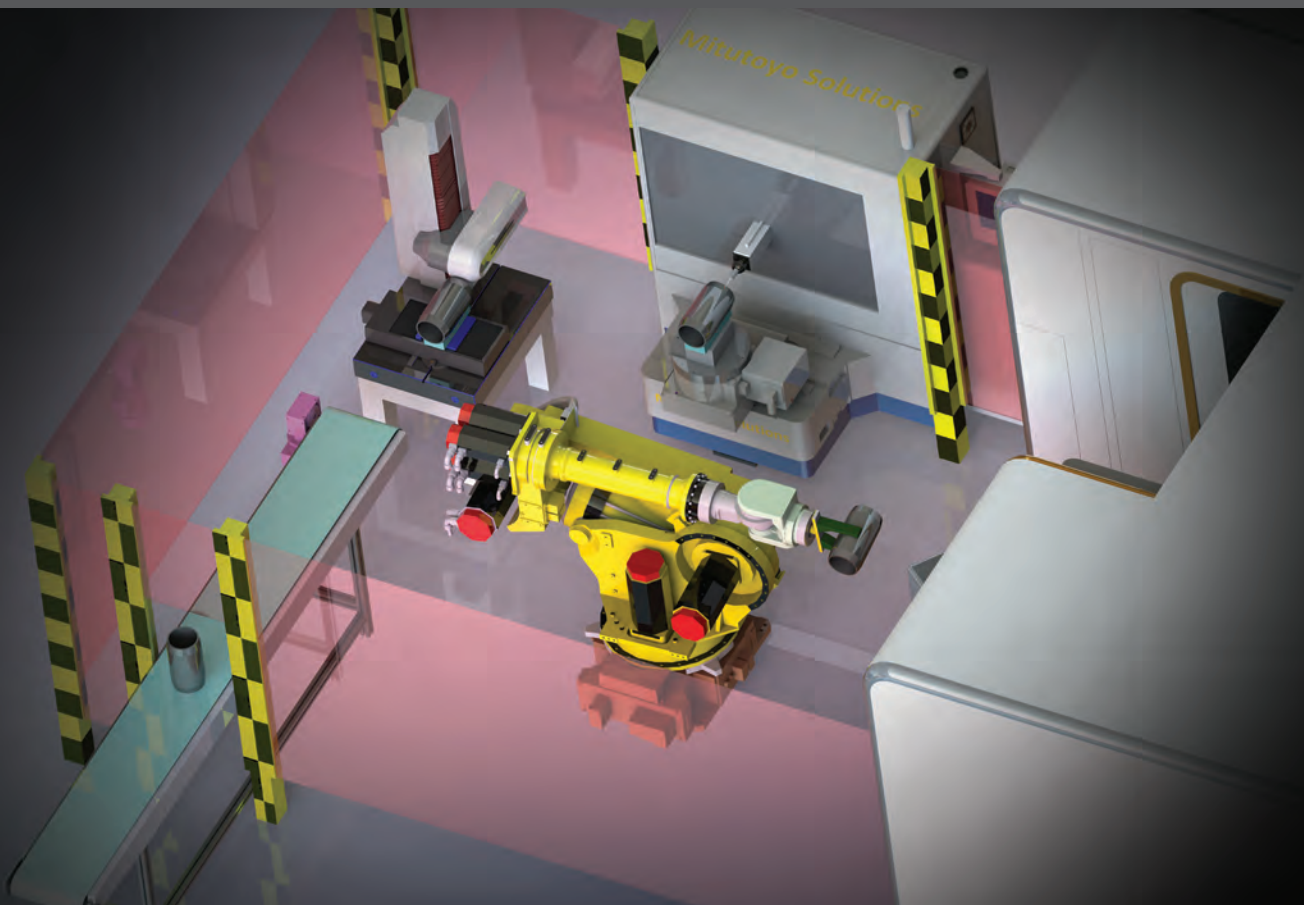


## MITUTOYO CUSTOM SOLUTIONS

ADVANCED APPLICATIONS OF MITUTOYO QUALITY  
TOOLS AND CNC METROLOGY EQUIPMENT

GENERAL



## Mitutoyo Custom Solutions

Mitutoyo Sales-Solutions is a group of highly skilled engineers specializing in the advanced application of Mitutoyo quality tools and CNC metrology equipment. With decades of combined experience in mechanical/electrical engineering and design, material handling and advanced metrology, their skills show in the many satisfied customers that utilize these services.

