Compressed Air Guns

Safety
Compressed Air Alternatives

Compressed air guns are commonly found in the workplace, and are used for many different applications including cleaning. However, compressed air used for cleaning is dangerous.

When feasible, use a safer means to accomplish your work. For instance, if you can use the following alternatives instead of compressed air to clean then do so:

1. A vacuum equipped with an appropriate filtration system
2. Hand-broom and dustpan
Individuals can be seriously injured or killed when compressed air is directed at them. Such injuries include, but are not limited to:

1. Ruptured lungs, stomach, or intestines (a mere four psi of direct pressure could rupture the intestines);

2. Air directed at the skin can painfully inflate it. When this happens air can also enter the blood stream and lead to death (embolism);

3. Eye damage: blindness; only 12 psi can dislodge an eyeball from its socket; portions of the eye could be inflated; and contaminants can be kicked up by the air stream and lodge in the eye(s);

4. Forty psi directed at the ear, 4 inches or closer to the ear, can rupture the eardrum.
The use of compressed air for cleaning can also lead to adverse health effects such as:

1. Infections. Bacteria can be driven into the skin through small lacerations or other minor skin damage leading to infections. Gangrene can even develop leading to amputation.

2. Noise induced hearing loss

3. Local respiratory or systemic health issues caused by inhalation of air contaminants kicked into the air by the compressed air stream.
Safe Work Practices

1. **Never** direct a compressed air stream at yourself or another person. This includes blowing off your skin or clothing.

2. Check all hoses and connections before use to make sure components aren’t damaged or worn. And, make sure connections are tight.

3. Make sure the air is turned off and pressure drained before changing tools.

4. Keep air hoses and guns off of the floor to prevent them from being damaged and from creating a trip hazard.
Did you know OSHA does not allow compressed air to be used for cleaning purposes unless the air pressure is reduced to less than 30 psi at the nozzle?

[29 CFR 1910.242(b)]

Although the OSHA standard references 30 psi, lower pressure can still be hazardous – even fatal.
These are a few types of air guns that must never be used for cleaning unless the pressure in the airline is less than 30 psi. They aren’t designed to maintain the pressure below 30 psi at the end of the nozzle when it is obstructed or dead ended.

Dead ended means that the airflow is restricted at the outlet.
Compressed Air Guns

These are a few types of air guns equipped with a relief device or air ports to reduce the air pressure below 30 psi when dead ended. When cleaning with compressed air is necessary these types of air guns can be used.

Example: Tip designed to relieve pressure when dead ended

Some air guns are significantly better than others. This air gun incorporates a safety relief tip, and reduces noise output and energy consumption.

Consider all benefits when purchasing an air gun.
Personal Protective Equipment (ppe)

If you need to use compressed air for cleaning then you **must** wear eye protection (safety glasses with side shields, or safety goggles).

Safety eyewear must be ANSI Z94.3 compliant (look for this number on the eyewear)

Hearing Protection is recommended, and may be required depending upon the decibel level and the exposure received throughout the work day.
Chip Guards & Air Curtains

Other means of protection that can be used in conjunction with protective eyewear include chip guards and air curtains.

Chip guards are physical barriers that can help prevent chips and particles being blown back at the operator.

Likewise, air curtains are directed in such a manner to prevent chips from flying back at the operator. Air directed in a diverging cone shape toward the point at which the gun is aimed forms the air curtain, and originates near the end of the nozzle.
Please share this presentation with your co-workers.

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