

Custom CNC Machining Services for Precision Metal Components

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Key Takeaways

01-cnc-milling

01-cnc-milling

- The supplier provides comprehensive [CNC machining](#) services including turning, milling, Swiss, and EDM for precision metal components.
- Tolerances are maintained to ISO 2768 standards and can be held to ± 0.005 mm for critical features.
- A wide material catalog covers aluminum, stainless steel, titanium, engineering plastics, and superalloys.
- Exports are supported by ISO 9001 and IATF 16949 quality systems, with PPAP and FAI documentation as standard.
- Engineering and logistics teams provide DFM feedback and manage cross-border shipping to North America, Europe, and Asia-Pacific.

What Custom CNC Machined Parts We Deliver

02-cnc-turning

02-cnc-turning

For procurement teams and design engineers managing complex supply chains, our custom CNC machining services deliver precision metal components that meet exact specifications, consistently and on time. We produce turned, milled, and multi-process parts from aluminum alloys, stainless steel, brass, titanium, and engineering plastics, supporting everything from rapid prototypes to production volumes. By consolidating multiple manufacturing steps under one roof, we eliminate the variability and communication gaps that often plague overseas sourcing projects.



► Watch video: <https://www.youtube.com/watch?v=DXM9SSJEdf4>

Custom CNC Machining Services From Prototyping to Production | WayKen Rapid Manufacturing— by WayKen Rapid Manufacturing on YouTubeWayKen specializes in CNC machining, offering both prototype and customized non-standard machined parts. We have au00a0...

Core Capabilities and Production Capacity

Our factory floor integrates advanced CNC turning, CNC milling, and EDM technologies to handle a wide range of geometries and sizes. The machine list includes multi-axis Swiss-type lathes for small, complex parts, 5-axis machining centers for contoured components, and wire and sinker EDM for fine details and hardened materials. Typical work envelopes accommodate parts up to 1,500 mm in length for milling and turning diameters up to 42 mm for bar-fed work. With over 50 CNC machines running automated loading and in-process probing, we maintain high throughput without sacrificing precision.

- **Turning:** Swiss, multi-spindle, and live-tool CNC lathes capable of ± 0.0002 in (0.005 mm) roundness and concentricity.
- **Milling:** 3-, 4-, and full 5-axis simultaneous machining centers with pallet changers for high-mix production.
- **EDM:** Wire EDM for profiles and tight corners, sinker EDM for intricate cavities, all with fine surface finish control.

Product Scope and Customization Breadth at a Glance

Our custom CNC machining services span an extensive range of part types and materials, all manufactured to customer CAD data and specification requirements. Common components include shafts, bushings, housings, manifolds, surgical instrument parts, optical mounts, hydraulic components, and threaded inserts.

- **Materials:** Aluminum 6061, 7075; stainless steels 303, 304, 316; carbon steel, alloy steel; titanium grades 2 and 5; brass, copper; PEEK, Delrin, and other engineering polymers.

- **Tolerances:** Standard dimensional tolerances per ISO 2768-m or tighter; precision features held to ± 0.0005 in with GD&T applied per ASME Y14.5.
- **Surface Finishing:** Anodizing (Type II/III), passivation, electropolishing, powder coating, bead blasting, and plating services coordinated in-house.
- **Production Volume:** From 1-piece prototype to 50,000-unit runs, with rapid transition between stages.

Export Experience and Served Markets

As a dedicated CNC machining partner to international buyers, we routinely ship to over 15 countries across North America, Europe, and Asia. Our logistics team handles all export documentation, Incoterms, and freight forwarding, ensuring smooth customs clearance and on-time delivery. We serve industries where precision and reliability are non-negotiable, including automotive (meeting the spirit of IATF 16949 quality planning), aerospace (components for airframes and interiors), medical devices (implant and instrument parts), industrial automation, and electronics enclosures.

Quality Systems, Compliance, and Certifications

Our quality management system operates on ISO 9001 principles, with advanced product quality planning (APQP) deployed for automotive and aerospace programs. Inspection equipment includes coordinate measuring machines (CMM), laser scanners, and surface profilometers, allowing us to verify features down to Ra 0.4 μm surface finishes. For new part introductions, we routinely provide full PPAP Level 3 documentation, first article inspection reports (FAI), and material certificates. Statistical process control (SPC) monitors critical dimensions throughout production runs.

Why Procurement Teams Choose Our Facility

Buyers consistently cite three reasons for selecting us as their long-term CNC machining partner: reliability in holding tight tolerances across multiple batches, proactive design-for-manufacturability support that reduces costs, and a responsive, English-speaking engineering team that resolves technical queries within 24 hours. While per-part pricing depends on geometry, material, and volume, our early DFM feedback often simplifies designs for more economical production. Lead times average two weeks for complex prototypes and are competitively structured for larger volumes, with regular status updates provided.

Request a Capability Deck or Quote

Submit your 3D CAD model and drawing to receive a detailed quote within one business day. We can also provide a comprehensive capability deck outlining machine specifications, tolerance ranges, and quality documentation samples. Contact our export sales team to discuss your next project—whether a single prototype or a multi-year program.

How We Deliver Precision as Your CNC Machining Partner

Our [CNC Machining](#) services bridge the gap between your engineering requirements and finished metal components. As a dedicated CNC machining partner, we combine multi-axis machining, a broad material selection, and rigorous quality systems to produce parts that consistently meet your specifications. Whether your project involves complex 5-axis geometries or high-volume

turned parts, our process is designed to reduce sourcing risk and accelerate time-to-market.

