



KAF

MANUFACTURING COMPANY, INC.

Your partner in precision since 1970



Introduction

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KAF utilizes advanced technologies to provide innovative and cost-effective quality solutions for our clients in the bio-medical, medical, scientific, analytical, aerospace, machine tool, semiconductor, microwave, military and commercial sectors.



Areas of Expertise

- Single Point Diamond Turning - Manufacturing Metal and Polymer Optics
- Diamond Turning of Crystals
- CNC Turning
- 5-Axis CNC Milling
- Electric Discharge Machining - Using Wire, Sinker and Small Hole EDMs
- Surface Grinding - Free Abrasive Lapping, Double Side Grinding, Diamond Lapping
- Laser Marking
- Precision Assemblies



At KAF Manufacturing, we cover all aspects of Electric Discharge Machining

Sodick CNC Linear Wire EDM Machines - Capacity to cut 12" thick under the water and hold tolerances not achievable by many other processes

Sinker EDMs- Computerized, numerically controlled and equipped with automatic electrode changers

Electrode Holding Equipment, such as System 3R mounted on Indexers, Lathes, Millers and Grinders - Produce very precise electrodes directly on the EDM tooling adaptors

Sodick CNC High Speed Small-Hole Driller - For small holes at high-speed in many metals including difficult-to-machine materials such as carbide and heat-treated work pieces

Diamond Turning

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Single-Point Diamond Turning Machines - Generate complex higher-order shapes including aspheric and spherical surfaces, ellipsoids, hyperboloids and paraboloids

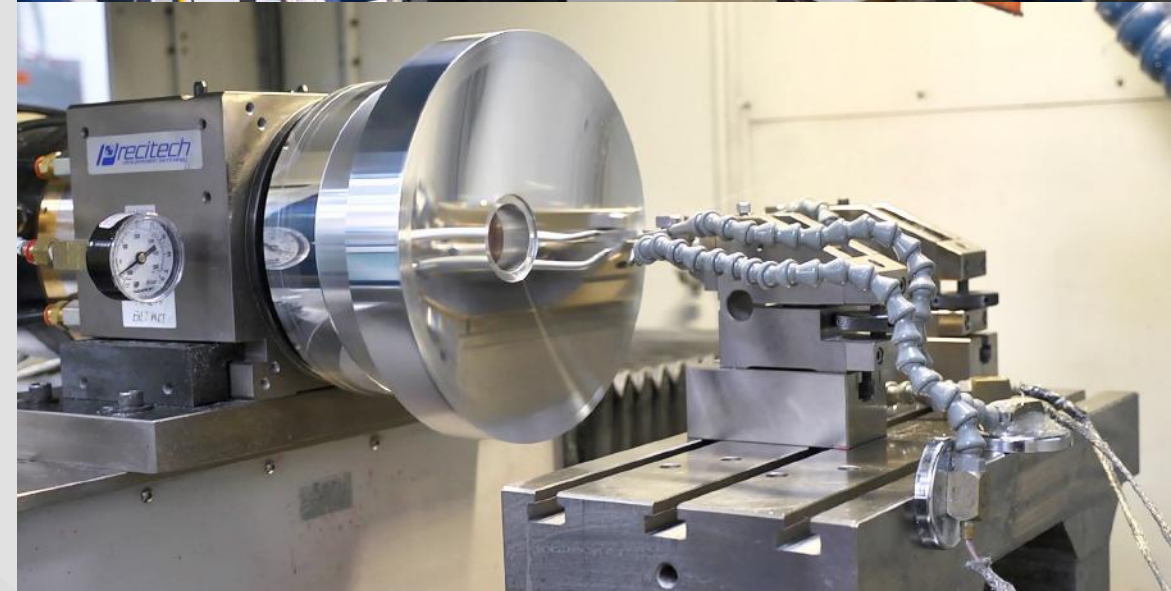
Ultra-precise Diamond Turning Machines - Produce highly-reflective surfaces on aluminum, copper, brass, electro-less nickel and plastic work pieces

