



# MACHINING CAPABILITIES

2023 EDITION



# WHERE PRECISION MEETS EXCELLENCE

Located in the heart of the Midwest, Precision Plus, an industry leading manufacturer of precision machined parts and components, continuously invests in state-of-the-art equipment and engaged, passionate, and talented manufacturing professionals.

By equipping our production, engineering, quality, and business development teams with the latest tools and technology, we empower them to drive innovative processes. These processes ensure consistent delivery of the highest quality precision machined parts to meet our clients' most challenging needs.

With today's unprecedented supply chain challenges, Precision Plus can provide industry-critical solutions to our current and future clients, like you!

If your company has a problem that needs solving, let's start a conversation and see how our team-driven solutions can best support your organization.

**VISIT US AT [PREPLUS.COM/RFQ](https://preplus.com/rfq)**

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**PRECISION<sub>L</sub><sup>+</sup>**

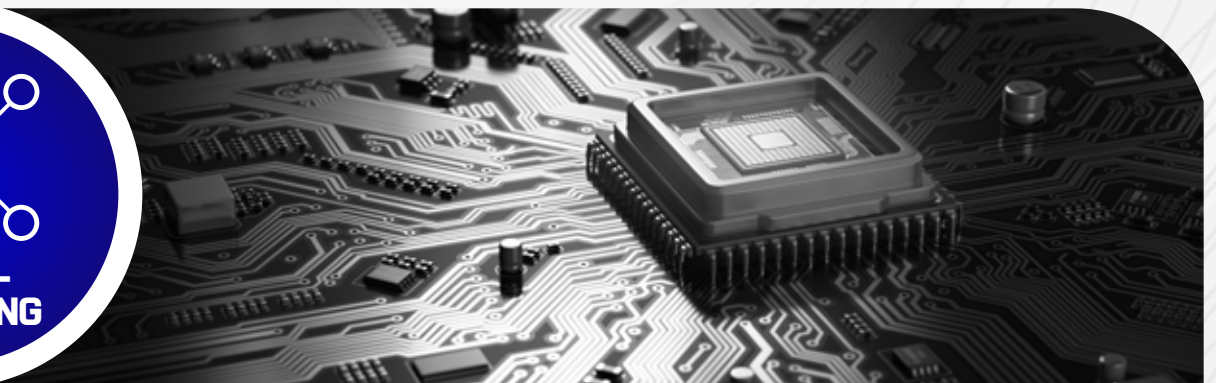
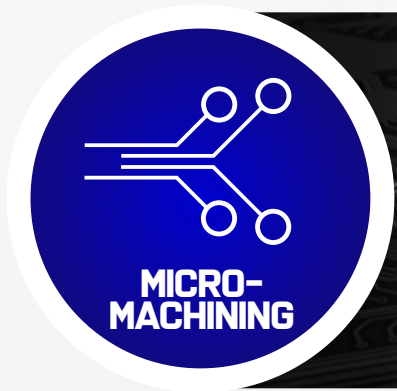
# INDUSTRIES SERVED

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# INDUSTRIES SERVED

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# MATERIALS

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## STAINLESS STEELS

303 | 304 | 316  
416 | 420  
17-4

## STEELS

4140 | 4340  
12L14

## ALUMINIUM

2011 | 2024  
6061 | 7075

# SWISS CNC



## STAR SW-20

**3 Machines** • A maximum stock diameter of 20mm (0.787") with a 3-path controller, live cross/end/back-working tools and split tooling slides allows for the most efficient machining of very complex and demanding medical/dental/industrial applications where speed, accuracy and capability are required.

## STAR SW-12RJII

**4 Machines** • A maximum stock diameter of 12mm (0.473") with a 3-path controller, live cross/end/back-working tools and split tooling slides allows for the most efficient machining of very complex and demanding medical, dental, and industrial applications - where speed, accuracy and capability are required.



## STAR SR-10J

**4 Machines** • A maximum stock diameter of 10mm (0.394") with live cross/back-working tools, especially well-suited for very high volume, extremely tight tolerance, moderate complexity parts for many industries.

## TSUGAMI SS327 - 5AX

**2 Machines** • A maximum stock diameter of 32mm (1.260") and a B-axis pendant allows us to perform full 5-axis machining within a Swiss machine. Coupled with a vast array of live tools, sub-spindle for pick off and simultaneous machining with 2,000 PSI high-pressure coolant pump makes this platform ideal for the most complex and demanding medical, dental, and industrial applications.



# SWISS CNC



## TSUGAMI SS20/26

**5 Machines** • A maximum stock diameter of 20/26mm (0.787"/1.011") and many live tools, sub-spindle for pick off and simultaneous machining with 2,000 PSI high-pressure coolant pump, makes this platform ideal for very complex and demanding medical, dental, and industrial applications.

