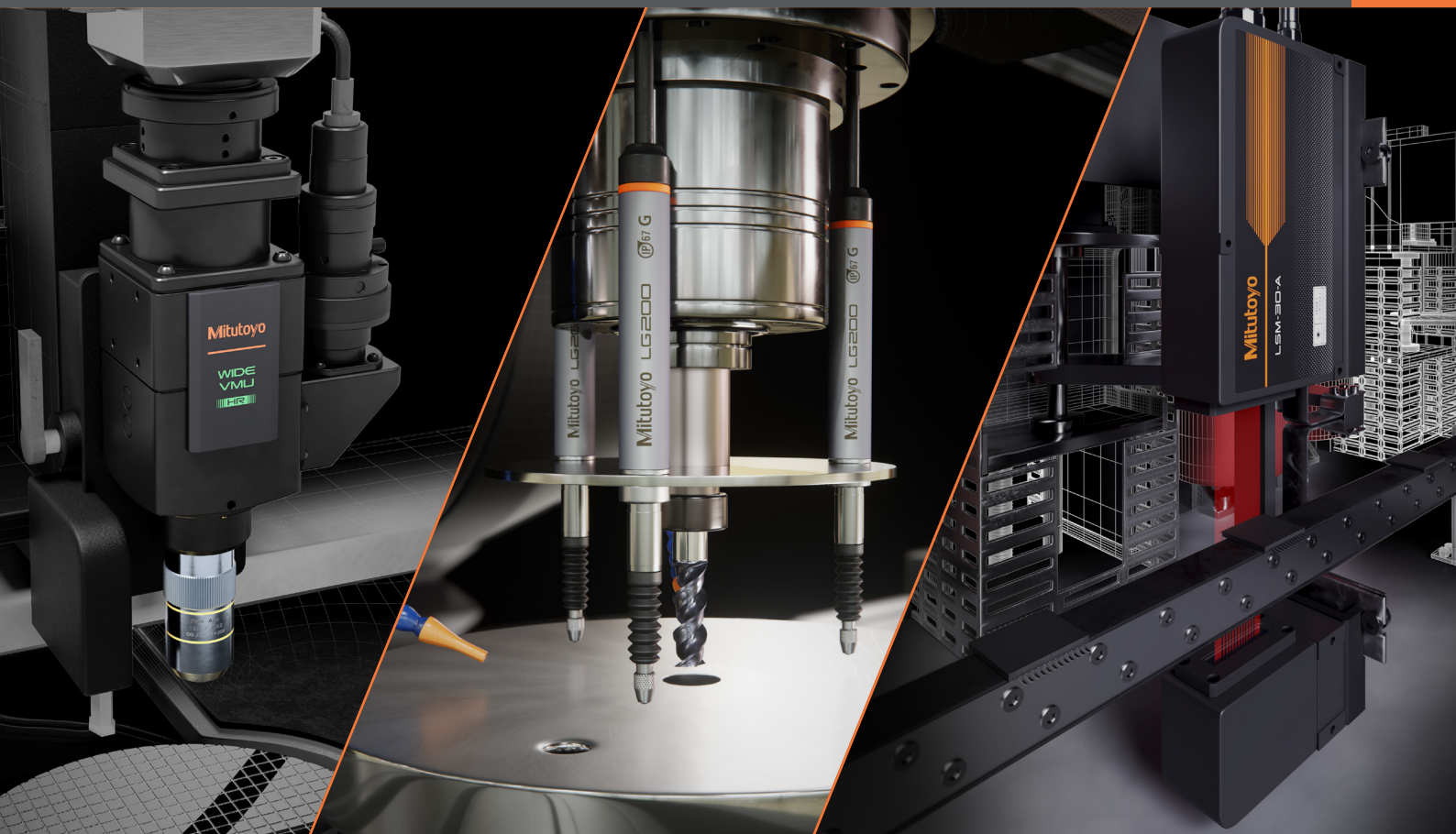




The Mitutoyo Advantage for Today and Tomorrow.

Your Specialist for OEM Equipment in Metrology.

OEM METROLOGY EQUIPMENT



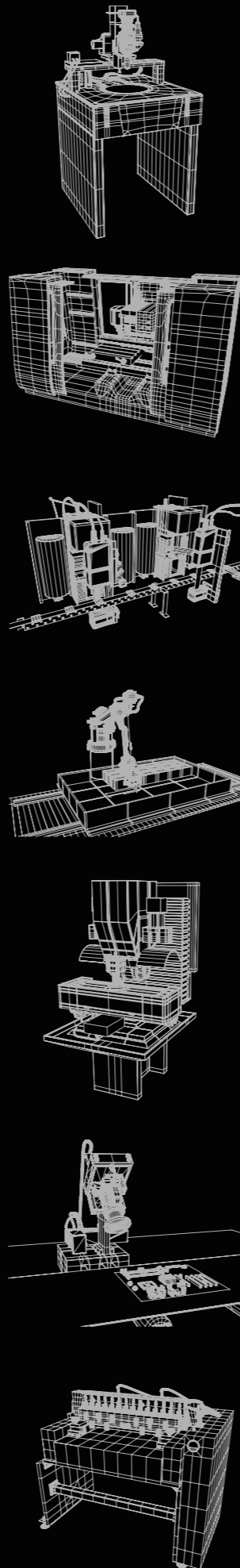
Missing expertise or resources to manufacture every component needed to make the product in-house isn't a headache anymore: Mitutoyo OEM can address this limitation by supplying you with our renowned Metrology equipment which is seamlessly integrating into your products.

Mitutoyo OEM Products

Expertise since 1934 in design and capability to produce critical components and subsystems at large scale and variety providing consistent quality meeting your demanding requirements. Benefit from Mitutoyo's focus, expertise, countless products produced and advanced capabilities to contribute significantly to the success of your products - worldwide.

