



**INSIZE INDIA LLP**

[www.insize.in](http://www.insize.in)

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**INSIZE** - Founded in 1995, is a dedicated supplier of measuring instruments. To enable us to serve the world-wide market, we are setting up an INSIZE distribution network on a global basis. INSIZE headquarter is located in China. We have branch companies in Canada, USA, Mexico, Brazil, India, Turkey, Malaysia, Thailand, Vietnam, UAE, Spain, France, Italy, UK, Poland, Czech Republic, Romania, Slovenia, Australia and distributors in over 120 countries. We ensure that wherever you are, our INSIZE products have service and support that are within hands reach. Our dedication to Quality, Innovation, Service and Value has created a worldwide demand for the INSIZE products.



is our standard quality, made in China



is our premium quality, made in Europe



To become the world's leading supplier of industrial measurement solutions, providing measurement products and services for industrial production, addressing measurement challenges, continuously innovating, and contributing to social development.



# **Customized Services**





**01** *Data Output And Software*



**02** *Measuring Tools*



**03** *Levels*



**04** *On-Machine Measurement*



**05** *Linear Probes And Scales*



**06** *Roundness, Profile And Roughness Testers*



**07** 3D Measurement



**08** Profile Projectors, Quick Measurement Systems, Vision Measuring Systems



**09** Cutting Tools Inspection



**10** Microscopes, Magnifiers



**11** Videoscopes



**12** Other Dimension Measuring Instruments



**13** *Hardness Testers*



**14** *Metallography Preparation*



**15** *Flaw Detectors*



**16** *Testing Machines, Force Gauges, Tension Meters*



**17** *Torque Testers, Torque Wrenches*



**18** *Component Analysis*



## 19 *Coating Inspection*



## 20 *Other Instruments*

### Wireless Data Transmission



### Wired Data Transmission



### Measurement Data Management and Analysis Software



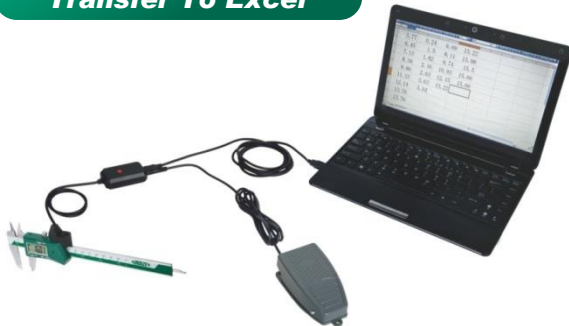
### Inspection Table



# Data Transmission And Management — Improve productivity

Supports multiple measurement tools for real-time data collection. One-click transfer of measurement data to Excel, measurement software or mobile APP after measurement. This process is efficient and accurate, and facilitates data management and sharing to improve productivity.

**Transfer To Excel**



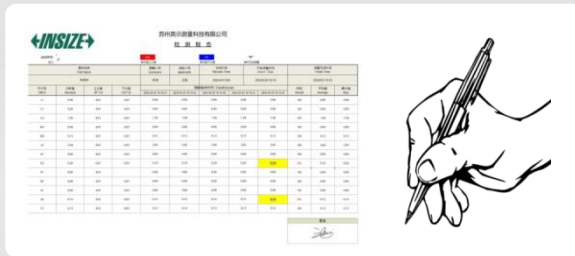
**Transfer To Data Management Software**

**Transfer To Phone APP**



# Advantages of Data Transmission (P1)

## Traditional Measurement



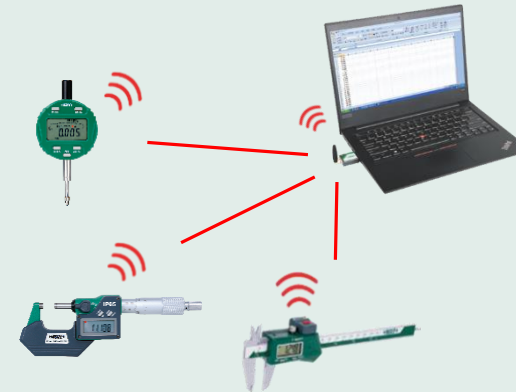
Traditional measurement is manual recording is inefficient, you need to measure and record at the same time; sometimes you need two operators for operation, one to measure and the other to record.

Traditional measurements are made by manually recording data to a paper file or manually entering it into a computer, which inevitably results in recording errors.

Traditional measurements use paper forms, which are difficult to save , circulate and trace at a later stage.

# VS

## Communication Transfer Data



Data can be transmitted directly to a computer /phone through wired or wireless data transmission, improving efficiency.

The direct transmission of measurement data to the computer, eliminating human error and ensuring that the data is true.

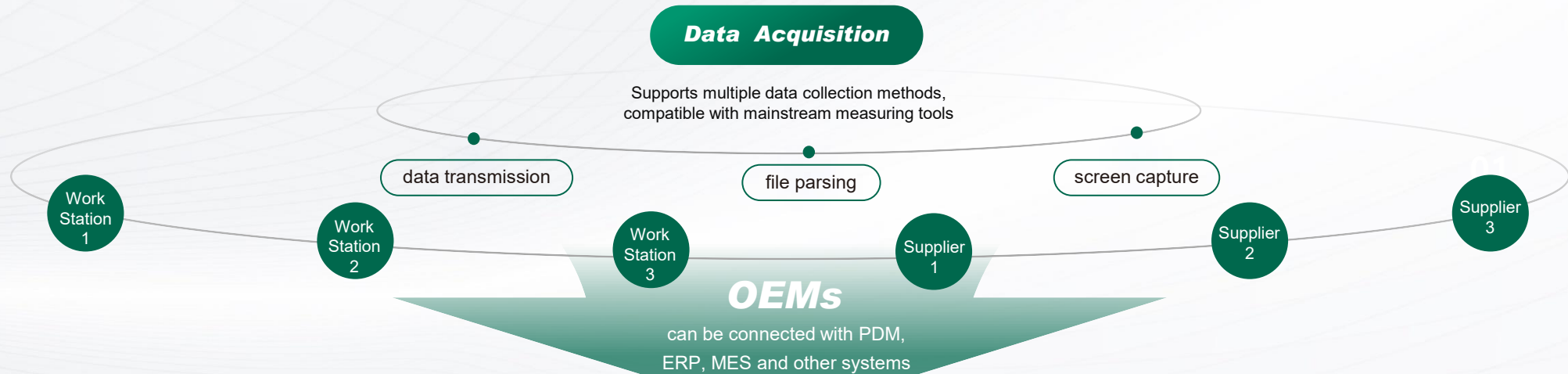
Compared to paper forms, electronic forms of data transmission are more convenient for storage, transferring between each other and later reference.

Timeliness

Validity

Paperless

# Advantages of Data Management (P2)



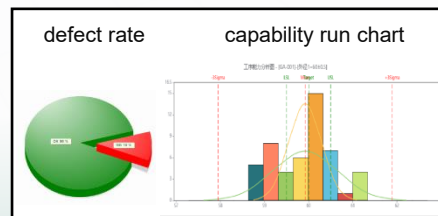
## Data Management

Manages measurement data for easy traceability and review.

