Air Gun Safety
Six Easy Steps to OSHA Compliance

Follow these easy instructions to spot non-compliant air guns. Take corrective action and replace illegal guns with OSHA compliant, Guardair Safety Air Guns.

**STEP 1** Identify and Remove Illegal Air Guns
Walk the plant floor and visit each workstation where air guns are used. Identify suspect homemade or illegal air guns through visual inspection. Verify non-compliant guns using the Pressure Gauge. Disconnect and dispose of illegal air guns. Document locations where illegal air guns were located with Workstation Evaluation Form.

**STEP 2** Consider Distance — Close-in or far-away application?
For maximum efficiency choose a gun with a short or no extension for close-in work. Use an extended reach gun for cleaning far-away surfaces.

**STEP 3** Consider Thrust — Low or high thrust required to move debris?
Choose a gun that delivers appropriate thrust for the surface to be cleaned: low thrust for light debris; high thrust for heavy debris.

**STEP 4** Consider Available Air Line — Compressed air line size available?
Match the airline at the workstation with the gun. Small diameter air lines (typically 1/4” ID) power low-thrust models; larger diameter air lines (typically 3/8” to 3/4” ID) power high-thrust models, but not the reverse.

**STEP 5** Consider Air Gun Handle — In-line or pistol-grip style handle?
Generally speaking, in-line style guns are preferred for applications with air lines fed from above. Pistol grip style guns are often preferred for air lines fed from below. Operator preference, including comfort and ergonomics, is key.

**STEP 6** Consider Additional Safety Features — Additional operator protection required?
Choose a gun with blind-hole capabilities, or chip-fly-back protection where necessary. Where hearing protection measures are in place, choose a silencer nozzle.

Use Workstation Evaluation Worksheet — Record the Guardair Safety Air Gun Model of choice.
**Output Pressure, Chip Guarding and Noise**

1. **Output Pressure**
   Factory air lines normally operate at pressures between 80 and 120 psi (pounds per square inch). Most pneumatic tools, including air guns, require such high pressures to operate effectively. However, OSHA requires that in the event such air lines are dead-ended (i.e. if the tip of an air gun is blocked) the static pressure at the point of the blockage may not exceed 30psi.

   **Normal Operation**
   Air exits nozzle tip (see illustration)

   **Nozzle with Dead-Ending Safety Feature**
   When nozzle tip is dead-ended, 100% of the flow exits through the side ports. Static pressure at the nozzle tip is held to less than 30psi, thereby satisfying OSHA Standards pertaining to Output Pressure.

   **Relevant OSHA Standard:**
   29 CFR Part 1910.242 (b) Hand and portable powered tools and equipment, general.
   OSHA Instruction SDT 1-13.1
   (OSHA Program Directive #100-1)

2. **Chip Guarding**
   When blowing off debris with an air gun in close quarters, workers are subject to “chip fly-back”. This term refers to the tendency of loose particles or chips to fly back into the operator’s face, eyes or skin. For operations that require close-in work, OSHA mandates that “effective chip guarding” be incorporated into the workplace. One way to accomplish this is through innovative nozzle design.

   **Air Gun Nozzle with Chip Fly-Back Safety Feature**
   A portion of the main air flow is diverted through slots around the periphery of the nozzle to form a protective air cone. The protective air cone helps prevent chips and other debris from “flying back” towards the operator. This nozzle design, if dead-ended, allows 100% of the air flow to be diverted out the slots thus preventing blockage, thereby satisfying the OSHA Standards pertaining to both Chip Guarding and Output Pressure. (See photo)

   **Relevant OSHA Standard:**
   29 CFR Part 1910.242 (b) Hand and portable powered tools and equipment, general.
   OSHA Instruction SDT 1-13.1
   (OSHA Program Directive #100-1)

3. **Noise**
   To address excessive noise in the workplace OSHA has developed permissible daily noise exposure specifications. Since air guns can contribute to high levels of occupational noise, Safety Air Guns can be an important component in moving towards noise compliance.

   **Whisper Jet Nozzle**
   High-speed jets of air exit from the narrow slots around the periphery of the nozzle, adhering to the conical nozzle tip surface and drawing in the surrounding air. The net result is high thrust at low noise levels and savings of expensive compressed air. The solid conical tip also prevents blockage thereby satisfying OSHA Standards pertaining to Output Pressure. (See illustration)

   **Relevant OSHA Standard:**
   29 CFR Part 1910.95 (a) Occupational Noise Exposure