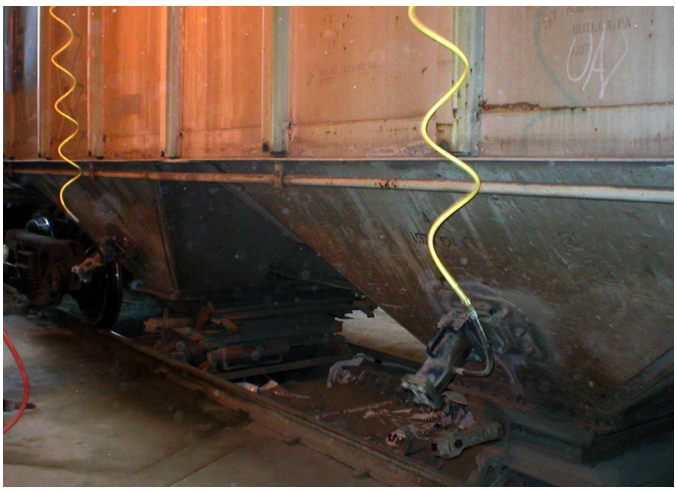
Unload Railcars Fast and Efficiently with NAVCO Air Vibrators.

A NAVCO representative was working with Tom Workmand, the Terminal Manager at Lafarge North America Cement Terminal in Columbus, Ohio to improve efficiencies in the area of railcar unloading. The terminal has 100 ton covered cement cars that they unload on a regular basis.

Tom Workmand is unloading cement, but this could be a story about any type of dry bulk product being unloaded from railcars.

Previously, Workmand had been using rotary pneumatic vibrators to help unload the cars. Also known as turbine or ball vibrators – they work by way of a ball bearing racing around a circular path, pushed along by constant air pressure. They were effective enough for unloading railcars in Tom's case, but the rotary vibrators used alot of air and they also required constant rebuilding. Rotary ball vibrators require more maintenance than piston vibrators because the ball racing around a circular path inside causes constant wear and tear. The cost to rebuild is expensive and the cost to purchase a new unit is even greater, at about $850.00 a unit. Additionally, Workmand reports that he needs to keep a second air compressor in operation to keep plant air levels operational when running the rotary vibrator units.

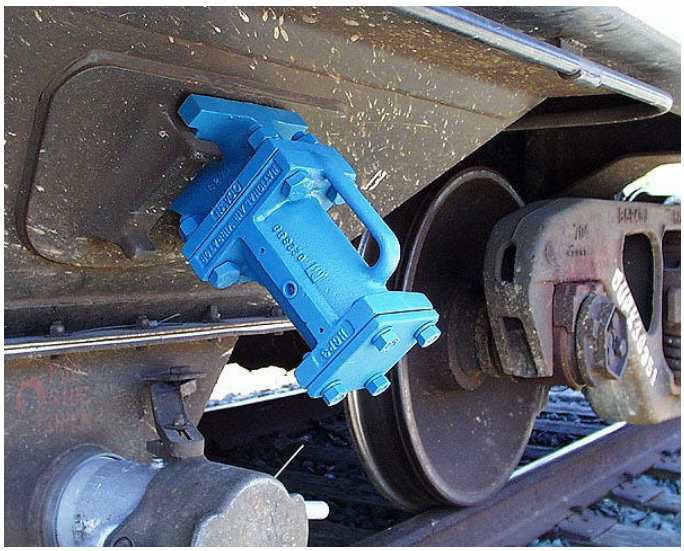
The manufactures of rotary pneumatic vibrators claim they are "silent" but what they don't tell you is it takes a lot more air to run a rotary ball vibrator than a piston vibrator, Workmand can vouch for that. After using a pneumatic piston hopper car vibrator that was loaned to him by NAVCO's representative for a trial period - he noticed an immediate reduction in the amount of air he used on a daily basis while unloading railcars.



Excited by the opportunity to save money, possibly enough to afford new equipment, Tom worked up an air consumption analysis of his plant and specifically compared air usage between rotary ball vibrators and piston vibrators. He found that if he were to replace his other three rotary vibrator units with piston vibrators the cost savings, in air usage and in repairs, would not only allow him to retire his second air compressor, but he could also justify

the purchase of a new primary compressor if he incorporated a few additional minor air use procedure improvements through out the plant to update efficiencies. The Lafarge terminal decided to purchase the trial piston hopper car vibrator unit, and 3 additional units, to replace all of their old rotary ball vibrators. Workmand say he is "very, very pleased with the performance and savings he has seen from the piston vibrators." He has also purchased his brand new air compressor and operations are running smoothly and efficiently.

In another example, Atlas Roofing has a rail car unloading terminal in Meridian, MS where they are unloading bulk ground limestone. The material is very fine and very dusty and it compacts easily. The Meridian terminal uses NAVCO HCP pneumatic piston hopper car vibrators to move the limestone out of the cars quickly and can unload a rail car in 45 minutes. The other plants that Atlas Roofing has around the US do not use vibrators and are reported to take up to an average of 2.5 hours to unload the limestone from just one car. They use methods such as hammering the car manually to get the limestone to flow, which doesn't always work, can damage cars, and is a huge waste of time. The plant manager in Mississippi is recommending NAVCO piston vibrators to the companies' other locations so they can all realize efficiency in unloading.



Another Example:

The Problem:

A cement terminal in Minnesota commonly experienced product bridging when unloading railcars. Several approaches were used to promote consistent material flow from the railcars.

The small 'pocket rocket' type vibrator sold to them by a NAVCO competitor was a marginal solution for breaking bridges that formed in the railcar hopper. This unit seats firmly in the dovetail bracket on the hopper via a male mounting head made of hard composite. The resultant hopper response to the vibrator did not always assure the flow of cement. Material, weather, and railcar variables factored in to whether or not cement would flow out of the hoppers without the occurrence of bridging while using the competitor's portable hopper vibrator.

A typial hydraulic rotary vibrator was also clamped to structural frame works on the end of the railcar near the ladder. The intent was to vibrate the entire railcar in order to promote consistent flow. The rotary hydraulic unit is heavy and cumbersome, and requires high maintenance and a hydraulic pumping unit to operate. The hydraulic unit is a high frequency vibrator; it is most effective when operating near the resonance frequencies of the railcar. The result of this operating mode is railcar damage and complaints from the railcar leasing company regarding the damage were common. Even when used in combination

Hydraulic Rotary Vibrator

with the Martin Pocket Rock-It, complete, efficient unloading was not guaranteed.

The Solution:

Through the local NAVCO representative, NAVCO was contacted to assist in solving the problem. Unloading at the terminal had come to a standstill due to some very stubborn material and the urgency of the situation was relayed to NAVCO. One NAVCO HCP 3 Long was shipped to the terminal overnight. The NAVCO HCP 3 Long started the cement flowing immediately and effectively maintained constant flow until the car was emptied. The unreliable vibrators were retired, unloading time was reduced, and the cement terminal capacity was increased.

The terminal is very satisfied with the results from the NAVCO HCP railcar vibrator. The terminal operators agree that NAVCO HCP portable hopper car vibrators with “free ride” design technology and Teflon coating for harsh environments are the most effective railcar shakers available.