



GEOMETRIC

CATALOG 2025

Геометрик / CUTTING
TOOL
EXPERTS

SCHUNK



GUHRING
The Tool Company

FULLERTON
TOOL COMPANY

PUBLIC PRICE

MÉXICO



OUR VALUES

From 2012, Geometric has become a benchmark in its values:



Precision

We guarantee critical tolerances
High-end measurement equipment



Technical innovation

State-of-the-art CNC machines
Non-conventional materials
Rapid prototyping and customized solutions.



Commitment to the customer

Specialized technical consulting in Design for Manufacturing (DFM).
Urgent deliveries (from 72 hours for prototypes).

LOCATIONS

 TIJUANA

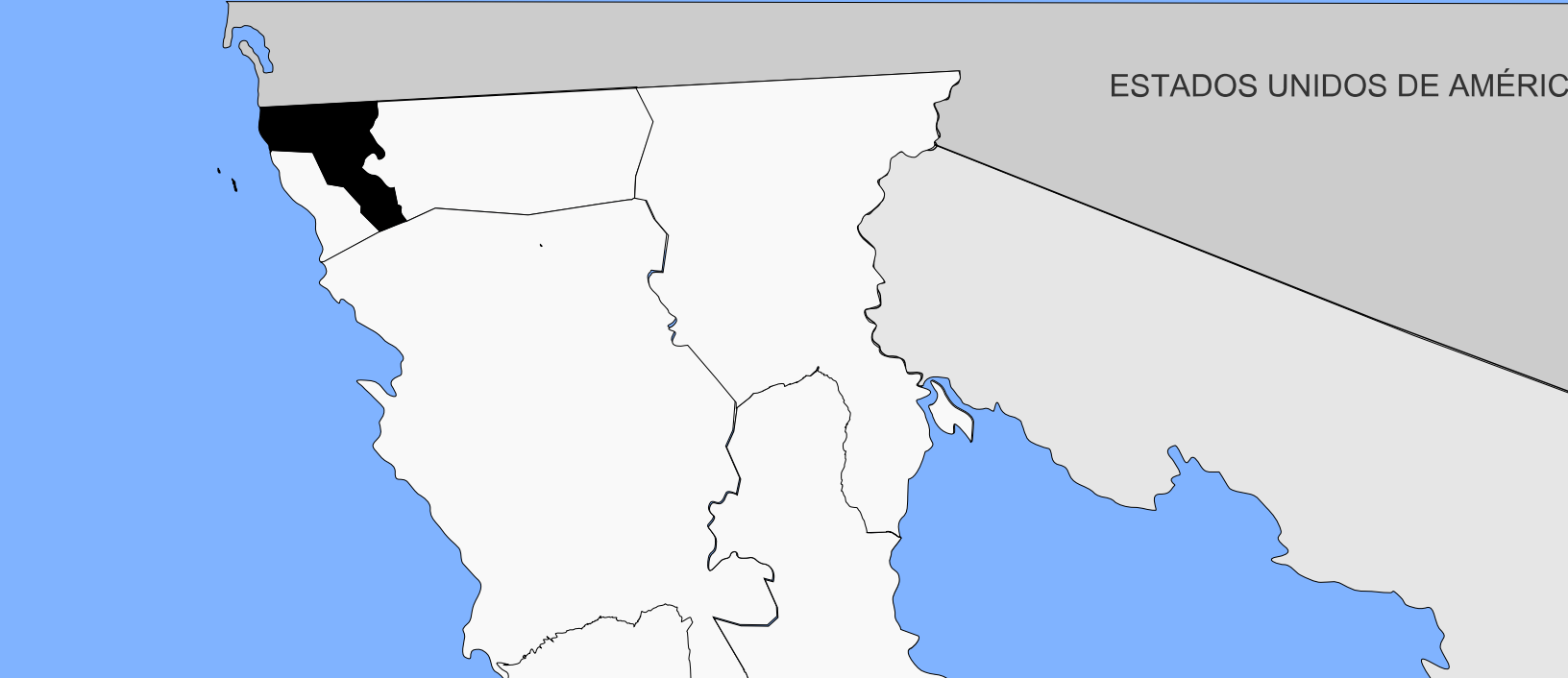


COMMITTED TO EXCELLENCE





GEOMETRIC



ESTADOS UNIDOS DE AMÉRICA

15,000 +
PRODUCTS

Нерус / CUTTING
TOOL
EXPERTS

GUHRING
The Tool Company



We are partnered with
multiple brands to cover all
your industrial needs.