Reflective surfaces - Machined in crystal materials such as germanium, zinc sulfide, zinc selenide and silicon

Modern Precitech Machines - Nanoform 250, Nanoform 700 and Planoform 650

Precitech Slow Tool Servo - Rapid manufacture of large aperture diamond turned components

Metrology in Optical Inspection Department - Zygo Interferometric GPI, Zygo ZeGage Plus, Optical 3D Profiler and Taylor Hobson Form Talysurf PGI Optics assuring commitment to strict conformance to customer specifications



Laser Marking

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NdYag laser systems can mark flat and curved surfaces, as well as rotary marking.

Part marking

Serialization

Date coding

Bar coding of part numbers

Logos

Patent numbers



CNC Machining

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KAF Manufacturing's Turning and Milling Departments are truly unique.

Onboard Programming Supplemented by “Esprit” - Powerful offline CAD / CAM system and product of DP Technology

Milling Centers typically incorporate Work-Holding Fixtures - For multiple work pieces to maximize the use of a tool once it's in the spindle and to reduce cycle time

High Speed, Continuous 5-Axis CNC Milling - Spindle speeds as high as 48,000 RPM and the ability to drill holes as small as .002” in diameter

3-Axis Milling Centers - All with 4th axis capability

Programmable Parts Catchers Coupled with Bar Feeders - For unattended operation when the process permits
Bar feed and chucking diameters as small as 1 mm
Bar feed or bar pull as large as 3.00" diameter
Chucking capacity of 15" diameter and a swing capacity of 21" diameter

