HOT FORGING / STEEL FORGINGS / CNC FINISHING

FORGED COMPONENTS

Custom forged parts for strength, fatigue resistance and high-load mechanical applications.

INTEGRATED MANUFACTURING

- Casting / Forging
- CNC Machining
- Heat Treatment
- Surface Treatment
- Inspection



REPRESENTATIVE COMPONENT Forged Stainless Steel Building Assembly Compone

TIANHUI MACHINE

Ningbo Tianhui Machinery Co., Ltd.

ISO 9001 | IATF 16949 | OEM / ODM

Made to drawing. Built around the function of the part.

TIANHUI MACHINE manufactures forged components including shafts, connectors, linkage parts, flanges, cams and other custom forgings. Forging is combined with heat treatment, straightening and CNC machining where the finished part requires controlled mechanical properties and precise interfaces.

Shafts & Linkages

Forged shafts, rods and linkage parts for repeated mechanical loading.

Connectors & Flanges

Forged connections and flanges with machined sealing, mounting or threaded interfaces.

Cams & Functional Shapes

Forged geometry used where local strength and material flow are important.

Custom Forgings

Made-to-drawing steel, stainless steel, aluminum or copper forgings for non-standard applications.

For quotation, the drawing matters more than the product name.

Material, quantity, critical datums and tolerances, heat treatment, surface finish, assembly interfaces and inspection requirements define the practical manufacturing route.

Manufacturing Routes

01

Billet & Die Planning

Billet size, die geometry and deformation are planned around the finished component and machining allowance.

02

Hot Forging & Heat Treatment

Forging and thermal processing are controlled to achieve the required material condition and mechanical properties.

03

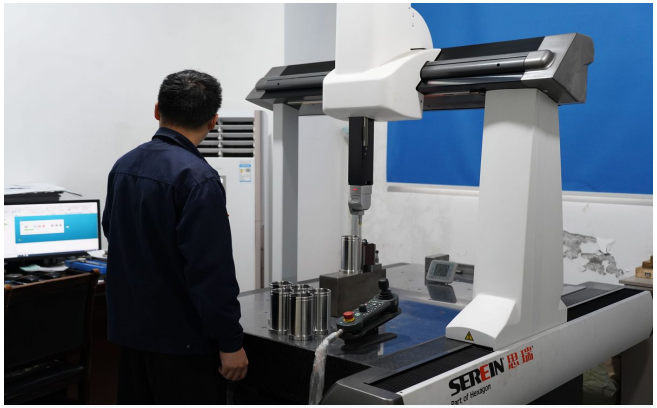
CNC Finishing

Holes, bores, threads, bearing locations and mating surfaces are machined after forging where tighter control is required.

Secondary operations can be integrated into the same project route

- Heat treatment
- Surface treatment
- Grinding / finishing
- Welding where specified
- Dimensional inspection
- NDT / pressure test by requirement

Quality Control



CMM Verification

Complex geometry, datum relationships and critical dimensions can be verified by CMM.



In-Process Measurement

Critical dimensions are checked during production, not only after the full batch is completed.



Detailed Final Inspection

Part features, finish and specified acceptance points are reviewed before release.

Inspection capability by project requirement

- Material verification
- Hardness
- Surface roughness
- Salt-spray
- Torque / dynamic balance
- NDT
- Pressure testing
- Spectrometer
- ERP traceability

Representative Forged Components

SELECTED PRODUCT EXAMPLES



Forged Stainless Steel Building Assembly Component

Stainless Steel / Forging

Representative example - made to drawing / sample



Machined Square Shaft

CNC Machining

Representative example - made to drawing / sample



Forged Carbon Steel Pipe Connector

Carbon Steel / Forging

Representative example - made to drawing / sample



Medium-to-Large Machined Forged Carbon Steel Component

Carbon Steel / Forging / CNC Machining

Representative example - made to drawing / sample



Forged Stainless Steel Eccentric Camshaft

Stainless Steel / Forging

Representative example - made to drawing / sample



Forged 42CrMo Alloy Steel Wrench Component

Alloy Steel / Forging

Representative example - made to drawing / sample

Representative products only - broader custom range available on thcastings.com

What we review before production starts

The objective is to align the manufacturing route with the functional features of the component before tooling, fixtures or batch production are committed.

Material Flow

Die design and deformation are planned so the forged shape supports the loaded regions of the part.

Fatigue Performance

High-load and repeated-load components require controlled material condition, not only external shape.

Machining Allowance

Enough stock is retained for critical surfaces while avoiding unnecessary material removal.

Heat Treatment

Hardness and strength targets are linked to material grade, section size and final application.

For forged parts, the manufacturing route is reviewed as a chain: billet -> forging -> heat treatment -> straightening -> CNC machining -> inspection.

SEND THE DRAWING.

WE REVIEW THE MANUFACTURING ROUTE.

RFQ CHECKLIST

- 2D drawing / 3D model or sample
- Material grade and applicable standard
- Order quantity / annual demand
- Critical dimensions, datums and tolerances
- Heat treatment / surface treatment
- Inspection or documentation requirements
- Application notes and mating interfaces
- Drawing revision and target delivery plan

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