In the late 90s, through acquisition and merger of a well-established OEM gage builder, the Mitutoyo Sales-Solutions Group was created, bringing decades of design and build of custom measurement systems and applications into the fold of Mitutoyo America Corporation's broad spectrum of metrology products and services. It was a natural fit and this new-found capability allowed Mitutoyo America Corporation to offer turnkey products and services to its' clients.

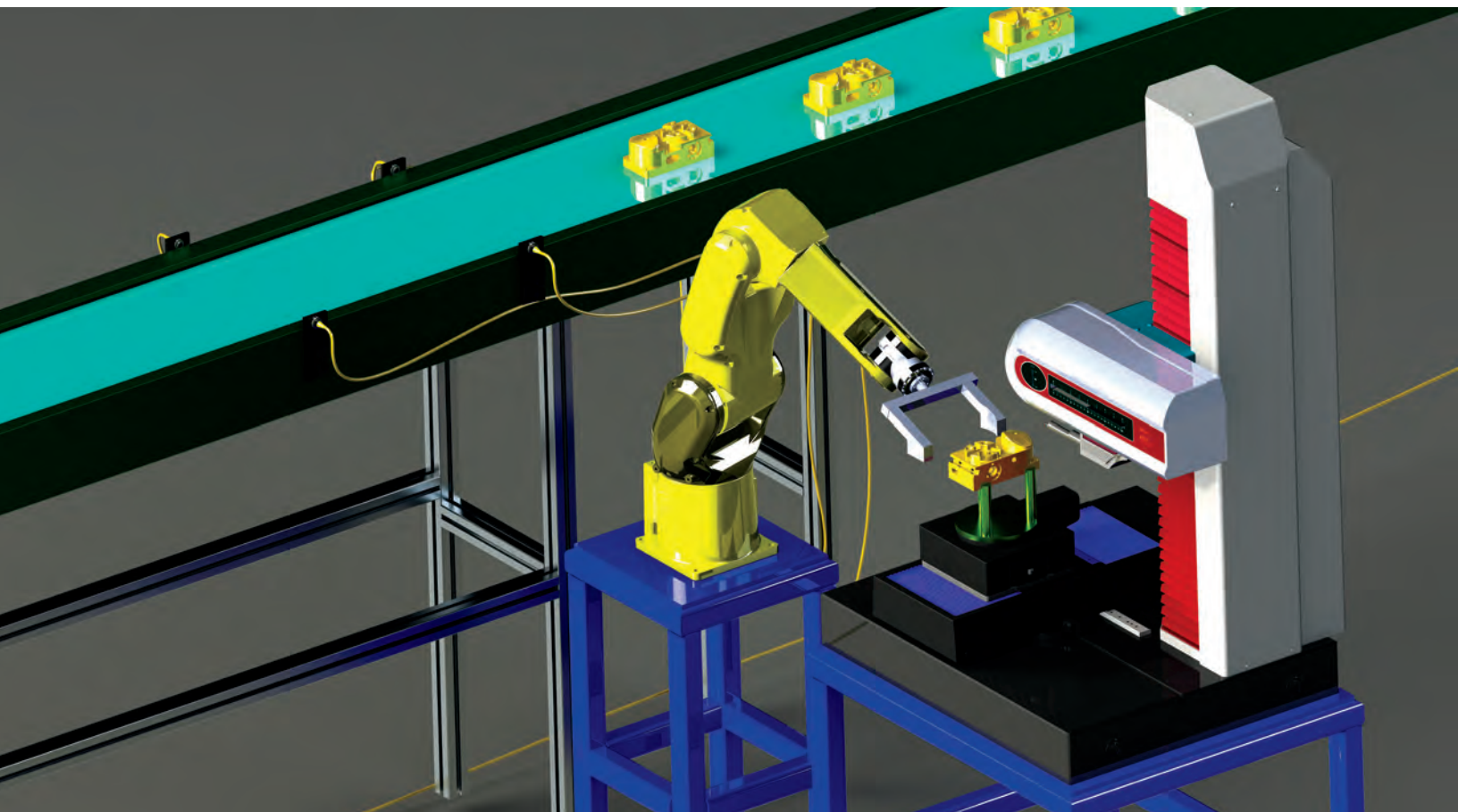
Mitutoyo Sales-Solutions' mission is to bring value-added solutions to our customers, helping them to realize the maximum potential of their Mitutoyo investment. From turnkey application of our line of CNC machines to the most basic of indicators, Mitutoyo America Corporation and Mitutoyo Sales Solutions have resolutions for almost every measurement need. We are here to assist with your unique applications.

