

How to Reduce Your Plant's Exposure to Vibrator Noise

By Rob Beiersdorfer

Today's federal, state, and local regulations regarding acceptable noise levels in and around the industrial work environment are stringent. The Occupational Safety and Health Administration (OSHA) requires employers to implement a hearing conservation program when noise exposure is at or above 85dB averaged over eight working hours.

There are several different ways to control worker exposure to excessive noise and thereby prevent hearing loss, including using quieter machines, isolating the noise source, limiting worker exposure, or using effective personal protective equipment (PPE).

In many plants and mines, industrial vibrators can be a source of unacceptable noise levels. Typical pneumatic vibrators are rated at 85dB to 110dB depending on the type of vibrator in use. Depending on the vibration force and frequency needed, and the facility's power availability, a simple fix to lowering noise levels is to substitute a rotary electric vibrator for a pneumatic vibrator. Rotary electric vibrators typically run at 65dB to 70dB. This sound level is quite acceptable in an industrial environment since it does not negatively impact workers' hearing. (There are "next generation" pneumatic vibrators available for most applications that can significantly reduce noise levels if compressed air is your choice of power. Call us at [+215.333.5600](tel:+215.333.5600) for more information!)

If changing out a pneumatic vibrator for an electric vibrator or a "next generation" pneumatic vibrator is cost-prohibitive, there are other methods to consider for controlling and reducing workers' noise exposure in your workplace. Here are two that have worked for our customers:



PLANT MATTERS

Apply Administrative Noise Controls: These involve changes in the workplace or work schedule that reduce or cut worker exposure to noise. Examples of effective Administrative Noise Controls include:

- Limiting the amount of time a worker spends at or near the noise source
- Controlling noise exposure through distance. This is often an effective, yet simple and inexpensive, Administrative Control. Specifically, for every doubling of the distance between the noise source and the worker, the noise is decreased by 6dB
- Providing quiet areas where workers can gain periodic relief from hazardous noise sources
- Operating noisy machines during shifts when fewer people would be exposed

Apply Engineering Noise Controls: These involve changing or replacing equipment or making related physical changes at the noise source or along its transmission path to reduce the noise level at the worker's ear. Examples of effective Engineering Noise Controls include:

- Placing a barrier, such as sound walls or curtains, between the noise source and the worker(s)
- Enclosing or isolating the noise source
- Maintaining and lubricating machinery and equipment

A good "Rule of Thumb" when investigating noise problems: if you need to raise your voice to speak to someone only three feet away, in all likelihood, the noise level is over 85dB, and the cause(s) should be investigated and addressed.

Rob Beiersdorfer is Vibration Products Manager at AIRMATIC and has over 30 years of applied vibration experience in a wide range of industries.

Thanks for reading our post. If you'd like to learn more about air and electric rotary and linear industrial vibrators, or vibratory motors and equipment, please contact one of our Vibration Specialists at +215-333-5600 or at infocenter@airmatic.com.