



## SUMMARY:

If you need **advanced 5-axis machining services**, you have come to the right place.


Solid Machine performs **high-speed, simultaneous 5-axis milling** on over **3,000 parts per month** by both flank and point milling including turbocharger impellers, aero-engine spacers, compressor impellers, turbines, pumps, blades/vanes, and custom hardware up to  $\text{Ø}26.0''$  (650mm).

Our talented team has over **6 decades of experience** in the machining of **rotating bladed turbomachinery** hardware in a wide range of materials to the tightest dimensions and most stringent specifications. We are more than a “chip cutter” and can suggest more efficient manufacturing methods, processes, and design changes that will meet your needs, while lowering your production costs.

Whether you need a **complex prototype** or **high-volume production**, contact us to experience the difference Solid Machine can make in bringing your product or vision to life.



**SOLUTIONS & SPECIFICATIONS:**

<b>Max Diameter:</b>	26.0" (660mm)
<b>Max Height/Length:</b>	24.6" (625mm)
<b>Max Weight:</b>	4,400 lbs. (2000 kg)
<b>Materials:</b>	<ul style="list-style-type: none"> <li>• Aluminum: 2618, 6061, 7075, 7175, 300 series castings</li> <li>• Steel: Stainless (15-5, 17-4, 13-8, 300/400 series), Duplex (2205), Nitronic 50 (XM-19), Alloy, Carbon</li> <li>• Titanium: 6Al-4V, 6Al-4V ELI, Beta-C, 6Al-6V-2Sn, 6Al-2Sn-4Zr-6Mo</li> <li>• Nickel-Based: Inconel (625, 718), Monel 400, Hastelloy C-276, Waspaloy</li> </ul>
<b>Tolerances:</b>	+/- 0.0001" to 0.0002" depending on the feature, alloy, etc.
<b>Internal Capabilities:</b>	<ul style="list-style-type: none"> <li>• High-speed, simultaneous 5-axis milling</li> <li>• Precision CNC turning</li> <li>• CMM inspection for reverse engineering or in-depth dimensional analysis</li> <li>• Manual machining, assembly, saw cutting, and project management</li> <li>• Design for Manufacturability (DFM) services</li> </ul>
<b>Subcontracted Services:</b>	<ul style="list-style-type: none"> <li>• Additive manufacturing</li> <li>• Balance &amp; overspeed testing</li> <li>• NDT via FPI or MPT</li> <li>• Wire, plunge, or sinker EDM</li> <li>• V-tooth or curvic couplings</li> <li>• Spline grinding</li> <li>• Polygon grinding</li> <li>• Brazing or welding</li> <li>• Shot peening</li> <li>• Polishing or vibratory finishing</li> <li>• Heat treatment</li> <li>• Ultrasonic testing</li> <li>• Plating processes such as anodizing, black oxide, nitriding, electroless nickel plating, chromate, passivation.</li> <li>• Laser scanning</li> </ul> 
<b>Lead Time:</b>	Quoted on a job by job basis, but typically under 6 to 8 weeks ARO.
<b>Software:</b>	MasterCAM®, SolidWorks®, Concepts NREC MAX-PAC™, CAMplete Truepath
<b>File Formats:</b>	We have yet to receive a model or drawing file we could not open. Try us...we've got you covered.


**STEEL**

**ALUMINUM**

**TITANIUM**