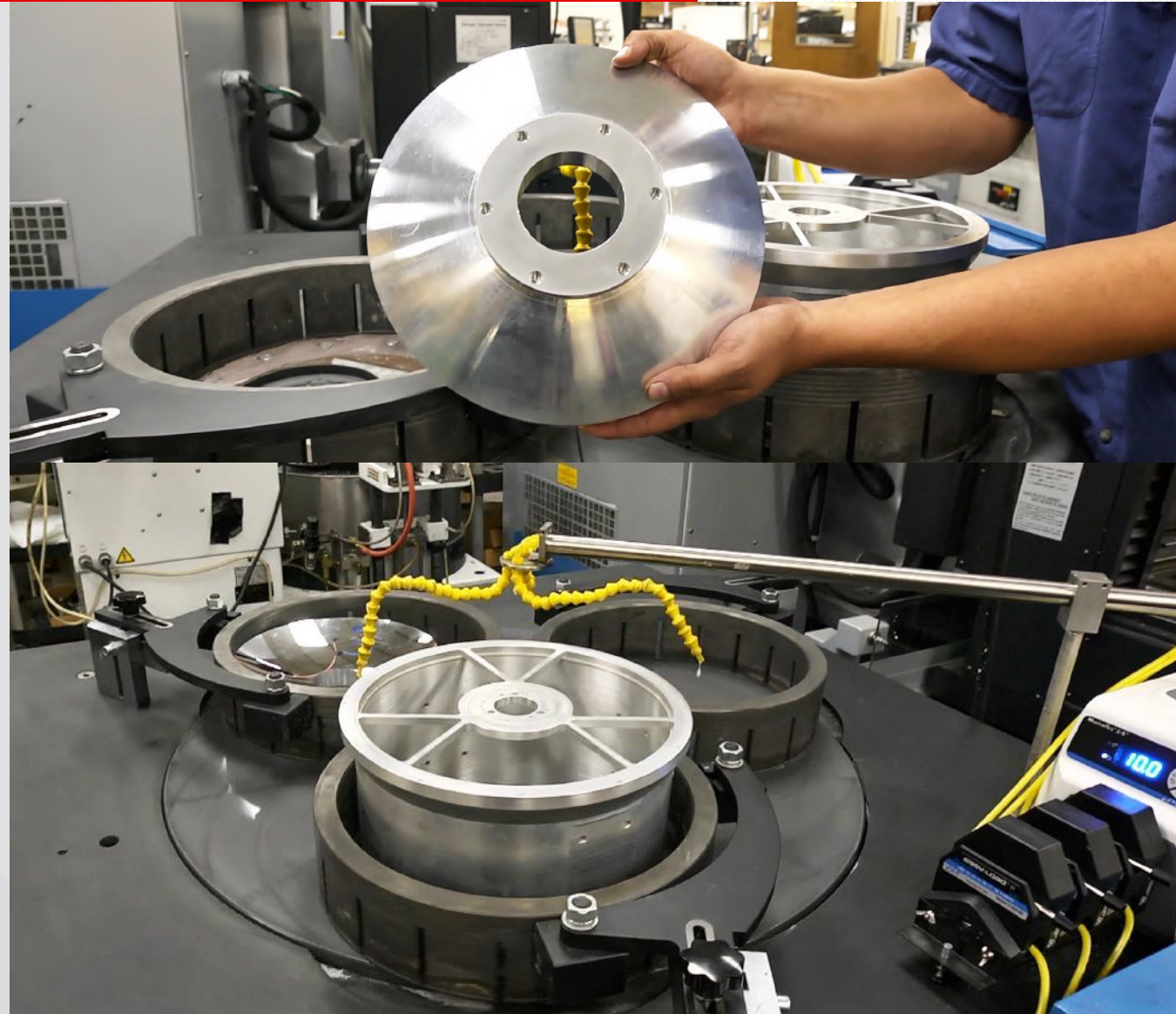
Surface Grinding

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KAF is a leader in the field of antifriction bearing rework.

Free Abrasive Flat Lapping - Using both conventional and diamond abrasive

Double Side Planetary Lapping - With size control automated by computer-monitored position probing / Inspection system necessary to measure the flatness and parallelism achieved



Facilities - Overview

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At KAF Manufacturing in Stamford, CT, we utilize an outstanding collection of the very latest in CNC machine tools, inspection equipment and accessories located at our facility within the various departments.



We are very proud of the equipment we use and the highly skilled professionals that program and run them. You are invited to visit our facility and see our entire operation in action.

Facilities - Departments



Inspection Department

We provide a complete Inspection and Quality System in compliance with ISO Standard, 9002, *registered originally on January 13, 1999*, now maintained as a system compliant to Standard 9002. Every part undergoes a thorough inspection plan, with inspection performed either on the shop floor or in our inspection department

- Hexagon Metrology Global Advantage / CNC Coordinate Measuring Machine
- Taylor Hobson Form Talysurf PGI Optics, Form and Surface Measurement
- Scioscope XT Video CMM
- Zygo GPI-XP Interferometric System, MetroPro Data Analysis
- Zygo ZeGage Plus, Interferometric 3D Profiler

Diamond Turning Department

- **Six machines all built by Precitech / Ametek**
A mix of high speed spindle, extended swing - up to 28" dia. without risers & Slow Tool Servo / In-process gaging
 - Precitech Planoform 650
 - Precitech Nanoform 700 Ultra
 - Precitech Nanoform 250 Ultra - 4 Machines
- Machines isolated from external sources of vibration
- Extensive supply of natural diamond cutting tools, both controlled radius tools and non-controlled radius tools

Milling Department

- Datron C5, CNC High Speed Milling Machine, 5-Axis, 48,000 rpm
- Mazak Variaxis j-500/5X CNC Milling Center 5-Axis - **3 Machines**
- Mazak Nexus 510 C-II
- Mazak Vertical Machining Center, Smart 430A - **2 Machines**
- Haas UMC 750, 5-Axis Mill
- Haas Vertical Mill, VF2-2YS
- Haas Vertical Mill Super VF2
- Hurco VM10 full 4th Axis Vertical Milling Center - **2 Machines**
- Southwest Industries 3-Axis Trak Mill DMP3

Facilities - Departments

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Turning Department

- Mazak SMART 100S Turning Center - 3 Machines
- Mazak Nexus 100 Turning Center
- Mazak Nexus 200 Turning Center
- Mazak QT SMART 200 Turning Center
- Mazak SMART250 Turning Center- 2 Machines
- Hardinge Model HC Chucker
- Hardinge Super Precision Lathe HLV
- Hardinge Speed Lathe

