# **M**itutoyo

### PROVIDING WORLD-CLASS METROLOGY PRODUCTS, SERVICES AND SOLUTIONS



established in the United States by Mitutoyo Corporation in 1963. Since day one of operations, supporting customers has been the first priority. Initially we provided replacement parts and repair services. As our customer base grew, so did customer service demands. In response we built one of the highest performance A2LA Accredited Calibration Laboratory's (A2LA Certificate #0750.01) in the nation. Now we offer turnkey metrology solutions and even integrate measuring directly into manufacturing processes via inline automation. Mitutoyo America is also the first service organization to have A2LA Accredited Field Service Technicians. State-of-the-art M³ Solution Centers are geographically positioned to cover the United States. Local software design and development translates into well resourced software support. We also provide education and training through the Mitutoyo Institute of Metrology. Overall, Mitutoyo America Corporation is configured to provide our customers with all the competitive advantages that result from application of best practice metrology.

## MITUTOYO AMERICA CORPORATION



## MESSAGE FROM MATT DYE

In 1963, Mitutoyo America was founded with a commitment to provide quality products and services to the industry. Today, as the industry undergoes a significant transformation, Mitutoyo America's dedication to quality is stronger than ever. Our goal is to be a partner to U.S. manufacturing companies by offering the best equipment, as well as industry-leading solutions, support and expertise.

As the world's leading metrology company, precision is our profession and we take pride in our products, services and partnerships. Through training, education and technology, we empower our partners to better serve their customers.

Thank you for your continued loyalty.

Matthew B. Syc

Matt Dye

President, Mitutoyo America Corporation





## TRACEABILITY / VERIFICATION

High accuracy, low uncertainty and validated measurement methods are the reasons customers come to Mitutoyo America Corporation. We go to great lengths to ensure that our reference standards and measurements are traceable through our nation's highest measurement institute, the National Institute of Standards and Technology (NIST).

Traceability requires the establishment of an unbroken chain of comparisons to references. At the Mitutoyo America Calibration Laboratory, our master gage blocks are directly compared against the master gage blocks at NIST at regular intervals. The result is reference gage blocks calibrated only one step removed from NIST – providing the Mitutoyo America Calibration Lab with the highest reliability and lowest possible measurement uncertainty for our reference standards.

While Mitutoyo America Corporation is at the forefront of today's metrology best practices, we also are committed to the research and development of tomorrow's standards. As an active leader in national and international metrology standards, we are a strong supporter of various metrology societies and educational institutes around the country.