Mitutoyo is partner who understands what your business does and what it needs - Keeping your business and your operations running smoothly today and tomorrow.

Contact our **OEM-Specialists**
OEM@mitutoyo.eu



Focus on your core competencies.

Ensure the availability of essential components or products necessary for your company's success in the market.

Reach faster product development and a quicker time-to-market.

Gain competitive advantage and quicker turnaround times in delivering your products to the market

Mitigate risks and challenges associated with manufacturing by outsourcing production complexities, supply chain management, quality control and compliance with industry standards.

Reduce operational risks and focus on your core strengths.

Benefit from Mitutoyo's deep knowledge, expertise, quality level and advanced manufacturing capabilities

Advantages using Mitutoyo for your product:

1. The Right Parts Faster - Quick Response for faster Production
2. The Right Fit – Confidence in quality and reliability
3. Excellent Support – Worldwide and in local language for most countries
4. Value and lifespan - Mitutoyo OEM delivering optimal performance, long lasting quality and comes with manufacturer's warranty.
5. Return on Investment - parts we supply are designed to fit and perform to factory specifications.
6. Customer satisfaction – we know what your business does and what it needs
7. Save money by outsourcing the production of components rather than investing in the resources needed to produce the parts themselves



WIDE VMU Video Microscope Units

Small, lightweight microscope units to be integrated into automatic optical inspection devices (AOI) and repair equipment of all sizes.



Optical Measurement Systems

By installing a digital camera on a microscope the VMU provides a simple and compact system which allows microphotography and simultaneous external monitor observations. It can be used in vertical and inverted positions according to your application requirements. Huge varieties of matching Mitutoyo quality objectives in the visible, UV, NUV, and NIR light spectrum region available for almost any application.

APPLICATION SAMPLES:

As compact microscope for Laser applications compatible with YAG lasers:

- Peeling off protective films and organic thin-films
 - Cutting of IC wiring (Au, Al) and exposure of lower layer pattern
 - FPD defects repair
 - Photomask repair
 - Marking, trimming, patterning, spot annealing and scribing
- Various lasers are supported including femtosecond lasers.

As vertical or horizontal digital microscope systems involving a digital camera:

- For Microphotography and observation of metallic, resinous and printed surfaces
- Micro-fluid analysis
- Cell and microorganism observation/analysis
- Defect detection

For IR analysis/inspection systems using Mitutoyo M Plan Apo NIR objectives:

- for Nondestructive inspection systems like on-Wafer probing
- Thickness measurement of LCD thin-film and silicon board film
- Internal inspection/analysis and 3D evaluation of MEMS devices
- Internal observation of IC packages, void inspection/evaluation sensor of wafer junctions
- Spectral characteristics analysis using an infrared source

For Dual-camera (high & low magnification) observation

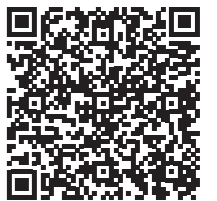
- for observation systems using same area at different magnifications simultaneously

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Wide-VMU Microscope Unit



All Mitutoyo VMU's



M Plan APO HR 10X



All Mitutoyo Objectives



NC Linear Scales
AT1100 Series



All Mitutoyo Scales



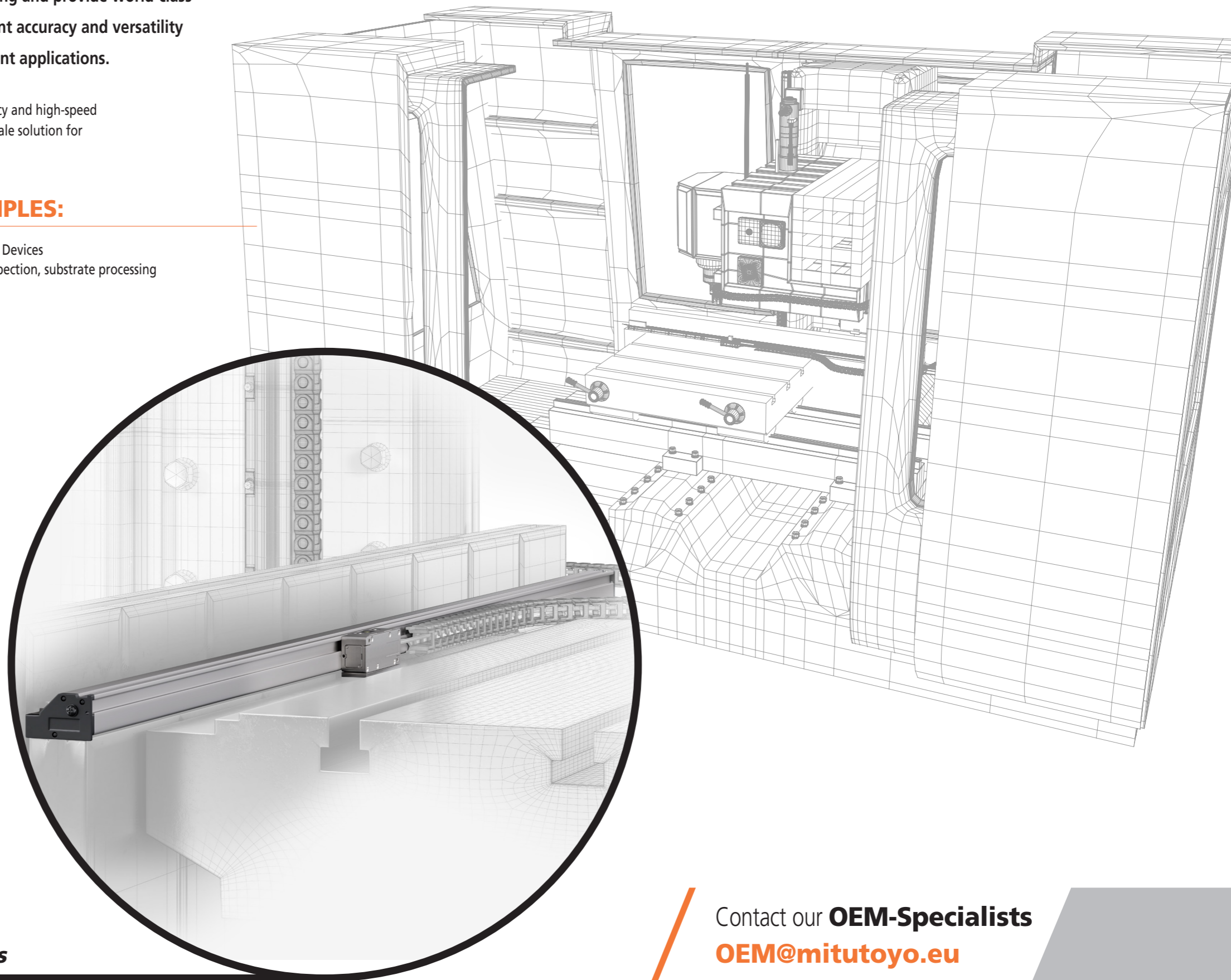
Mitutoyo digital and linear measurement tools deliver ultimate precision, accuracy to in-house machine tool applications and manufacturing and provide world-class shock resistance, measurement accuracy and versatility needed for your most stringent applications.