EDM Department

- Sodick Wire EDM Model AG600L, 4-Axis
- Sodick Wire EDM Model AG400L, 4-Axis
- Sodick AM3L CNC Sinker Type EDM 4 tool Shuttle System with Rotating and Indexing Spindle
- Sodick CNC , High -Speed EDM Hole Drilling Machine, K1CN
- Sodick AQ55L CNC Sinker Type EDM, 32 Tool, Auto Tool Changer / C Axis

Grinding Department

- Hairig 6"X12" Automatic Surface Grinder, Digital Readout, 2 Axis
- Misui-High Tech, Surface Grinder, 10"x20" / Sony DRO
- Lapmaster 36" Free Abrasive Grinding / Lapping Machine
- Lapmaster 24" Free Abrasive Grinding / Lapping Machine
- Lapmaster 20" Diamond Grinding / Lapping Machine
- PR Hoffman PR1 Double Side Lapping Machine
- Okamoto Surface Grinding Machine, 6"x12"

Facilities - Departments

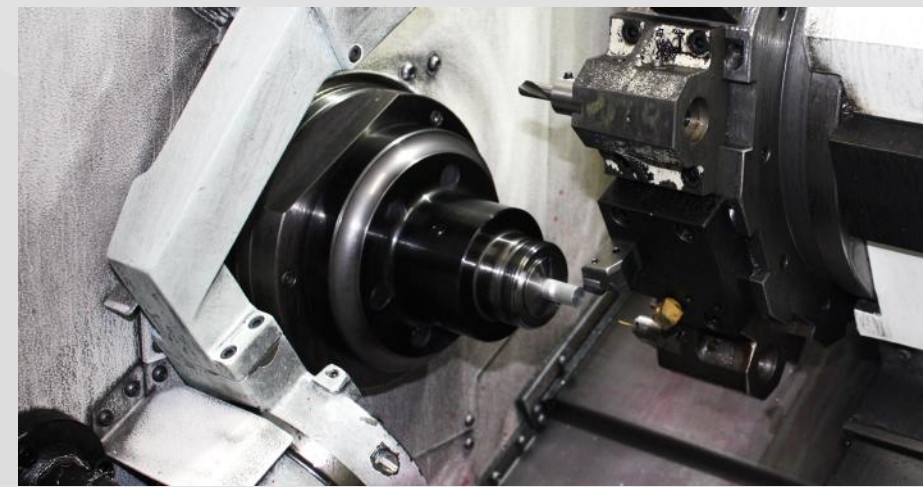
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General Shop

- Stratasys uPrint SE plus, 3D Printer
- Control Laser Nd:YAG Laser Marking System
- Lasonall Diode Pumped Nd:YAG Laser Marking with Rotary Indexer
- Cincinnati Sub Zero Environmental Chamber
- Amada Automatic Saw
- Grob Vertical Saw - **2 Machines**
- Kysor Johnson Model J, Saw
- Sunnen Hone, Auto Stroke
- Branson Aqueous Ultrasonic Wash and DI Rinse
- Brierley Drill Point Grinder
- Haas 5C Indexer (4th axis) / 5 Indexers
- Haas HRT210-CNC Rotary Table (4th axis)
- Empire Pressure Blast Finishing Machine
- Lepel High Frequency Induction Heating Unit, 2.5 KW
- Time Saver 1100
- Ingersoll-Rand Air Compressor/ Vari - Speed Drive, 40 HP. 2 Compressors with Ingersoll-Rand Refrigerated Air Dryers
- Roto-Finish Vibratory Finishing Machines - **2 Machines**
- Toyota Lift Truck 4500 lb. Capacity

Office

- Epicor 10, ERP System
- SolidWorks 2018
- Esprit 2018 CAM; Milling, Advanced 3D Milling, Turning, and EDM - Complex Wire





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