



INDUSTRIAL FABRICATION



# Engineered to Enclose. Designed to Perform.

Custom Sheet Metal Enclosures & Housings for Industrial, Outdoor, Smart & Lab Applications

ISO 9001

IATF 16949

GJB 9001C



# Your Design. Our Precision.

Sheet metal manufacturing built for demanding applications worldwide.

**40mm**

Max Laser Cut

**3,100mm**

Max Bend Length

**Any RAL**

Powder Coat Color

**5-Stage**

Surface Pretreatment

## CORE CAPABILITIES

### CNC Laser Cutting

Precision profiles up to 40mm thick. Complex cutouts for ports, vents, and windows.

### Multi-Axis Precision Bending

Tight tolerances, rounded corners, and complex geometries.

### Precision Welding & Polishing

Seamless, strong joints. Ground and polished for a clean finish.

### Electrostatic Powder Coating

Any RAL color. Matte, gloss, or textured finishes. Anti-fingerprint options.

### Custom Dimensions & Cutouts

Any size, shape, ports, vents, windows, and mounting holes tailored to your components.

# WHY CHOOSE Z&T FABRICATION

Factory-direct. Engineering-first. Built for your specs.

## Factory-Direct Integration

- One-stop: design → laser cut → bend → weld → coat
- 300+ stamping presses, advanced laser lines
- No middlemen — lower cost, faster lead times

## Engineering First

- Free DFM review within 24h of drawing submission
- Prototype before full production commitment
- Tolerance-driven: your specs drive our process

## Finish Quality that Stands Out

- 5-stage phosphate/zinc pretreatment
- Electrostatic powder coat — any RAL color
- Matte, gloss, textured, anti-fingerprint options

## Global Certified

- ISO 9001:2015 | IATF 16949 | GJB 9001C-2017
- Tier-1 automotive & defense supply chain ready
- 100% dimensional inspection before shipping

# Industrial Control & Automation Enclosures

## Poor ventilation & space constraints

Precision punched ventilation grilles + Low-Profile custom designs. DIN rail & internal bracket pre-mounting.

## Multi-module devices — messy wiring

Multi-module wall-mount cabinets with custom dividers, cable runs, and mounting holes. Electrostatic powder coat for durability.

## Unusual shapes & non-standard sizes

Large CNC bending + roll-forming for elongated, curved, and complex arc-shaped enclosures for vehicle-mount, IoT & parking applications.

### KEY PRODUCTS:

Control Cabinet

IoT Gateway Enclosure

Vehicle-Mount Housing



#01



**Large Modular Ventilation Equipment Frame**

HVAC · Industrial Fans · Air Purification

#02



**Low-Profile Industrial Control Enclosure**

Embedded PC · PLC Expansion · Multi-port Gateway

#03



**Multi-Module Equipment Control Enclosure**

Automation Control · Wall-Mount Terminal · Electrical Cabinet

#04



**Industrial Embedded Control Enclosure**

Network Gateway · Data Acquisition · Embedded Host

#05



**IoT Gateway Enclosure (Alpark)**

Smart Parking · IoT Edge · Industrial Communication

#06



**Modular Industrial Equipment Enclosure**

Embedded Control · Industrial Test · Electronic Components

#07



**Long Curved Sheet Metal Enclosure**

Consumer Electronics · Slim Industrial · Minimalist IoT

#08



**Long Rounded Corner Enclosure**

PDUs · Soundbars · Slim IoT · Industrial Communication

#09



**Long Industrial Communication Chassis**

Vehicle-Mount Control · IoT Gateway · Embedded Computing



IP65 / IP66 RATED

CATEGORY 02

# Outdoor & Weatherproof Cabinets

## Rain & Dust Resistance

Sloped roof design + continuous rubber gasket achieve IP65/IP66 protection. 304/316 stainless steel for coastal & chemical environments.

## Battery & Energy Storage

Heavy-duty reinforcing ribs for large lithium battery housings. Ventilation grilles for thermal management. Lightweight portable variants available.

## Key & Terminal Management

Lockable wall-mount key management boxes with custom hooks, terminal rails, and label zones for clear electrical organization.

KEY PRODUCTS:

Waterproof Distribution Box

#01



**Wall Mount Lockable Key Cabinet**

Office · Industrial Facility · Building Access Control

#02



**Wall Mount Electrical Junction Box**

Wiring Systems · Power Distribution · Industrial Control

#03



**Stainless Steel Vented Lockable Enclosure**

Outdoor Electrical · Battery Storage · Corrosive Environments

#04



**Stationary Lithium Battery Enclosure**

Industrial Energy Storage · Large Battery Pack · Solar Storage

#05



**Outdoor Waterproof Electrical Control Cabinet**

Outdoor Power Distribution · Street Light Control · Municipal Engineering

#06



**Portable Battery Enclosure**

Portable Power Station · Electric Vehicle Battery · Mobile Energy Storage

# Smart & Vision Equipment Housings

## OUTDOOR PROTECTION

### Rain-proof curved enclosures & round-corner bases

Arc-shaped rain shields and round-corner camera mounts channel water away, providing physical protection for sensors and lenses.