### Services:

- Fixture design/build
- 3D CAD concepts/renderings
- Reach & feasibility studies
- Turnkey capital projects
- Product implementation
- Custom styli/accessories
- Inline/near line gaging
- Custom software interfaces/patches
- "Green button" technology

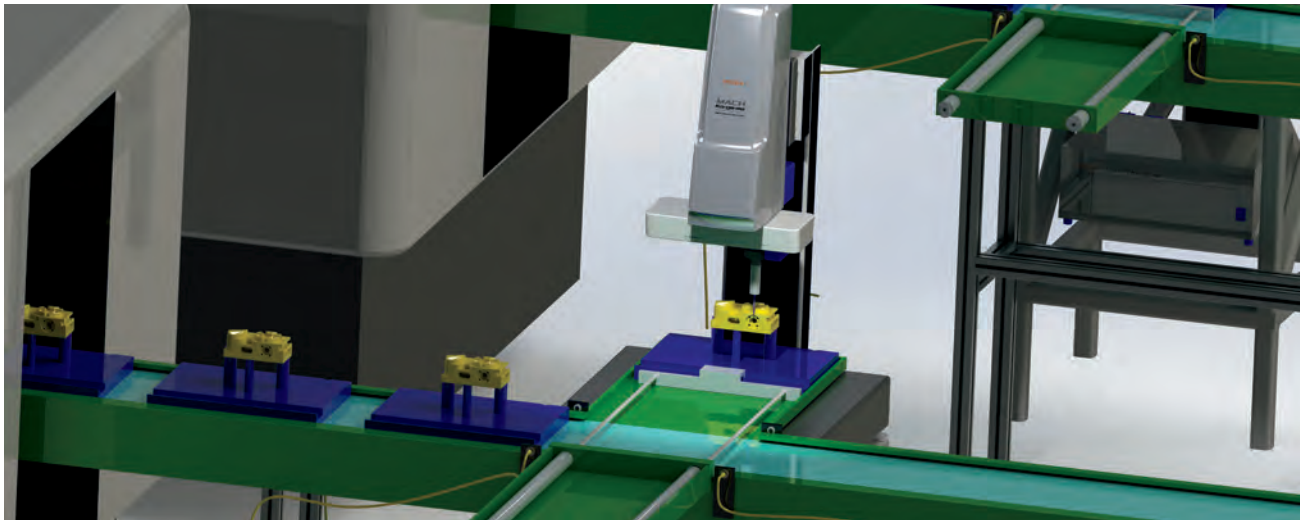
### Contact Information:

888-648-8869 • [www.Mitutoyo.com](http://www.Mitutoyo.com) • [Solutions@Mitutoyo.com](mailto:Solutions@Mitutoyo.com)



## CMM featuring MACH series

With the introduction of the MACH line of high-speed, shop-floor rated CMMs, MSS has assisted many clients implement fully automated, closed-loop manufacturing systems that are simple to implement and maintain. By offering the function of a high speed CMM in a shop suitable format, true "lights out" manufacturing can more easily be attained. With the flexibility to use the same technology on the shop floor as in the lab, you can shorten inspection times and increase efficiency, helping to reduce scrap and increase profits. Our team of engineers understands that making the leap to automation can sometimes be expensive and difficult, which is why we are here to support your efforts and show how simple it is to incorporate Mitutoyo measurement systems into your manufacturing process.



