



Aluminum CNC Machining The Perfect Solution for Lightweight and Strong Components

Our Product Introduction

Basic Information

- Place of Origin: China Shenzhen
- Brand Name: CNC Precision Machining
- Certification: Polishing, Anodizing, Painting, Chrome Plating, Silkscreen
- Model Number: Aluminum, SS, SGCC, Copper, MS
- Minimum Order Quantity: 1 piece
- Price: USD 30/piece
- Packaging Details: Carton, Plywood Box
- Delivery Time: 3 - 5 Days
- Payment Terms: T/T, Paypal
- Supply Ability: 1 piece/day



Product Specification

- Material: Aluminum 6082, Aluminum 7075, Aluminum 6063, Aluminum 6061, Copper, Brass, SS304
- Tolerance: $\pm 0.1\text{mm}$, ± 0.02 , ± 0.05 ,
- Surface Finish: Debur, Polishing, Anodizing, Painting, Chrome Plating, Silkscreen, Laser Etching
- Courier: DHL, FedEx, UPS
- Shipping: Express Or Air Freight
- Usage: Medical Device, Aerospace Prototype, Automotive Rapid Prototyping
- Machining Type: CNC Precision Machining
- Processing Time: 3-5 Days
- Highlight: **dhl aluminum cnc service,**
ups aluminum cnc service,
dhl aluminum cnc machining



Product Description

What is CNC Machining?

Excellent Machinability: Aluminum alloy 6061 has excellent machinability, which means it can be easily and efficiently machined using CNC equipment. It has good chip formation properties, allowing for smooth machining processes and reducing the chances of tool wear or damage.

High Strength-to-Weight Ratio: Aluminum alloy 6061 offers a high strength-to-weight ratio, making it suitable for applications where lightweight components with good structural integrity are desired. This alloy provides sufficient strength and stiffness while keeping the weight of the machined part relatively low. It is widely used in aerospace, automotive, and other industries where weight reduction is essential.

CNC Machining + Assembly Check





Tolerances

Good Corrosion Resistance: Aluminum alloy 6061 exhibits good corrosion resistance. It is naturally resistant to atmospheric corrosion and can withstand exposure to various environmental conditions. This makes it suitable for applications where the machined parts may be exposed to moisture, humidity, or other corrosive elements.

Heat Treatable: Aluminum alloy 6061 is heat treatable, which means it can be strengthened through heat treatment processes such as solution heat treatment and aging. This allows for further enhancing the mechanical properties of the machined parts, including increased strength and hardness, while maintaining good machinability.

Materials for CNC Turning Parts

Our CNC turning capabilities are suited for a diverse array of materials, encompassing both machine-grade metals and plastics. Tailored to your specific needs, we can produce accurate rapid prototypes and low-volume production runs using a variety of high-quality materials. Explore the common materials available for your CNC turning endeavors.

	ALuminum Aluminum is a highly ductile metal, making it easy to machining. The material has a good strength-to-weight ratio and is available in many types for a range of applications.		ALuminum
		Machinable Material Types	AL 6061, AL6063,AL6082,AL7075
		Lead Time	3 days
		Tolerances	±0.01mm
		Max part size	200 x 80 x 100 cm
	Copper Copper displays excellent thermal conductivity, electrical conductivity and plasticity. It is also highly ductile, corrosion resistant and can be easily welded.		Copper
		Wall Thickness	0.75 mm
		Lead Time	3 days
		Tolerances	±0.01mm
		Max part size	200 x 80 x 100 cm
			Brass