## TSUGAMI S205

**8 Machines** • A maximum stock diameter of 20mm (0.787") with live cross/end/back-working tools for moderate complexity medical/dental/industrial applications.



## TSUGAMI BE12-V

**4 Machines** • A maximum stock diameter of 12mm (0.500") with live cross tools makes this platform especially well-suited for very high volume, extremely tight tolerance, moderate complexity parts for many industries.

## TSUGAMI B0205-III

**3 Machines** • A maximum stock diameter of 20mm (.787in) with live cross tools allows this platform to perform highly complex front and back simultaneous machining, including off-center drilling and off-center tapping. The B0205-III features state-of-the-art Fanuc control for low idle times and high-speed performance.



# SWISS CNC LATHES



## CITIZEN M532 VIII

**2 Machines** • Equipped with a 2000 psi coolant system, LFV technology, and an electronic servo ejection gripper arm, this lathe can precision machine highly complex parts with diameters up to 32mm (1.260in) in both guide bushing or chucker mode configurations.

## MIYANO ABX-64TH3

**2 Machines** • With twin-spindles, triple-turrets and live tooling options on all 12 stations of each turret, these lathes will accept 64mm (2.5") maximum stock diameter and are best suited for very complex work for a variety of industries.

## MIYANO ABX-51TH3

**2 Machines** • With twin-spindles, triple-turrets and live tooling options on all 12 stations of each turret, these lathes will accept 51mm (2.0") maximum stock diameter and are best suited for very complex work for a variety of industries.



## MIYANO ABX-51SY

**2 Machines** • With twin-spindles, twin-turrets and live tooling options on all 12 stations of each turret, these lathes will accept 51mm (2.0") maximum stock diameter and are best suited for very complex work for a variety of industries.

## MIYANO BNX-51MSY

**3 Machines** • With twin-spindle, single-turret and live tooling options on all 12 stations, these lathes will accept 51mm (2.0") maximum stock diameter and are best suited for moderate complexity work for a variety of industries.



