

Cold Air Guns for Machining Applications

ITW Vortec's Cold Air Guns offer contamination-free cooling alternatives for machining applications. Our Model 610 Adjustable Cold Air Gun is a proven alternative to mist coolant. It also effectively cools dry milling operations including composite applications. Our Model 608 Mini Cold Air Gun is designed to cool dry surface grinding applications.

ITW Vortec's Cold Air Guns utilize vortex tube technology to produce a steady stream of ultra-cold air without moving parts or refrigerants (CFCs/HCFCs). Cold Air Guns are powered by factory air.

Model 610 Adjustable Cold Air Gun

The Clean Alternative to Mist Coolant

ITW Vortec's Model 610 Adjustable Cold Air Gun replaces mist coolant in milling operations. By switching to the Model 610, you will maintain feeds, speeds and tool life while **eliminating**:

- Health risks.
- Build-up of slippery film around the work area.
- Parts cleaning after machining.
- Maintenance-intensive pumps and timers.

Cooling Dry Machining Operations

The Model 610 Adjustable Cold Air Gun is an excellent method for cooling milling operations when use of coolant is not an option because of contamination concerns. Model 610 produces clean, cold air to cool tools and parts.

Model 610 Adjustable Cold Air Gun Features:

- Cooling performance equal to mist in milling operations without the mess and health hazards.
- Effectively cools dry milling operations, including composite applications.
- Excellent for cooling plastic milling operations.
- Superior cooling performance drops inlet temperature up to 100°F (55.6°C) for maximum cooling.
- Adjustability allows you to set the cold airflow rate (BTUH) at optimum levels for your application.
- Cools without refrigerants (CFCs/HCFCs) or moving parts for trouble-free operation.
- Magnetic base for installation ease and flexibility.
- Integral muffler for quiet operation — within OSHA noise specifications.
- Powered by filtered factory air (70-100 PSIG/4.8-6.9 Bar). Consumes 15 SCFM (425 SLPM).

Ordering Information:

MODEL	DESCRIPTION
610	Adjustable Cold Air Gun, includes Magnetic Base and 5-micron Auto-Drain Filter
610-1	Adjustable Cold Air Gun only

Options:

MODEL	DESCRIPTION
611-FNU	Frost-Free Nozzle Upgrade Kit
610-30	Dual-Point Flexible Nozzle (two cold air outlets)



The Model 610 Adjustable Cold Air Gun is ideal for cooling milling operations.

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for machining
performance
data



Model 608 Mini Cold Air Gun

Shave hours off your dry surface grinding operations with ITW Vortec's Model 608 Mini Cold Air Gun. The Mini Cold Air Gun provides a contamination-free source of cooling to keep parts and grinding wheels cool.

Field Test Results:

Application:	Grind top surface of mold (5" x 8" x 3") maintaining a 0.00005" tolerance.
Material:	420 stainless, 53 Rockwell.
Grinding wheel:	Norton, 100K, 7" x 1/4" x 1-1/4".
Results:	Did not have to wait for mold to normalize between measurements.
Production time was reduced by 75%.	
Application:	Grind set of core pins.
Material:	H13 Tool Steel
Grinding wheel:	Norton, 120K, 7" x 1/4" x 1-1/4".
Results:	Reduced time waiting for part to normalize and improved bevel quality.
Production time was reduced by 50%.	



Model 608 Mini Cold Air Gun cools dry surface grinding operations for reduced production times.

Features:

- Constant stream of cold air.
- Cools parts to reduce normalization time and hold tighter tolerances.
- Reduces wheel loading.
- Compact size won't interfere with grinding operations.
- Adjustable magnetic base allows instant installation and positioning near the wheel for maximum cooling performance.
- Cools without Freon or other refrigerants.
- No moving parts to break — maintenance-free.
- Powered by filtered factory air (8 SCFM/226 SLPM, 70-100 PSIG/4.8-6.9 Bar maximum).

Ordering Information:

MODEL	DESCRIPTION
608	Mini Cold Air Gun, includes Adjustable Magnetic Base and 5-micron Auto-Drain Filter

How Cold Air Guns Create Cold Air

Cold Air Guns are powered by a vortex tube — a unique device that creates a vortex from compressed air and separates it into hot and cold airstreams. Here's how it works. The vortex tube's cylindrical generator causes the input compressed air to rotate reaching speeds up to 1,000,000 rpm as it is forced down the inner walls of the hot — or longer end of the vortex tube. At the end of the hot tube, a small portion of this air exits through a needle valve as hot air exhaust. The remaining air is forced back through the center of the incoming air stream at a slower speed. The heat in the slower moving air is transferred to the faster moving incoming air. This super-cooled air flows through the center of the generator and exits through the cold air exhaust port.

