

# Mini Cold Air Gun Keeps Blades Cool for Over 20 Years

Joe Allen Knives is a one-man operation that makes pocket knives (also known as “folders” in the industry) and Bowie and hunter’s knives. Mr. Allen entered the knife making business nearly 30 years ago by setting up a small shop in his basement. He made his first knife in his spare time while working at Snap-On Tools.

## The Problem

Mr. Allen purchased a used surface grinder to grind the knife blades. He saw that the grinder did not have anything to contain the liquid coolant that is normally used in surface grinding applications. He did not want to deal with the mess of liquid coolant all over his equipment (not to mention the hassle of disposing of it) so he started looking for an alternate solution to replace the liquid coolant.

## The Solution

Over two decades ago, Joe saw an advertisement in an MSC catalog for the Vortec Mini Cold Air Gun and decided to give it a try. He purchased a small air compressor that would be able to supply air to the Mini Cold Air Gun and to the rest of his air powered tools in his new home shop. He decided on a compressor with a 40-gallon tank that would deliver 9 scfm of air at 90 psig.



### The Results

The Vortec Mini Cold Air Gun uses 8 scfm of compressed air to produce 4 cfm of cold air at 10°F. This translates into 350 btuh of cooling. The cold air keeps the knife blades cool during grinding and prevents the steel from warping and discoloring. The cold air also blows the grinding dust away and prevents the grinding wheel from loading up too quickly. It eliminated the need for Joe to use liquid coolant and the mess and hassles associated with disposing of it and it continues to be his ideal solution 20 years later.

### How the Mini Cold Air Gun Works

Mini Cold Air Guns use vortex tube technology and filtered compressed air to produce sub-freezing air as low as 10°F for numerous industrial spot cooling applications. With no moving parts to wear out, Mini Cold Air Guns require no electricity at the target, just source of clean and dry compressed air.

Cold Air Guns are most often used for cooling of metal parts, in the machining and repair of metals, plastics, wood, 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. The Mini Cold Air Gun is designed for applications where the standard Cold Air Gun is too large to fit, or where compressed air flow is limited. The Mini Cold Air Gun uses only 8 SCFM of compressed air and achieves temperatures as low as 10°F. The Mini Cold Air Gun is available with a single nozzle or a dual point nozzle for multi-directional cooling.

The Mini Cold Air Gun uses a magnetic indicator stand to position and hold the gun in place and utilized a small ¼ turn ball valve to turn the air on and off:



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Mini Cold Air Guns, click here  
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