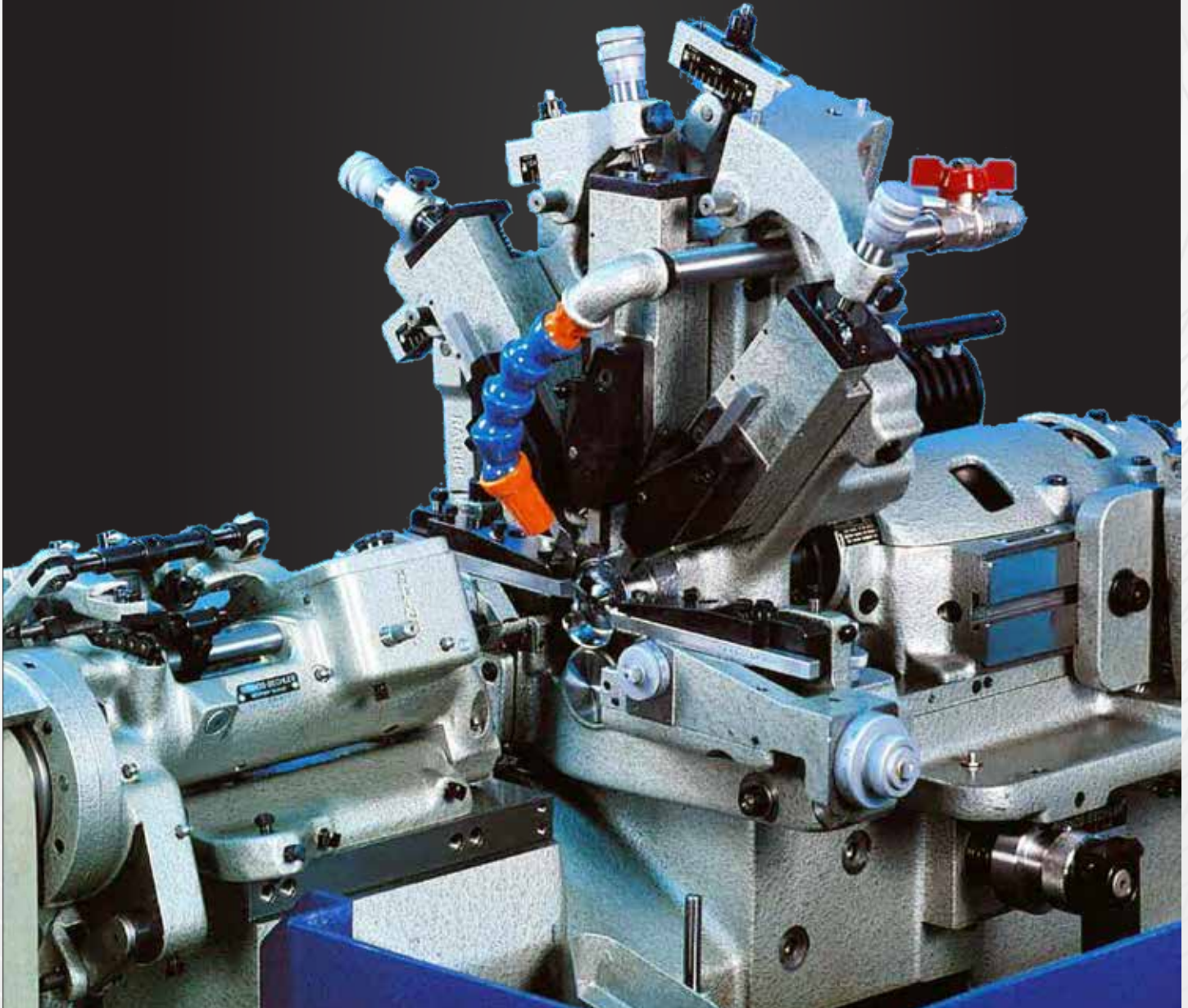


# SWISS CAM

## TORNOS PLATFORM

**60+ Machines** • Tornos mechanically actuated Swiss screw machines include models, M-4, M-7, R-10 & R-125 with maximum stock diameters from 4mm to 12.5mm (0.156" to 0.500") and typical lengths from 1.5" to 6". These Swiss-made automatic lathes were developed to mass produce the tiny watch screws and winding stems for the very demanding Swiss watch industry. It is mind-blowing to think that this is still the preferred equipment for making these parts to this day and is a testament to the quality of both the engineering design and manufacturing processes.

Coupled with attachments for drilling/threading, single point threading, polygon turning, cross drilling, pick-off and back milling and drilling, we run production lots from 5,000 pieces to several million on the most economical Swiss-style machines around. While these are mechanically actuated machines, they are still very capable of holding diameters of +/- 0.0002" on and +/- 0.0005" on lengths when needed. Ideal for very small, high-volume, close tolerance parts for ordnance and defense parts, electrical connector pins and many other industrial components.



# SUPPORT EQUIPMENT

## HARDINGE GT27 LATHE

Hardinge is renowned for their Super Precision gang-style lathe with 1-1/16" maximum material diameter and a 5C colletting system. With 0.00001" offset capability and rigid construction, this lathe is ideal for the most critical turning applications including hard turning of Medical, Aerospace and hydraulic valves where finish and size need to be perfect.



## BROTHER R650X1

**2 Vertical Mills** • The R650X1 is equipped with the 31.5" x 15.7" "QT table", Brother's original high-speed 2-face pallet changer and Nikon 4th axis tables for much improved productivity. This machine has maximum movement in X/Y/Z axis of 25.6"/15.7"/12.0" and expands our machining capability into new and exciting areas.

## MECCO LASER MARKING SYSTEM

The MECCO Laser Mark System uses a permanent process that, with the use of a beam of concentrated light, creates a lasting mark on a surface. Typically performed with a fiber, pulsed, continuous wave, green, or UV laser machine, laser marking encompasses a wide variety of applications.

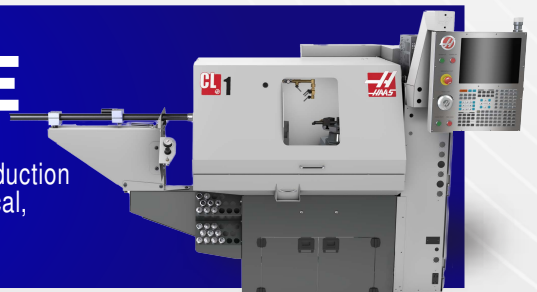


## TYKMA MINILASE XL

Minilase™ XL provides an open interior for larger components in a benchtop solution. In addition, Minilase™ XL is equipped with ergonomic features such as the three-side pneumatic vertical door with patented safety system, power focal height adjustment, and auto-mode for high volume applications.

## HAAS CL-1 CHUCKER LATHE

**2 Chucker Lathes** • The innovative Haas CL-1 is an ultra-compact CNC chucker lathe that comes standard with an 8-station automatic turret. It is perfect for high-volume production of small, precision parts, such as those found in the communications, aerospace, medical, and dental industries.



# FINISHING & WASHING

## ROLL JCOM SSI

This highly engineered parts washer from Roll JCOM is manufactured in Germany. It runs a modified alcohol solution with basket rotation, vapor degreasing, ultra-sonics and vacuum drying to remove any residual cutting oils or debris from the parts.



