



Specialized Custom Metal Brackets for Medical Devices Precision and Durability in Advanced Manufacturing Technology

Our Product Introduction

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

Basic Information

- Place of Origin: Shenzhen China
- Brand Name: Xianheng
- Certification: ISO9001:2015
- Model Number: MB-ST-076
- 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: 50000 pcs per week



Product Specification

- Supply Type: OEM Service
- Material Capabilities: Stainless Steel, Brass, Aluminum, Steel
- Process: Bending, Laser Cutting, Welding, Stamping
- Application: Auto,motorcycle,industry,ariculture,furniture,e
- Packing Details: Carton, Wooden Case, Plastic Cargo
- Color: Black, Silver, Customized Color
- Place Of Origin: China



More Images



Product Description

What We Can Provide

Specialized Custom Metal Brackets for Medical Devices Precision and Durability in Advanced Manufacturing Technology

Description Of Specialized Custom Metal Brackets for Medical Devices Precision and Durability in Advanced Manufacturing Technology

Specialized custom metal brackets are critical components in medical devices, requiring ultra-high precision, biocompatibility, and long-term durability to ensure patient safety and device reliability. Advanced manufacturing technologies such as CNC machining, laser cutting, and precision stamping enable the production of these brackets with tolerances as tight as ± 0.001 inches (± 0.025 mm), ensuring seamless integration with delicate medical components like sensors, actuators, and optical systems.

Material Of Specialized Custom Metal Brackets for Medical Devices Precision and Durability in Advanced Manufacturing Technology

Material	Stainless steel, Aluminum, Brass, Copper etc.
Process	Stamping, Deep drawing, Laser cutting, Bending, Welding, CNC etc
Surface treatment	Zinc plating, Nickel plating, Powder coated, Paint, Brushed, Polishing, Anodized, Hot dip galvanizing etc.
MOQ	100pcs
Size	Customized Size
Certificate	ISO9001:2015
Design	3D/CAD/Dwg/IGS/STP
Package	Bubble Bag+ Carton+ Wooden Box
Application	Metal part in all fields
Service	Customize ODM OEM

Application Of Specialized Custom Metal Brackets for Medical Devices Precision and Durability in Advanced Manufacturing Technology

1. Construction: Metal angle brackets are extensively used in the construction industry for connecting beams, joists, and rafters. They provide critical support and reinforcement to building structures, ensuring stability and load distribution.
2. Shelving: Angle brackets are widely used as shelf supports for wall-mounted shelves in homes, offices, retail stores, and warehouses. They help create sturdy and reliable shelving systems.
3. Furniture Assembly: Metal angle brackets are essential in furniture assembly, helping to connect components and reinforcing joints in tables, chairs, cabinets, and bed frames.

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

Our Advantages

Ultra-High Precision for Complex Medical Applications

Advanced manufacturing processes allow for the creation of brackets with micro-tolerances, ensuring precise alignment and functionality in medical devices. For example, in cardiovascular implants, even a millimeter-level deviation can lead to device failure or patient harm. The use of multi-axis CNC milling and laser cutting ensures that each bracket meets exact specifications, enabling reliable performance in critical environments.

Biocompatibility and Material Optimization for Patient Safety

Medical-grade materials such as titanium alloys (e.g., Ti 6Al-4V ELI), stainless steel (e.g., 316LVM), and nickel-titanium (Nitinol) are selected for their biocompatibility, corrosion resistance, and mechanical strength. Advanced manufacturing techniques, such as powder metallurgy and additive manufacturing, allow for the customization of material properties to meet specific medical requirements, such as radiopacity for imaging compatibility or superelasticity for minimally invasive devices.

Durability and Long-Term Reliability in Harsh Environments

Medical devices often operate in challenging conditions, including repeated sterilization, bodily fluids, and mechanical stress. Specialized custom metal brackets are engineered to withstand these conditions through fatigue-resistant designs and surface treatments like electropolishing or anodization. For instance, brackets used in orthopedic implants must maintain structural integrity under cyclic loading for years, while those in surgical instruments must resist corrosion from sterilization chemicals.

Customization and Rapid Prototyping for Accelerated Development

Advanced manufacturing technologies enable rapid iteration and customization of metal brackets to meet unique device requirements. 3D printing (e.g., DMLS - Direct Metal Laser Sintering) allows for the production of complex geometries without the need for expensive tooling, reducing lead times from weeks to days. This capability is particularly valuable in the development of personalized medical devices, such as patient-specific implants or surgical guides, where traditional manufacturing methods would be cost-prohibitive or impractical.

Aluminum Material

Material:

Aluminum 5052
Aluminum 6061
Aluminum 6063 etc

Finish:

Anodic Oxidation
Polishing
Powder Coating
Spray Painting



Why Choose Us



Multiple Machines

5-Axis CNC & Imp Professional machines, skillful workers, machines, skillful
with accuracy of guarantee the quality and lead time. 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



WEDM



Milling Machine



CNC Wire Cut



Coordinate measuring machine



CNC Bending Machine



Hydraulic Press Machine



SLS/SLA Machine



5-Axis CNC



CNC Lathe



Laser cutting Machine



CNC Punching Machine



Injection Molding machine



FAQ

1. How can I get the price? - We usually quote within 24 hours after we get your inquiry (except weekend and holidays). If you are urgent to get the price, please email us or contact us in other ways so that we can offer you a quote.
2. Can I buy samples? - Yes. Please feel free to contact us.
3. What is your lead time? - It depends on the order quantity and the season you place the order. Usually we can ship within 7-15 days for small quantity, and about 30 days for large quantity.
4. What is your payment term? - T/T, Western Union, MoneyGram, and Paypal. This is negotiable.
5. What is the shipping method? - It could be shipped by sea, by air, or by express (EMS, UPS, DHL, TNT, FEDEX etc). Please confirm with us before placing orders.
6. How do you make our business long-term and good relationship? - We keep good quality and competitive price to ensure our customers benefit. Furthermore, we respect every customer as our friend and we sincerely do business and make friends with them, no matter where they come from.



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