In-line part inspection system featuring MACH Ko-ga-me



Near line coupling thread inspection featuring MACH-3A

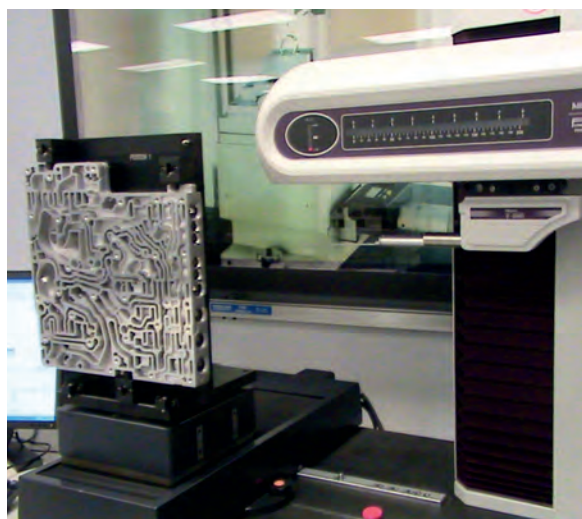


Near line automotive casting inspection featuring MACH-V

The MACH series of CMMs are built to be incorporated in an inline process, under the right conditions, any of our CMM products can be automated. We provide methods to maximize your investment. CMM products and services include fixtures (modular and fixed), extended I/O packages, sensors, barcode systems, RFID systems, pallet shuttles, robot integration, conveyors, and many other manual and automated part loading/holding systems.

## Form – featuring Extreme series

MSS has assisted many clients implement fully automated surface finish and form inspection processes. Whether it be surface finish, micro contours, thread inspection, roundness or any other fine feature measurements, MAC and MSS has a solutions to meet almost every need. By using our CNC line of Extreme machines, we can implement high-speed automated inspection of features too small to measure using conventional touch-probe technology, in turn helping to streamline your measurement process, which can sometimes be the bottleneck of the manufacturing processes. Utilizing Mitutoyo's own Form EIO software, we are easily able to communicate to PLCs for a robust, easy-to-support method of communication to the work cell or automation.



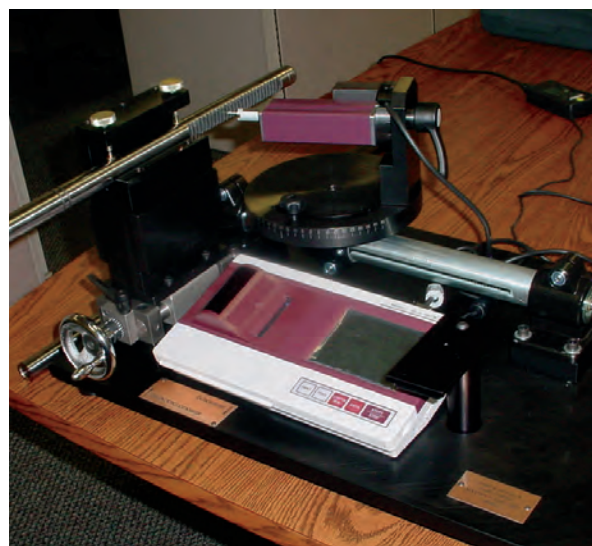
Semi-automated valve body inspection



Automated cylinder head inspection



Custom tooling for sun gear inspection



Steering shaft inspection

Not only can we incorporate these systems in an in-line process, we offer assistance, even in a lab environment, to maximize the efficient use of your Mitutoyo Quality investment. For our line of form products, services include fixtures (modular and fixed), extended I/O packages, sensors, barcode systems, RFID systems, pallet shuttles, robot integration, conveyors, and many other manual and automated part loading/holding systems.

