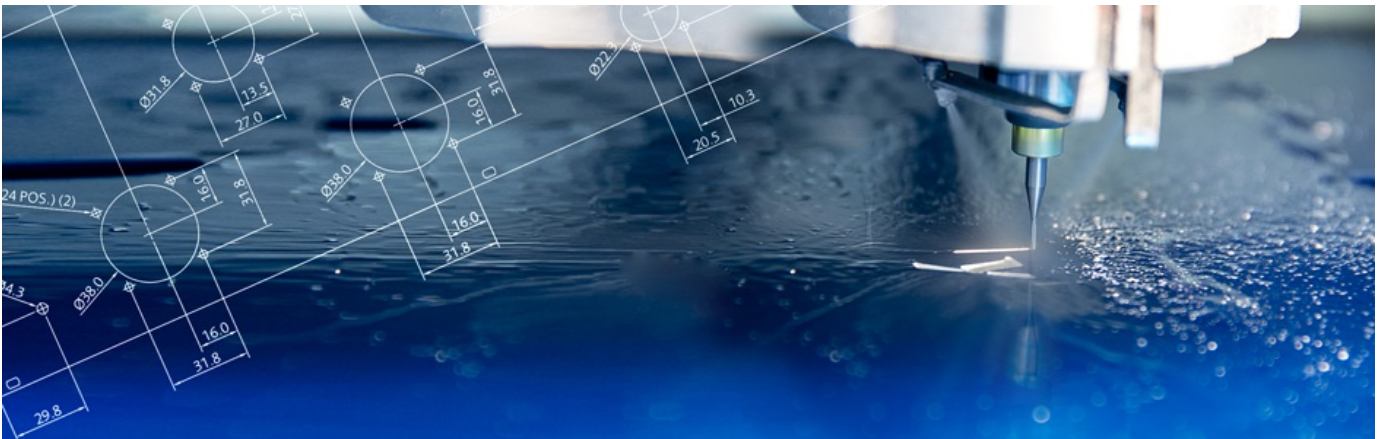


## Explaining the Benefits of High-Speed Machining

Everyone wants "faster." Faster shipping, faster response times, faster pizza delivery - no one can argue with any of that. [High-speed machining](#) is no different, though what you'd call "high speed" only a few years ago is now considered standard in today's terms. Faster and more efficient machine tools and processors are being released on a regular basis, each outperforming the other.




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For commercial considerations, this means machine shops and parts manufacturers are being driven to higher rates of productivity. Faster speed means a better capability to produce faster, meaning they're able to make more parts in a shorter period of time. However, high speed machining is often hampered by the capabilities of the cutting tools themselves. Because some cutters can remove metal faster than others, a shop that utilizes faster cutters in a slower machine may get similar results to shops using slower cutters in a faster machine. The variables continue from there.

However, all things being equal, there are very different results produced by cutters of varying materials. HSS, tungsten carbide, cermets, ceramics, and diamond cutters all produce different results. High speed materials can typically take a tremendous amount of strain and stress, but don't handle heat very effectively and require coolant or they'll fail and break.

The biggest advantage of high speed machining is that due to the increased speed and rate of feed, the material is cut so fast that it barely transfers heat at all. This keeps the turnaround time down and the emissions of your shop very low compared to historical figures. Traditionally, there's a period of time required after cutting to allow the metal to cool and form to create a hardened condition. Coolant helps with this, but in many cases uneven distribution of coolant (either due to a fault in the machine or the speed by which the tool is cutting) can result in problems in the manufacturing process.

Of course, there are many more factors that can complicate or improve the machining process, but through our on-site engineers, state-of-the-art equipment, and automated fulfillment program in [Front Panel Designer](#), we're confident that our end product and turnaround time will impress and satisfy you and your team. Check it out for free or [contact Front Panel Express](#) for more information about our process.

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