Structure Tree	Seq	Manag.	List Item Code	List Item Name	Creation User	Creation Time
INSIZE	1	Sieve	001	Drawing A	Administrator	2022-06-07 14:50:24
ITC	2	Sieve	002	Drawing B	Administrator	2022-06-07 14:50:44
Workpace A	3	Sieve	003	Drawing C	Administrator	2022-06-07 14:50:46
MDCR	4	Sieve	004	Drawing A	Administrator	2022-06-07 14:50:52
Workpace A	5	Sieve	005	Drawing A	Administrator	2022-06-07 14:50:55
Workpace C	6	Sieve	006	Drawing B	Administrator	2022-06-07 14:51:28
ME	7	Sieve	007	Drawing B	Administrator	2022-06-07 14:50:25

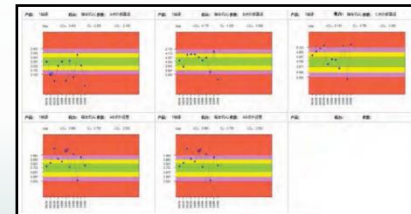
## SPC analysis

Analyzes measurement data to identify production inefficiencies and optimize workflows.



## Panel

Real-time monitoring of process quality to address risks promptly.



## Reports

Provides inspection reports upon production completion, enhancing quality credibility.

OEMs can conduct random inspections to verify if results align with those from suppliers and ensure full production traceability.

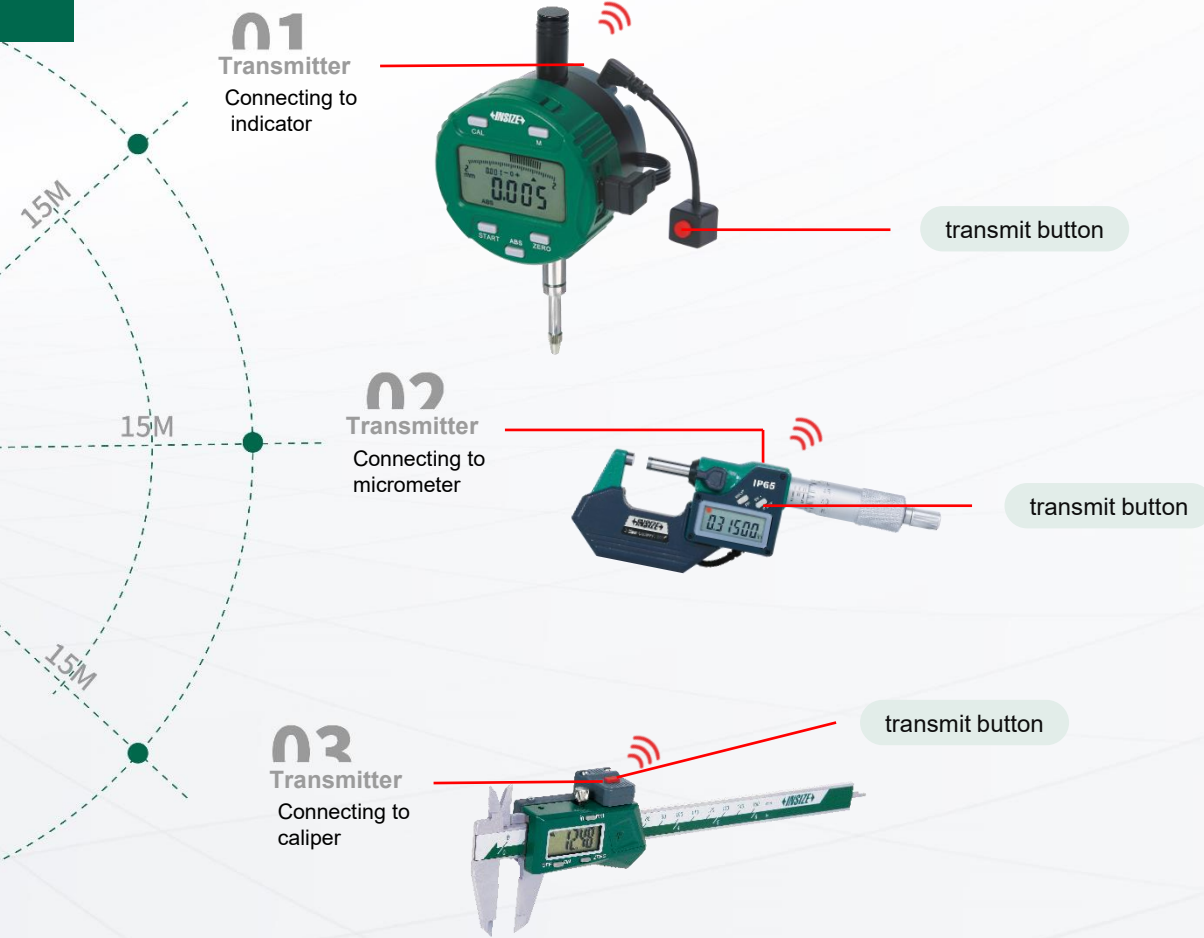
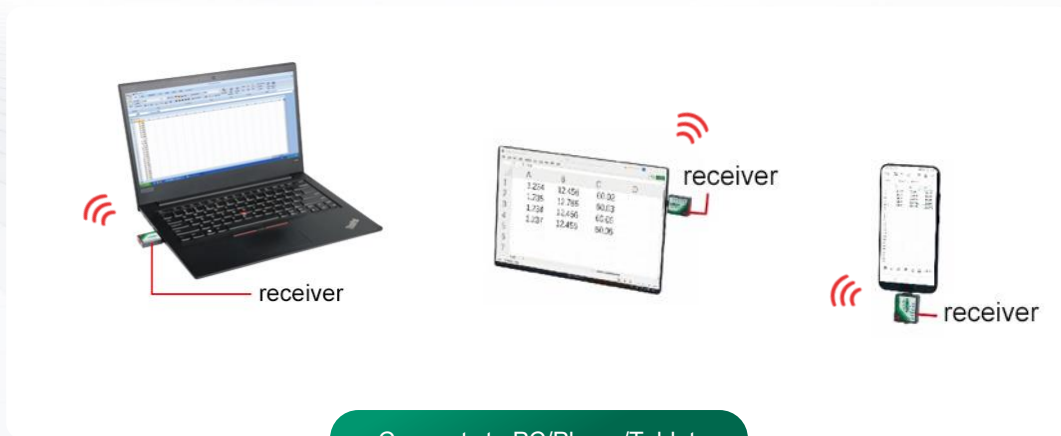
01

## ***Wireless Data Transmission***



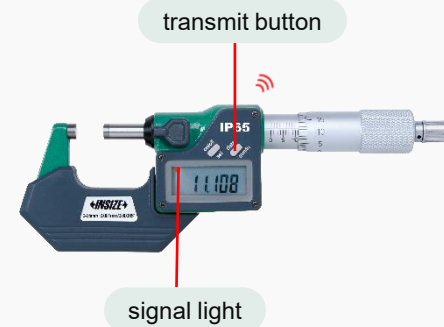
# Wireless Data Transmission System External Transmitter

- Measuring tool connects to a transmitter to send data, and receiver received data
- Trigger the transmit button of transmitter to wirelessly transfer measurement data to a computer /phone
- Transmission distance : 15m (unobstructed, no electromagnetic interference)
- Customizable AES128 data encryption to enhance data security



# Wireless Data Transmission System Built-in Wireless

- The built-in wireless measuring tool sends data, and receiver received data
- Transmission distance 10m(unobstructed, no electromagnetic interference)
- Trigger the transmit button of measuring tool to wirelessly transfer data to the PC/phone



# Receiver

- The receiver connects to the transmitter or built-in wireless measuring tool, receiving data wirelessly.



