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

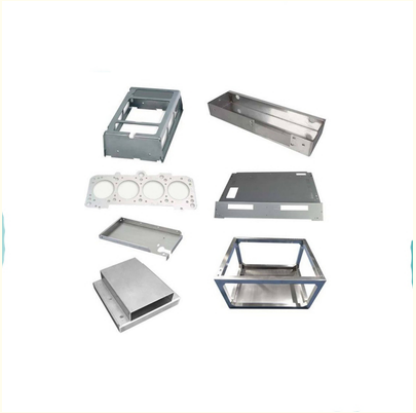
Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: Xiange
- Certification: ISO 9001:2015 SGS RoHS
- Model Number: MF-XG-29
- 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

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

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

Precision sheet metal shell fabrication for medical equipment represents a specialized manufacturing process designed to produce high-tolerance, custom-engineered enclosures that house critical medical devices. This process integrates advanced laser cutting, CNC bending, precision welding, and surface treatment technologies to meet the stringent requirements of the medical industry, including biocompatibility, sterilizability, and durability. Below is a detailed description of this process, followed by four key advantages it offers.

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

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

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 Applications
Precision sheet metal fabrication achieves tolerances as tight as ±0.02 mm, crucial for medical devices like robotic surgery systems or portable ultrasound machines. For instance, a neurosurgical robot's enclosure must align perfectly with its kinematic arms to prevent misalignment during procedures. The use of CNC-controlled processes eliminates human error, ensuring consistency across batches of 10,000+ units.

Material Versatility for Diverse Needs
Medical equipment demands materials that balance weight, strength, and biocompatibility. Titanium shells, used in implantable device chargers, offer lightweight durability, while stainless steel enclosures for autoclavable instruments resist pitting from repeated sterilization. Aluminum alloys, favored for portable MRI machines, provide EMI shielding without adding excessive mass. Fabricators like Zhuhai Chuntian Mechanical Technology Co., Ltd. stock over 20 medical-grade materials, enabling rapid prototyping and production.

Rapid Customization for Innovation
The medical industry's fast-paced evolution requires agile manufacturing. Precision sheet metal fabrication supports quick design iterations, with lead times as short as 5 days for prototypes. For example, when a client needed an urgent redesign of a ventilator housing during the COVID-19 pandemic, a fabricator used digital twin simulation to optimize the design in 12 hours, reducing material waste by 30%. This flexibility accelerates time-to-market for breakthroughs like AI-powered diagnostic devices.

Cost-Effective Scalability from Prototypes to Mass Production
Unlike injection molding, which requires expensive tooling, sheet metal fabrication scales efficiently from low-volume clinical trials (10–100 units) to high-volume manufacturing (100,000+ units). Nesting algorithms optimize material usage, cutting scrap rates below 5%, while automated bending cells reduce labor costs. A case in point: A medical device OEM reduced per-unit costs by 45% by transitioning from 3D-printed enclosures to sheet metal for their portable ECG monitor, 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

Stainless Steel Material

Material:

Stainless Steel 201
Stainless Steel 430
Stainless Steel 304
Stainless Steel 316

Finish:

Mirror Polishing
Brush Polishing
Electro Polishing
Vibration Polishing

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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