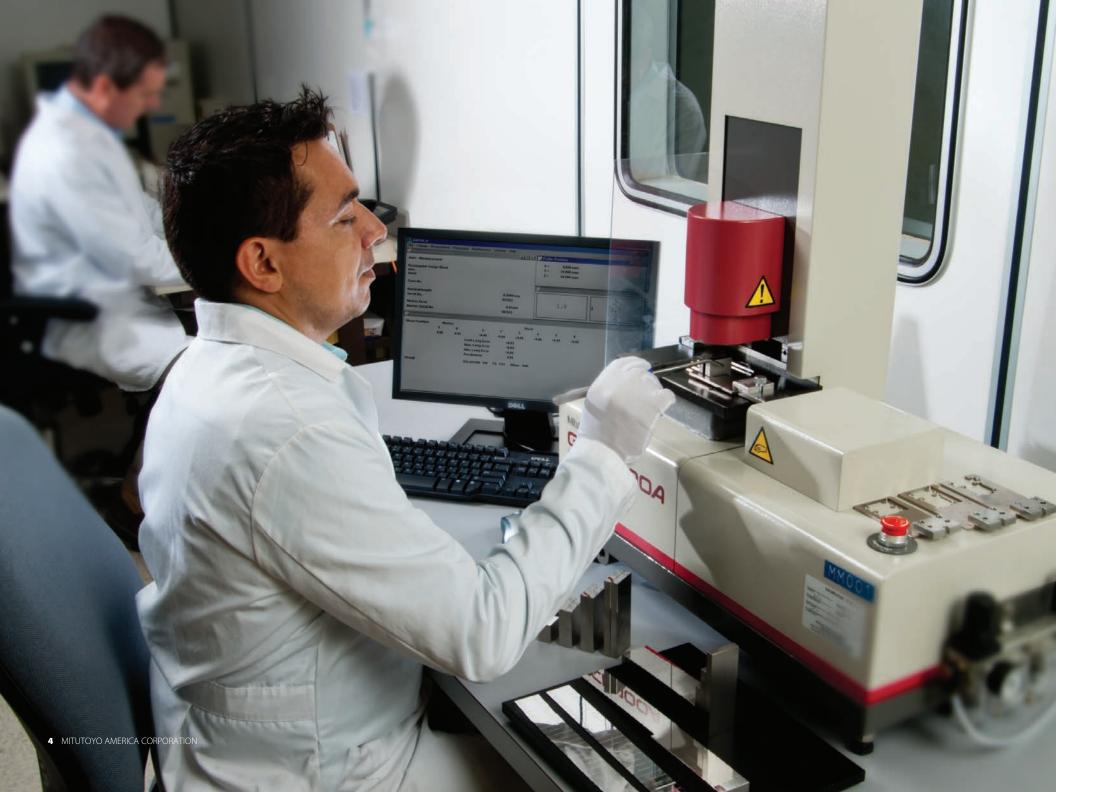
- ASME B89, the U.S. dimensional metrology standards writing committee
- ASME B46, the U.S. surface texture standards writing committee
- ISO/TC 213, the international standards writing committee for geometric product specifications
- NCSL International, the leading society committed to excellence in measurement science
- Center for Precision Metrology, University of North Carolina at Charlotte
- Mitutoyo Metrology Laboratory, Northern Illinois University



National Prototype Meter No. 27 ca. 1875-1889 Photo Courtesy of NIST Museum Collection







## A2LA ACCREDITED CALIBRATION LAB

Our A2LA (American Association for Laboratory Accreditation) Accredited Calibration Lab (A2LA Certificate 0750.01) is among the most capable in North America – able to provide accredited calibrations on a wide range of measuring instruments and artifacts from all manufacturers, including gage blocks, small measuring tools, all brands of step gages, cylindrical squares and roundness hemispheres.

Employing one of the world's most accurate, ultra-precise coordinate measuring machines enables us to offer the lowest measurement uncertainty commercially available for a wide variety of length standards. Our fully automated gage block comparators allow us to offer an unmatched combination of accuracy, price, and turnaround time.

At Mitutoyo America's Calibration Lab, our customers receive a quick response and unparalleled value – one reason why even our competitors come to us for their calibration needs.

A2LA Accredited Calibration Laboratory (A2LA Certificate 0750.01) to the ISO/IEC 17025 International Standard











## MITUTOYO CUSTOM SOLUTIONS

Standard products alone cannot always solve measurement challenges. To address these challenges, we established an engineering group to integrate our equipment into application-engineered custom solutions. Called Mitutoyo Custom Solutions, this group can create a solution as simple as fixturing. Other times, the answer may require integration of the latest metrology equipment, process control software and robotics to create an automated cell.

Whatever the level of complexity needed for application and integration of measurement technologies – proven or emerging – the Mitutoyo Custom Solutions Group can develop a plan to improve your process capability, productivity and bottom line.

Mitutoyo Custom Solution capabilities:

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









## SUPPORT SERVICES

At Mitutoyo America Corporation, we know your business demands more than quality metrology products. You need a partner with the resources to provide support and contribute to your success:

#### FIELD SERVICE

Mitutoyo America Corporation boasts one of the most comprehensive A2LA accredited (A2LA Certificate 0750.01) field service groups in the United States. We have factory-trained service engineers strategically located throughout the country to ensure quick response times for installation, calibration and repair. Product uptime is a top priority.

