

Using compressed air for cleaning

OAR 437 • Division 2/M



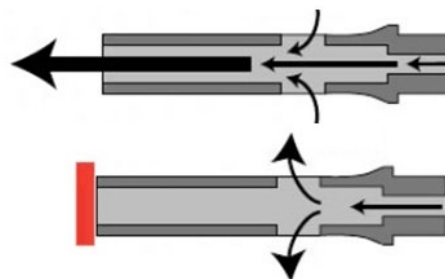
The Compressed air used for cleaning [1910.242(b)] rule states: "Compressed air shall not be used for cleaning purposes, except where reduced to less than 30 psi and then only with effective chip guarding and personal protection equipment."

This rule continues to be one of Oregon OSHA's most frequently violated general industry rules in manufacturing workplaces, so we're taking a closer look at the language.

The compressed air must be reduced to less than 30 psi at the discharge end of the nozzle.

Let's assume you are blowing filings off a bench grinder with an air gun, and the pressure at the nozzle is 90 psi. One option to reduce the pressure to less than 30 psi is to lower the compressed air line pressure below 30 psi before it reaches the gun. While acceptable, it's not effective for most cleaning tasks.

Today, most safety air gun nozzles have side ports that allow cleaning at higher pressures, such as 90 psi, but do not exceed 30 psi if the nozzle's discharge end is blocked (also called "dead ended"). The side ports prevent the full velocity and force of the compressed air from causing an injury.



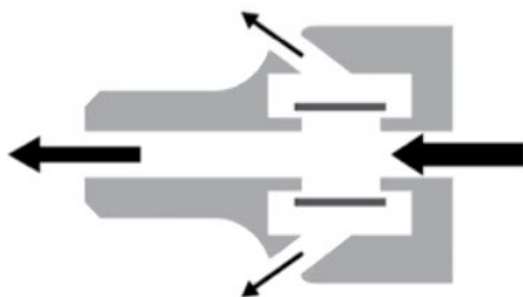
If the nozzle tip becomes blocked, all of the main air flow exits through the side ports and the nozzle pressure does not exceed 30 psi.

(Image: Guardair Corporation)

Never clean yourself or your clothes (while you're wearing them) with compressed air, and never point an air nozzle at any part of your body or at anyone else – even when you're sure the pressure does not exceed 30 psi.

“Effective chip guarding” must prevent chips or other debris from being blown back on the worker.

The pressure necessary to remove the particles from machines and other surfaces is strong enough to blow them into your eyes or ears, or to create skin abrasions. Effective chip guarding prevents this from happening.



Nozzle designed with a built-in protective air cone.
(Image: Guardair Corporation)

The chip guard – such as a screen or other barrier – can be part of the air nozzle or separate. Some air guns are designed with nozzles that divert a small portion of air to form a protective air cone around the nozzle, reducing or eliminating the chance particles could fly back toward you.

Personal protective equipment appropriate for the cleaning task is required.

Safety goggles, gloves, and hearing protection are appropriate for any compressed-air cleaning task.

Safety goggles prevent any stray particles from flying back into the user’s eyes. A good pair of gloves makes any

cleaning task easier, and hearing protection is important because cleaning with compressed air can exceed Oregon OSHA’s noise limits. Low-noise safety air guns can also be effective in lowering overall noise levels.

Depending on the task, other personal protective equipment (PPE) may also be necessary. Conduct a PPE hazard assessment to help you determine what hazards employees are exposed to and what PPE is needed to protect themselves.

Why are these rule requirements important?

In addition to eye damage and hearing loss, compressed air has the potential to cause serious injuries. Compressed air can enter the body through a scratch or small puncture wound and cause swelling and severe pain. If the air gets into the bloodstream, it can cause an air embolism, which has symptoms similar to a heart attack or a stroke. Because compressed air usually contains small amounts of oil or dirt, severe infections can also occur when compressed air enters the body. If injuries happen, seek medical attention.



Workers

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The Technical Section of Oregon OSHA produced this fact sheet to highlight health and safety programs and rules. The information is intended to supplement the rules and provide best practices to employers.