## Vision – featuring QV series

With the rapid advancement of non-contact measurement, it can be difficult to fully understand how this new technology can be utilized in today's modern manufacturing systems. MAC and MSS can navigate you through this process to realize the potential and advantages to this emerging technology, helping make a simple transition from manually intensive inspection operations. By using our CNC line of vision machines, we can implement high-speed automated inspection of features too small to measure using conventional touch-probe technology, in turn helping to streamline your measurement process, which can sometimes be the bottleneck of the manufacturing processes. Utilizing Mitutoyo's own QV EIO software, we are easily able to communicate to PLCs, other automation control devices and PCs for an easy-to-support method of communication to the work cell or automation.



Low cost optical inspection systems

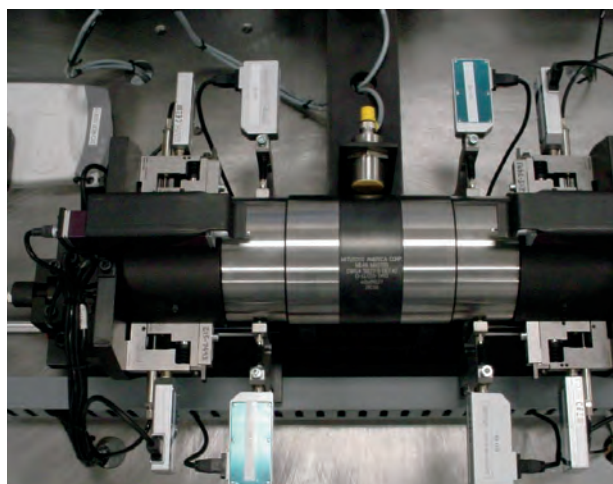
Not only can we incorporate these systems in an in-line process, we offer assistance, even in a lab environment, to maximize the efficient use of your Mitutoyo Quality investment. For our line of vision products, products and services include fixtures (modular and fixed), extended I/O packages, sensors, barcode systems, RFID systems, pallet shuttles, robot integration, conveyors, and many other manual and automated part loading/holding systems.

## Major Instruments – featuring Laser Scan Micrometers & Linear Gages

Many of our other products can be incorporated in to automated inspection process; it's not just limited to our large CNC machines. MSS has assisted many clients implement fully automated inspection processes using our low-cost laser scan micrometers, linear gages, indicators, micrometer heads, handheld SurfTest, and many others. By incorporating these devices we can build a fully customized, low-cost measurement solution that is accurate and repeatable can easily be re-purposed when demands change. Combining the measurement hardware with one of our companion software products, such as SensorPak or MeasurLink, we can offer a fast, accurate low-cost solution to difficult measurement requirements.



Wafer thickness measurement



Multi-dimension linear gage system



Post grind through-feed center-less shaft measurement



Laser scan wire diameter measurement

When you can't find the right tool, MSS is here to help. From customization of existing product or something completely new, let MAC & MSS find YOUR SOLUTION!

## Industries & Applications

MSS serves a variety of industries. If you don't see your industry or application listed below, contact us for a custom solution.

### Automotive/ATV/Marine

Rocker Arms, Pump Housings, Alternator Housings, Motors, Bearing Races, Pistons, Piston Rods, Gears, Filter Assemblies, Wheel Hubs, Brake Components, Throttle Body, Fuel Lines, Castings, Powdered/Sintered Metal

### Medical/Dental

Implants, Impellers, Pumps, Drills, Mobility Assist Apparatus, Bone Screws, Filters, Syringes, Surgical Instruments

### Aerospace

Blades, Fir Tree Geometry, Instrumentation, Fittings, Flanges, Fuel Supply Components, Cooling Holes, Sheet Metal, Airframe Components/Structures

### Energy

(Oil/Gas/Solar/Wind/Nuclear)—  
Flanges, Fittings, Pumps, Housings, Couplings/Connections, Hardware