## DÜRR ECOCLEAN MINIO 85C

Like the Roll JCOM parts cleaner, the Dürr machine is also built in Germany for the most demanding machining clients. Running a modified alcohol solution with basket rotation, vapor degreasing, ultra-sonics and vacuum drying to remove any residual cutting oils or debris from the parts. This also provides redundancy in our parts washing platform which ensures seamless parts cleaning capability.

## JAYCO PASSIVATION SYSTEM

Precision Plus provides Citric Acid Passivation, a fully automated system that provides high-performance corrosion prevention and surface decontamination. This finishing practice allows us to reduce lead times, control product quality, and control costs. Please let us know how we can help you with our additional service offerings!



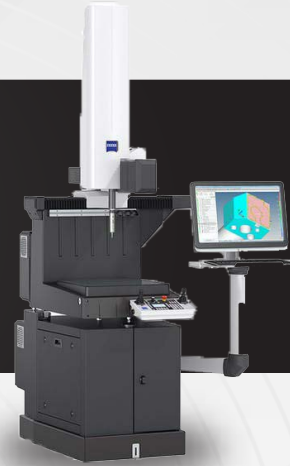
## UNITED FINISHING MACHINE

United's CPC1500 is the most robust finishing machines for small and medium size parts - deburring, polishing, and descaling to specification. Many industries prefer centrifugal barrel finishing over vibratory machines due to controlled, precise material removal.

# QUALITY ASSURANCE

## ZEISS DURAMAX CMM

**3 Machines** • Utilizing Zeiss Duramax CMM's, we assure measurement conformance within .00001 on parts with complicated geometries. Running Calypso Software and with the VAST XXT Scanning Sensor Technology, the Zeiss Duramax can even be used to capture contours and free-form surfaces. Designed and built for shop floor use, the Zeiss Duramax provides unmatched quality in our daily part inspection.



## KEYENCE IM 8000-SERIES

A high-precision, optical gauge that allows operators to achieve dimensional measurement results to  $\pm 0.1\mu\text{m}$ . Utilizing automatic focus, epi-illumination, and high precision optics, at the push of a button you can repeatably measure all 2D features, including height. The IM-8000 is equipped with a specifically designed optical lens with a large depth of field that can automatically bring measurement points into focus.



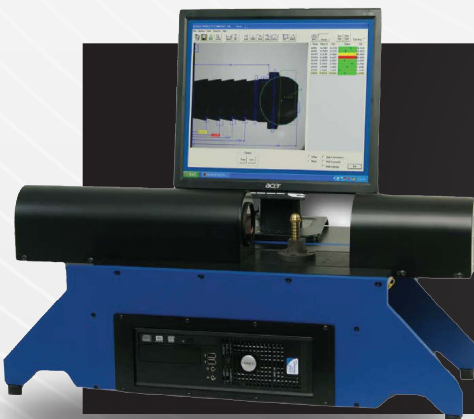
## Z-MIKE 4050G LASER MICROMETER

The Z-Mike non-contact laser micrometer provides the capability to evaluate parts to within millionths of an inch. Fast, accurate, and repeatable, the unit can measure diameters from .01" to 2.000" to assure quality conformance.



## OASIS INSPECTION SYSTEM

**4 Machines** • The Oasis is a premier optical profile inspection system that combines measurement accuracy, within  $\pm .0001"$ , with instantaneous results. With the easy-to-use operator interface, inspection frequency is easily increased. The Oasis allows users to measure multiple part features simultaneously with the results showing in an easy-to-read drawing dimensioning format, that in turn provide our customers with the ultimate in product quality assurance.



# QUALITY ASSURANCE

## HIGH QA INSPECTION MANAGER

High QA is a fully integrated quality management software that allows our Quality Assurance department to utilize comprehensive integrated tools and workflows to ensure the highest quality components. The features are carefully designed to guide our technicians through the quality process from ballooning and planning to data collection and reporting.

OUR  
QUALITY  
PARTNER



## WESTERN GAGE CORP. – MICRO II

A high-precision, optical gauge that allows operators to achieve dimensional measurement results to  $\pm 0.1\mu\text{m}$ . Utilizing automatic focus, epi-illumination, and high precision optics, at the push of a button you can repeatably measure all 2D features, including height. The IM-8000 is equipped with a specifically designed optical lens with a large depth of field that can automatically bring measurement points into focus.

## QUALITY POLICY

It is the policy of Precision Plus to supply its customers with products and services of high quality, which meet or exceed their requirements.

To achieve this, Precision Plus is committed to a process of continuous improvement of its products, services, employees, and quality management system.

PUTTING 'THE PLUS'  
IN PRECISION MACHINING  
SINCE 1982.