We are direct suppliers of
internationally recognized
brands.

SCHUNK

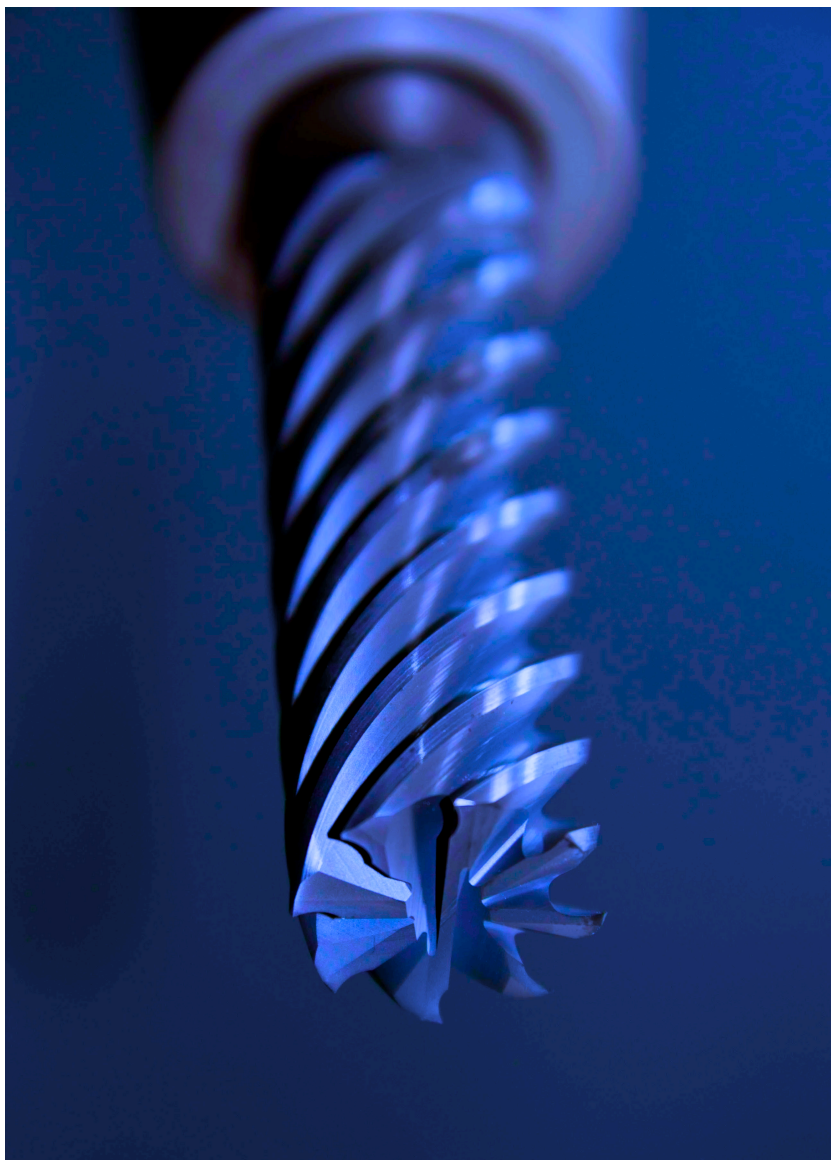


FULLERTON
TOOL COMPANY





GEOMETRI⁶



SERVICES



CNC Lathe

- Max capacity: Ø12" (diameter) x 15" (length).
- Capabilities: Cylindrical parts, threading, grooving, and complex machining.
- Applications: Shafts, bushings, connectors, automotive components.



CNC Milling Machine

- Work area: 30" (X) x 30" (Y) x 60" (Z).
- 3/4/5-axis configurations (optional), rapid prototyping, and serial production.
- Applications: Molds, structural parts, aerospace components.

