

Shenzhen Zhuocheng Hardware Co., Ltd

Manufacturing Capability Overview

For Supplier Audit Reference

1. Company Snapshot

Item	Capability / Detail
Company Name (EN)	Shenzhen Zhuocheng Hardware Co., Ltd
Company Name (CN)	深圳市卓诚精密五金有限公司
Headquarters	Shenzhen, Guangdong, China
Core Competence	Swiss-type CNC turning, CNC machining, precision gear manufacturing, secondary operations & finishing
Total Machines	270+ units (Swiss 50+ Turn-Mill 20+ CNC Turn 40+ CNC Mill 30+ Auto Lathe 120+)
Production Capacity	Prototype (100 pcs) → Mass production (1,000,000+ pcs)
Typical Industries	Electronics · Automotive · Medical · Robotics & Automation · Industrial Equipment

2. Equipment Overview

Total installed base: 270+ CNC and precision machining units from world-leading brands.

Process	Qty
Swiss-Type CNC Turning	50+
Turn-Mill (车铣复合)	20+
CNC Turning	40+
CNC Milling	30+
Automatic Lathe	120+
Gear Hobbing	10+
Thread / Gear Whirling	5

3. Swiss-Type CNC Turning (Core Capability)



Swiss-Type CNC Turning Machines

50+ Swiss-type CNC turning machines deliver the tightest tolerances and smallest diameters in Zhuocheng's portfolio.

3.1 Dimensional & Tolerance Capability

Item	Capability / Detail
Bar Diameter	Ø 3 mm – Ø 32 mm
Max. Machining Length	Up to 300 mm
Tolerance	± 0.005 mm
Surface Roughness	Ra 0.4 – 1.6 µm
Batch Range	100 pcs – 1,000,000+ pcs

3.2 Materials

Item	Capability / Detail
Stainless Steel	303 / 304 / 316
Brass	C3604
Aluminum	6061 / 7075
Carbon Steel / Alloy Steel	1018 / 1215 / 4340
Titanium	Grade 5
Engineering Plastics	POM · PEEK · Nylon

3.3 Typical Applications

Connector pins & terminals · Precision shafts · Sensor components · Automotive components · Medical components · Robotics parts · Industrial automation parts

4. CNC Machining

4.1 Turn-Mill Machining (车铣复合)



Turn-Mill Machining

20+ turn-mill centres complete complex multi-feature parts in a single setup, eliminating repositioning errors.

Item	Capability / Detail
Axis Capability	Y-axis / C-axis / Multi-axis
Diameter Range	Ø 10 mm – Ø 250 mm
Max. Length	Up to 500 mm
Tolerance	± 0.005 mm – ± 0.01 mm
Surface Roughness	Ra 0.4 – 1.6 µm
Processes	Turning · Milling · Drilling · Threading · Slotting · Cross-hole machining

4.2 CNC Turning



CNC Turning

40+ CNC turning centres for medium-to-large diameter turned components.

Item	Capability / Detail
Diameter Range	Ø 10 mm – Ø 300 mm
Max. Machining Length	Up to 600 mm
Tolerance	± 0.01 mm
Surface Roughness	Ra 0.8 – 3.2 µm
Processes	External turning · Facing · Threading · Grooving · Drilling · Boring · Tapping · Knurling / Internal

4.3 CNC Milling



CNC Milling

30+ machining centres with 3/4/5-axis capability for complex prismatic parts.

Item	Capability / Detail
Axis Capability	3-axis / 4-axis / 5-axis
Working Range	Up to 800 × 500 × 500 mm
Tolerance	± 0.01 mm
Surface Roughness	Ra 0.8 – 3.2 µm
Processes	Face milling · Pocket · Contour · Slot · Drilling · Tapping · Thread milling · Complex 3D milling
Materials	Aluminum · SS · Brass · Carbon/Alloy Steel · Titanium Gr5 · Inconel · POM · PEEK · Nylon · PTFE

4.4 Automatic Lathe Machining



Automatic Lathe — Cam-type & Multi-spindle (120+ units)

120+ automatic lathes optimised for continuous high-volume production of small precision turned parts.