#### REPAIR/PARTS FACILITIES

Two state-of-art repair facilities are located across the country to offer quality repairs with quick turnaround. We inventory thousands of replacement parts in each facility. Our goal is to keep your Mitutoyo tools and instruments in optimal working condition.

#### PRODUCT TRAINING AND SUPPORT

After the product is delivered, our support is only beginning. Mitutoyo America Corporation has training centers located throughout the country, which continually offer training sessions. We also offer on-site training for those unable to visit our facilities. An extensive knowledgebase has been built and is maintained with current and legacy information to support our customers.

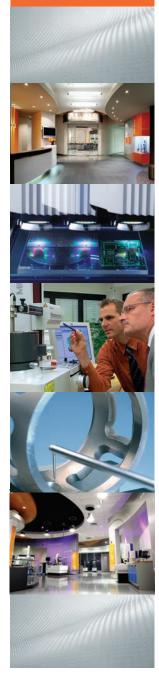
#### TECHNICAL SUPPORT

For the most complex challenges, we have high-level technical experts ready to provide additional support.











## M<sup>3</sup> SOLUTION CENTERS

For hands-on product demonstrations and to and provide metrology solutions, we established M<sup>3</sup> Solution Centers in strategic geographical locations. These centers make it convenient to experience the most advanced technological equipment in person. Each center has dedicated metrology specialists ready to answer questions, help you better understand the products and systems, and work with you to develop metrology solutions to best suit your needs.

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

Illinois (Chicago) 965 Corporate Blvd. Aurora, IL 60502

Ohio (Mason) 6220 Hi-Tek Court Mason, OH 45040

Michigan (Novi)

46850 Magellan Drive, Suite 100 Novi, MI 48377

California (Los Angeles) 16925 E. Gale Ave. City of Industry, CA 91745

Massachusetts (Boston)

753 Forest Street, Suite 110 Marlborough, MA 01752

North Carolina (Charlotte) 11515 Vanstory Drive, Suite 140 Huntersville, NC 28078

Alabama (Birmingham) 2100 Riverchase Center, Suite 106 Birmingham, AL 35244

Washington (Seattle) 1000 SW 34th Street, Suite G Renton, Washington 98057

**Texas (Houston)**4560 Kendrick Plaza Drive, Suite 120
Houston, TX 77032

One number to serve you better: 1-888-MITUTOYO







# SOFTWARE DEVELOPMENT AND SUPPORT

Mitutoyo America's CTLabs and Micro Encoder Inc. are part of an international network of Mitutoyo research and development facilities charged with developing breakthrough technologies for the company's range of dimensional measurement tools, instruments and systems and for the advancement of the field of metrology. Highly skilled developers and engineers utilize cutting-edge development tools to produce the most advanced and sophisticated metrology software and equipment available. Mitutoyo America Corporation is a Microsoft® Gold Certified Partner, providing the entire organization access to a host of Microsoft® development tools and support, and ensuring that Mitutoyo software applications work reliably in Microsoft® OS and network environments.

- Mitutoyo MCOSMOS® 2D and 3D Coordinate Measuring Machine software helps accomplish measuring tasks quickly and easily. It handles large amounts of data with ease, making it available across the entire networked production and enterprise environments.
- Mitutoyo MeasurLink® is a comprehensive suite of quality control management software that combines real-time data acquisition, on-line SPC analysis, integrated networking and quality information sharing into an enterprise-wide solution.













## MITUTOYO INSTITUTE OF METROLOGY

Beyond selling products and provide services, we also feel strongly about sharing our knowledge and understanding of metrology. That is why we established the Mitutoyo Institute of Metrology. The Institute provides training and seminars on topics ranging from basic principles of metrology to calibration methods and measurement uncertainty. Seminars are led by industry professionals at locations across the United States. We also provide on-site training and all of our courses are approved for CEU (Continued Education Units).