With an extensive line of high-accuracy and high-speed models available, we have a digital scale solution for practically any application.

APPLICATION SAMPLES:

- IC Production and Quality Control Devices
e.g wire bonding, appearance inspection, substrate processing
- Lathes
- Electrical Discharge Machines
- Drilling Machines
- Planer
- Milling Machines
- Horizontal Boring Machines

Mitutoyo Digital and Linear Scales

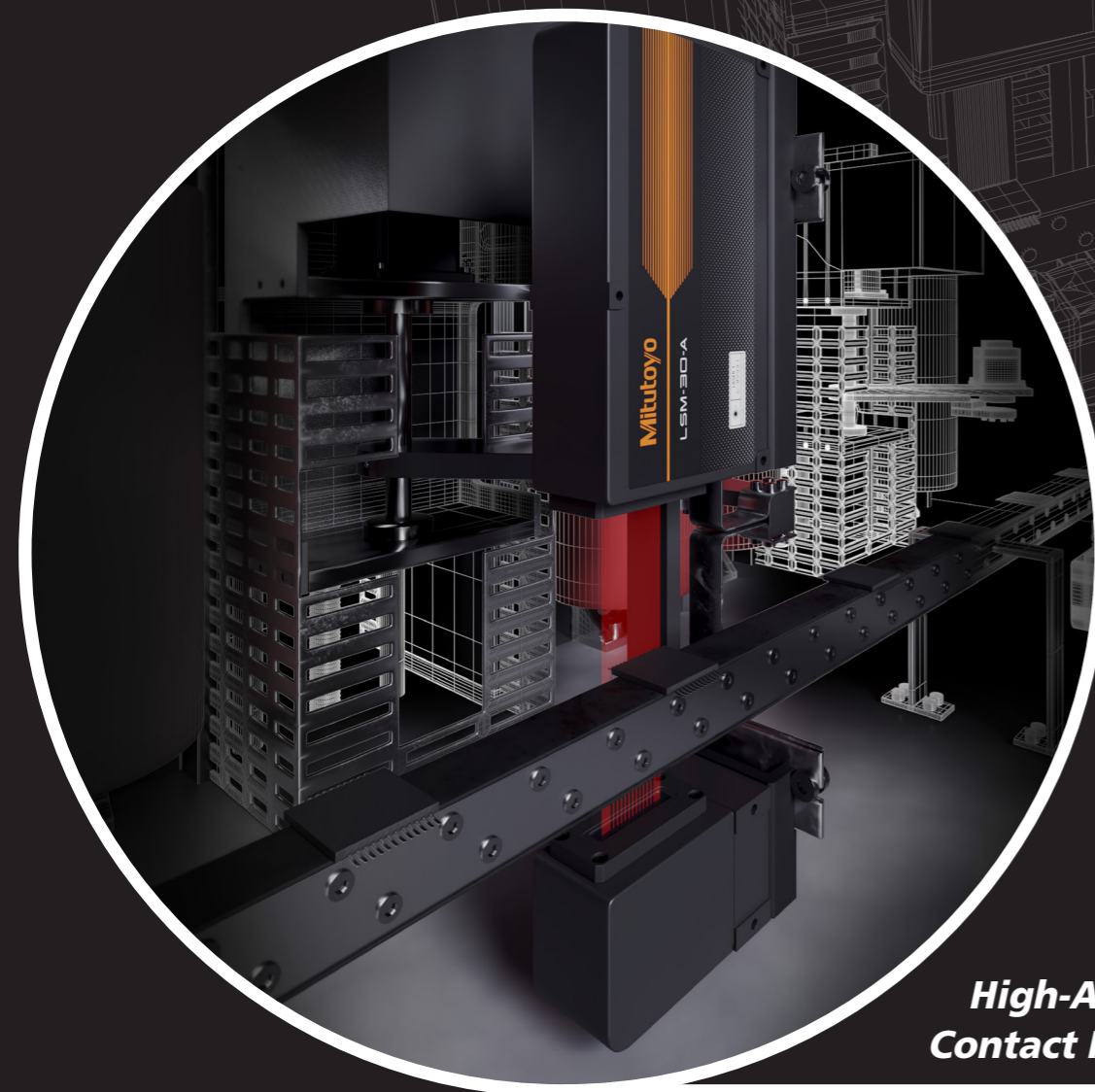


**Linear Encoders
and DRO Systems**

Contact our **OEM-Specialists**
OEM@mitutoyo.eu

LASER SCAN MICROMETERS

Exceptional repeatability, accuracy, resolution and durability -The ideal non-contact measurement solution for a wide variety of applications, including those that are too small or delicate for conventional contact measurement.



