Air Control Industries

Dangers of compressed air...

for cleaning operations

Is Compressed Air Dangerous?

YES.
When used incorrectly, compressed air can be very dangerous. Compressed air stores large amounts of energy at high pressure. As such, compressed air can be extremely forceful. Compressed air can become a hazard if it is directed towards the human body.

NEVER direct an air gun towards yourself, or another person.

Are you using compressed air in your workplace?

Make sure that you and your employees are aware of the potential dangers of using compressed air.

What are the uses of Compressed Air, and how does it become a risk?

Compressed air acts as a useful power source for a variety of tools and machinery, and is vital to workplace productivity across a wide range of industries – It can power rotary equipment; It drives reciprocating equipment; It can impact, and convey; It can atomize, spray, sand blast, agitate, and cool; It can operate controls.

The most common way that compressed air can become a risk is if employees are tempted to use it to remove dust and debris from their clothing

Is it a good idea to use compressed air to remove dust from clothing, components or work surfaces?

NO.
Although many employers and employees know using compressed air to clean debris or clothes can be hazardous, it is still used because of old habits and the easy availability of compressed air in many workplaces. However, cleaning objects, machinery, bench tops, clothing and other things with compressed air can be very dangerous and many injuries can be caused by a compressed-air jet.

Safer alternatives to using compressed air for clean-down applications are available, including our JetBlack Cleaning Stations and Personnel Cleaning Booth.

Please visit www.jetblack-air.com for more information

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What are the potential injuries if using compressed air for personnel de-dusting and clean-down?

IF COMPRESSED AIR ENTERS THE BLOOD STREAM IT CAN BE FATAL.

Compressed air can enter the blood stream through a break in the skin or through a body opening (e.g. nasal passage, eye socket etc). If compressed air gets into the blood stream, it can cause an air bubble to form. Medically, this is known as an embolism – a dangerous medical condition in which a blood vessel is blocked (in this case – by an air bubble).

An embolism of an artery can cause coma, paralysis or death depending upon its size, duration and location. While air embolisms are usually associated with incorrect scuba-diving procedures, they are possible with compressed air due to high pressures. This may all seem to be improbable but the consequences of even a small quantity of air or other gas in the blood can quickly be fatal so it needs to be taken seriously.

Unfortunately, horseplay has been a cause of some serious workplace accidents cause by individuals not aware of the hazards of compressed air, or proper work procedures.

KNOW THE COMPRESSED AIR FACTS:

- Compressed air accidentally blown into the mouth can rupture the lungs, stomach or intestines.
- Compressed air can enter the naval even through a layer of clothing and inflate and rupture the intestines.
- Compressed air can enter the bloodstream, and death is possible if it makes its way to blood vessels in the brain.
- Direct contact with compressed air can lead to serious medical conditions and even death.
- Even safety nozzles which regulate compressed air pressure below 30 psi should not be used to clean the human body.
- As little as 12 pounds of compressed air pressure can blow an eye out of its socket. If an air pocket reaches the heart, it causes symptoms similar to a heart attack. Upon reaching the brain, pockets of air may lead to a stroke.

Is cleaning with Compressed Air illegal?

Compressed air is not just ordinary air – it is a concentrated stream of air at high pressure and high speed that in an instant can cause serious injury to both the operator and anyone else around them. Because of this, in some parts of the world (such as Canada, Switzerland and the US), cleaning with compressed air is not allowed by law. However, more and more companies are now realising the dangers posed by compressed air for blow-off/cleaning operations, and now readily issue cautionary statements within their own company work rules which may result in employees receiving formal written warnings or indeed more seriously dismissal.

What should I use instead of compressed air for cleaning?

ACI's JetBlack is a safe alternative to compressed air, with the additional benefit of using far less energy and emitting less noise than its compressed air counterparts. Its safe to all users because the air is generated by a centrifugal blower which delivers high volume air (58cfm) but at much lower pressures – in fact, only 2.52 PSI (200 mBar), which is well below stated OSHA requirements for North America. It is still recommended to use safety glasses and ear plugs when operating a JetBlack, the reality is that the lower pressure air produced by the unit can in fact be quite safely aimed at virtually any part of the body, where even direct contact with skin poses no hazard.