#### COURSE OFFERING:

- Dimensional Metrology
- Gage Calibration Systems and Methods
- Integrated Geometric Dimensioning and Tolerancing (GD&T)
- Hands-on Gage Calibration (taught in our accredited calibration laboratory)
- Estimating Measurement Uncertainty
- Measurement Systems Analysis/Gage R&R
- Statistical Process Control (SPC)









## MITUTOYO'S COMPLETE LINE OF MEASURING INSTRUMENTS AND METROLOGY SOLUTIONS

# Coordinate Measuring Machines

Manual CMM - Bridge Type

Crysta PM 400/500/700 Series

CNC CMM - Bridge Type CRYSTA-Apex S500/700/900/1200 Series CRYSTA-Apex S1600/2000 Series

CNC CMM - High Accuracy

STRATO-Apex 500/700/900/1600 Series CNC CMM - Ultra High Accuracy Legex 500/700/900 Series

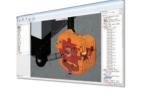
CNC CMM - In-line Type High-Speed

CNC CMM - Car Body Measuring Type CarbStrato/CarbApex

**MiCAT Planner Software** 

**Probe Systems** Surftest SurfaceMeasure

MACH Series



#### Vision Measuring Systems



3-D Manual Vision - Desktop Quick Scope QS-L

2-D Manual - Large field-of-view Quick Image

Compact CNC Quick Vision Active

Quick Vision Stream Plus

3-D CNC Vision High-Speed

3-D CNC Vision - Standard Quick Vision Apex

3-D CNC Vision - High-speed large platform

Quick Vision Accel

3-D CNC Vision High-Accuracy Hyper QV

3-D CNC Vision Ultra High-Accuracy

Ultra QV

PFF (Points from Focus) QV PAK Software and Accessories

#### Form Measurement



RA-1600/M Series

RA-6000CNC Series

CV-2100 Series

RA-2200AS/DS/AH/DH Series

RA-2200CNC/RA-H5200CNC Series

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Surface Roughness Testers

SJ-210 Series SJ-310 Series SJ-410 Series

SJ-500/P Series SV-2100/3200 Series SV-3000/SV-M3000 CNC Series

Surface Roughness /Contour **Measuring Systems** 

SV-C3200/4500 Series SV-C4500 CNC Series

Form Measuring Instruments (Formtracer)

CS-3200 Series CS-5000/CS-H5000 CNC Series

Roundness Measuring Instruments (Roundtest) RA-120/120P Series



**Profile Projectors** 

PJ-H30 Series PV-5110 Series PH-A14 Series

Toolmaker's Microscopes TM-505B/1005B Series

Contour Measuring Instruments (Contracer)

OM Data 200 CV-3200/4500 Series Vision Unit

> High Power Inspection Microscopes FS-70 Series

Wide VMU

Evenieces, Objectives

Stereo Microscopes MSM-400 Series

Magnifiers, Pocket Comparators, Loupes

#### Sensor Systems **Optical Measurement**

Linear Gages

LGF-Z, LGD, LGS Laser Hologage LGH

Laser Hologage

EC Counter

EB Counter

EG Counter

EH Counter

EV Counter

SENSORPAK

Mu-Checker

LSM-9506

LSM-500S

LSM-501S

LSM-503S

LSM-506S

LSM-512S

LSM-516S

LSM-5200 Display Unit

LSM-6200 Display Unit

LSM-902/6900

D-EV Display Unit

Litematic and Litematic Head

Laser Scan Micrometers

Laser Scan Micrometers Display Units

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LG/LGM **Linear Gage Counters** 