High-Accuracy, Non-Contact Measurement

Our laser scan micrometer portfolio includes a rich assortment of models that measure a vast array of materials with ease. Our solutions are capable of measuring ultra-fine wires down to 5 microns in diameter, as well as larger cylindrical objects up to 160mm in dual mode. Each model delivers high scanning rates and complete traceability, resulting in an exceptional level of accuracy and repeatability.

APPLICATION SAMPLES:

- Contact Pin Measurement Measurement Systems
- Shaft diameter measurement
- Roller gap and roller runout measurement
- Bearing shell detection in assembly process

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LaserScan Micrometer LSM-02-A



LaserScan Micrometer LSM-30-A



LaserScan Micrometer LSM-CU-A



LaserScan Micrometer Rack-Mount Interfaces



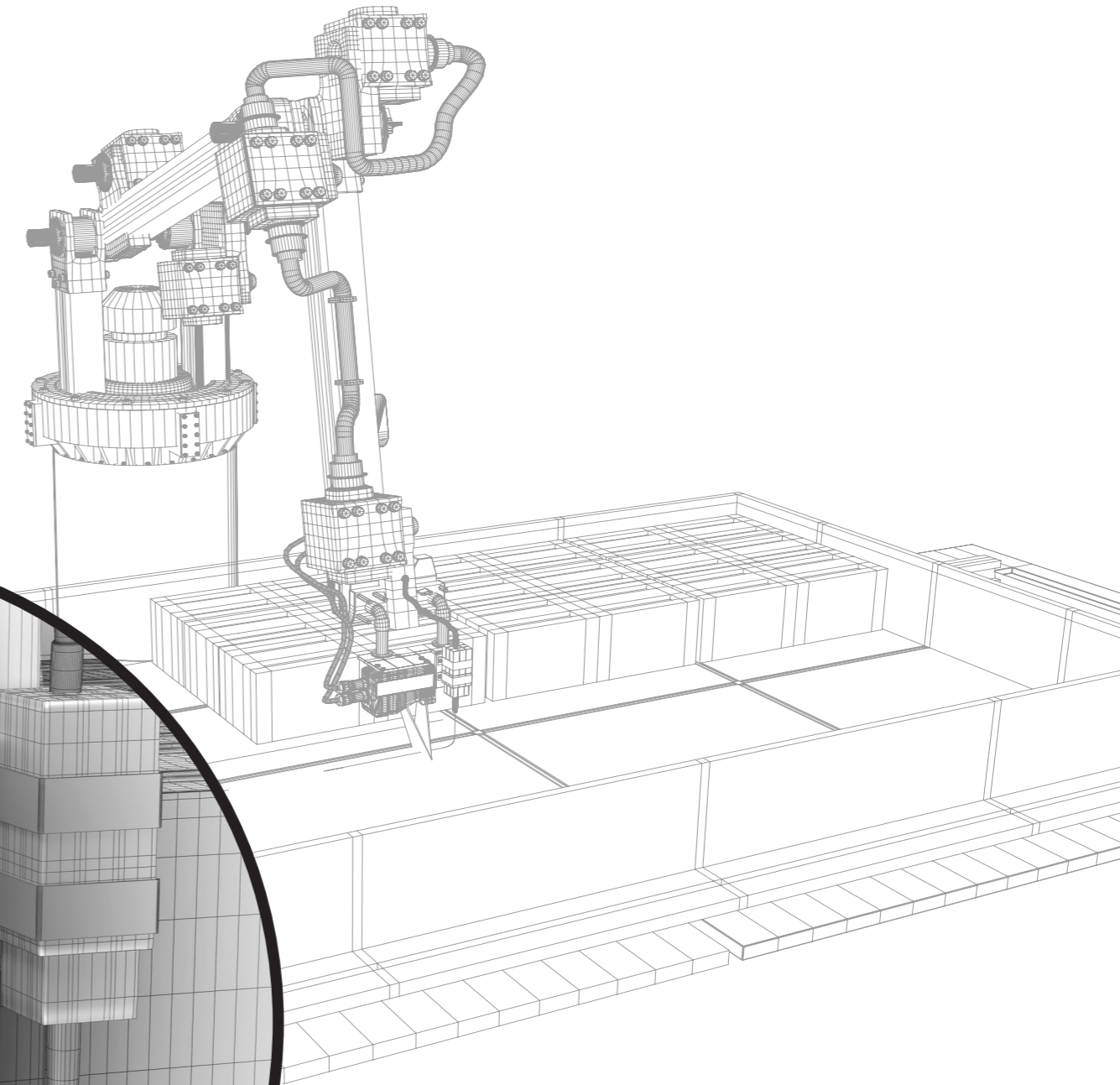
All Mitutoyo Laser Scan Micrometers



SurfaceMeasure SM 1008S

This line-laser sensor combines the optical technology and sensor technology of Mitutoyo.

Specially designed to support automated measurement systems, for obtain profiles and three-dimensional shapes at high speed and equipped with a parts matching function that allows the measurement tool to be applied regardless of the orientations of the parts being measured. Simple operability software supports intuitive operation and is built into the sensor (software installation is not required), so you can use it immediately after mounting.