## Single Channel Receiver (Keyboard Signals)

can be connected to 1 transmitter

- For computers and mobile phone with Windows, Android, and iOS system
- Recognized as HID keyboard device, the transmitted data is recognized by computers or mobile phones as keyboard input data and press enter key, such as 12.34 ✓
- No need to install drivers and softwares.
- Data can be transmitted to excel, word, txt etc.
- For any softwares which can receive keyboard signal.



## Multichannel Receiver (Keyboard Signals)

can be connected to 6 transmitters



## Multichannel Receiver (virtual com port)

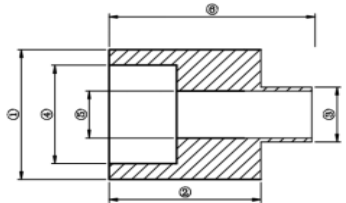
can be connected to 16 transmitters, each has an unique identification code

- For computers with windows system.
- Outputs serial port signals, to be used with software.

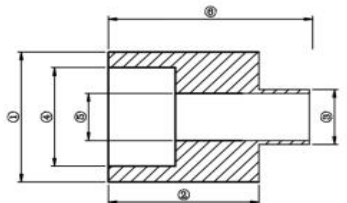
The data entry jump direction can be switched according to needs, either downwards or to the right.  
Custom output formats can also be tailored.

# Excel Directional Input Software (7315-2 Receiver Included)

- The readings of measuring tools can be transmitted to the designated area of excel, which facilitates data management and improves efficiency.



Projects	External diameter1	Height2	External diameter3	Internal diameter4	Internal diameter5
Specifications	60±0.5	45±0.5	21±0.05	30±0.06	15±0.1
Measuring tool	Built-in Wireless Transmission Caliper	Caliper	Micrometer	Bore gauge	Bore Plug Gauge
Transmission Type	Wireless Data Transmission				
1	60.19	45.20	20.967	30.012	14.996
2	60.49	45.24	20.945	30.235	14.996
3	60.13	45.32	20.956	30.145	15
4	60.45	45.22	20.945	30.233	14.996
5	60.45	45.21	20.975	30.141	15
6	60.44	45.08	20.847	30.000	14.993
7	60.44	45.03	20.955	30.056	14.993
8	Channel1 to be written	Channel2 to be written	Channel3 to be written	Channel4 to be written	Channel5 to be written
9					



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Measuring tool	Micrometer	Micrometer	Caliper	Bore Plug Gauge	Bore Plug Gauge
Transmission Type	Wireless Data Transmission				
1	60.19	20.967	45.20	30.012	14.996
2	60.49	20.945	45.24	30.235	14.996
3	60.13	20.956	45.32	30.145	15
4	60.45	20.945	45.22	30.233	14.996
5	60.45	20.975	45.21	30.141	15
6	60.44	20.847	45.08	30.000	14.993
7	60.44	20.955	45.03	30.056	14.993
8	60.34	Channel1 to be written	Channel2 to be written	30.036	Channel3 to be written
9					

# Wireless Data Transmission System of Digital Indicators (Remote control) 7213

- Digital indicator connects to a transmitter to send data, and receiver received data
- Trigger the transmit button of receiver to transfer data from multiple digital indicators to computer/phone



	channel 1	channel 2	channel 3	channel 4	channel 5	channel 6
	A	B	C	D	E	F
1	24.35	0.4045	57.72	1.949	0.4075	0.03568
2	24.45	0.5045	57.82	2.049	0.5075	0.13568
3	26.35	0.4045	57.72	1.949	0.4075	0.00078
4	27.35	0.4045	57.72	1.7575	0.4075	0.0762
5	28.35	0.4045	57.72	1.7575	0.4075	0.0762
6	29.35	0.4045	57.72	1.7575	0.4075	0.07618
7	30.35	0.4045	57.72	1.7575	0.4075	0.55334
8	31.35	0.4045	57.72	1.7575	0.4075	0.61198
9	24.35	0.4045	57.72	1.7575	0.4075	0.6172

The button on receiver is pressed once, the readings of all digital indicators are transmitted

# Wireless Data Transmission 7315 -- Advantages



Transmission distance: 15m (external transmitter), 10m (built-in transmitter).



Stable data transfer within the effective range, no data loss or errors.



Point-to-point transfer between measuring tools and collection terminal, with memory after pairing—no need to reconnect.



Data can be transferred normally after rebooting the computer/phone, no connection required.



When transferring data, data with ID number is for easy identification of the source.

# Wireless Data Transmission VS. Competitor Brands Advantages

## High Compatibility

01

Our receivers feature multiple interfaces (USB, Type C, Micro USB, and Lightning), compatible with various system terminals such as computers, tablets, or phones running Windows, Android, or iOS.

## Diverse Communication Protocols

03

Supports both emulated keyboard signals and serial port signals to accommodate varied industrial scenarios.

## Persistent Binding Mechanism

05

Single-pairing ensures continuous data transmission—no re-pairing required when replacing terminals, instruments, or batteries.

## Data Format

07

Supports multiple data formats: e.g., Value + Enter, Value + TAB, ID number + Value + Enter, etc.

## Deep Customization

09

Provides bespoke data transmission solutions tailored to client specifications.

## Comprehensive Coverage

02

Three product categories: built-in wireless transmitters, external wireless transmitters, and all-in-one transmitters. our wireless data transmission capability comprehensively covers commonly used measuring tools and instruments.

## User-Friendly Operation

04

Simplified device pairing, unpairing, and data transfer processes for effortless setup.

## Ultra-Low Power Consumption

06

Operates for over 400,000 transmissions on a single CR2032 battery.

## Data Security

08

Optional AES128 encryption for critical data protection.

## Advanced Analytics Capabilities

10

Mature supporting software collects, aggregates, and analyzes measurement data, enabling streamlined, intelligent, and visualized data management.