	Brass Brass has desirable properties for a number of applications. It is low friction, has excellent electrical conductivity and has a golden (brass) appearance.	Wall Thickness	0.75 mm
		Lead Time	3 days
		Tolerances	±0.01mm
		Max part size	200 x 80 x 100 cm
	Stainless Steel Stainless steel is the low carbon steel that offers many properties that are sought after for industrial applications. Stainless steel typically contains a minimum of 10% chromium by weight.		Stainless Steel
		Wall Thickness	0.75 mm
		Lead Time	3 days
		Tolerances	±0.01mm
	Titanium Titanium has a number of material properties that make it the ideal metal for demanding applications. These properties include excellent resistance to corrosion, chemicals and extreme temperatures. The metal also has an excellent strength-to-weight ratio.		Titanium
		Wall Thickness	0.75 mm
		Lead Time	3 days
		Tolerances	±0.01mm
	Plastics Plastics are also a very popular option for CNC machining because of its wide choices, relatively lower price, and significantly faster machining time needed. We provide all common plastics for CNC machining services.		Plastics
		Machinable Material Types	ABS,PC,PMMA,PTFE,PVDF,POM,PA
		Lead Time	3 days
		Tolerances	±0.01mm
	Magnesium Magnesium is a silver-white metal with a density of 1.74 g/cm3. Its characteristics are small density, good ductility, high strength, large elastic modulus, good heat dissipation, good shock absorption, greater impact load capacity than aluminum alloy, and good corrosion resistance to organic substances and alkalis.		Magnesium
		Wall Thickness	0.75 mm
		Lead Time	3 days
		Tolerances	±0.01mm
		Max part size	200 x 80 x 100 cm

Applications of CNC Machining

Versatility: Aluminum alloy 6061 is highly versatile and can be used in a wide range of applications. It is suitable for machining complex parts with intricate designs, making it a preferred choice for CNC machining processes. It can be easily formed, welded, and joined, providing flexibility in manufacturing and assembly.

Cost-Effective: Aluminum alloy 6061 is relatively cost-effective compared to some other aluminum alloys. It offers a good balance between performance, machinability, and cost, making it an attractive choice for various industries and applications.

CNC Machining + Assembly Check



Common Metal Materials for CNC Machining

Aluminum 6061: Commonly used for various applications such as auto parts, bicycle frames, sporting goods, aircraft components, and RC vehicle frames.

Aluminum 7075: Known for its strength, often used in high-stress applications like aerospace, automotive, and recreational equipment.

Brass: Versatile alloy used in plumbing fittings, decorative hardware, naval hardware, musical instruments, and more.

Magnesium AZ31: Lightweight alloy favored for aircraft components, power tools, laptop cases, and camera bodies.

Stainless Steel 303, 304, 316: Stainless steels with varying properties suitable for nuts, bolts, fittings, shafts, gears, kitchen accessories, architectural elements, and marine applications.

Carbon Steel 1045: Materials commonly utilized in industrial applications for nuts, bolts, gears, shafts, connecting rods, and mechanical parts that require strength include 1045 steel, also known as C45 in the European standard.

Titanium: High-strength, lightweight material utilized in aerospace, military, biomedical, and industrial applications.

Common Plastic Materials for CNC Machining

Plastic resins used for CNC milling and turning must be rigid enough to hold their shape while clamped. The following types of plastic resin have proven themselves over the years:

ABS

Tough, impact-resistant, and resistant to chemicals and electrical current, ABS is commonly used in automotive components, power tools, toys, and sporting goods.

Nylon

With greater tensile strength, Nylon is used for fabric, rope, and mechanical parts, often mixed with ABS resins for enhanced properties.

PMMA Acrylic

Rigid and transparent, PMMA is used for clear optical parts, display screens, light pipes, lenses, enclosures, and food storage.

PEEK

A high-strength and stable engineering plastic, PEEK is used for advanced medical, aerospace, and electronic components, known for its resistance to high temperatures.

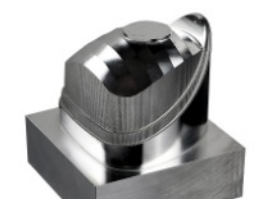
UHMWPE

Ultra high molecular weight polyethylene, known for its hardness, strength, chemical resistance, and slippery surface, is commonly used in joint replacements, marine environments, and gear trains.

Materials for Custom CNC Machining Parts

A wide range of materials is available for CNC machines, offering versatility for rapid prototyping and custom production of intricate parts. We offer instant quotes for over 150 metals and plastics to meet your manufacturing requirements, allowing you to compare costs across various processed materials.

