

Pay Attention to Your Air System, It Pays Big Dividends in Productivity

By Billy Dougherty

Are you regularly using bin/chute vibrators, bin aerators, air cannons or sonic horns powered by air pressure? Are you sure the pressure is correctly set? (Often, it's too low.) How much air is your system leaking? (Typically, it's a lot.)

Leaks and low air pressure can cost you a great deal in terms of wasted energy and reduced productivity. When was the last time you carefully inspected your system?



Is your compressed air system infrastructure properly designed?

In a properly designed air infrastructure, all piping and hoses are confirmed to be of the correct ID dimension. If pipes or hoses are too long and/or have too small an inside diameter they can create notable losses in pressure and CFM air volume.

Couplings, valves and fittings that are too small also cause problems. Additionally, the greater number of couplings, valves and fittings in a system, the greater the opportunity for loss of pressure. For example, while a whip hose will make it easier to work with a vibrator (or an air tool), the extra coupling and smallbore hose can create a pressure drop of as much as 7-PSI (0.5 bar).

Finally, remember that pneumatic equipment doesn't last forever (hose deteriorates, couplings and valves wear). If yours is old, your operation could probably benefit from an upgrade.

Is the air pressure too low?

Far too many worksites operate with pressure as low as 43 – 73-PSI (3 – 5-bar) wasting energy minute by minute and putting up with poor productivity from their flow-aid devices. Know that to end up with 90-PSI (6.3-bar) at the vibrator end, you'll likely need 100-PSI (6.9 bar) at the plant's compressor or the job site's receiver tank, as the air compressor will need to compensate for the pressure drop through the air supply system.

PLANT MATTERS

Assess your system against the checklist.

The following checklist will help you quickly evaluate your system, and point out areas that need modification:

- Use the correct type of hose and hose inside diameter for the application
- Avoid long hoses – 10 to 16-ft/max (3 – 5 m) unless oversized
- Use full-flow couplings for best performance
- Use clean, dry compressed air
- Use a regulator w/gauge to set and monitor the air pressure at the flow-aid device

Most importantly, don't neglect to regularly inspect your system. Costly problems can develop any time, and are often easily fixed, if they're identified.

Billy Dougherty is Vice President of Operations at AIRMATIC and has more than 23 years of experience in the storage, transport, and processing of bulk solids.

Thanks for reading our post. If you'd like to learn more about the use of compressed air vibrators, air cannons, bin aerators, or sonic horns to keep bulk material flowing, please contact one of our experts at **+215-333-5600** or at **infocenter@airmatic.com**