

Cold Air Guns



Versatile Spot Cooling for Machining and More

Cold Air Guns use filtered compressed air and vortex tube technology to produce sub-zero air for numerous industrial spot cooling applications. With no moving parts to wear out, the internal vortex tube converts factory compressed air into a cold air stream, producing temperatures down to as much as -30°F. Cold Air Guns are used in various industrial processes, fabrication, assembly and packaging as a versatile spot cooling device.

- Widely used in milling, drilling, turning and other metalworking operations
- Machining of plastics, composites, wood and other materials
- Surface grinding, drill and tool sharpening
- Cooling molds and molded pieces
- CNC routers, blades and band saws
- Spot cooling of parts and assemblies
- Industrial sewing and textiles
- Setting hot melts and adhesives
- Thermal testing sensors
- Cooling welds and solders

Most popular applications involve cooling during the machining of metals, plastics, wood, rubber, ceramics and other materials. Cold air machining outperforms mist coolants and substantially increases tool life and feed rates on dry machining operations. The effective cooling from a Cold Air Gun can eliminate heat-related parts growth while improving parts tolerance and surface finish quality.

**Increase dry machining speeds up to 36%
and extend tool life up to 50%**

MODEL	DESCRIPTION	OPTIONS	DESCRIPTION
610	Adjustable Cold Air Gun, magnetic base & filter	611-FNU	Frost-Free Nozzle Upgrade
610-1	Adjustable Cold Air Gun only	610-30	Dual-Point Flex Nozzle
608	Mini Cold Air Gun, 3 axis magnetic base & filter	608-30	Dual-Point Flex Nozzle
608-1	Mini Cold Air Gun only		

- Exceptionally reliable – no moving parts
- Produces cold air to 100°F (55.6°C) below inlet air temperature
- Quiet operation – meets OSHA noise specifications
- Uses only filtered compressed air
- No refrigerants – no EMI/RFI interference
- Low pressure air output helps clear chips and dust



ITW Vortec
Innovative Compressed Air Technologies



Model 610 Adjustable Cold Air Gun System

Our most popular and versatile model is ideal for a wide range of machining operations and other spot cooling needs. The Cold Air Gun's easily adjustable temperature and airflow settings and instant on/off capability makes it simple to adapt its cold air output to the application.

- Eliminates the mess, expense and safety concerns of using mist coolants
- Avoid secondary parts cleaning after machining
- Cools parts to reduce normalization time and hold tight part tolerance
- Single turn adjustable temperature for your specific application
- Magnetic base for easy "machine to machine" portability

Model 608 Mini Cold Air Gun System

Its compact size allows close positioning for dry grinding and operations with limited space. The Mini Cold Air Gun delivers a stream of sub-zero air to the work area to cut hours from your grinding, sawing, drilling, or other machining operations.

- Reduces grinding wheel loading caused by overheating
- 3 axis magnetic base for easy, close-in positioning
- Eliminates edge burning and heat distortion
- Speeds production and extends tool life



Air Consumption at 100 PSIG (6.9 Bar)

MODEL NO.	SCFM	SLPM
Model 610 Adjustable Cold Air Gun	15	425
Model 608 Mini Cold Air Gun	8	226
Model 424 Thread Guard Needle Cooler	4	113
Model 609 Adjustable Hot Air Gun	15	425

80-100 PSIG recommended for optimum performance.
System models 610, 608, 609 and 424 include a 5 micron Auto-Drain filter.



Adjustable Hot Air Gun System

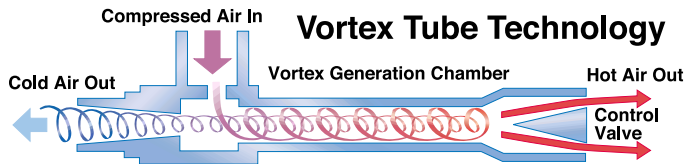
The Model 609 Adjustable Hot Air Gun spot pre-heats parts and processes using no electricity. Uses only filtered compressed air to generate fully adjustable temperatures up to 200°F (93°C). Ideal when moderate heat levels are required.

Model 424 Thread Guard

Keeps industrial sewing needles cool to virtually eliminate heat-related needle breakage and thread burning. The 10°F (-12°C) air stream is especially effective on difficult sewing operations such as belt loops and waist bands or tough materials like denim.



How Cold Air Guns Generate Frigid Air



A vortex tube spins compressed air to produce hot and cold air streams, generating temperatures down to 100°F below inlet temperature

Fluid (air) that rotates around an axis (like a tornado) is called a vortex. A Vortex Tube creates cold air and hot air by forcing compressed air through a generation chamber, which spins the air at a high rate of speed (1,000,000 RPM) into a vortex. The high-speed air heats up as it spins along the inner walls of the Tube toward the control valve. A percentage of the hot, high speed air is permitted to exit at the valve. The remainder of the (now slower) air stream is forced to counterflow up through the center of the high-speed air stream in a second vortex. The slower moving air gives up energy in the form of heat and becomes cooled as it spins up the tube. The chilled air passes through the center of the generation chamber finally exiting through the opposite end as extremely cold air. Vortex tubes generate temperatures down to 100°F below inlet air temperature. The control valve located in the hot exhaust end can be used to adjust the temperature drop and rise for all Vortex Tubes.

Exceptionally reliable and virtually maintenance free



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Reference the Product Guide catalog and/or ITW Vortec invoice **Conditions of Sale** for complete information and warranty terms. Due to a policy of continuous development we reserve the right to change specifications without notice.