

CNC Machining Parts Specification Sheet

Wire EDM, grinding, drilling and mill component manufacture to your drawing.

Five machining capabilities for parts that cannot be bought: wire EDM for hardened tooling and fine internal profiles, CNC grinding for close tolerances and surface finish after heat treatment, CNC drilling for through, blind and tapped holes, and vertical and horizontal mill component manufacture for machines the original maker no longer supports.

5 products in this category. Every figure below is published on the product pages at trueglowimaging.com/categories/cnc-machining-parts.html

Wire EDM Parts

Wire EDM · Custom to drawing

Custom wire electrical discharge machining for parts that cannot be milled or turned. A charged wire erodes the workpiece through controlled electrical discharges, so hardness does not limit the cut and there is no tool pressure to distort a thin section. Parts are made to client specification in materials including brass, copper and titanium, and the process is used for punches and dies, mould components and aerospace parts.

Specification

Process	Wire electrical discharge machining
Material Removal	Controlled electrical discharges between wire and workpiece
Power Supply	Provides the electrical energy required for the discharges
Materials	Brass, copper, titanium and other conductive metals
Typical Parts	Punches and dies, mould components, aerospace components
Build Type	Custom to client specification
Inspection	Advanced testing equipment, dedicated quality control team

Key benefits

Hardness Stops Being a Constraint. Wire EDM removes material by electrical discharge rather than by cutting force, so a hardened tool steel part can be finished after heat treatment instead of being machined soft and then distorting in the furnace.

No Cutting Force on Thin Sections. Because nothing touches the part, delicate ribs and narrow webs that would deflect under a milling cutter can be produced to size.

Made to Your Specification. Parts are produced from client drawings rather than from a catalogue, which is what makes the process useful for punches, dies and mould inserts that exist only in your tooling.

Inspection Before Despatch. Parts are checked on measurement equipment by a dedicated quality control team before release, which matters most on tooling that has to fit an existing die set.

Where it is used

Punches and dies for press tooling • Mould components for plastic injection moulding • Aerospace components for aircraft and space vehicles • Medical device parts requiring fine detail • Extrusion dies with complex profiles • Prototype parts in hardened material before a production tool is cut

Vertical Mill Parts

Vertical Mill Components · Custom to drawing

Replacement and custom components for vertical mills, produced by CNC machining with heat treatment where the part requires it. The grinding table is where the work happens and where wear is concentrated, so table, wear and drive components are the parts most often replaced. Cast iron is the usual material for structural components, and parts are made to the dimensions of the machine you actually own rather than to a generic pattern.

Specification

Part Type	Vertical mill components and wear parts
Key Component	Grinding table and associated wear parts
Material	Cast iron and specified alternatives
Processes	CNC machining, milling, heat treatment

Build Type	Custom to drawing or to sample
Minimum Order	Single parts accepted

Key benefits

Made to the Machine You Have. Mill components are rarely interchangeable between builds and vintages. Parts here are machined from your drawing or your sample, which is what makes them fit.

Heat Treatment Where Wear Demands It. Components in the wear path are heat treated rather than supplied soft, because a replacement that lasts one campaign is not a saving.

Cast Iron for Structural Parts. Cast iron damps vibration in a way welded steel does not, which is why it remains the material for mill structural components.

Quoted From a Sample if No Drawing Exists. Most obsolete mill parts have no drawing left. A worn sample is enough to start from, which removes the usual barrier to replacing them.

Where it is used

Replacing worn grinding table components • Supplying spares for mills where the original maker no longer supports the machine • Producing wear parts in batches to keep on the shelf • Upgrading a component in a harder material after repeated failures • Machining mating parts to a rebuilt assembly • Reverse engineering a part from a worn sample

Horizontal Mill Parts

Horizontal Mill Components · Custom to drawing

Custom horizontal mill parts machined to drawing, covering the components that determine whether a milling machine holds accuracy. The spindle holds and drives the cutting tools and is the component whose robustness decides what the machine can take. Parts are produced by milling and turning, in cast iron and other specified materials, with inspection built into the process rather than added at the end.