NORMAL MATERIALS

ALUMINUM (AA SERIES):

- 5052-H32: High corrosion resistance (marine components, panels).
- 6061-T6: Excellent machinability (aerospace, structural frames).
- 7075-T651: Ultra-high strength (aerospace applications).
- 2024-T3: Superior fatigue resistance (aircraft, structural parts).
- 3003-H14: Highly ductile & weldable (sheet metal, tanks).
- 5083-H111: Marine-grade strength (ship hulls, offshore structures).
- 7050-T7451: Stress-resistant (defense/military components).
- 2011-T3: Free-machining leaded alloy (fasteners, screws).
- 6063-T5: Extrusion-grade (architectural framing, windows).
- 7075-T7351: Stress-relieved temper (mission-critical parts).

STEELS & ALLOYS:

- 1045: Medium carbon steel (shafts, gears).
- 4140: Chromium-molybdenum alloy steel (automotive components).
- 4340: Ultra-high strength steel (heavy machinery).
- A36: Structural steel (frames, supports).
- 8620: Case-hardening steel (gears, bearings).
- D2: High-carbon, high-chromium tool steel (molds, dies).
- O1: Oil-hardening tool steel (cutting tools).
- A2: Air-hardening tool steel (punches, dies).

STAINLESS STEELS (SS):

- 304: General-purpose corrosion resistance (food processing, chemical).
- 316: Superior chloride resistance (marine, medical).
- 17-4 PH: Precipitation-hardening (aerospace, high-strength applications).
- 15-5 PH: High toughness (mission-critical components).
- 410: Martensitic (valves, cutlery).
- 416: Enhanced machinability (automotive fasteners).

MATERIALES COMUNES

TITANIUM & EXOTIC ALLOYS:

- Ti-Gr2: Commercially pure titanium (chemical processing).
- Ti-Gr5 (Ti-6Al-4V): High-strength aerospace/medical grade.
- Inconel 718: Nickel-chromium superalloy (turbine blades).
- Inconel 625: Extreme thermal/oxidation resistance (power gen).
- Monel 400: Seawater corrosion immunity (oil/gas).
- Hastelloy C276: Acid-proof (chemical reactors).
- C36000: Free-machining brass (valve bodies).
- C11000: Electrolytic copper (electrical components).

PLASTICS & COMPOSITES:

- PEEK: High-performance thermoplastic (medical implants, aerospace).
- Ultem 1000 (PEI): High-temperature resistant (electrical insulators).
- Delrin (POM): Low-friction (gears, bearings).
- Nylon 66: Wear-resistant (bushings, rollers).
- PTFE: Non-stick (seals, gaskets).
- Carbon Fiber: Ultra-lightweight (automotive, drones).
- G10: Fiberglass/epoxy (electrical insulation).
- Phenolic: Thermoset (tooling, handles).

MATERIALES NO COMUNES

EXOTIC METALS & ALLOYS

High-Performance Materials for Extreme Environments

Superalloys & Nickel-Based Alloys

- Haynes 282 – Nickel superalloy for turbine components ($>1600^{\circ}\text{C}$ / 2912°F)
- Inconel 617 – Thermal resistance for power plants & aerospace
- Incoloy 825 – Sulfuric & saline acid resistance (chemical processing)
- Hastelloy X – Combustion chamber lining (oxidizing environments)

Cobalt & Specialty Alloys

- Stellite 6 – Cobalt-chromium for extreme wear (valves, cutting tools)
- Nitinol (Ni-Ti) – Shape memory alloy (medical stents, aerospace actuators)

Refractory & High-Temperature Metals

- Tungsten (W) – Ultra-dense for radiation shielding & counterweights
- Molybdenum TZM – High-temp molds & rocket nozzles
- Rhenium (Re) – Rocket engine components (one of the densest metals)

Corrosion-Resistant & Nuclear-Grade Metals

- Zirconium 702 – Nuclear reactor cladding (aggressive chemical resistance)
- Tantalum (Ta) – Extreme corrosion immunity (medical implants, capacitors)