PH-3515F Series

Measuring Microscopes MF Series

MF-U Series Microscope Accessories

OSPAK Software

Objectives corrected for glass, IR and UV

Laser Scan Micrometers Accessories

#### Test Equipment



**Portable Hardness Testers** Hardmatic HH-411 Series

**Rockwell Hardness Testing Machines** 

HR521/523/530 Series HR320, HR430 Series

Macro Vickers HV110/120 Type A, B and D

Hardmatic HH-300 Series

Micro Vickers HM210/220 Type A, B and D MZT 500 Series

**Hardness Tester Accessories** 

#### Digital Scales and DRO Systems



**Digimatic Scale Units** 

ABSOLUTE Digimatic Scale Units EC Counter ABSOLUTE Coolant Proof Digimatic Scale Units Ouill Kit with ABSOLUTE Encoder

Linear Scales

Digital Readout/DRO packages AT1100 Linear Scales AT203 Linear Scales AT211A/AT211B Linear Scales ST700/ST700L Linear Scales ST1300 Linear Scales ST36 Linear Scales ST46 EZA Linear Scales

ST-F11 Fiber Scale Counters

AT216-T/AT217-TL

KA-200 Counter KLD Counter PSU-200

Image Correlation Encoder MICSYS-SA1 2-D

## Small Tool Instruments and Data Management



Reference Gages

Granite Surface Plates

SPC Connecting Cables

Digimatic Indicators

Test Indicators

#### **Small Tool Instruments**

Dial Caliper

Vernier Calipers

Digimatic Height Gages

Linear Height Gages

Vernier Depth Gages

Dial Depth Gages

Gage Blocks

Digimatic Depth Gages

Digimatic Micrometers QuantuMike MDH Micrometers Quickmike Digimatic Solar Indicators **Outside Micrometers** Dial Indicators Micrometer Heads Holtests Stands Inside Micrometers Bore Gages Digimatic Calipers

Data Management (SPC)

MeasurLink® Software U-Wave Input Tools Multiplexers – MIG-4USB, MIG-8USB Gage Selector 3 EC Counter DP-1VR Miniprocessor

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MITUTOYO AMERICA CORPORATION 18



DR. JIM SALSBURY General Manager, Corporate Metrology, Mitutoyo America Corporation



As a metrology company, Mitutoyo America Corporation recognizes that the products and services we provide are used to ensure our customers' quality. This is a responsibility that we do not take lightly and is why we have spent decades building an organization that can be trusted by our customers.

Some areas of industry have moved toward lower quality disposable products, but that direction should never be accepted in the measurement business. The failure of a device like an inexpensive camera will often be immediately apparent and might create a temporary inconvenience; however, the failure of a measuring instrument is often more difficult to detect and may create a potential crisis due to the ensuing doubt regarding prior measurement results.

Our customers require measurement equipment they can trust over time, and Mitutoyo has developed world-class research and manufacturing facilities to ensure high quality, innovative products at a competitive price. In addition, Mitutoyo America Corporation has built comprehensive ISO/IEC 17025 accredited calibration services to maintain the accuracy and traceability of our customers' investment in measuring equipment.

From our international factories to our local world-class services, Mitutoyo builds quality into all aspects of our products. Our customers expect, and demand, nothing less.

MITUTOYO AMERICA CORPORATION

## GLOBAL SALES AND SERVICE LOCATIONS



Mitutovo America Corporation 965 Corporate Blvd., Aurora, IL 60502 Toll Free: (888) MITUTOYO

#### M<sup>3</sup> Solution Center-Illinois (Chicago) 965 Corporate Blvd., Aurora, II, 60502

Toll Free: (888) MITUTOYO

#### M<sup>3</sup> Solution Center-Ohio (Mason) 6220 Hi-Tek Ct., Mason, OH 45040 Toll Free: (888) MITUTOYO

M<sup>3</sup> Solution Center-Michigan (Novi)

