Deep-Cavity Milling Breakthrough Precision Milling Service Efficiency in Deep-Hole CNC Processing

Our Product Introduction

Basic Information

- Place of Origin: Shenzhen China
- Brand Name: Xianheng
- Certification: ISO9001:2015
- Model Number: ML-CNC-083
- 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: CNC Milling
- Material Capabilities: Copper, Aluminum, Bronze, Stainless Steel, Brass
- Surface Treatment: Anodized, Anodizing, Anodize/natural, Sandblast, Silk-screen
- Service: OEM/ODM, OEM ODM Metal Stamping, Customized OEM OEM ODM, OEM Service
- Tolerance: 0.01mm, 0.05 Mm, +/-0.005, 0.003-0.05mm
- Application: Machinery, Automotive, Laptop, Industrial Equipment, Engineering
- Color: As Per Customers' Requirement

More Images

Our Product Introduction

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

Product Description

What We Can Provide

High Precision Customized CNC Milling Plastic Metal Parts for Industrial and Motorcycle Usage

Description of High Precision Customized CNC Milling Plastic Metal Parts for Industrial and Motorcycle Usage

This refers to the advanced CNC milling technology optimized for deep-cavity and deep-hole machining, where traditional 3-axis or 5-axis systems are enhanced with specialized tooling, cooling strategies, and adaptive algorithms to overcome challenges like chip evacuation, tool deflection, thermal management, and dimensional accuracy in deep-profile components. Deep-hole CNC processing typically involves holes or cavities with a depth-to-diameter ratio exceeding 10:1, requiring precision control to maintain straightness, surface finish, and tolerance compliance. A breakthrough in this domain often integrates high-pressure coolant systems, through-tool coolant delivery, specialized deep-hole drilling/milling tools (e.g., gundrills, BTA systems), and real-time monitoring to ensure efficient material removal while minimizing tool wear and thermal distortion. This technology is critical for industries like aerospace (landing gear components), automotive (engine blocks), energy (oil/gas equipment), and medical (orthopedic implants), where deep, narrow, or complex internal features demand high precision and reliability.

Specification of High Precision Customized CNC Milling Plastic Metal Parts for Industrial and Motorcycle Usage

Product Name	High Quality Copper Steel Stainless Brass Material CNC Milling Parts Services
Material	Aluminum, Stainless Steel, Copper, Brass, Titanium, Galvinized, Nylon, ABS, POM etc.
Surface Treatment	Zinc Plating, Painting, Mirror Polished, Brush Polished, Powder Coating, Electroplating, Anodizing, Sandblasting etc.
Processing	Laser Cutting, Precision Stamping, Bending, CNC Punching, Threading, Riveting, Drilling, Welding, Painting, Assembly etc.
Drawing Format	3D/CAD/DWG/IGS/STEP/PDF/JPG
OEM Service	Accept

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)

Application Of High Precision Customized CNC Milling Plastic Metal Parts for Industrial and Motorcycle Usage

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

Why Choose Us

Advantages

Enhanced Chip Evacuation & Tool Longevity
Advanced coolant systems (e.g., through-spindle or through-tool delivery) and optimized chip-breaking geometries ensure efficient removal of swarf from deep cavities, reducing re-cutting, tool breakage, and surface defects. This extends tool life by up to 30–50% compared to conventional methods, lowering tooling costs and downtime.

Improved Dimensional Accuracy & Surface Finish
Adaptive machining algorithms and high-precision spindle/axis controls maintain tight tolerances (often ±0.02mm or better) even in deep profiles. This minimizes post-machining operations (e.g., grinding, honing) and ensures consistent surface finishes (Ra ≤ 1.6μm), critical for functional performance in high-stress applications.

Reduced Cycle Time & Increased Throughput
Optimized cutting parameters (e.g., higher spindle speeds, advanced tool paths) and single-setup capabilities reduce multi-step processing. Deep-hole milling breakthroughs often cut cycle times by 20–40% versus traditional methods, accelerating prototyping and production while maintaining quality.

Cost-Effectiveness & Material Efficiency
Precision deep-cavity milling minimizes material waste through optimized nesting and reduced scrap from tool failures or

rework. Its ability to handle high-aspect-ratio features in one setup lowers labor and machine costs, while its compatibility with diverse materials (steel, titanium, composites) supports scalable, cost-efficient manufacturing from low-volume prototypes to high-volume production.

Factory Show

Factory Equipment

FAQ

Q: How can I customize my products ?
A: Please describe your project. Include the following information so that we can provide an accurate quote: Part Name, 3D CAD Drawing, Quantity, Material, Color, Finishing.

Q: How can I know my products going on ?
A: We will offer a detailed production schedule and send weekly reports with digital pictures and videos which show the production process.

Q: Can You sign a confidentiality greement ?
A: We can sign a confidentiality agreement according to your needs.

Q: What is your terms of payment ?
A: 30% in advance ,70% balance before shipment. Other terms negotiable.

Q: Are you a trading company or factory?
A: We are direct factory with 20 experienced engineers and more than 80 employees as well approximate 3,000 square meters workshop area.

Q: What shall we do if we do not have drawings?
A: 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, Height, Width), CAD or 3D file will be made for you if placed order.

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