Conductive & Electrical Alloys

- Copper-Beryllium (CuBe2) – Spark-resistant tools (conductive & wear-resistant)
- Kovar (Fe-Ni-Co) – Matched thermal expansion to glass (hermetic seals)
- Silver-Cadmium Oxide (Ag-CdO) – High-arc-resistance electrical contacts

Lightweight & High-Strength

- Beryllium (Be) – Aerospace-grade stiffness (toxic – requires safe handling)

MATERIALES NO COMUNES

ADVANCED PLASTICS & COMPOSITES

High-Performance Polymers

- Vespel (SP-1) – Polyimide-based for vacuum bearings & extreme heat (no lubrication needed)
- Torlon (PAI) – Structural thermoplastic for 250°C+ environments
- Radel (PPSU) – Autoclavable medical/chemical polymer (transparent, hydrolysis-resistant)
- Kynar (PVDF) – UV/chemical-resistant (piping, corrosive fluid linings)
- PCTFE (Kel-F) – Cryogenic & hydrofluoric acid-compatible
- PBI (Polybenzimidazole) – Fireproof suits & aerospace components (thermoset, 400°C+)

Technical Ceramics

- Silicon Carbide (SiC) – Semiconductor & abrasive components (high thermal conductivity)
- Alumina (Al₂O₃) – Electrical insulation (seals, labware, electronic substrates)

CERAMICS & COMPOSITE MATERIALS

Advanced Technical Ceramics

- Aluminum Nitride (AlN) – Thermally conductive ceramic for power electronics (heat sinks, substrates)
- Yttria-Stabilized Zirconia (YSZ) – Oxygen sensors & thermal barrier coatings (turbine blades)

High-Temperature Composites

- Fused Quartz Fiber – Thermal insulation for spacecraft & laser systems (low thermal expansion)
- Isostatic Graphite – High-purity casting molds & semiconductor processing components

SPECIALTY NICHE MATERIALS

Precision Alloys

- Super Invar (Fe-Ni-Co) – Near-zero thermal expansion alloy (precision optics, aerospace metrology)
- Nickel 200 (99.6% Ni) – Pure nickel for chemical reactors & cryogenic applications

Industrial Alloys

- Ferrotitanium (Fe-Ti) – Steel deoxidizer & magnet production (titanium additive)

TOLERANCES

ALUMINUM AND COMPOSITES

Tolerances: ± 0.0002 "

- 5052-H32
- 6061-T6
- 7075-T651
- 2024-T3
- 3003-H14
- 5083-H111
- 7050-T7451
- 2011-T3
- 6063-T5
- 7075-T7351

STAINLESS STEEL (SS)

Tolerances: ± 0.00025 "

- 304
- 316
- 17-4 PH
- 15-5 PH
- 410
- 416
- 430
- 440C
- 303
- 304L

CARBON AND ALLOY STEELS

Tolerances: ± 0.0003 "

- 1045
- 4140
- 4340
- A36
- 8620
- D2 (Acero herramienta)
- O1 (Acero templado)
- A2 (Acero herramienta al aire)
- 1018
- 4130

EXOTICS STEELS

Tolerances: ± 0.0004 "

- Inconel 718
- Inconel 625
- Monel 400
- Hastelloy C276
- Hastelloy X
- Nitinol (Ni-Ti)
- Kovar (Fe-Ni-Co)
- Zirconio 702
- Tántalo (Ta)
- Renio (Re)

COPPER AND ALLOYS

Tolerances: ± 0.00025 "

- C36000 (Latón)
- C11000 (Cobre electrolítico)
- C46400 (Latón naval)
- C63000 (Bronce de aluminio)
- C95400 (Bronce de aluminio)

TITANIUM AND ALLOYS

Tolerances: ± 0.00035 "

- Ti-Gr2 (Titanio comercial puro)
- Ti-Gr5 (Ti-6Al-4V)
- Ti-6Al-4V ELI (Grado médico)
- Ti-3Al-2.5V (Tubos hidráulicos)
- Ti-6242 (Aeroespacial)

TOLERANCES

ENGINEERING PLASTICS

Typical Tolerance: ± 0.0005 "