46850 Magellan Drive, Suite 100, Novi, MI 48377 Toll Free: (888) MITUTOYO

#### M<sup>3</sup> Solution Center-California (Los Angeles)

16925 E. Gale Ave., City of Industry, CA 91745 Toll Free: (888) MITUTOYO

#### M<sup>3</sup> Solution Center-Massachusetts (Boston)

753 Forest Street, Suite 110, Marlborough, MA 01752 Toll Free: (888) MITUTOYO

#### M<sup>3</sup> Solution Center-North Carolina (Charlotte)

11515 Vanstory Dr., Suite 140, Huntersville, NC 28078 Toll Free: (888) MITUTOYO

#### M<sup>3</sup> Solution Center-Alabama (Birmingham)

2100 Riverchase Center, Suite 106, Birmingham, AL 35244 Toll Free: (888) MITUTOYO

#### M<sup>3</sup> Solution Center-Washington (Seattle)

1000 SW 34th Street, Renton, Suite G, Washington 98057 Toll Free: (888) MITUTOYO

#### M<sup>3</sup> Solution Center-Texas (Houston)

4560 Kendrick Plaza Drive, Suite 120, Houston, TX 77032 Toll Free: (888) MITUTOYO

#### Micro Encoder, Inc. (Seattle)

11533 NE 118th St., bldg. M, Kirkland, WA 98034, USA TEL: (425) 821-3906 FAX: (425) 821-3228



#### ARGENTINA

Mitutoyo Sul Americana Ltda. Argentina Branch (Buenos Aires) Av. Mitre 891/899 CP (B1603CQI) Vicente Lopez Buenos Aires,

TEL: 54 (11) 4730-1433 FAX: 54 (11) 4730-1411



Mitutoyo Belgium N.V. (Antwerp) Hogenakkerhoekstraat 8, B-9150 Kruibeke, BELGIUM TEL: 32 (0) 3-2540444 FAX: 32 (0) 3-2540445



Mitutoyo Sul Americana Ltda. (Sao Paulo) Rodovia Índio Tibirica 1555, Bairro Raffo, CEP 08620-000 Suzano – SP. Brasil TEL: 55 (11)4746-5858



#### CANADA

Mitutoyo Canada Inc. Head Office (Toronto) 2121 Meadowvale Blvd., Mississauga, Ont. L5N 5N1, CANADA TEL: (905) 821-1261 FAX: (905) 821-4968

#### Montreal Office (Montreal)

7075 Place Robert-Joncas Suite 129, Montreal, Quebec H4M 272. CANADA TEL: (514) 337-5994 FAX: (514) 337-4498



Mitutovo Measuring Instruments Co., Ltd. (Suzhou) No. 46 Baiyu Road, Suzhou 215021, CHINA TEL: 86 (512) 6522-1790 FAX: 86 (512) 6251-3420



#### CZECH REPUBLIC

Dubska 1626, 415 11 Teplice, CZECH REPUBLIC TEL: 420-417-514-011 FAX: 420-417-579-867



Mitutoyo (UK) Ltd (Andover) Joule Road, West Point Business Park, Andover, Hampshire SP10 3UX UNITED KINGDOM TEL: 44 (0) 1264353 123 FAX: 44 (0) 1264 354883



MITUTOYO France (Paris) http://www.mitutovo.fr Paris Nord 2-123 rue de la Belle Etoile, BP 59267 ROISSY EN FRANCE 95957 ROISSY CDG CEDEX, FRANCE TEL: 33 (0) 1 49 38 35 00 FAX: 33 (0) 1 48 63 27 70



#### GERMANY

Mitutovo Furope GmbH Head Office (Dusseldorf) Borsigstrasse 8-10, 41469 Neuss / GERMANY TEL: 49 (0) 2137 102-0 FAX: 49 (0) 2137 86 85



#### HUNGARY

Mitutoyo Hungária Kft. (Budapest) Záhony utca 7. D-épület / fsz. 1031 Budapest, HUNGARY TEL: 36 (0)1 2141447 FAX: 36 (0)1 2141448



