Ultra-Precision CNC Machining of Stainless Steel Components: Engineering Excellence in Tight Tolerance Fabrication

Our Product Introduction

Basic Information

- Place of Origin: Shenzhen China
- Brand Name: Xianheng
- Certification: ISO9001:2015
- Model Number: ST-CNC-089
- Minimum Order Quantity: 1 pcs
- Price: USD $0.1-$1.99
- Packaging Details: Carton, As Customers'packaging requirements
- Delivery Time: Samples 7-10 days, Mass production 20-25 days
- Payment Terms: T/T,Western Union,MoneyGram
- Supply Ability: 10000 pcs per week

Product Specification

- Cnc Machining Or Not: CNC Machining
- Type: Milling, Turning, Machining
- Material Capabilities: Copper, Aluminum, Bronze, Stainless Steel, Brass
- Surface Treatment: Anodized, Anodizing, Anodize/natural, Sandblast, Silk-screen
- Application: Machinery, Automotive, Laptop, Industrial Equipment, Engineering
- Tolerance: 0.01mm, 0.05 Mm, +/-0.005, 0.003-0.05mm
- Service: Customized OEM
- Keyword: Stainless Steel Milling Parts
- Quality Control: 100% Inspection Berore Shipment, 100% Full Inspection

More Images

Our Product Introduction

for more products please visit us on cnc-metalmachining.com

Product Description

What We Can Provide

Ultra-Precision CNC Machining of Stainless Steel Components: Engineering Excellence in Tight Tolerance Fabrication

Description of Ultra-Precision CNC Machining of Stainless Steel Components: Engineering Excellence in Tight Tolerance Fabrication

The focus on "ultra-precision" and "tight tolerance fabrication" underscores the ability to achieve tolerances as fine as ±0.005mm or even tighter, ensuring parts meet exacting specifications critical for high-performance applications. "Engineering excellence" emphasizes the integration of cutting-edge techniques, rigorous quality control, and material expertise to deliver components that exceed standard precision benchmarks. Stainless steel, chosen for its corrosion resistance, strength, and biocompatibility, is machined using multi-axis CNC systems that enable complex geometries and intricate features, catering to industries like aerospace, medical devices, and precision instrumentation where reliability and longevity are paramount.

Specification of Ultra-Precision CNC Machining of Stainless Steel Components: Engineering Excellence in Tight Tolerance Fabrication

Custom Metal Solutions

Candle Holders/Cups	Medical Containers	Metal End Covers	Mobile Phone Shells
Crafts Stamping Parts	Tablewares	Aluminum Lids	Cabinet Enclosures
Lighting Stamping Parts	Filters/Strainers	Cosmetic Caps	Furniture Accessories
Metal Brackets/Stands	Protective Shields	Essential Oil Caps	Door&Window Fittings
Electronic Components	Sheet Metal Panels	Perfume Caps	Shafts/Sleeves/Gears
Electrical Connections	Cooling Fins	Wine Bottle Caps	Fasteners
Metal Structures	Metal Contact Clips	Jar Caps	Machinery Parts
Car Spare Parts	Motor Spare Parts	Glass Bottle Caps	Pipe Fittings/Elbows

Application Of Ultra-Precision CNC Machining of Stainless Steel Components: Engineering Excellence in Tight Tolerance Fabrication

1. Auto Components Hardware Parts Auto Parts
2. Communication Equipment
3. Industrial Equipment
4. Medical EquipmentsMechanical Parts
5. Ship Accessories
6. Electrical Equipment
7. Mechanical Equipment

Quality Control

1. Checking the raw material after they reach our factory------- Incoming quality control (IQC)
2. Checking the details before the production line operated
3. Have full inspection and routing inspection during mass production---In process quality control(IPQC)
4. Checking the goods after they are finished---- Final quality control(FQC)
5. Checking the goods after they are finished-----Outgoing quality control(OQC)

Why Choose Us

Advantages

Unmatched Dimensional Accuracy & Consistency
Ultra-precision CNC machining achieves tolerances down to micrometers, ensuring every part matches design specifications identically. This eliminates variability in critical applications—such as aerospace engine components or surgical implants—where even minor deviations could compromise functionality or safety. The process guarantees batch-to-batch consistency, reducing rework and scrap rates.

Enhanced Material Performance & Longevity
Stainless steel's inherent properties (e.g., corrosion resistance, high strength-to-weight ratio) are preserved and optimized through precision machining. Tight tolerances minimize stress concentrations and material defects, extending component lifespan. For example, in marine or chemical processing environments, precisely machined stainless steel parts resist wear and corrosion better than conventionally machined counterparts.

Complex Geometry Capability
Advanced CNC systems with 5-axis or multi-axis capabilities enable the fabrication of intricate, organic shapes and internal

features that are impossible to produce with manual machining or simpler CNC setups. This is vital for components like turbine blades, custom medical prosthetics, or optical mounts, where form directly impacts function.

Reduced Post-Processing & Faster Time-to-Market
High-precision machining reduces or eliminates the need for secondary operations like grinding, polishing, or manual fitting. Parts emerge from the CNC machine with near-net-shape finishes, accelerating production cycles and lowering overall costs. This efficiency is particularly valuable in prototyping and low-volume production, where rapid iteration and deployment are critical.

FAQ

Q1: Where can I get product & price information?
A1:Send us inquiry e-mail, we will contact you as we receive your mail.

Q2: How long can I get the sample?
A2:Depends on your specific items, within 3-7 days is required generally.

Q3: What kinds of information you need for quote?
A3:Kindly please provide the product drawing in PDF, and will be better you can provide in STEP or IGS.

Q4: What are the payment terms?
A4: We accept 50% as payment deposit, when the goods is done, we take photos for your check and you then pay the balance.

Q5: Are you a trading company or factory?
A5:We are direct factory with 10 experienced engineers and more than 650 employees as well approximate 2,000 square ft. workshop area.

Q6: What shall we do if we do not have drawings?
A6:Please send your sample to our factory, then we can copy or provide you better solutions. Please send us pictures or drafts with dimensions (Length, Hight, Width), CAD or 3D file will be made for you if placed order.

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