- PEEK (Polyetheretherketone)
- Ultem 1000 (PEI - Polyetherimide)
- Delrin (POM - Acetal Homopolymer)
- Nylon 66 (PA66)
- PTFE (Polytetrafluoroethylene)
- Vespel SP-1 (High-Performance Polyimide)
- Torlon (PAI - Polyamide-imide)
- Radel (PPSU - Polyphenylsulfone)
- Kynar (PVDF - Polyvinylidene Fluoride)
- PCTFE (Kel-F - Polychlorotrifluoroethylene)
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COMPOSITES & CERAMICS

Typical Tolerance: ± 0.003 "

- Carbon Fiber
- G10 (Fiberglass-Epoxy Composite)
- Alumina (Al_2O_3 - Aluminum Oxide)
- Silicon Carbide (SiC)
- Isostatic Graphite
- Phenolic (Thermoset Polymer)
- Fused Quartz Fiber
- Aluminum Nitride (AlN)
- Yttria-Stabilized Zirconia (YSZ)
- Polycarbonate (PC)

INDUSTRIAL SECTORS

AERONAUTICAL & AEROSPACE

Key Components & Materials:

- Turbine Components: Blades, turbine disks (*Inconel 718, Ti-6Al-4V*)
- Aircraft Structures: Frames, supports (*Aluminum 7075-T6*)
- Hydraulic Systems: Valves, cylinders (*Stainless Steel 17-4 PH*)

For Certifications:

- AS9100 (Aerospace Quality Management)
- NADCAP (Special Process Accreditation)

AUTOMOTIVE & TRANSPORTATION

Critical Components & Materials:

- Engine Parts: Pistons, crankshafts (Alloy Steel 4140)
- Transmission Systems: Gears, shafts (Alloy Steel 4340)
- Electric Vehicles: Battery housings (*Aluminum 6061-T6*)

For Certifications:

- IATF 16949 (Automotive Quality Management Standard)

MEDICAL INDUSTRY

Critical Components & Materials:

- Surgical Instruments: Scalpels, forceps (Stainless Steel 316L)
- Implants: Hip prostheses (*Titanium Grade 5 / Ti-6Al-4V*)
- Diagnostic Equipment: MRI components (PEEK Polymer)

For Certifications:

- ISO 13485 (Medical Devices Quality Management)
- FDA Compliance (21 CFR Part 820)

ENERGY & UTILITIES

Wind power: Main gears (Steel 4340)

Nuclear: Containment valves (Zirconium 702)

Oil & gas: Subsea pipelines (Incoloy 825)

DEFENSE & MILITARY

- Firearms: Rifle barrels (Steel 4140)
- Armored vehicles: Turret components
- Guidance systems: Missile parts
- For Certifications: ITAR

INDUSTRIAL SECTORS

ELECTRONICS & TELECOMMUNICATIONS

- Electrical connectors (Beryllium Copper)
 - Heat sinks (Silicon Carbide)
 - Server housings (Magnesium)
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HEAVY INDUSTRY

- Injection molds (Steel D2)
 - Rolling mill rolls (Coated steel)
 - Gear reducers (Steel 8620)
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CONSUMER GOODS

- Sports components (Carbon fiber)
 - Fine watchmaking (Polished titanium)
 - Appliances (Delrin, Nylon)
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MARINE INDUSTRY

- Propellers and underwater components (Naval bronze)
 - Sonar systems (Titanium)
 - Certifications: ASTM F1387
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FOOD & PHARMACEUTICAL

- Sanitary valves (Mirror stainless steel)
- Industrial mixers (PTFE)
- Certifications: EHEDG

INDUSTRIAL SECTORS

ROBOTICS & AUTOMATION

- Precision actuators
 - Linear guides (Ceramic)
 - Robotic structures (Anodized aluminum)
-

RESEARCH & DEVELOPMENT

- Nuclear fusion components (Tungsten)
 - Scientific instrumentation (Super Invar)
 - Cryogenics (Pure copper)
-

COMPLEMENTARY TECHNOLOGIES

- Hybrid machining (additive + CNC)
- Cryogenic machining for brittle materials
- Automated inspection systems