Mitutoyo South Asia Pvt. Ltd. (New Delhi) C-122, Okhla Industrial Area, Phase-I, New Delhi-110 020, INDIA TEL: 91 (11) 2637-2090 FAX: 91 (11) 2637-2636



#### INDONESIA

PT. Mitutoyo Indonesia Jalan Sriwijaya No.26 Desa cibatu Kec. Cikarang Selatan Kab. Bekasi 17530, INDONESIA TEL: (62)21-2962 8600 FAX: (62)21-2962 8604



Mitutovo Italiana S.R.L. (Milano) 20020 Lainate, Corso Europa No.7, (MI), ITALY TEL: 39 (02) 935781 FAX: 39 (02) 9373290-9373380



Mitutoyo Corporation Headquarters 20-1, Sakado Takatsu-ku, Kawasaki-shi, 213-8533, JAPAN TEL: (044) 813-8201 FAX: (044) 813-8210



#### SOUTH KOREA

Mitutoyo Korea Corporation (Sanbon-Dong, Geumjeong High View Build.), 6F, 153-8, Ls-Ro, Gunpo-Si, Gyeonggi-Do, 15808 KOREA TEL:82(31)361-4200 FAX:82(31)361-4202



Mitutovo (Malavsia) Sdn. Bhd. Head Office (Kuala Lumpur) Mah Sing Intergrated Industrial Park. 4. Jalan Utarid U5/14. Section U5. 40150 Shah Alam, Selangor, MALAYSIA TEL: (60) 3-78459318 FAX: (60) 3-78459346



Mitutovo Mexicana S. A. de C. V (Mexico Citv) Prol. Industria Eléctrica No.15, Col. Parque Industrial Naucalpan, Naucalpan de Juarez Edo, de Mexico, C. P. 53370, MEXICO TEL: 52 (55) 5312-5612 FAX: 52 (55) 5312-3380



#### NETHERLANDS

Mitutoyo Nederland B.V. Wiltonstraat 25, 3905 KW Veenendaal. THE NETHERLANDS TFI: 31(0)318-534911



#### POLAND

Mitutoyo Polska Sp.z o.o. (Wroclaw) Ul.Graniczna 8A, 54-56, 54-610 Wrocław, POLAND TEL: 48 (71) 354 83 50 FAX: 48 (71) 354 83 55



#### SINGAPORE

Mitutovo Asia Pacific Pte. Ltd. Regional Headquarters (Singapore) 24 Kallang Avenue, Mitutovo Building, SINGAPORE 339415 TEL: (65) 62942211 FAX: (65) 62996666



Mitutoyo Scandinavia AB Head Office (Stockholm) Sländvägen 6, 194 54 Upplands Väsby, SWEDEN TEL: 46 (0) 3-594 109 50 FAX: 46 (0) 3-590 924 10



#### SWITZERLAND

Mitutoyo Schweiz AG (Zurich) Steinackerstrasse 35,8902 Urdorf, SWITZERLAND TEL: 41 (0) 44 736 11 50 FAX: 41 (0) 44 736 11 51



#### Mitutovo Taiwan Co., Ltd.

Taipei Office (Taipei) 4F. No.71 Zhou St. Neihu Dist., Taipei City, Taiwan (R.O.C.) TEL: 886 (2) 5573-5902 FAX: 886 (2) 8752-3267



#### ■ THAILAND

Mitutoyo (Thailand) Co., Ltd. (Bangkok) No.76/3-5 Changwattana Road, Kwaeng Anusaowaree, Khet Bangkaen, Bangkok 10220, THAILAND TEL: (66) 2-080-3500 FAX: (66) 2-521-6136s



#### VIETNAM

Mitutoyo Vietnam Co. Ltd. No. 07-TT4. My Dinh - Me Tri Urban Zone, My Dinh 1 Ward. Nam Tu Liem District, Hanoi, VIETNAM TEL:(84)4-3768-8963 FAX:(84)4-3768-8960