

# MACHINED TO MICRONS.

Precision CNC Milling, Turning
& Custom Machined Components

ISO 9001 CERTIFIED | IATF 16949 | GJB9001C

Z&T MACHINING SERVICES

**±0.005mm**

Achievable Tolerance

**Φ800mm**

Max Turning Diameter

**1500mm**

Max Milling Length

**20+ Yrs**

Engineering Expertise

www.zntmetal.com

CAPABILITY OVERVIEW

# Complex Geometries. Critical Tolerances. One Setup.

*"I need ±0.005mm on a shaft, my current shop can't hold it."*

→ Our CNC lathes + CMM deliver micron-level precision, verified on our Xi'an Edward CMM.

*"I only need 5 prototype base plates — no one wants to set up for it."*

→ We thrive on low-volume, high-mix work. From 1 to 10,000 parts.

*"The anodizing on my aluminum parts is inconsistent, batch to batch."*

→ We manage machining → anodizing in-house. Uniform color and thickness guaranteed.

*"I'm tired of getting parts with burrs and sharp edges."*

→ Every part is deburred and edge-broken before shipment. Standard, not an add-on.

KEY CAPABILITIES

**±0.005mm**
Achievable Tolerances

**Φ800mm**
Max Turning Diameter

**1500mm**
Max Milling Length

**6061/7075 MIC-6**
Aluminum Expertise

ISO 9001 · IATF 16949 · GJB9001C · Multiple Production Bases · Global Delivery

CNC MILLING

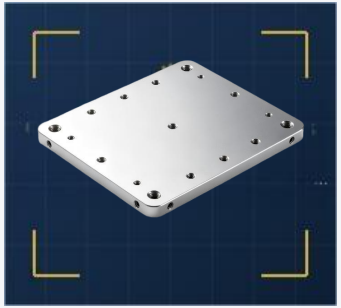


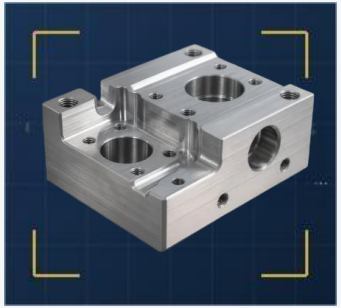
**Products**

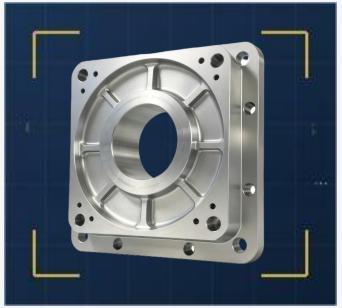
*"When your fixture plate isn't flat, your entire assembly is off. Our plates provide the stable foundation your precision equipment demands."*

# CNC Milling:

# Flatness, Parallelism, Perfection.







### Aluminium Milled Plate

Challenge: Warping after machining large plates.
Solution: MIC-6 cast aluminum (stress-relieved) or rough-machine → stress-relief → finish-machine cycle on 6061-T6.
Flatness & Parallelism: ≤0.05mm / 300mm
Finish: Anodizing available

### Complex Structural Parts

Challenge: Multi-face machining, fixture complexity, cumulative error.
Solution: 4/5-axis capability — multiple faces in a single setup. Supports PEEK, Delrin engineering plastics.

