We found that we could draw energy from a moving belt by attaching an independent generator directly to one of the rollers,” said Paul Harrison, Director of Business Group, Conveyor Products. “This way, the conveyor could produce power without altering the structure of the system or affecting its physical configuration.”

Being able to add a generator to a roller delivers the benefit of utilizing the proven reliability of existing roller designs, while drawing power from the belt for a wide variety of electronic devices. Product engineers developed a design to accomplish this through the use of a magnetic coupling that attaches to the end of an existing roller. The outside diameter of the generator matches the diameter of the roll, but places the generator outside the material path to avoid the heavy loads and fugitive material that tends to damage existing design attempts. The roll generator is held in a fixed position by the roll support system, but is not normally required to bear any of the material load.

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In the new, patent-pending design, a “drive dog” is attached to the end face of the roll that is resting on the generator, using magnets. The drive dog engages the generator through the outer housing’s machined drive tabs. The magnetic attachment ensures that electrical or mechanical overload does not force the roll to stop; instead the magnets will slip on the roll face.

“The generator can also be installed on its own mount or on other existing support structures, such as a belt tracker,” added Harrison. “All components to ‘condition’ the power to a steady 24VDC are enclosed in a protective cabinet, typically mounted directly on the idler support slide.”

The reliable power supply helps bring a new level of sophistication to conveyors, allowing designers to equip their systems with devices such as weigh scales, proximity switches, moisture sensors, pressure switches, solenoids and relays, as well as timers, lights and even additional safety mechanisms. Wireless communication can be used to transmit directly to a central controller, giving operators a cost-effective way to access data that has not been readily available in the past – and taking another step toward “smarter” conveyor systems.

“The capability to store power in a small battery bank is already in development,” Harrison added. “This will allow the generator to produce 5-10x higher amperage for short periods to power higher-wattage devices.”



## **About AIRMATIC®**

Founded in 1944, AIRMATIC® is a multi-division distributor of industrial equipment and machinery. Its Materials Management Group provides products and services to industries that convey, store, transport, and process powders and bulk solids, and its Service Group provides installations and maintenance services to improve the efficiency of belt conveyors and other components of a bulk solids handling system, and clean-out and then eliminate further material flow problems in hoppers, bins, and silos. By choosing AIRMATIC to solve their problems, customers gain increased productivity, decreased costs, and a safer, cleaner work environment.



## **About MARTIN ENGINEERING®**

MARTIN ENGINEERING® is the leading global supplier of systems and services to make the handling of bulk materials cleaner, safer, and more productive. Since its founding in 1944, MARTIN’s success can be attributed to the development of practical, field-proven, cost-effective answers for “real-life” problems. MARTIN Products are designed for tough industrial conditions; they are built to allow easy maintenance; they are engineered for simplicity, cleanliness, safety, and efficiency; they are personalized to meet each Customer’s unique requirements.