Specification

Part Type	Horizontal mill components
Spindle	Holds and drives the cutting tools
Materials	Cast iron and specified alternatives
Processes	Milling, turning, stamping, sheet metal
Build Type	Custom to drawing or sample
Quality Control	Inspection through the process, not only at the end

Key benefits

Spindle Components Made to Specification. The spindle is the part that holds and drives the cutting tools, so its construction sets what the machine can handle. It is machined to specification rather than to a general pattern.

Milling and Turning Under One Roof. Most mill components need both. Having them done in one shop avoids a re-datum between operations, which is where concentricity is usually lost.

Quality Control Built In. Inspection is part of the process rather than an afterthought, which is what allows single parts to be released without a re-check on arrival.

Broad Process Capability. Milling, turning, stamping and sheet metal work are available, so an assembly needing several processes does not have to be split across suppliers.

Where it is used

Replacing spindle components on a horizontal mill • Machining drive and feed components to drawing • Producing wear parts as a stocked spare • Reverse engineering a discontinued part • Supplying mating parts for a machine rebuild • Batch production of components for machine builders

CNC Grinding Parts

CNC Ground Components

CNC grinding applies computer numerical control to a process that was historically dependent entirely on operator skill. That change is what makes grinding accuracy repeatable across a batch instead of varying with who is on shift. Parts are produced as custom solutions to individual requirements, including intricate grinding work where both dimensional accuracy and surface

appearance matter.

Specification

Process	CNC grinding under computer numerical control
Advantage Over Manual	Repeatable accuracy independent of operator skill
Capability	Intricate and multi-feature grinding tasks
Outcome	Dimensional accuracy with clean surface appearance
Build Type	Custom to client requirement

Key benefits

Accuracy No Longer Depends on the Operator. Grinding was a manual process relying on operator skill. Computer numerical control is what turns that into a repeatable result across every part in the batch.

Intricate Work Accepted. Complex grinding tasks are handled rather than declined, which matters on form-ground profiles and on parts with several ground features.

Accuracy and Appearance Together. Ground parts are produced to be accurate and visually clean. On a visible sealing or sliding surface both matter.

Custom to the Requirement. Solutions are tailored to individual client needs rather than offered as a fixed process window.

Where it is used

Finishing hardened components to final size • Grinding sealing and bearing diameters after heat treatment • Producing flat and parallel faces to close tolerance • Form grinding profiles that cannot be milled • Finishing tooling components after machining • Improving surface finish on precision shafts

CNC Drilling Parts

CNC Drilled Components

Custom CNC drilling covering through holes, blind holes and tapped holes ready for screws or bolts. The drilling machine spindle holds and rotates the drill bit, and computer control is what makes hole position and depth repeatable. Custom projects run through consultation, CAD design and prototyping, then production with quality checks on every component, followed by delivery and after-sales support.

Specification

Process	CNC drilling
Spindle	Holds and rotates the drill bit
Through Holes	Pass completely through the workpiece
Blind Holes	Do not go all the way through the material
Tapped Holes	Internal threads, ready for screws or bolts
Project Stages	Consultation, CAD design and prototyping, production and quality control, delivery and after-sales support

Key benefits

Prototype Before Production. The design is modelled in CAD and a prototype produced so the component can be checked against expectations before any production quantity is committed.

Three Hole Types in One Operation. Through holes, blind holes and tapped holes can all be produced on the same setup, so a plate does not travel to a second shop to be tapped.

Every Component Checked. Custom components undergo quality checks against the agreed standard rather than batch sampling.

Consultation Before Quotation. Each custom project starts by understanding the requirement and the desired outcome, which is usually where a drilling specification goes wrong.

Where it is used

Aerospace components where hole position is critical • Plates and flanges requiring accurate hole patterns • Blind holes for locating pins and dowels • Tapped holes ready to receive screws or bolts • Prototype parts checked before a production release • Deep hole drilling in machined components

How To Enquire

Send the process rather than a model number: capacity or flow rate, the product being handled, the container format where relevant, and the utilities already on site. WhatsApp +86 150 5517 9418 or email sales@trueglowimaging.com.

Minimum order is one unit on the process, packaging, utility and crane ranges. Machined, fabricated and moulded parts are quoted from single pieces upward.