	ALuminum	Aluminum	
		Machinable Material Types	AL6061-T6,AL6063-T6,AL6082 AL7075-T6,AL5052-H32
		Lead Time	3 days
		Aluminum is a highly ductile metal, making it easy to machine. The material has a good strength-to-weight ratio and is available in many types for a	

	range of applications.	Tolerances		±0.01mm
		Max part size		200 x 80 x 100 cm
	Copper	Copper		
	Copper displays excellent thermal conductivity, electrical conductivity and plasticity. It is also highly ductile, corrosion resistant and can be easily welded.	Wall Thickness	0.75 mm	
		Lead Time	3 days	
		Tolerances	±0.01mm	
		Max part size	200 x 80 x 100 cm	
	Brass	Brass		
	Brass is valued for various applications due to its low friction, superior electrical conductivity, and distinctive golden appearance.	Wall Thickness	0.75 mm	
		Lead Time	3 days	
		Tolerances	±0.01mm	
		Max part size	200 x 80 x 100 cm	
	Stainless Steel	Stainless Steel		
	Stainless steel is a low carbon steel that possesses numerous properties desirable for industrial applications. It generally contains at least 10% chromium by weight.	Machinable Material Types	304 SS, 303 SS, 316 SS, SS 430F, 301 SS etc.	
		Lead Time	3 days	
		Tolerances	±0.01mm	
		Max part size	200 x 80 x 100 cm	
	Titanium	Titanium		
	Titanium has a number of material properties that make it the ideal metal for demanding applications. These properties include excellent resistance to corrosion, chemicals and extreme temperatures. The metal also has an excellent strength-to-weight ratio.	Wall Thickness	0.75 mm	
		Lead Time	3 days	
		Tolerances	±0.01mm	
		Max part size	200 x 80 x 100 cm	
	Plastics	Plastics		
	Plastics are also a very popular option for CNC machining because of its wide choices, relatively lower price, and significantly faster machining time needed. We provide all common plastics for CNC machining	Machinable Material Types	Buff ABS, Black ABS, Clear ABS, 94V0 flame retarding ABS, ABS+PC, Black Polycarbonate, Transparent Polycarbonate, Acrylic, NYLON 6, NYLON 66, PA6+30%GF, HDPE, POM, PP, PP+20%GF, PE, TEFLON,PPS, PEEK, PPO, PPE, PEI	
		Lead Time	3 days	

	services.	Tolerances	±0.01mm
		Max part size	200 x 80 x 100 cm

Inspections and Review for Every Stage of Production

To ensure quality from start to finish, Barana Rapid provides the following inspection and review services:

Extensive incoming materials verification

Design for manufacturing reviews for all quotes provided

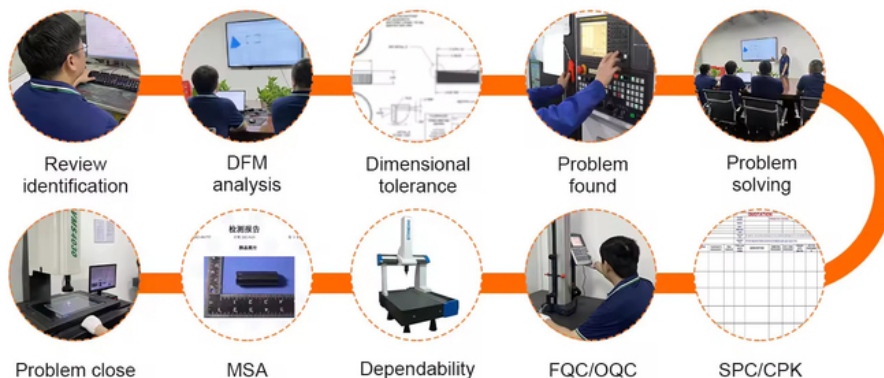
Contract reviews upon receipt of POs

First article and in-process inspections

Final inspections and testing with reports and certifications as required

Our First Article Inspection Process				
Upon receiving your order requirements, Barana Rapid will conduct a first article inspection service. In line with our company's policies, we offer this service to enhance the execution of your machining project when the order value meets or exceeds 3,000 US dollars, or the minimum order quantity is 300 pieces.				
	Step 1	Step 2	Step 3	Step 4
Barana Rapid	Offer first article inspection We offer first article inspection services for batch production.	Draft contract We review the project and contact customers for detailed information.	Produce sample We produce sample parts according to the FAI agreement and deliver them to you.	Full-scale production The full-scale production starts and finishes production within lead time.
Client	Request inspection You request first article inspection for a project that meets our FAI requirements.	Sign contract You sign the FAI agreement provided by us and agree on our Terms and Conditions.	Receive sample You receive and examine the parts, inform us of full-scale production may begin.	Receive products You receive your prototypes or production parts on the required lead time.

Quality Inspection



Packing





BETTER PROTOTYPE

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