# 02

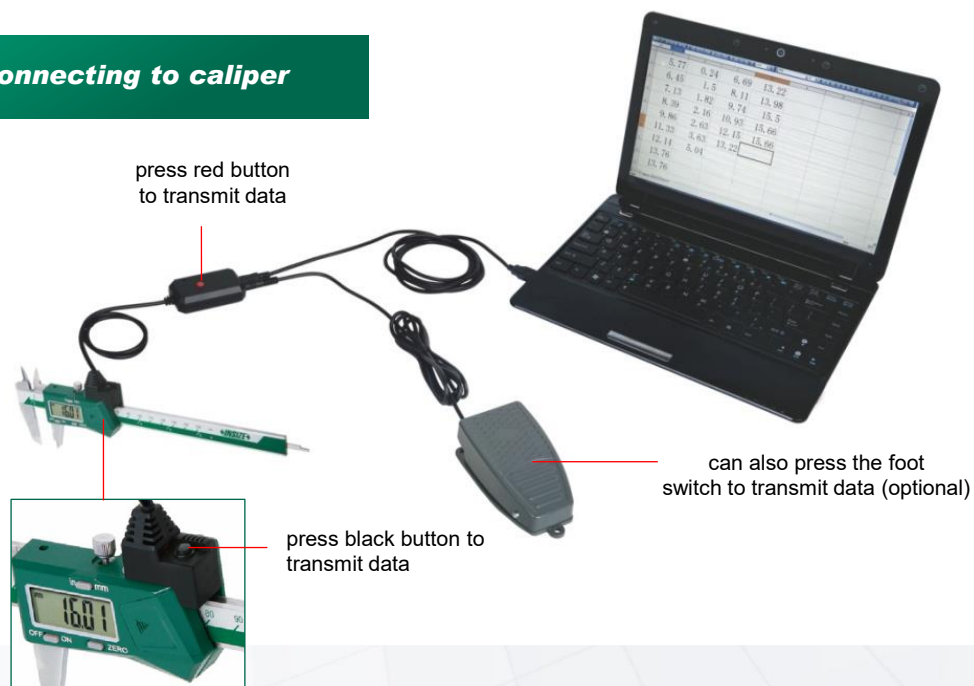
## ***Wired Data Transmission***



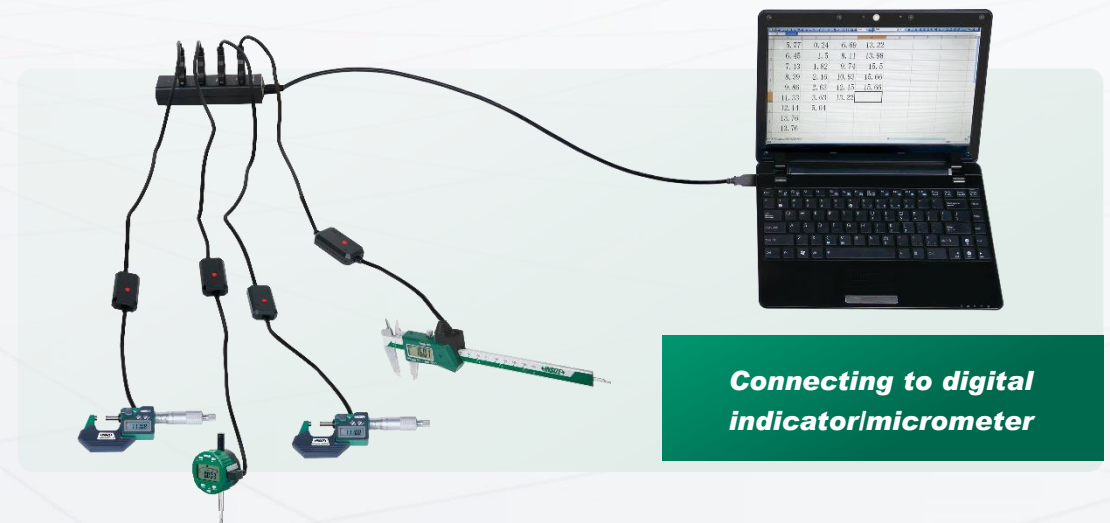
# Wired Data Transmission (keyboard Signals) 7302

- Measuring tool connects to the data output cable, and trigger the transmit button to wired transfer data to a computer/tablet

## Connecting to caliper



- Recognized as HID keyboard device by computer, no need to install drivers and softwares.
- Data can be transmitted to Excel, Word, txt and other files (press transmit button, which is recognized by the computer as keyboard input data and press enter key, such as 12.34 ↵).
- For any softwares which can receive keyboard signal.
- Cursor movement direction after data input can be switched (down/right).
- Supports output of ID numbers if needed, e.g., 2023032265 12.34.

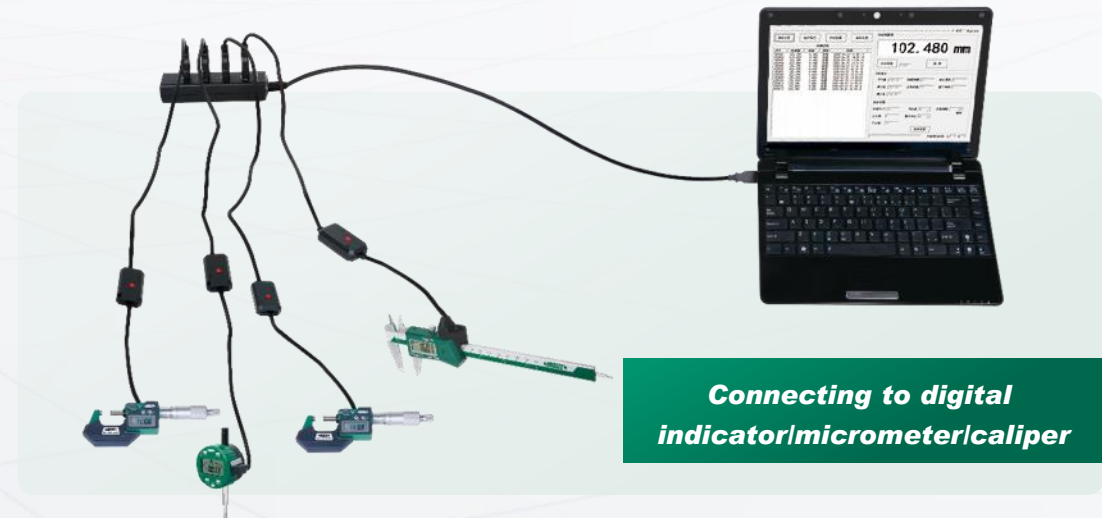
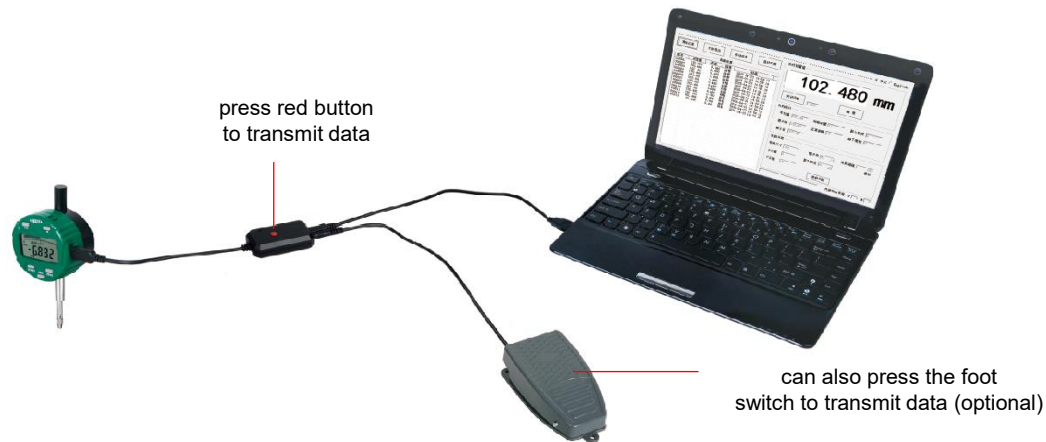


## Connecting to digital indicator/micrometer

# Wired Data Transmission (Text Format, Virtual Com Port) 7305

- Measuring tool connects to the data output cable, and trigger the transmit button to wired transfer data to a computer
- Output serial signals to transfer data to serial communication software.
- Supports output of ID numbers if needed, can designated area to input data from different measuring tool, e.g., 2023032265 12.34.

## Connecting to digital indicator



# 485 Data Output Cables 7215

- Connect the measuring instrument to the data cable, and connect the data cable to the PLC to enable automated control of the measurement data.



