



Product News

## Martin Engineering: Powerful Railcar Vibrators Deliver High Force, Low Weight

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Neponset (IL), United States -

A global leader in industrial vibration technology has introduced a portable vibrator that activates the free flow of bulk materials from closed-top hopper railcars. With one of the highest force to weight ratios available in the marketplace, the Martin ® IMP3 Impacting Railcar Vibrator delivers the power required to evacuate compacted bulk materials such as fertilizers, bentonite clay, Portland cement, grain and other agricultural products. Extremely high quality standards for the design deliver superior equipment reliability and long service life, allowing the competitively priced units to improve workplace safety with very little maintenance and a low cost of ownership.

*"When a railcar is being emptied, the process needs to be fast, efficient and thorough, because extra time spent unloading, manually cleaning or sending cars back with material in them can translate into lost profits or increased costs,"* explained **Marty Yepsen**, Business Development Manager for Railcar Products at [Martin Engineering](#). *"The higher the force to weight ratio, the more force is delivered to the material, increasing the efficiency of the vibrator."* The IMP3 was purpose-built for unloading dry powdered bulk materials. If vibrators fail, workers may need to resort to unsafe practices to get material flowing again, such as hammering on the cars or attempting to unclog them from the bottom of the

hopper.



Designed to be light weight with an easy grip handle, reducing the strain of mounting/dismounting .

To avoid these expensive and potentially hazardous scenarios, the IMP3 produces 3000 vibrations per minute (VPM) and 3400 lbs. (1542 kg) of force, which has

been compared to a sledgehammer blow 50 times per second. The rapid impacts generate a vibratory wave through the metal hopper of the railcar, loosening adhered material to promote fast and even flow.**The Weight Factor**Lifting heavy items is one of the leading causes of injury in the workplace. In 2001, the **Bureau of Labor Statistics** reported that over 36 percent of injuries involving missed workdays were the result of shoulder and back injuries. Overexertion and cumulative trauma were the biggest factors in these injuries.<sup>1</sup>The IMP3 replaces a traditional cast iron housing with an aluminum body coupled with a wedge bracket, and it features an integrated handle for easy gripping and moving. The low weight means that more of the energy is transferred from the unit to the hopper.



Set on the hopper slope of the railcar, the unit dislodges adhered and compacted material.

*"Weight and ease of use are important, because transferring the vibrator can be a repetitive motion that produces fatigue and eventual injury," **Yepsen** said. "This lightweight unit is designed specifically for constant handling in less-than-ideal*

*environments.* "The IMP3 requires an air supply of 80 psi and 25 cubic feet per minute (0.012 MPS). When operated using a filtered, regulated and lubricated air supply, the unit requires virtually no maintenance. Made in the USA and competitively priced to replace heavier and less reliable competing designs that can be difficult to handle, the IMP3 has already built a faithful following among its users. *"Visiting the facilities that have started using these units, operators tell me they're impressed by the ease of use and the low maintenance,"* **Yepsen** concluded. *" This is one of those products that has a profound impact on logistical efficiency, workplace safety and overall cost of operation."*



The IMP3 is designed to withstand the most punishing conditions.

**Martin Engineering**, based in Neponset, IL, USA is an industry leader in developing and manufacturing flow aids and conveyor products around the world for a wide variety of bulk material applications, including coal, cement / clinker, rock / aggregate, biomass, grain, pharmaceuticals, food and other materials. The firm provides a complete line-up of products specifically designed for railcar

applications, including vibration technology for loading/unloading, boot lifts and car openers. Manufacturing, sales and service are available from factory-owned business units in Brazil, China, France, Germany, India, Indonesia, Italy, Mexico, Peru, Russia, Spain, South Africa, Turkey and the UK, and under exclusive license with **ESS Australia**. For more information, visit [www.martin-eng.com](http://www.martin-eng.com) or call 800-544-2947. Global representatives for Martin Engineering can be found at [www.martin-eng.com/rep-finder](http://www.martin-eng.com/rep-finder). **References:** 1. **[Ergonomics eTool: Solutions for Electrical Contractors](#)** © 2017 Martin Engineering Company. All rights reserved. Martin Engineering products are protected by U.S. Patents, corresponding foreign patents and patents pending. Additional information can be obtained at [www.martin-eng.com/trademarks](http://www.martin-eng.com/trademarks).