



### **High-Speed Machining vs. High-Efficiency Machining**

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The quickest description of the process is simply cutting at a high RPM, but the reality is a bit different. While it's true that faster cutting often provides quicker turnaround times, there are some cases in which high-efficiency machining (regardless of the speed of the cuts) [is more beneficial to the end product](#).

By taking a slightly deeper pass at the material, machinists can reduce production time and limit strain on the machine. While it's true that the danger of overloading the machine is increased with high-efficiency machining, automatic optimization software can detect when chip load is too great and adjusts the feed rate automatically until a higher cutting rate is available again.

High-speed machining makes very quick, small axial cuts to the surface to prevent surface damage, ensure a smooth finish, and guard against damage to the cutter or spindle. Unfortunately, the efficiency of this method is reduced, as the same number and size of cuts are performed for each pass until the desired cut is completed. High-efficiency machining [adjusts the feed rate as needed and incorporates fewer cuts](#) in order to make the best use of time given the capabilities of your machine itself.

Different projects require different approaches, which is why Front Panel Express incorporates top-of-the-line milling and cutting machines to ensure our customers receive their parts and custom front panels to their specifications. Find out just how easy it is to create, price, and order your own custom front panel today by [downloading Front Panel Designer](#) for free.

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