Item	Capability / Detail
Bar Diameter	Ø 2 mm – Ø 20 mm
Max. Turning Length	Up to 100 mm
Tolerance	± 0.01 mm
Surface Roughness	Ra 0.8 – 3.2 µm
Batch Range	10,000 pcs – millions pcs
Processes	External turning · Facing · Grooving · Threading · Drilling · Boring · Knurling · Cutting
QC Inspection	Dimensional · Optical · Micrometer · Caliper · Sampling inspection

5. Precision Gear Manufacturing

Dedicated gear machining covering spur, helical and worm gears, with CNC gear hobbing machines and CNC whirling machines.

5.1 CNC Gear Hobbing Machine (数控滚齿机)



CNC Gear Hobbing Machine

Item	Capability / Detail
Gear Type	Spur Gears / Helical Gears
Module Range	M 0.2 – M 3
Max. Gear Diameter	Up to Ø 100 mm
Gear Accuracy	Grade 6 – 8
Processing	External spur gear · Helical gear · Spline · Gear tooth profile · Batch gear production

5.2 CNC Gear Whirling Machine (旋风铣床)



CNC Thread / Gear Whirling Machine — Index / DMG MORI / Tornos / Citizen

Item	Capability / Detail
Process	Whirling milling
Application	Worm gears / Threaded components
Diameter Range	Ø 3 mm – Ø 50 mm
Tolerance	± 0.01 mm
Surface Finish	Ra 0.8 – 1.6 µm
Processing	Worm gear · Precision thread · Screw shaft · Special profile components

5.3 Gear Types Produced

Item	Capability / Detail
Spur Gears	Automotive systems · Industrial equipment · Automation
Helical Gears	Transmission systems · Precision mechanisms
Worm Gears	Motion control · Reduction mechanisms
Custom	Manufactured to customer drawings / specifications

6. Secondary Operations & Surface Treatment

6.1 Process Overview

Process	In-house / Partner	Notes
Deburring	In-house	All machined parts
Cleaning	In-house	All machined parts
Basic Polishing	In-house	Per requirement
Quality Inspection	In-house	100% batch inspection
Laser Marking	In-house	Traceability / branding
Assembly	In-house	Sub-assembly services
Anodizing	Partner	Type II / Hard Anodizing
Ni/Zn/Cr/Au Plating	Partner	Per specification
Powder Coating	Partner	Per colour standard
PVD / DLC Coating	Partner	Wear & corrosion resistant
Heat Treatment	Partner	Hardening / Carburizing / Nitriding
Grinding	Partner	High-precision surface grinding
Laser Welding	Partner	Precision joining

6.2 In-House Secondary Processes

- Deburring
- Cleaning
- Laser marking (traceability & branding)
- Sub-assembly
- Dimensional & optical quality inspection

6.3 Partner Network – Surface Finishing

- Grinding (precision surface grinding)
- Heat treatment — hardening, carburizing, nitriding
- Anodizing — Type II and hard anodizing
- Electroplating — nickel, zinc, chrome, gold
- Powder coating
- PVD coating / DLC coating
- Laser welding

7. Quality Assurance

- Dimensional inspection using calibrated gauges
- Optical inspection for surface defects
- Micrometer measurement for critical tolerances
- Caliper inspection for general dimensions
- Sampling inspection per AQL standards

Item	Capability / Detail
Traceability	Laser marking on components where required
Inspection Scope	Dimensional · Visual · Optical — applied per batch
Sampling Standard	AQL-based sampling inspection
In-process Control	Check fixtures and gauging at machining stage

8. Capability Summary for Supplier Audit

Item	Capability / Detail
Swiss-Type CNC Turning	Ø3–32mm ±0.005mm Ra0.4–1.6µm 100–1,000,000+ pcs
Turn-Mill Machining	Ø10–250mm ±0.005–0.01mm Multi-axis Complex parts in one setup
CNC Turning	Ø10–300mm ±0.01mm Up to 600mm length
CNC Milling	Up to 800×500×500mm ±0.01mm 3/4/5-axis
Automatic Lathe	Ø2–20mm ±0.01mm 10,000–millions pcs
Gear Hobbing	M0.2–M3 Grade 6–8 Ø up to 100mm
Gear Whirling	Ø3–50mm ±0.01mm Worm gears & threaded components
Secondary Ops	Deburring · Cleaning · Laser marking · Assembly (in-house)
Surface Treatment	Anodizing · Plating · PVD/DLC · Heat treatment (partner network)
Materials	SS · Brass · Aluminum · Carbon/Alloy Steel · Titanium · Inconel · Engineering Plastics