Application

Modbus-RTU Protocol

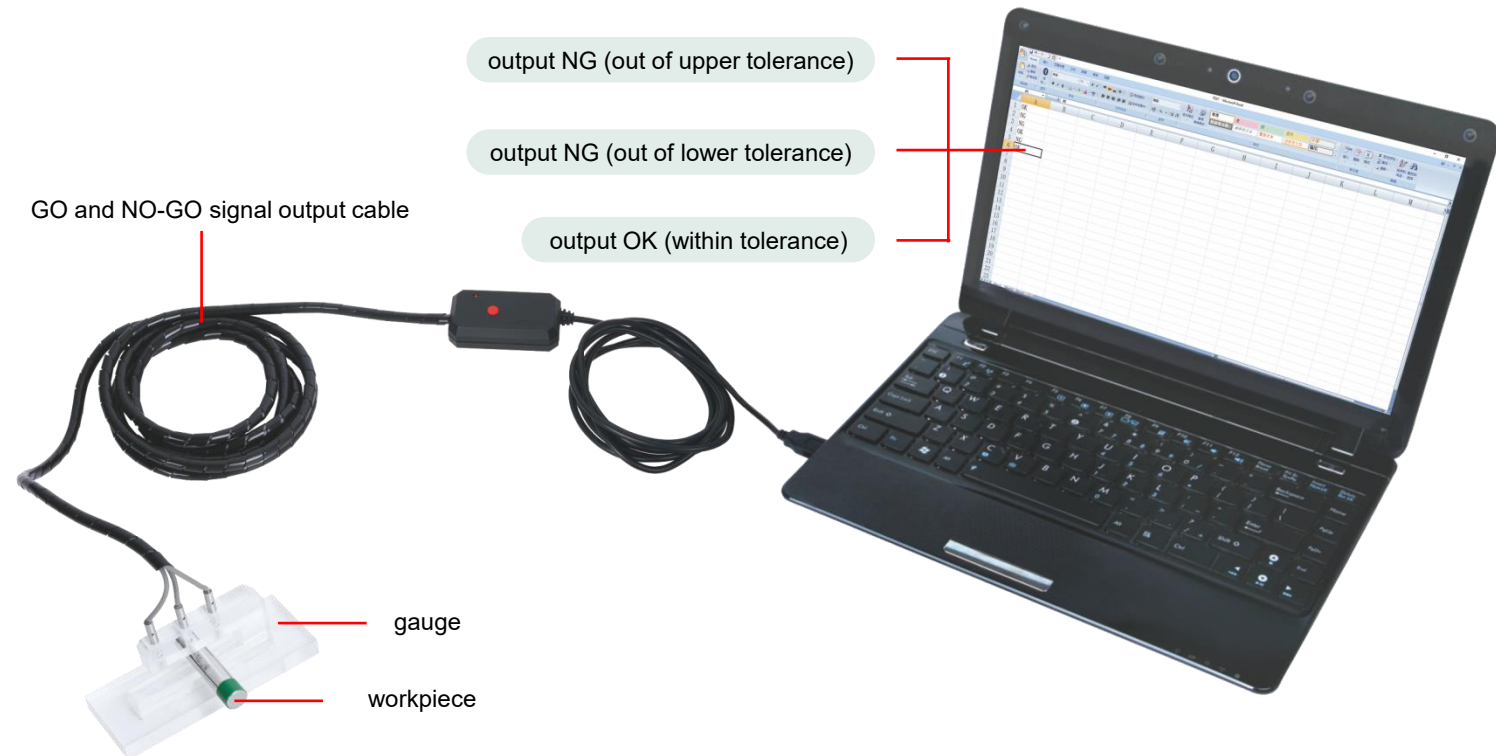
- Configurable baud rates (9600, 19200, 38400)
- Can set communication address

# Wired Data Transmission Comparison

PK	7302 Series (Keyboard Signal)	7305 Series (Serial Signal)	7215 Series (485)
<b>Adapted Terminals</b>	Computers or tablets with Windows, Android, or iOS systems (USB interface supported)	Computers or tablets with Windows system (USB or RS232 interfaces supported)	PLC (Terminal block)
<b>Communication type</b>	keyboard format (suitable for any software or APP which can receive keyboard input values)	text format, virtual com port (a. connection to software that recognizes different channels and IDs according to serial communication protocols and defines data entry area for different measurement tools; b. can also use the included software (included in the 7210-2 interface box) to transfer measurement data from multiple measuring tools to the designated area in Excel for easy data management)	Modbus-RTU protocols (Connecting a PLC for automated data control)
<b>Data Collection Methods</b>	Single key press transmission	Single key press transmission or command transmission or real-time continuous transmission	Command Transmission
<b>Transmission Performance</b>	Wired transmission directly transfers data through physical connections, offering strong anti-interference capability, stable signals, high speed, and good security. It supports high-bandwidth data transmission.		

# GO And NO-GO Signal Output Cable 7132 (P1)

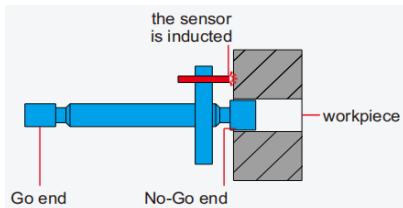
- Connects gauge with signal output cables, automatically judgment and wired transmitting the judgment result OK or NG to the computer.



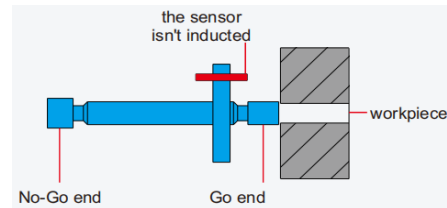
- Suitable for metal workpieces

# GO And NO-GO Signal Output Cable 7132 (P2)

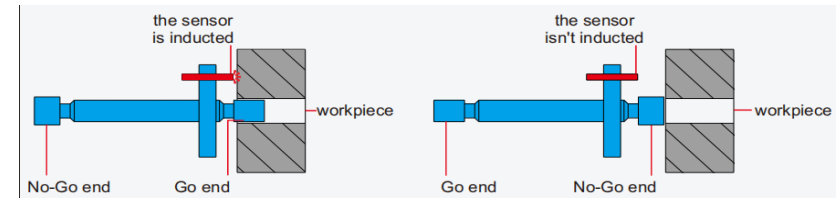
## Output cable with two sensors



If the No-Go end of gage can be inserted into the workpiece, it is out of upper tolerance and output NG

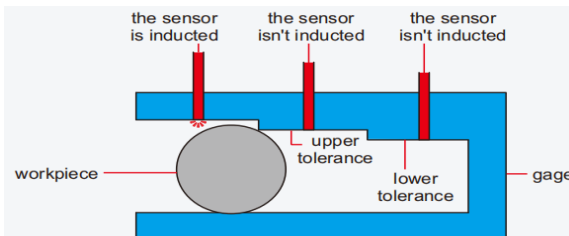


If the Go end of gage cannot be inserted into the workpiece, it is out of lower tolerance and output NG

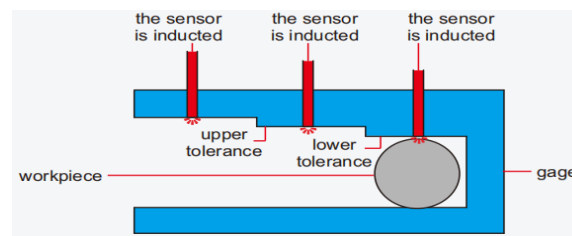


If the Go end of gage can be inserted into the workpiece, but the No-Go end of gage cannot be inserted into the workpiece, it is within tolerance and output OK

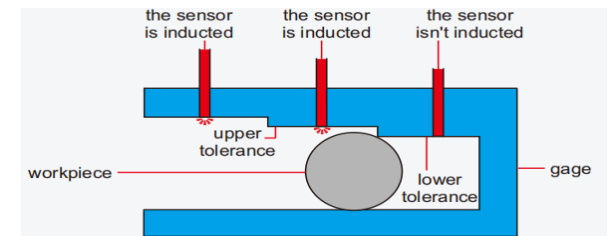
## Output cable with three sensors



If the workpiece cannot enter into the upper tolerance section, it is out of upper tolerance and output NG



If the workpiece can enter into the lower tolerance section, it is out of lower tolerance and output NG



If the workpiece can enter into the upper tolerance section, but the workpiece cannot enter into the lower tolerance section, it is within tolerance and output OK

# OKING Input switch 7327

- Transmit the OK/NG results to the computer via a wired switch.



