



## Industrial 6082 7075 6061 Aluminum Cnc Machining Services Professional

### Our Product Introduction

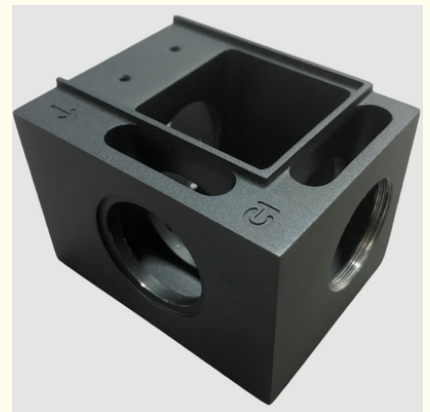
#### Basic Information

- 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:  $\pm 0.1\text{mm}$ ,  $\pm 0.02$ ,  $\pm 0.05$ ,
- 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: Industrial 6082 Aluminum CNC Machining, 6061 aluminum cnc machining service, 7075 aluminum cnc machining services



## Product Description

### Understanding CNC Machining

CNC machining stands for Computer Numerical Control machining, a method where computer-controlled machine tools precisely remove material from a workpiece. This computerized control results in faster, more precise, and accurate machining compared to conventional methods.

At Baranar Rapid, we utilize advanced equipment to provide a wide range of CNC machining services, including milling, turning, EDM, wire EDM, surface grinding, and more. Our imported 3, 4, and 5-axis CNC machining centers, operated by skilled machinists, can produce turned and milled parts using various plastic and metal materials. Additionally, our robust supply chain allows us to scale according to project requirements.

### CNC Machining + Assembly Check





### Tolerances

Our CNC machining tolerances adhere to DIN-2768-1-fine for metals and DIN-2768-1-medium for plastics. Tolerance levels may vary depending on part geometry and material type. Our project managers work closely with clients to ensure the highest precision possible for each project.

#### Materials for CNC Turning Parts

Our CNC turning processes are compatible with a wide range of materials, including machine-grade metals and plastics. Depending on your applications, we can create precise rapid prototypes and low-volume production from various superior-quality materials. Check out some of the common materials for your CNC turning projects.

	<b>ALuminum</b>  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
	<b>Copper</b>  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
	<b>Brass</b>  Brass has desirable properties for a number of applications. It is low friction, has excellent		Brass
		Wall Thickness	0.75 mm
		Lead Time	3 days

	electrical conductivity and has a golden (brass) appearance.	Tolerances	±0.01mm
		Max part size	200 x 80 x 100 cm
	<b>Stainless Steel</b>  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
		Max part size	200 x 80 x 100 cm
	<b>Titanium</b>  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
		Max part size	200 x 80 x 100 cm
	<b>Plastics</b>  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
		Max part size	200 x 80 x 100 cm
	<b>Magnesium</b>  Magnesium is a silver-white metal with a density of 1.74 g/cm <sup>3</sup> . 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

Our precision CNC machining services are employed in producing complex finished parts, components, and tools for plastic injection molding or pressure die casting. Additionally, CNC manufacturing is utilized for secondary operations such as drilling, tapping, and milling on machined parts or components from other processes. Among CNC machine tools, CNC mills are the most common and versatile multi-axis machines used in our daily operations at Barana Rapid.

## 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:** Commonly used in industrial applications for nuts, bolts, gears, shafts, connecting rods, and mechanical parts requiring strength.

**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

Various materials are available for CNC machines, giving you options for rapid prototyping and custom production runs of complex parts. We provide instant quotes on more than 150 metals and plastics for your manufacturing needs, and you can even compare prices on different processed materials.

Aluminum



#### 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.

Machinable Material Types	AL6061-T6,AL6063-T6,AL6082 AL7075-T6,AL5052-H32
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.

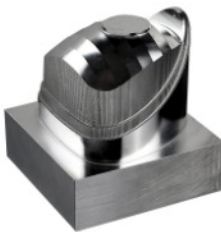
Copper	
Wall Thickness	0.75 mm
Lead Time	3 days
Tolerances	±0.01mm
Max part size	200 x 80 x 100 cm



#### Brass

Brass has desirable properties for a number of applications. It is low friction, has excellent electrical conductivity and has a golden (brass) appearance.

Brass	
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	
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 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
Max part size	200 x 80 x 100 cm

#### Plastics

	<b>Plastics</b>  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.	<b>Machinable Material Types</b>	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
		<b>Lead Time</b>	3 days
		<b>Tolerances</b>	±0.01mm
		<b>Max part size</b>	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

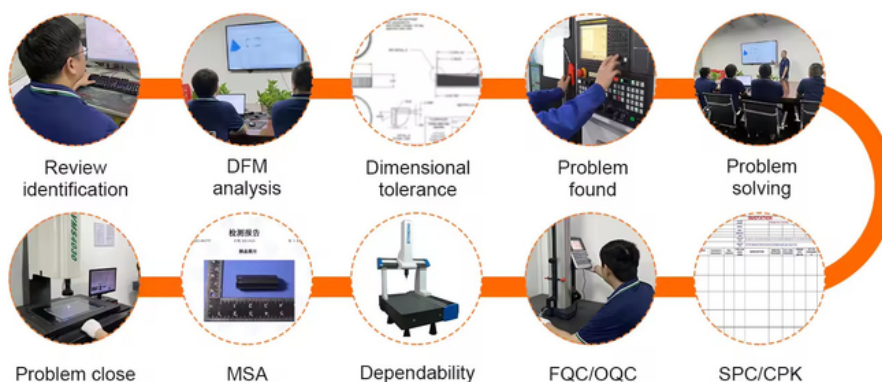
Contract reviews upon receipt of POs

First article and in-process inspections

Final inspections and testing with reports and certifications as required

Our First Article Inspection Process				
When Barana Rapid receives your order requirements, we will carry out the first article inspection service. According to our company's regulations, Barana Rapid will provide the first article inspection service to ensure better completion of your machining project if the order demand reaches 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



Bubble bag



Bubble bags



Cartons



Customized packing  
as custom request



Carton



Pallet carton



Wooden case



Shipping



**Barana Rapid Technology Limited**

86 137 2889 6282

baranarm@baranarm.com

cncmachining-prototype.com

RM502 Block B Floor 5th LiTong Semiconductor industrial park ShaPuWei Community SongGang Street Baoan  
District Shenzhen, Guangdong, China, ZipCode 518105