Real-Time Monitoring and Advanced Multi-Axis Motion Control for High-Speed Production of Custom CNC Metal Machining Parts

Our Product Introduction

Basic Information

- Place of Origin: Shenzhen China
- Brand Name: Xianheng
- Certification: ISO9001:2015
- Model Number: CNC-XG-086
- 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

- Application: Automotive, Aerospace, Medical, Etc.
- Drawing Format: CAD, PDF, JPG, Etc.
- Inspection: 100% Inspection Before Shipment
- Lead Time: 7-15 Days
- MOQ: 1 Piece
- Material: Metal
- Package: Carton Box, Wooden Box, Etc.
- Payment Term: T/T, L/C, PayPal, Etc.
- Process: CNC Machining
- Size: Customized
- Surface Treatment: Polishing, Sandblasting, Anodizing, Etc.
- Tolerance: ±0.005mm
- Transport: By Air, By Sea, By Express, Etc.

More Images

Our Product Introduction

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

Product Description

What We Can Provide

Real-Time Monitoring and Advanced Multi-Axis Motion Control for High-Speed Production of Custom CNC Metal Machining Parts

Description Of Real-Time Monitoring and Advanced Multi-Axis Motion Control for High-Speed Production of Custom CNC Metal Machining Parts

Advanced Multi-Axis Motion Control: Utilizes high-precision 4-axis, 5-axis, or even 9-axis CNC machines to manipulate cutting tools from multiple angles simultaneously, eliminating the need for manual repositioning and enabling complex geometries in a single setup.

Material Of Real-Time Monitoring and Advanced Multi-Axis Motion Control for High-Speed Production of Custom CNC Metal Machining Parts

Processing	CNC Turning, CNC Milling, Laser Cutting, Bending, Spinning, Wire Cutting, Stamping, Electric Discharge Machining (EDM), Injection Molding
Materials	Aluminum: 2000 series, 6000 series, 7075, 5052, etc.
	Stainless steel: SUS303, SUS304, SS316, SS316L, 17-4PH, etc.
	Steel: 1214L/1215/1045/4140/SCM440/40CrMo, etc.
	Brass: 260, C360, H59, H60, H62, H63, H65, H68, H70, Bronze, Copper
	Titanium: Grade F1-F5
	Plastic: Acetal/POM/PA/Nylon/PC/PMMA/PVC/PU/Acrylic/ABS/PTFE/PEEK etc.
Surface Treatment	Anodized, Bead Blasted, Silk Screen, PVD Plating, Zinc/Nickel/Chrome/Titanium Plating, Brushing, Painting, Powder Coated, Passivation, Electrophoresis, Electro Polishing, Knurl, Laser/Etch/Engrave etc.
Tolerance	±0.002 ~ ±0.005mm
Surface Roughness	Min Ra 0.1~3.2

Application Of Real-Time Monitoring and Advanced Multi-Axis Motion Control for High-Speed Production of Custom CNC Metal Machining Parts

1. Computers and Laptops: Skived heatsinks are widely used in computer processors, graphics cards, and other internal components to dissipate heat generated during intense computing tasks. They help prevent overheating and maintain optimal performance.

2. LED Lighting: LED lights generate heat, and efficient cooling is essential to maintain their longevity and brightness. Skived heatsinks are used in various LED lighting applications, including residential, commercial, and automotive lighting systems.

3. Audio Amplifiers: High-power audio amplifiers generate significant heat during operation. Skived heatsinks are employed to cool down the amplifier circuitry, ensuring stable performance and minimizing distortion.

Features Of Real-Time Monitoring and Advanced Multi-Axis Motion Control for High-Speed Production of Custom CNC Metal Machining Parts

1. Efficient Heat Dissipation: Aluminum is a highly efficient conductor of heat, and skived heatsinks are designed to maximize the surface area for heat dissipation. The skived fin structure enhances the heatsink's ability to transfer heat away from the electronic components.

2. Thin and Lightweight: Skived heatsinks are manufactured using a precision machining process that allows for the creation of thin and lightweight fins. This design makes them suitable for applications where space and weight are critical considerations.

3. Customizable Fin Geometry: The skiving process allows for the creation of intricate and customizable fin geometries, which can be tailored to specific thermal requirements and airflow conditions. This flexibility ensures optimal performance for various applications.

Why Choose Us

Advantages

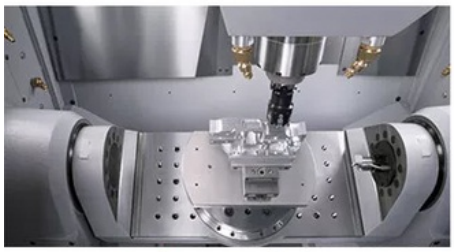
1. Enhanced Precision & Complex Geometry Machining
Multi-axis motion control allows cutting tools to approach the workpiece from any direction, enabling the production of intricate shapes (e.g., curved surfaces, undercuts, internal channels) with tight tolerances (±0.001–0.005 mm).
Real-time monitoring ensures consistent accuracy by detecting and correcting minor deviations before they escalate into

defects.
Example: Aerospace turbine blades with complex cooling holes can be machined in one setup, eliminating errors from repositioning.

2. Dramatically Reduced Production Time & Cycle Efficiency
Multi-axis systems eliminate the need for multiple setups, reducing cycle times by up to 70% compared to traditional 3-axis machining.
Real-time monitoring optimizes spindle speed, feed rate, and tool paths dynamically, further accelerating production without sacrificing quality.
Example: A 5-axis CNC mill can produce a complex automotive transmission housing in hours instead of days.

3. Lower Production Costs & Higher ROI
Reduced material waste: Precision control minimizes excess cutting, saving on expensive metals like titanium or Inconel.
Extended tool life: RTM predicts tool wear, enabling timely replacements before breakage, reducing downtime and tooling costs.
Energy efficiency: Adaptive motion control optimizes power usage, lowering electricity consumption.
Example: A medical implant manufacturer reduced tooling costs by 30% using predictive maintenance via RTM.

4. Superior Quality Control & Zero-Defect Production
Real-time monitoring provides full traceability of every machining operation, ensuring compliance with strict industry standards (e.g., AS9100 for aerospace, ISO 13485 for medical devices).
AI-driven analytics detect anomalies early, preventing scrap and rework, which is critical for high-value parts.
Example: In automotive manufacturing, RTM reduced defect rates by 90%, ensuring flawless engine components.



High Precision

5-Axis CNC & Imported machines with accuracy ±0.02-0.10mm

Fast Lead Time

Multipe CNC machines, skillful workers, guarantee fast lead time

Strictly Confidential

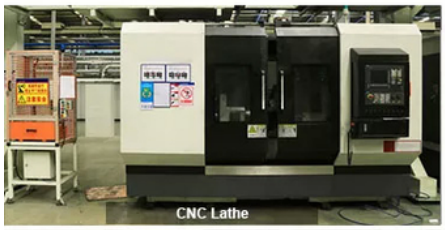
We will protect the customers'design and the customer can request a confidentiality agreement

Quality Inspection

We have a strict quality inspection process to ensure the quality of our products

Factory Show

Factory Equipment



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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