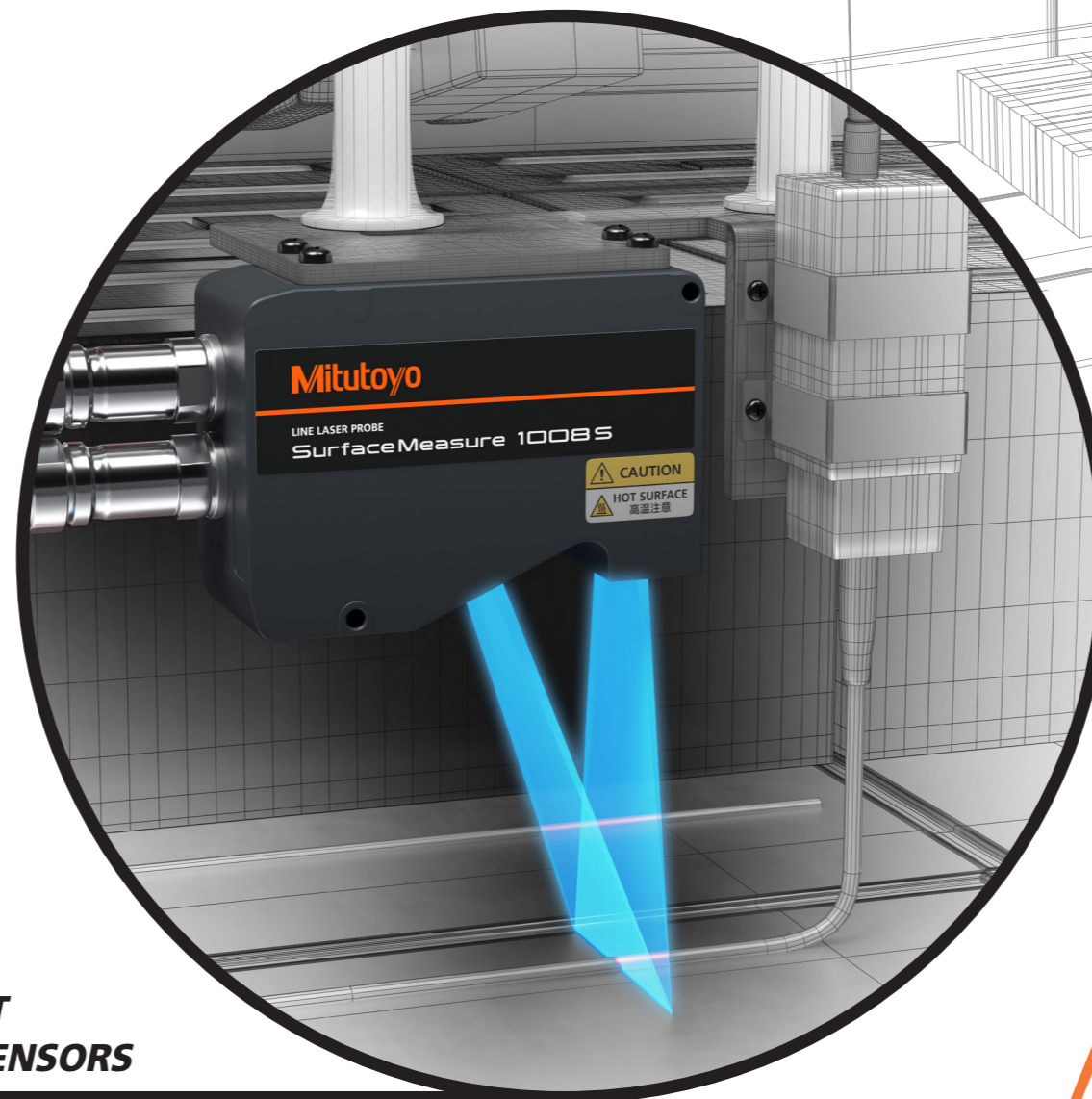
SurfaceMeasure SM 1008S



APPLICATION SAMPLES:

- Cell assembly inspection applications
- Glue Bed Inspection systems
- Adhesive inspection systems
- Connector pin inspection systems
- Standard inspection in applications for the food industry