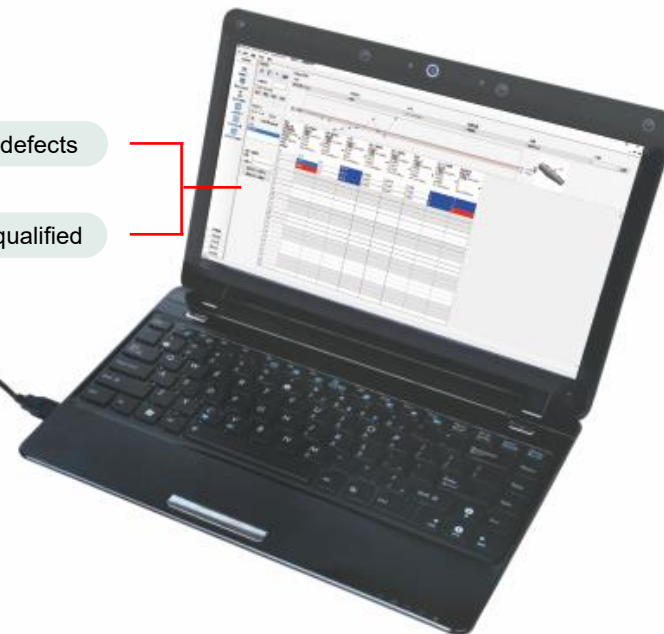
hand switch



foot switch

Output NG for appearance defects

Output OK for appearance qualified



# Wired Data Transmission VS. Competitor Brands Advantages

01

## Adapted Terminals

- Adaptable to multiple acquisition terminals
  - a. Computers or tablets with Windows, Android or iOS systems
  - b. PLC

02

## Communication types

- Multiple data communication types to meet various production application scenarios:
  - a. (Simulated keyboard signal) Directly transfer data to Excel reports or customer measurement software, MES, or ERP systems
  - b. (Output serial port signal ) Interface with serial communication software, or transfer measurement data from multiple gauges to the designated area of Excel for easier data management
  - c. (485) Can be connected to a PLC to enable automated control of measurement data

03

## Data Format

- Supports multiple data formats: e.g., Value + Enter, Value + TAB, ID number + Value + Enter, etc.

04

## Special Data Types

- Output the judgment result OK or NG

# 03

## ***Measurement Data Management and Analysis Software***



# Measurement Data Management and Analysis Software (Basic Version)-- 7349

- Automatically collects measurement data from measuring tools (e.g., digital calipers, micrometers, digital indicator , ...), analyzes and manages the measurement data to improve production quality.
- Software modules: Measuring tools management, inspection plan, data acquisition, data management, SPC analysis and quality reports

## Measuring tools Management

Manage basic information and calibration dates of measuring tools.

## Data management

Query measurement data (red display for out-of-tolerance) and result status (OK/NG, Rework, UpMax/LowMin).

## Make inspection plan

- Workpiece Definition
- Control Plans
- Data Interaction

Can be connected with PDM,ERP, MES and other systems

## SPC analysis

- SPC Analysis: average, min value, max value, range, Cp, Cpk, variation, sigma, counts of OK/NG.
- Quality Analysis Control Charts: Pie chart, X chart, Xbar-R chart, Xbar-S chart, I-MR chart and Run chart.



## Measuring tools Management

- Support multiple data acquisition methods
- manual input: data input with keyboard
  - data transfer: data collection with data output cable



## Quality report

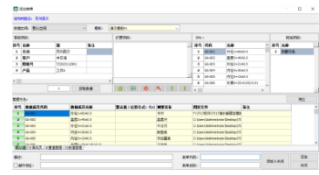
Generate quality reports with control plan information, SPC parameters, and measurement data, can export Excel.

# Measurement Data Management and Analysis Software -- 7317

- Automatically collects measurement data from measuring tools (e.g., digital calipers, micrometers, digital indicator , ...), analyzes and manages the measurement data to improve production quality.
- Software modules: Measuring tools management, inspection plan, data acquisition, data management, SPC analysis and quality reports

## Make inspection plan

Customize the workpiece size information and the rules for determining the difference.  
Tolerances and traceability (gauge/lot, etc.).



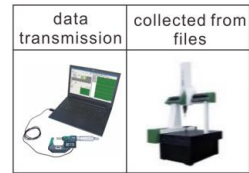
## Management of inspection plan

Manage the testing program according to the company's workflow.

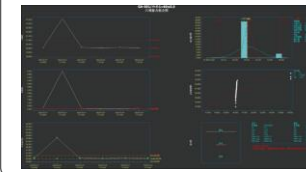
序号	物料名称	数量	规格	日期	创建人
1	测试工件	001	规格A	2019-11-11	...
2	测试工件	002	规格B	2019-11-11	...
3	测试工件	003	规格A	2019-11-11	...
4	测试工件	004	规格C	2019-11-11	...
5	测试工件	005	规格C	2019-11-11	...
6	测试工件	006	规格C	2019-11-11	...
7	测试工件	007	规格B	2019-11-11	...
8	测试工件	008	规格C	2019-11-11	...
9	测试工件	009	规格A	2019-11-11	...
10	测试工件	010	规格A	2019-11-11	...

## Data acquisition

Guided measurements according to the drawings.  
Support a variety of acquisition methods, compatible with most of the mainstream gages and gauges.

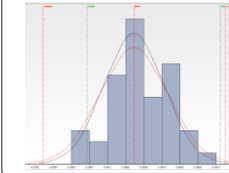


## Real Time Monitoring



Quality control personnel can monitor real-time quality status for each process and address risks promptly.

## SPC analysis



Measurement data analysis helps identify engineering limitations and optimize workflows.

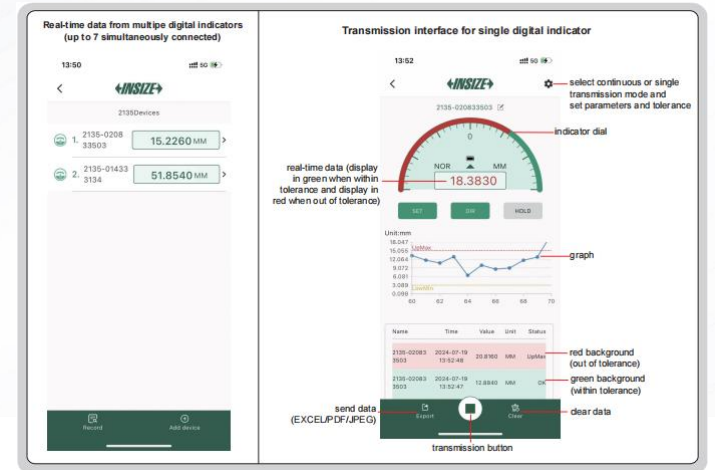
## Quality report

Quality reports increase quality credibility, reduce acceptance workload, and ensure traceable quality control.