Supplier Capability Snapshot

For procurement professionals and engineers evaluating potential suppliers, the following facts highlight our operational focus:

- **Multi-process expertise:** In-house CNC turning, milling (3, 4, and 5-axis), Swiss-type machining, and EDM (wire and sinker).
- **Tolerance capability:** Parts produced to ISO 2768-f or finer, with GD&T per ASME Y14.5 ensuring precise feature control.
- **Material breadth:** Aluminum alloys, stainless steels, titanium, brass, engineering plastics, and high-temperature superalloys like Inconel.
- **Surface finish options:** As-machined down to Ra 0.8 μm , plus anodizing, plating, passivation, and powder coating.
- **Quality system maturity:** ISO 9001 and IATF 16949 frameworks; capable of supporting AS9100 requirements; standard FAI and PPAP documentation provided.
- **Export ready:** Experience shipping to North America, Europe, and Asia-Pacific, with English-speaking engineering and commercial teams.

Technical Specifications at a Glance

Understanding the limits of a supplier's equipment is critical. While final capabilities depend on the specific part, the following ranges illustrate our typical production parameters:

- **Machining processes:** CNC turning, CNC milling (up to 5-axis simultaneous), Swiss-style turning, wire EDM, sinker EDM.
- **Part size envelope:** Milling work area up to approximately 1,000 mm $\times$ 500 mm $\times$ 500 mm; turning diameter up to 500 mm $\times$ 1,000 mm length; Swiss lathe capacity up to 32 mm diameter.
- **Tolerances:** Standard machining tolerance ± 0.025 mm; precision tolerance achievable down to ± 0.005 mm on critical features.
- **Materials:** Aluminum (6061, 7075), stainless steel (304, 316, 17-4PH), carbon steel, alloy steel, titanium (Grade 2, 5), brass, copper, PEEK, ULTEM, and nickel alloys.
- **Surface finish:** As-machined surface roughness Ra 0.8–3.2 μm ; additional finishing processes available.
- **MOQ:** No minimum order quantity; from single prototypes to 100,000+ piece production runs.
- **Lead time:** Prototypes in 5–10 business days; production orders typically 3–5 weeks depending on complexity and volume.

Engineering Collaboration and Global Delivery

Beyond machine capabilities, our value as a CNC machining partner lies in upfront engineering collaboration. Our team provides design-for-manufacturability (DFM) feedback within 24 hours, often identifying opportunities to simplify your design, reduce material waste, or improve cycle times. For export-oriented buyers, we handle logistics including ISPM 15 packaging, Incoterms clarification, and all required export documentation. This end-to-end support ensures your parts arrive on time and within specification, reducing the burden on your procurement team.

Consolidated Supplier Profile

Category	Details
Core Processes	CNC turning, milling (3/4/5-axis), Swiss machining, EDM (wire & sinker)
Tolerance Range	Standard ± 0.025 mm; precision down to ± 0.005 mm
Materials	Aluminum, stainless steel, titanium, plastics, exotic alloys
Surface Finishes	As-machined (Ra 0.8–3.2 μ m), anodize, plate, passivate
Part Size	Up to 1 m in milling; up to 32 mm Swiss; up to 500 mm turning
Quality & Certifications	ISO 9001, IATF 16949; AS9100 support; FAI/PPAP standard
Export Regions	North America, Europe, Asia-Pacific
Project Support	DFM feedback, English-speaking teams, logistics management

Take the Next Step

Share your 3D CAD and drawing to receive a detailed quotation and manufacturability analysis. For long-term programs, we can arrange engineering visits, sample runs, and quality audit schedules. Contact our export sales team to start building a reliable supply chain for your precision parts.

Frequently Asked Questions

How do I select a reliable CNC machining partner for precision metal parts?

Look for a partner with demonstrated multi-process capabilities, relevant industry certifications (ISO 9001, IATF 16949), export experience, and responsive engineering support. Request a capability deck and case studies to assess their expertise.

What tolerances can I expect from a custom CNC machining service?

Typical precision CNC machining can hold tolerances to ± 0.005 mm or tighter, depending on part geometry and material. GD&T per ASME Y14.5 ensures accurate feature control.

What materials are commonly used in precision CNC machining?

Common materials include aluminum (6061, 7075), stainless steel (304, 316), titanium, brass, and engineering plastics like PEEK. Exotic alloys such as Inconel and Monel are also machinable.

Is there a minimum order quantity for custom CNC machined parts?

Many CNC machining partners offer flexible MOQs, from single prototypes to production volumes. Larger volumes often reduce per-part costs, and tooling investment can be amortized.

How long does it take to get custom CNC machined parts?

Lead times vary by complexity and volume; prototypes can be delivered in as little as one week, while production orders may take 2-4 weeks. Expedited services may be available for urgent projects.

Frequently Asked Questions

Which industries use Custom CNC Machining Services for Precision Metal Components?

Custom CNC Machining Services for Precision Metal Components is used across aerospace, medical, automotive, electronics, semiconductor and general industrial sectors wherever precise metal parts are required.

What is Custom CNC Machining Services for Precision Metal Components and how is it produced?

Custom CNC Machining Services for Precision Metal Components is a precision metal manufacturing process. VT machining produces it to your CAD/drawing using CNC-controlled equipment, with the method and parameters selected from your material and tolerance spec.

What tolerances can you achieve for Custom CNC Machining Services for Precision Metal Components?

Custom CNC Machining Services for Precision Metal Components is held to tight, repeatable tolerances; exact figures depend on the alloy, geometry and feature size. Share your drawing and we will confirm the achievable values.