All Details of Mitutoyo SurfaceMeasure products

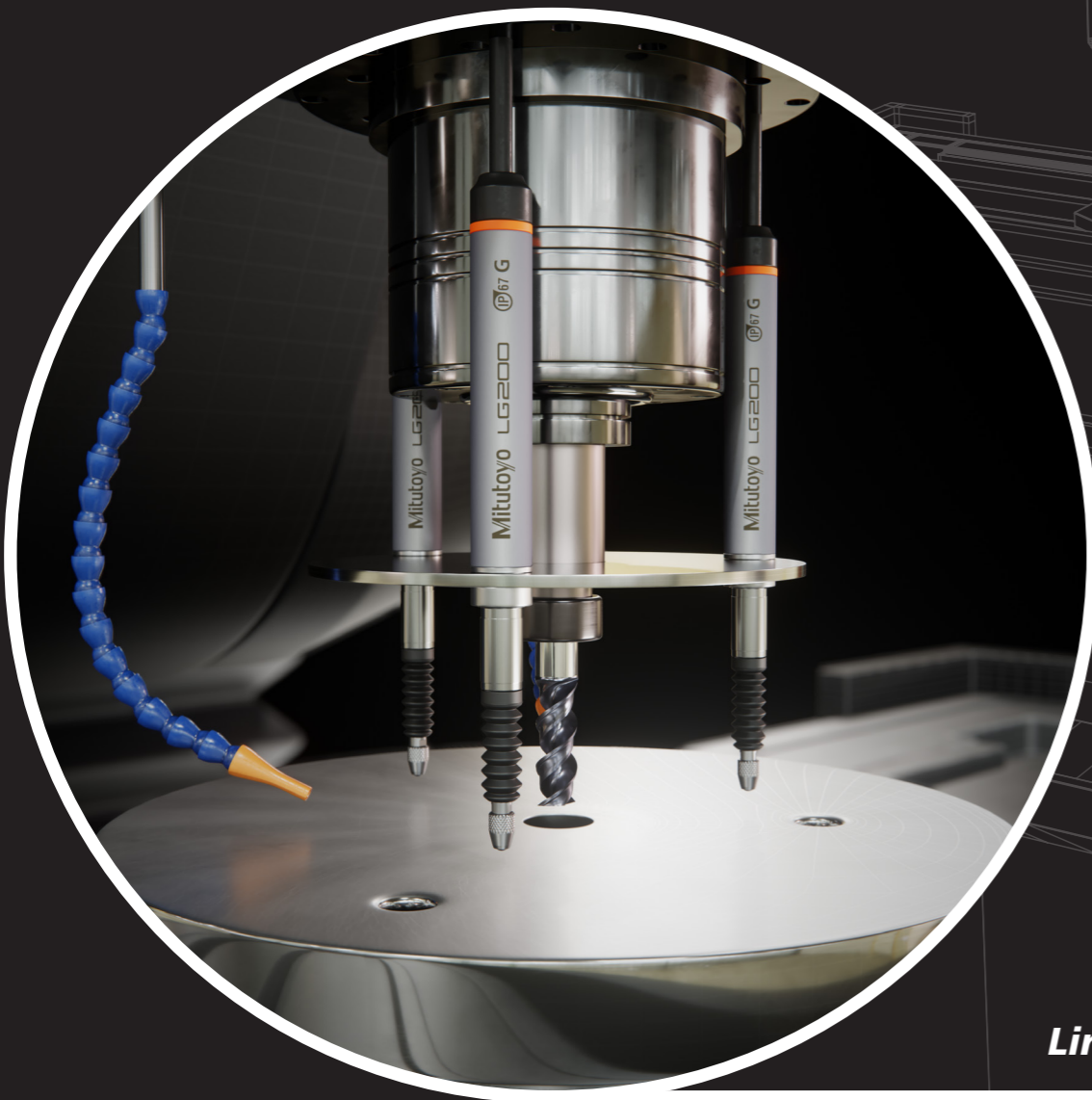
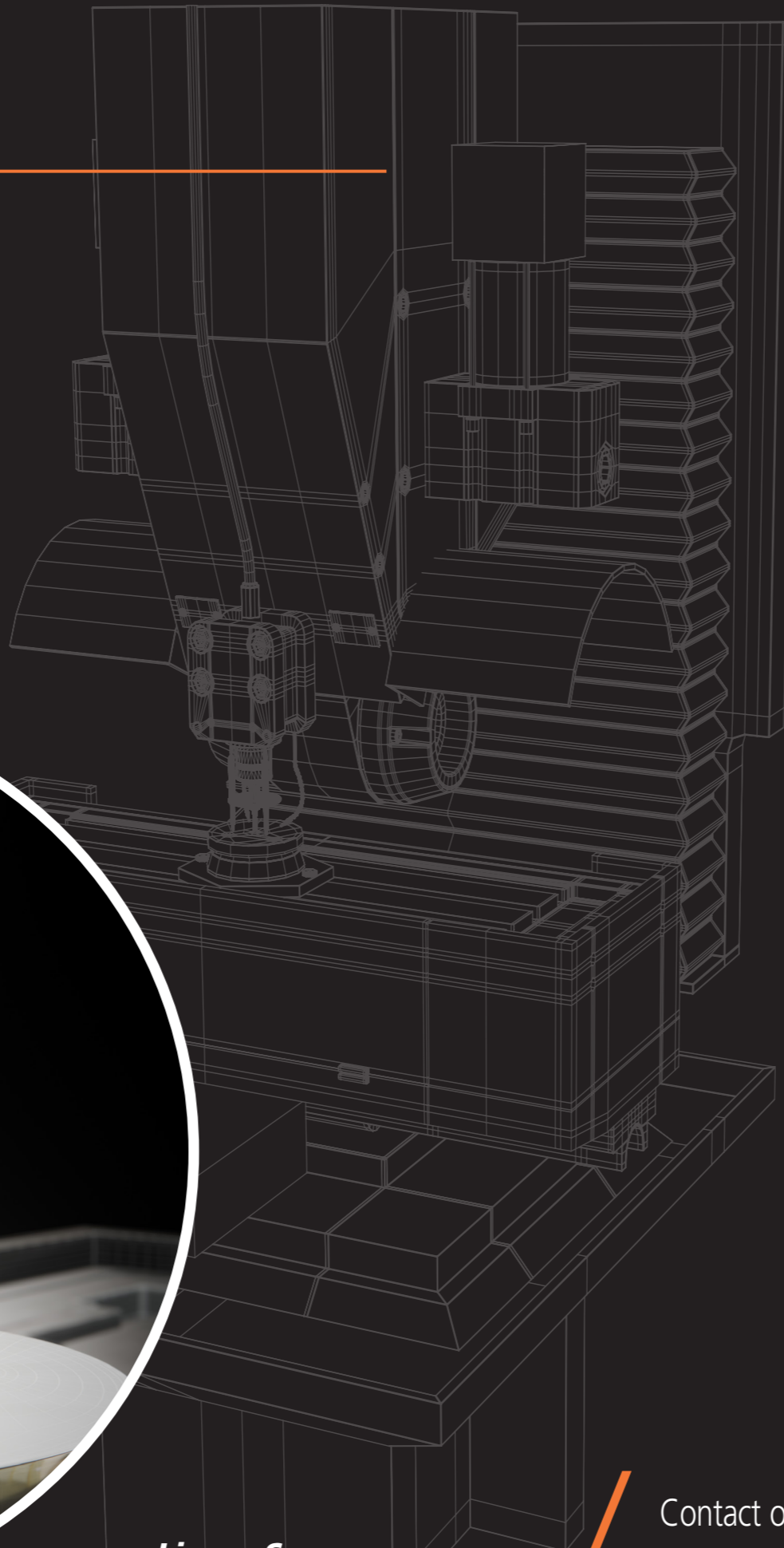