## OPTICAL PRECISION

### CNC precision window cutouts for exact lens alignment

Laser-cut optical windows ensure perfect alignment. Anti-rain, anti-dust structural design for outdoor deployments.

## HMI INTEGRATION

### Smart integrated cabinets with touchscreen & access control

Tempered glass windows, access-control locks, and caster-equipped integrated cabinets for industrial and laboratory HMI applications.



KEY PRODUCTS:

Parking Detector Housing

Camera Housing

LPR Enclosure

Smart Cabinet

#01



Curved Surveillance Camera Mount & Base Cover

Outdoor Bullet/Dome Cameras · Industrial Sensors · Environmental Monitoring

#02



Rounded Square Camera Housing

Indoor/Outdoor Surveillance · Security Sensors · Industrial Mount Bases

#03



License Plate Recognition Enclosure

Smart Parking · LPR Devices · Traffic Monitoring

#04



Irregular Multi-Window Scanning Device Housing

Barcode/QR Scanners · Vision Inspection · Face Recognition

#05



Smart Integrated Equipment Cabinet

Industrial Control Workstations · Smart Storage · Lab Equipment



C A T E G O R Y   0 4

## Custom Instrument & Lab Equipment Enclosures

Precision-crafted enclosures where aesthetics, cleanliness, and brand consistency matter as much as structural integrity.

### Two-Tone Powder Coating

Matte white body + dark gray front panel combinations. Anti-fingerprint coating for sanitary, high-visibility environments.

### Seamless Welding & Polish

No-gap welded joints ground and polished flush. Surfaces with no dead corners — easy to clean, sterile appearance.

### Laser-Engraved Logo & Branding

Permanent, precise brand engraving that matches your brand guidelines. Silk-screen printing also available.

### Open Frame & Portable Chassis

Arc-handle portable designs for easy transport and maintenance. All interface cutouts 1:1 custom-machined to your components.

KEY PRODUCTS:

Lab Instrument Enclosure

#01



**Custom Industrial Instrument Housing**

Laser Marking Machines · Industrial Test · Analytical Equipment

#02



**Air Purifier Sheet Metal Enclosure**

Air Purifiers · Small Home Appliances · Consumer Electronics

#03



**Open Frame Portable Instrument Chassis**

Lab Test Instruments · Portable Measurement · Maintenance-Friendly

# MATERIALS, FINISHES & SPECIFICATIONS

## Cold-Rolled Steel (SPCC)

Thickness: 0.8–6mm  
For general industrial enclosures

## Galvanized Steel (GI)

Thickness: 1–4mm  
Corrosion-resistant, outdoor applications

## Stainless Steel 304/316

Thickness: 0.8–4mm  
Coastal, marine & chemical environments

## Aluminum Alloy

Thickness: 1–6mm  
Lightweight, EMC shielding, portable

## SURFACE FINISHES

### Electrostatic Powder Coat

Any RAL color · Matte / Gloss / Textured · Anti-fingerprint

### Zinc Phosphate Pretreatment

5-stage process · Superior adhesion · Corrosion primer base

### Brushed Stainless

Hairline finish · Hygienic surface · Premium appearance

### Laser Engraving

Permanent logo & marking · 0.1mm precision

### Two-Tone Coating

Dual-color combination per panel · Brand-matched

### Silk-Screen Printing

Interface labels · Safety markings · Brand decals

# FROM DRAWING TO DELIVERY

01

## Engineering Review

Within 24h

Feasibility analysis & DFM (Design for Manufacturability) feedback on your drawings or 3D model.

02

## Prototyping

Single-piece

One-off prototype produced for fit, function, and finish verification before committing to production.

03

## Production

CNC Precision

CNC laser cutting → precision bending → robotic/TIG welding. Tight tolerances throughout.

04

## Surface Finishing

5-Stage Process

Phosphate pretreatment + electrostatic powder coating. Any RAL color, any texture specification.

05

## Inspection & Packaging

100% QC

Full dimensional inspection with calibrated gauges. Custom protective packaging for safe global transport.



*We don't just make boxes. We make the enclosure that makes your technology look and perform its best.*



# Ready to Enclose Your Next Innovation?

Send us your drawing or 3D model.

We'll provide a DFM review and quote within 24 hours.

[info@zntmetal.com](mailto:info@zntmetal.com) | Tianjin & Cangzhou, China | [www.zntmetal.com](http://www.zntmetal.com)

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