### Injection Molding

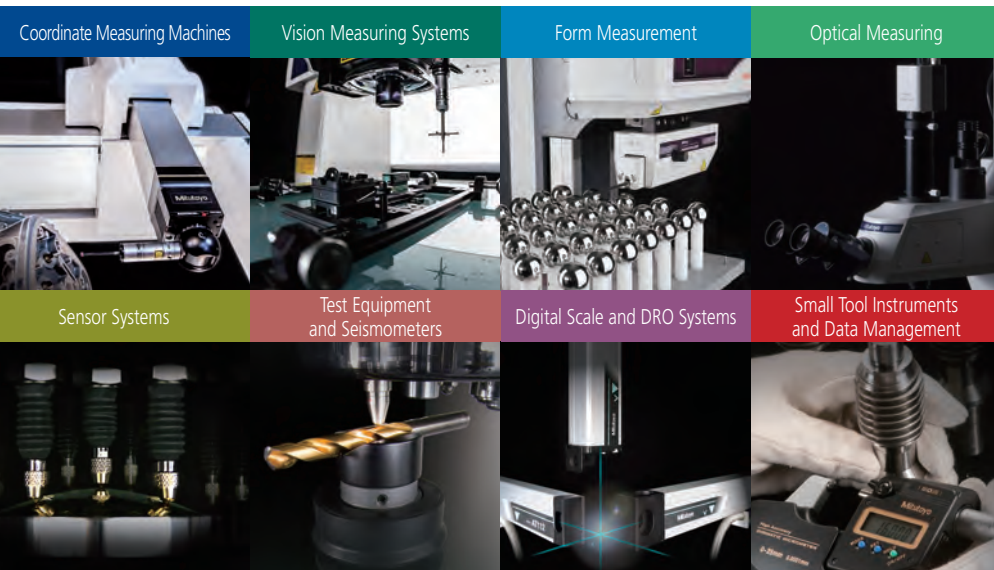
Molds, Bottles, Caps, Housings/Cases, Moldings, Parting Lines, Flash, Draft Angles

### Machine Manufacturing

Sheet Metal, Fasteners, Guide Ways, Inserts, Drills, Collets, Saw Blades, Abrasives, Thru Feed Centerless Grinding

### Electronics

PCBs, Wafers, Semiconductors, Electrodes, IC Chips, Circuit Traces, Flex Circuits, BGA, LGA, Solder Joints



## Whatever your challenges are, Mitutoyo supports you from start to finish.

Mitutoyo is not only a manufacturer of top-quality measuring products but one that also offers qualified support for the lifetime of the equipment, backed by comprehensive services that ensure your staff can make the very best use of the investment.

Apart from the basics of calibration and repair, Mitutoyo offers product and metrology training, as well as IT support for the sophisticated software used in modern measuring technology. We can also design, build, test and deliver measuring solutions and even, if deemed cost-effective, take your critical measurement challenges in-house on a sub-contract basis.



Find additional product literature  
and our product catalog

[www.mitutoyo.com](http://www.mitutoyo.com)

**Note:** All information regarding our products, and in particular the illustrations, drawings, dimensional and performance data contained in this printed matter as well as other technical data are to be regarded as approximate average values. We therefore reserve the right to make changes to the corresponding designs. The stated standards, similar technical regulations, descriptions and illustrations of the products were valid at the time of printing. In addition, the latest applicable version of our General Trading Conditions will apply. Only quotations submitted by ourselves may be regarded as definitive. Specifications are subject to change without notice.

Mitutoyo products are subject to US Export Administration Regulations (EAR). Re-export or relocation of our products may require prior approval by an appropriate governing authority.

#### Trademarks and Registrations

Designations used by companies to distinguish their products are often claimed as trademarks. In all instances where Mitutoyo America Corporation is aware of a claim, the product names appear in initial capital or all capital letters. The appropriate companies should be contacted for more complete trademark and registration information.

# Mitutoyo

#### Mitutoyo America Corporation

[www.mitutoyo.com](http://www.mitutoyo.com)

One Number to Serve You Better

1-888-MITUTOYO (1-888-648-8869)

#### M<sup>3</sup> Solution Centers:

Aurora, Illinois (Headquarters)

Boston, Massachusetts

Huntersville, North Carolina

Mason, Ohio

Plymouth, Michigan

City of Industry, California

Birmingham, Alabama

Renton, Washington

Houston, Texas