**NON-CONTACT
LINE-LASER SENSORS**

Contact our **OEM-Specialists**
OEM@mitutoyo.eu

Linear Gage Sensors

Linear gages from Mitutoyo bring durable, reliable measurement to countless quality control applications. Whether you require one gage to measure linear displacement or several gages for multi-point contour measurement, our solutions offer exceptional accuracy and versatility.



Linear Sensors

Mitutoyo's linear gages are available with a wide variety of measuring ranges and resolution settings and using optical transmission type linear encoders with industrial interface connectivity. With strong construction, durable linear ball-bearings and high-density design, these solutions are ideal for in-line measurement even in harsh or hazardous environments.

APPLICATION SAMPLES:

- Grinding Machines
- Semiconductor parts molding, assembling and quality control units.
- Roll gap measurement
- PCB thickness measurement
- Chip parallelism measurement
- Seating check, FPD board multipoint measurement
- Measurement of crimping height and Parallelism measurement of copying machine parts
- Automotive Manufacturing systems - Welding machines, Press machines, Rolling Mills
- Measurement fixtures

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Linear Gage Sensor LG200



All Mitutoyo
 Linear Gage Sensors



Ultra-high-speed 14 microseconds changing of focal length so that deep-focus images can be obtained in real time and everything — even multiple subjects at different distances – are in crystal clear focus.

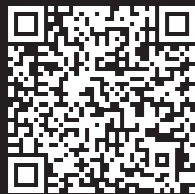
TAGLENS requires absolutely no mechanical movement when scanning and is characterized by its ability to provide deep-focus at the desired magnification and resolving power. No Autofocus, Z-axis Power Unit Required and compact design controller for easy and space saving integration.

TAGLENS is the optimal solution for products dealing with observation target distance may vary due to a tilt or complex 3D-geometry, target may be in motion and more than one target may be captured in the frame.

TAGLENS



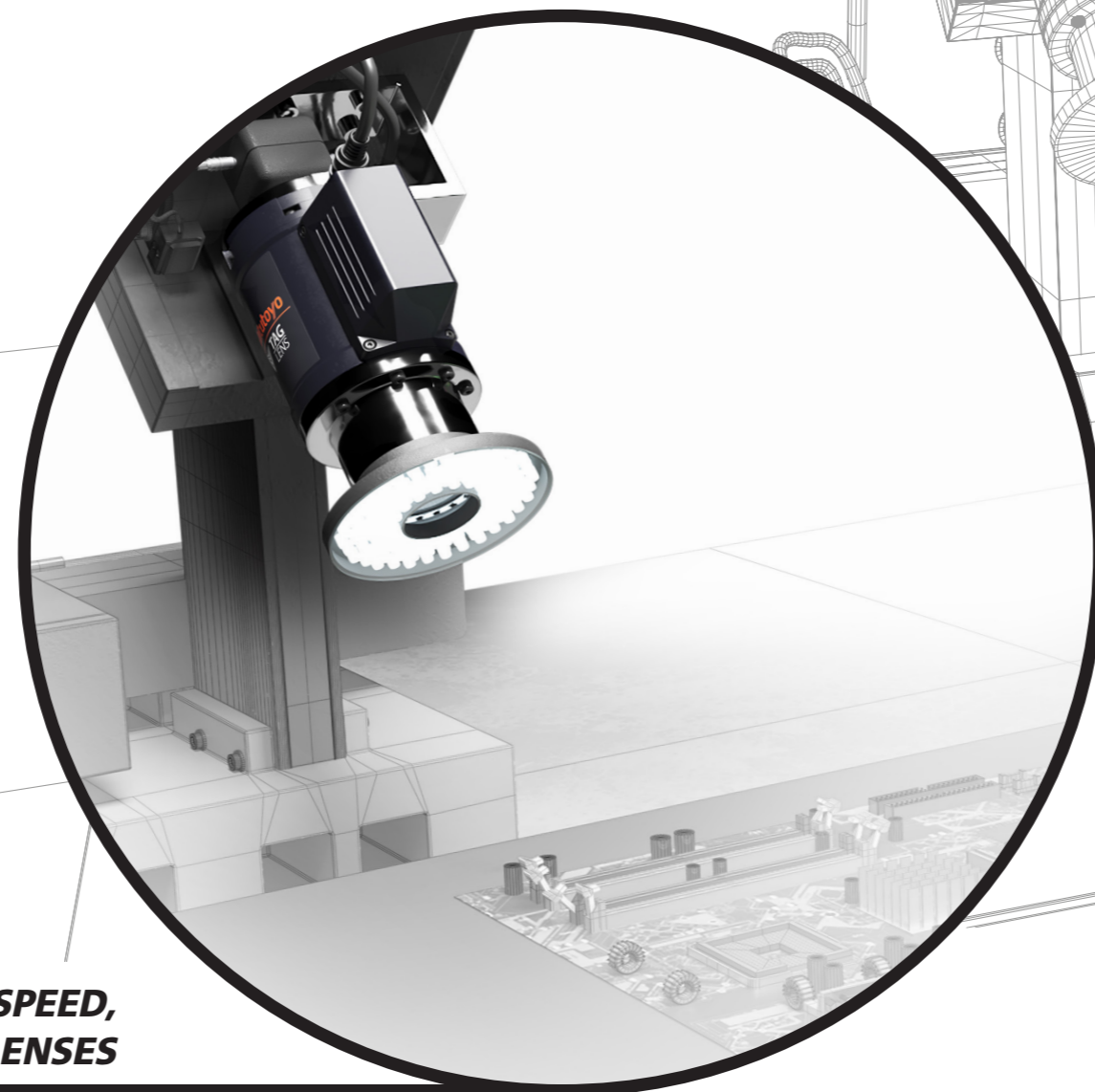
All Mitutoyo TAGLENS Products



TAGLENS - Ultra-high-speed, focusing varifocal lens

APPLICATION SAMPLES:

- Machines for Visual Inspection of electronic and precision components
- Factory automation systems
- Logistics, material science and bioscience research and application units
- Medical research and treatment devices
- Environmental and security surveillance systems
- Robot based inspection systems
- Semiconductor microstructure inspection



**ULTRA-HIGH SPEED,
VARIFOCAL LENSES**

Contact our **OEM-Specialists**
OEM@mitutoyo.eu

Micrometer Heads

Measuring, feeding and positioning on precision machines for precise feeding device, cross-travel stage of laser instruments and manipulator and countless additional applications.



High-Precise common measuring, feeding & positioning devices

Mitutoyo provides the standard micrometer heads with different measuring ranges, stem types and body sizes; high-performance types, 0.25mm spindle pitch models (standard 0.5mm) but also customized or build to order for special applications which can be supplied in bulk but also even in one-off quantities.

APPLICATION SAMPLES:

- Optical Tables
- Material coating units
- Precision vices

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Micrometer Head
Non-rotating Spindle 0-15mm



All Mitutoyo
Micrometer Heads



Mitutoyo OEM Products - Variants and Accessories

WIDE VMU VIDEO MICROSCOPE UNITS AND OBJECTIVES

- VMU-V:** Vertical Camera Mounting, for observation
- VMU-H:** Horizontal Camera Mounting, for observation
- VMU-LB:** Vertical (rotatable) Camera Mounting, for observation and laser applications
- VMU-L4B:** Vertical (rotatable) Camera Mounting, green filter switch, for observation and laser applications



- Objectives**
- For Bright Field Observation**
 - long working distance
 - ultra-long working distance
 - with glass-thickness compensation
 - For Bright/Dark Field Observation**
 - long working distance
 - ultra-long working distance
 - Near-infrared Radiation Range Objectives**
 - for Bright Field Observation
 - for Bright Field Observation with glass-thickness compensation
 - Near-ultraviolet Radiation Range Objectives**
 - for Bright Field Observation
 - for Bright Field Observation with glass-thickness compensation
 - Ultraviolet Radiation Range Objectives for Bright Field Observation**



LINEAR SCALES

- Various types to solve every application
- Lengths up to 12000mm
- Optical or electromagnetic inductive detection principle
- Absolute or incremental functionality
- Sinusoidal and Square-wave Signal outputs
- Interfaces for various drive controllers available e.g. Siemens DriveCLiQ, Mitsubishi, Panasonic, Fanuc, Yaskawa, Omron
- Customer specific solutions feasible



LASER SCAN MICROMETERS

- IP67 rated for rough environments.
- Scan rate up to 3200 scans per second.
- Various industrial interfaces for direct PLC communication like Profinet, EtherCAT, Ethernet/IP etc.
- Modular controllers with daisy-chain functionality
- New easy to use software included – LSMPAK



SURFACEMEASURE SM 1008S

- Powerful and web-based built-in software with simple operability
- Measuring range of 100mm by 80mm
- Scan rate up to 10000 scans per second
- IP67 rated
- 20µm accuracy and 0.5µm repeatability in Z
- OCR and Pattern matching functions included)



LINEAR GAGE SENSORS

- Measuring ranges from 10mm to 50mm
- Resolution of 1 µm, 0.5µm and 0.1µm available
- Various industrial interfaces for direct PLC communication like Profinet, EtherCAT, Ethernet/IP etc.
- IP67G (oil resistant) rated
- Easy to use software included – LGQuickSetup Tool



TAGLENS - ULTRA-HIGH-SPEED, FOCUSING VARIFOCAL LENS

- Available as stand alone and sets containing Pulsed Light Source.
- Accesories available:
- Video Microscope Unit for integrating the TAGLENS-T1 and incorporating the objective lens with a camera which enables configuring a varifocal optical system.
- Pulsed Light Source (PLS) is an ultrafast LED pulse illuminator that combines with
- TAGLENS-T1 to achieve focused image acquisition and two-dimensional image synthesis at a desired position



MICROMETER HEADS

Digital Micrometer Heads

- with Non-Rotating Spindle
- with 10 mm Stem
- with 12 mm Stem

Micrometer Heads 13 mm Range

- with Zero Thimble
- Small Standard Type
- 15 mm Range
- 25 mm Range



Micro Jacks

Fine Spindle Feed 0,1 mm / rev
Micrometer Heads 5 mm and 6,5 mm Range

Micrometer Heads 25 mm and 50 mm Range

- with 8 mm Spindle Diameter

Fine Spindle Feed 0,25 mm / rev
Micrometer Heads 6,5 mm and 13 mm Range

Micrometer Heads

- with Large Thimble
- for XY-Stage
- with Quick Spindle Feed
- with Non-Rotating Spindle
- with Counter
- Precision Leadscrews

Ultra Small Micrometer Heads 5 mm and 6,5 mm Range

Micrometer Head 6,5 mm and 13 mm

- Short Thimble Type
- with Spindle Lock





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 up by comprehensive services, ensuring 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 bespoke 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 complete catalog here.

www.mitutoyo.eu

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