High-Tolerance Precision Sheet Metal Shell Fabrication for Medical Equipment Customized Solutions

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: Xiange
- Certification: ISO 9001:2015 SGS RoHS
- Model Number: MF-XG-34
- Minimum Order Quantity: 1 pcs
- Price: USD 1-2
- Packaging Details: Carton Wooden case
- Delivery Time: 5-8 days
- Payment Terms: T/T, Western Union, MoneyGram
- Supply Ability: 10 SET per week

Product Specification

- Material Capabilities: Stainless Steel,Aluminium,Copper,Brass
- Products: Metal Eauipment Shell
- Process: Metal Sheets Fabrication,Welding Cutting Punching Stamping
- Application: Electronic Equipment Sheet Metal Shell ,Custom Control Box Cabinet Chassis Shell
- OEM/ODM: Acceptable
- Equipment: Precision Nonstandard Parts
- Surface Treatment: Powder Coated, Hot Galvanized, Painting, Polishing, Spray Coating, Brushing, Cataphoresis, Sandblasting, Electroplate Chrome/Zinc/Nickel Plating/Anodize/Electronic Polish, Silk-screen Etc;
- Package: Platic Bag ,Blister Box ,Tap Reel Or As Your Required
- Used: Computer,Telecom,mechical ,electronics,appliance,military,aerospace.

More Images

Our Product Introduction

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

Product Description

What We Can Provide

High-Tolerance Precision Sheet Metal Shell Fabrication for Medical Equipment Customized Solutions

Description of High-Tolerance Precision Sheet Metal Shell Fabrication for Medical Equipment Customized Solutions

High-tolerance precision sheet metal shell fabrication for medical equipment involves creating tailored enclosures and structural components with extreme dimensional accuracy (often within ±0.1mm or tighter) to meet the stringent demands of medical device manufacturing. This process integrates advanced techniques like CNC machining, laser cutting, and precision welding with medical-grade materials (e.g., stainless steel 316, aluminum 5052) to ensure durability, biocompatibility, and compliance with regulatory standards such as ISO 13485. Customized solutions are engineered to address specific challenges, such as ergonomic design, thermal management, and seamless integration of internal components, while maintaining hygienic surfaces free of crevices or sharp edges.

Specification of High-Tolerance Precision Sheet Metal Shell Fabrication for Medical Equipment Customized Solutions

Product	Custom Sheet Metal Fabrication Laser Cutting Bending Sheet Metal Stamping Parts
Material	Stainless Steel, Carbon Steel(Q235), Aluminum(6061,6063, 5052), Copper, Brass etc.
Process	Bending, Stamping, Welding
Finish	Zinc Plating, Mirror Polished, Brush Polished, Paint, Anodic Oxidation, Powder Coated
Package	Plywood Box + Plywood Pallet, Plywood Box
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-Tolerance Precision Sheet Metal Shell Fabrication for Medical Equipment Customized Solutions

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

Our promise

Unmatched Precision for Critical Components
Medical devices like diagnostic imaging systems, surgical robots, or portable ventilators rely on components that must align perfectly to function safely. High-tolerance fabrication ensures parts fit with micro-level accuracy, reducing risks of malfunction, contamination, or patient harm. For example, a misaligned shell in an MRI machine could distort imaging results, while precision-machined enclosures for infusion pumps maintain airtight seals to prevent fluid leaks.

Material Durability and Biocompatibility
Medical shells are exposed to harsh environments, including frequent sterilization, corrosive fluids, and physical stress. Precision fabrication enables the use of specialized materials:
Stainless Steel 316: Resists corrosion and withstands high-temperature sterilization, ideal for surgical tools or sterilization chambers.
Aluminum 5052: Lightweight yet strong, with surface treatments like anodization to enhance durability and reduce bacterial adhesion.
Titanium: Used in implants and high-end devices for its biocompatibility and strength-to-weight ratio.
These materials are selected based on the device's function, ensuring longevity and safety.

Customized Design for Functionality and Ergonomics
Medical shells are engineered to optimize user experience and device performance:
Sealed Enclosures: IP-rated designs (e.g., IP54) protect internal electronics from dust and liquids, crucial for portable monitors or ultrasound machines.
Ergonomic Features: Rounded edges prevent injuries, while strategically placed ports and displays improve accessibility for clinicians.
Thermal Management: Integrated cooling channels or heat sinks ensure devices operate safely during prolonged use, such as

in anesthesia systems or laboratory equipment.

Efficiency and Compliance Through Advanced Manufacturing
Precision fabrication leverages cutting-edge technologies to streamline production while meeting regulatory requirements:
CNC Machining: Automated cutting, bending, and drilling achieve consistent quality, reducing human error and waste.
Laser Welding: Creates hygienic, seamless joints that eliminate crevices where pathogens could hide, essential for sterile environments.
Design for Manufacturing (DFM): Specialized software optimizes designs for cost-effective production without compromising precision.

Multipe Machines

Professional machines, skillful workers, guarantee the quality and 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

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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