Safety Tips for Using Compressed Air

Compressed air is widely used in many industries. A compressed air system distributes energy in the form of air and provides numerous applications, such as powering pneumatic hand tools, lifting equipment and automatic valves. It has a high output to weight ratio and can be easily stored for immediate use during brief peak demand periods. While it is relatively safe compared to other sources of power, especially electricity, there are still risks that need to be considered. Many users may not recognize it as a hazard, which can lead to widespread misuse, serious injury or death. Some common risks and mitigation tactics are listed below.

Hazards of Compressed Air and Air Equipment

- Flying particles and debris – can result in eye injuries, cuts/scrapes or other significant injuries to almost any body part.
- High pressure air – can result in air injection into the body leading to potential injuries such as air embolism, ruptured ear drums or organs and dislodged eye balls.
- High noise – can result in temporary or permanent hearing loss.

Safe Work Practices

- Do not allow employees to use compressed air for cleaning themselves or their clothing.
- Never point the nozzle of an air hose in the direction of someone.
- Wear appropriate personal protective equipment (PPE) when using pneumatic tools and equipment, including hearing protection and safety glasses with side shields or goggles. Additional PPE such as a face shield, gloves or steel-toed shoes may also be required depending on the hazards encountered.
- Ensure all connections and couplings are secure and hold the open end of the hose firmly to avoid uncontrolled "whipping" of the hose.
- Coil the hose (without kinks) and hang it over a broad support when not in use. Do not leave the hose lying on the ground where it can become damaged or cause a trip hazard.
- When using an air nozzle for cleaning equipment, removing dust from hard to reach areas on equipment, clearing lines, or to reach areas on equipment, ensure pressure exiting the nozzle is 30 psi or less and use effective chip guarding (barriers, baffles, screens).
  - Use the lowest pressure necessary to perform a job task.
  - Adjust the air regulator to reduce the air pressure.
  - Use a safety tip on the air nozzle to maintain air pressure below 30 psi should the tip of the air nozzle become blocked or dead-headed.
- Ensure all air receivers are equipped with a pressure gauge, safety release valve and a drain valve located at the bottom of the receiver.
- Never use compressed air to transfer flammable liquids.
- Follow the manufacturer's recommendations for care and maintenance of compressed air equipment, including portable units. Items that require inspection or servicing include drain lines, air-line particulate filters, safety devices, air filters, condenser coils, etc.
- Before conducting any repairs to the pressure system of air compressors, receivers or compressed air equipment, ensure all hazardous energy sources are locked and tagged out, and all pressure has been released.

Permit to Operate

Cal/OSHA requires a permit if the air compressor tank is 1.5 cubic feet in volume or larger or when the safety valve is set greater than 150 pounds per square inch (psi).

Tanks with less than 1.5 cubic feet of air and less than 150 psi are exempt.

Cal/OSHA's Pressure Vessel Unit is responsible for all air compressor tank inspections and permits. For more information or to schedule an inspection, contact them at capvinsp@dir.ca.gov or by phone at (510) 622-3066 for the Oakland Office or (714) 567-7208 for the Santa Ana Office.