CNC TURNING — FEATURED PRODUCTS

# CNC Turning: Where Roundness Meets Precision.



**Single-point thread turning · Micron-level roundness**

- *precision CNC turned components*
- *pneumatic cylinder end caps*
- *grooved pulley wheels*
- *tapered roller bearing cones*
- *threaded shafts*

## PRODUCT RANGE

**#1**

**Pneumatic Cylinder End Caps**

O-ring sealing grooves
Thread go/no-go inspected
Al / SS / Carbon Steel

**#2**

**Grooved Pulley Wheels**

Runout ≤0.05mm TIR
1-setup turning
Dynamic balance optional

**#3**

**Tapered Roller Bearing Cones**

52100 Bearing Steel
Heat-treat + Grind
Ra ≤0.2µm raceway

**#4**

**Threaded Shafts**

Acme / Trapezoidal
UN / Metric threads
Dual-center + steady rest

**#5**

**Step Down Shaft Adapters**

Multi-diameter steps
Tight concentricity
Custom lengths

**# and more**

**Customization**

Acc. to your drawings

*"From a single threaded rod to 10,000 pulley wheels, every pass is a commitment to roundness and accuracy."*

# The Art of the Small & the Mastery Behind It.

**PRODUCT HIGHLIGHT**



Knurled Pins — Diamond & Straight Knurl | ±0.05mm OD Tolerance | 1215 Free-Cutting / 304 SS



## The Z&T Human Edge

Behind every CNC machine at Z&T stands an engineer with 20+ years of mold-making and CNC programming expertise — knowing how to pick optimal tool paths and design fixtures to prevent thin-wall distortion. Not just machine precision. Human wisdom.

# DESIGN SPECIFICATIONS & MATERIAL CAPABILITIES

| Specification | CNC Milling | CNC Turning | Notes |
|---|---|---|---|
| Max Work Envelope | 1500mm (L) × 1000mm (W) × 800mm (H) | Φ800mm × 2000mm (L) | Gantry mill for large plates |
| Achievable Tolerance | ±0.01mm standard / ±0.005mm premium | ±0.005mm roundness | CMM 100% inspection available |
| Surface Finish | Ra ≤0.8μm (milled) / Ra ≤0.4μm (ground) | Ra ≤0.2μm (ground raceway) | Post-processing enhances finish |
| Primary Aluminum | 6061-T6, 7075-T6, MIC-6 Cast | 6061-T6, 2024 | MIC-6 for flatness-critical plates |
| Steel / Specialty | Carbon steel, SS 304/316, Tool steel | 52100 Bearing steel, 1215, 4140 | Material cert available |
| Anodizing | Type II (color), Type III (hardcoat) | Type II standard | In-house process control |
| Thread Standards | Metric, UN, NPT, BSP | Acme, Trapezoidal, Metric, UN | Go/no-go gauge inspection |
| Certifications | ISO 9001:2015, IATF 16949, GJB9001C | ISO 9001:2015, IATF 16949 | Full documentation package |
| MOQ / Lead Time | 1 part (prototype) → 10,000+ | 1 part → 10,000+ | ~15 days standard; express available |

# QUALITY ASSURANCE & PRODUCTION PROCESS

| 01 | 02 | 03 | 04 | 05 | 06 |
|---|---|---|---|---|---|
| **Engineering Review** | **CAM Programming** | **First Article Inspection** | **In-Process Control** | **Post-Process Treatment** | **Final QC & Shipment** |
| DFM feedback, tolerance feasibility, material spec | Optimal toolpath, fixture design, cycle time optimize | CMM measurement report before production run | Statistical process control at critical dimensions | Deburring, anodizing, surface finishing | Full dimensional report + material certification |

## CERTIFICATIONS & STANDARDS

**ISO 9001**

Quality Management System — global standard for manufacturing excellence

**IATF 16949**

Automotive-grade QMS — supply chain quality for tier-1/2 suppliers

**GJB9001C**

China national military/defense quality standard

**Xi'an Edward CMM**

Coordinate Measuring Machine — 100% critical dimension verification

# FROM A SINGLE PROTOTYPE TO 10,000 PRODUCTION PARTS

*Tolerances You Can Bank On, Delivered on Time.*

**ZENTO TRILIUM METAL TECH CO., LTD. (Z&T.众拓利合)**

Precision Metal Stamping · Sheet Metal Fabrication · CNC Machining

ISO 9001 | IATF 16949 | GJB9001C

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