**Can Be Connected With PDM, ERP, MES And Other Systems**

# Data Management APP

- Measuring tools connects to the mobile APP by Bluetooth for real-time data collection
- Displays synchronized data with automatic judgment (red display for out-of-tolerance)
- Data trend charts help quickly identify abnormal fluctuations
- Export data as PDF, JPEG, or Excel files
- Transmission distance: 10 meters



# 04

## *Inspection Table*



# Digital Measurement Station -- 7906-06

The small and lightweight station is easy to move, and equipped with a 23.6-inch touchscreen computer (i7 CPU&Windows system)

CAN BE CUSTOMILZED

## Application

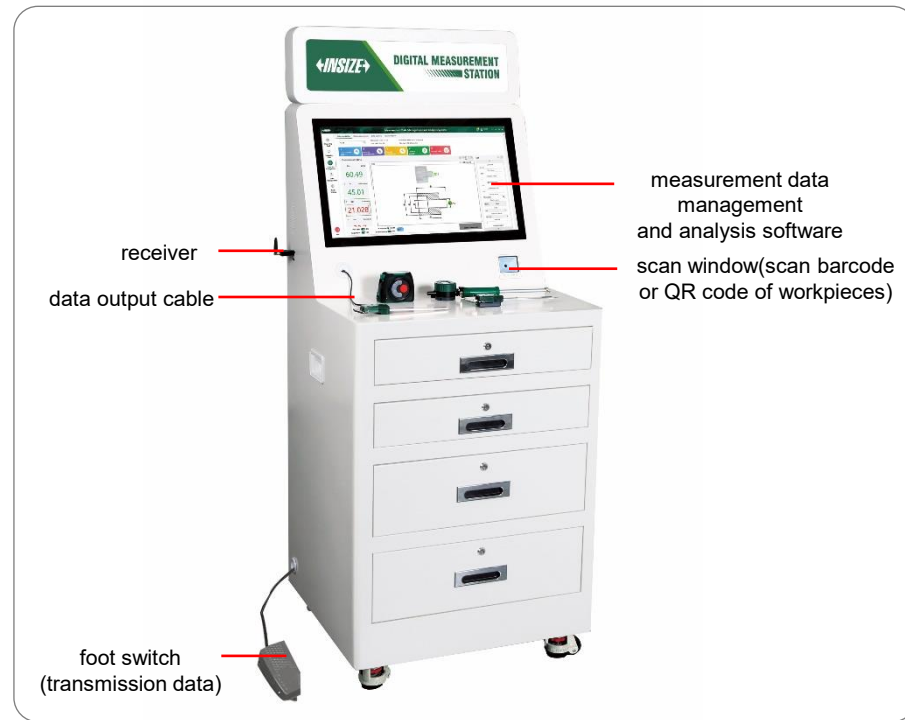


storage drawer  
(customizable cavity)



touchscreen  
computer

• L×W×H : 650x600x1617mm



receiver  
data output cable

measurement data  
management  
and analysis software  
scan window(scan barcode  
or QR code of workpieces)

foot switch  
(transmission data)

# Inspection Table

- Customers can choose the suitable inspection table based on different measurement applications.



7901



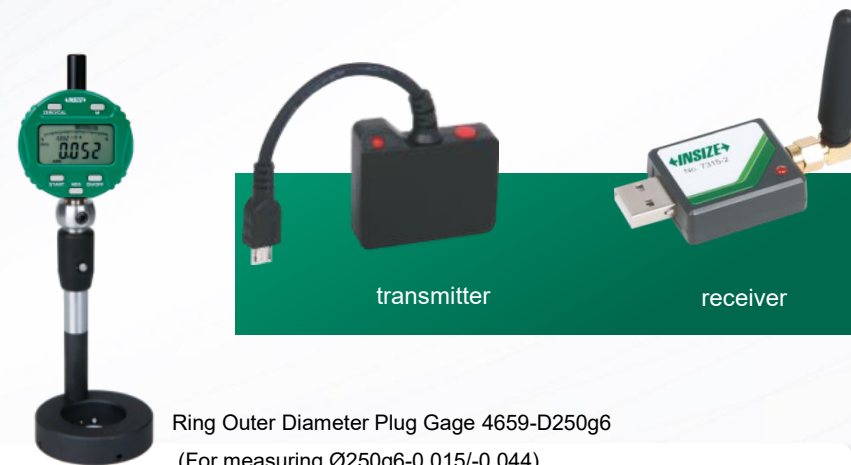
7911



7923

# SPC Inspection Station Case

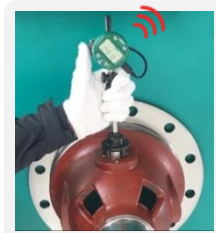
1. Customer needs to quickly measure the inner and outer diameters of automotive differentials.
2. Measuring tools were selected for quick on-site measurements and to minimize human errors: 4653 precision Bore plug gauge, 2186 quick dial snap gauge, and 4659 ring type inner/outer diameter plug gauge.
3. The 7315 wireless data transmission system was selected, and transmit data to the 7317 software.



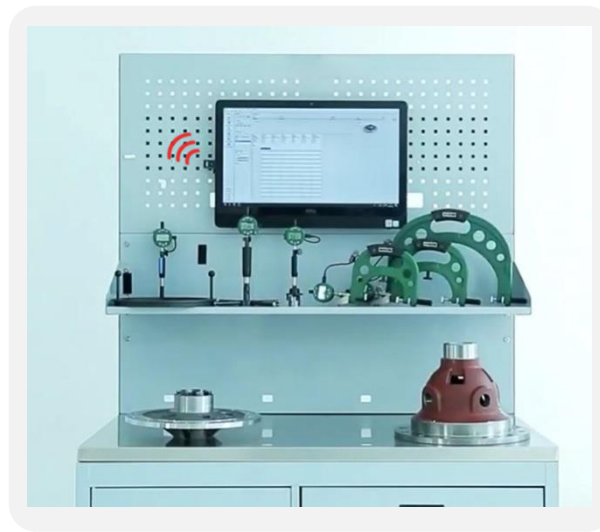
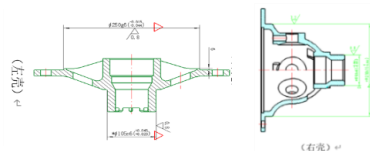
Ring Outer Diameter Plug Gage 4659-D250g6  
(For measuring  $\varnothing 250g6-0.015/-0.044$ )



Dial snap Gage 2186-125/275  
(For measuring  $\varnothing 105n6+0.045/+0.023/ \varnothing 270h7 0/-0.052$ )



Bore Plug Gage 4653-B34J8  
(For measuring  $\varnothing 34J8+0.024/-0.015$ )



Using the 7315 wireless transmission system, measurement data is directly transferred to the 7317 software.

# 02

## Measuring Tools (P1)



**Calipers**



**Depth Measuring Tools**



**Height Measuring Tools**



**Comparison Measuring Tools**



**Micrometers**



**Bore Diameter And Circumference Measuring Tools**



**ARC Radius Measuring Tools**



**Keyway And Chamfer Measuring Tools**



**Indicators And Dial Indicator Stands**



**Indicating Measuring Tools**



**Standards And Gauge Blocks**



**Angle, Straightness, Flatness Measuring Tools**



**Concentricity And Runout Testers**



**Simple Measuring Tools**



**Set-up Tools**



# Calipers



**Digital Calipers**



**Vernier Calipers**



**Dial Calipers**



**Caliper/Height Gauge Checkers**



**Caliper End Grinding Machines**



**Depth Base Attachments**



**Accessory Sets For Digital Calipers**



**Groove Points For Digital Calipers**



**Special Purpose Calipers**

# Digital Calipers



Digital Calipers (Standard Type) 1108



IP67 Waterproof Digital Calipers 1195



Wireless Digital Calipers 1113



Digital Calipers 1114



Left Hand Digital Calipers 1130



Digital Calipers With Ceramic Tipped Jaws 1193



Digital Calipers With Carbide Tipped Jaws 1110



Mini Digital Calipers 1111



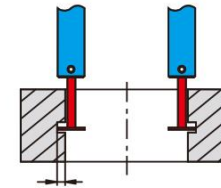
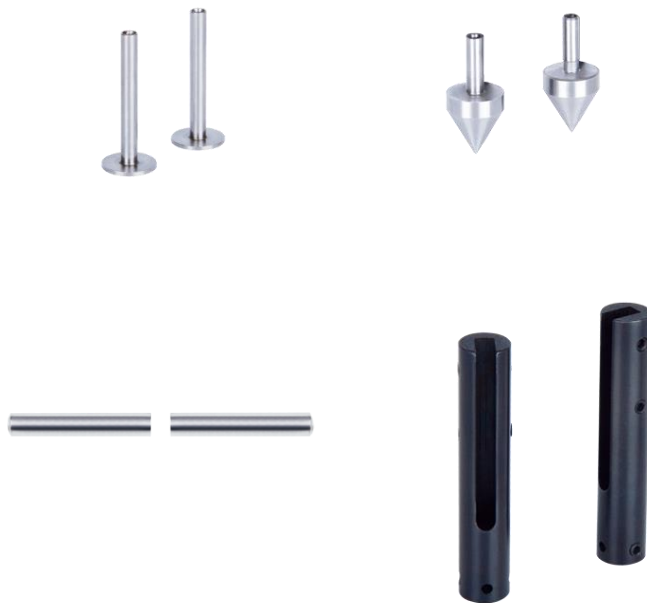
Plastic Digital Caliper 1139



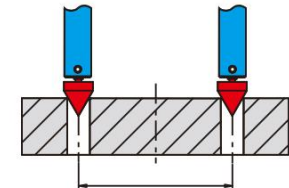
Digital Calipers 1106

# Accessory Set For Digital Calipers 6144

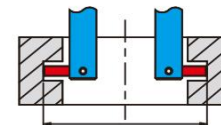
- Suitable for 0-150mm and 0-200mm digital calipers (thickness of lower jaws<3.7mm)
- Suitable for 0-300mm digital calipers (thickness of lower jaws<4.0mm)



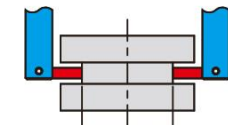
measuring internal  
groove diameter



measuring center  
distance



spherical points for groove diameter  
(inside hole) measurement



flat points for external  
groove diameter measurement

# Universal Calipers 1125

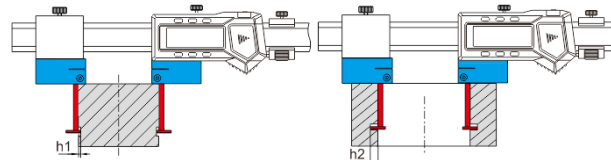
Working with stands



Working with measuring jaws



Half Disk Points

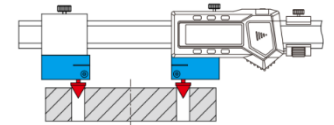


measuring external groove diameter with flat measuring face

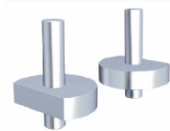
measuring internal groove diameter with spherical measuring face



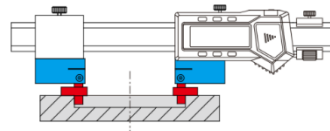
Conical Points



measuring center distance



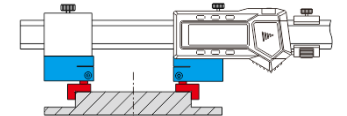
Round Shoulder Points



measure inside diameter of shallow hole



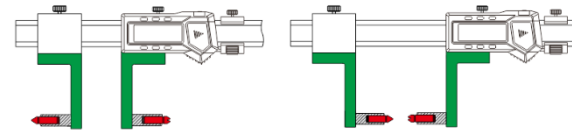
Flat Shoulder Points



measure outside diameter of low boss



Point Sleeve



working with multifunctional points, ball points and screw thread points

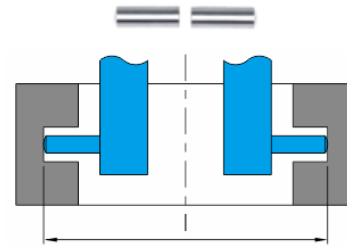
- Range : 0-1000mm
- Resolution : 0.01mm
- Accuracy :  $\pm 0.05\text{mm}/\pm 0.07\text{mm}$

# Digital Calipers With Interchangeable Points

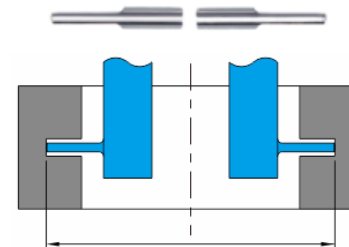
1526



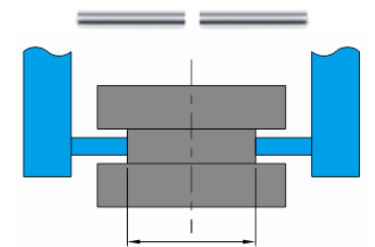
- Range : 0-200mm
- Resolution : 0.01mm
- Accuracy :  $\pm 0.03$ mm



spherical points for groove (inside hole) measurement



spherical blade points for narrow groove (inside hole) measurement



flat points for external groove measurement

1124



- Range : 0-300mm
- Resolution : 0.01mm
- Accuracy :  $\pm 0.04$ mm

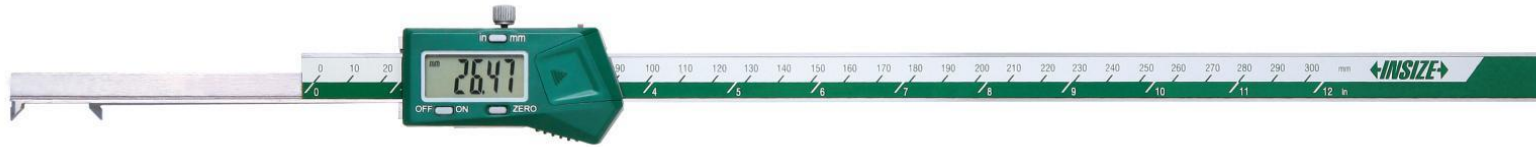
## Multifunctional Points



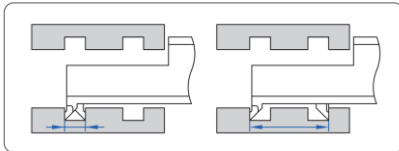
depth stop

# Digital Hook Calipers 1122 / 1164

Measure width and distance of grooves inside bores

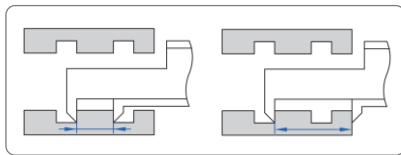


DATA  
OUTPUT



- Range : 3-300mm
- Resolution : 0.01mm
- Accuracy :  $\pm 0.03\text{mm} / \pm 0.04\text{mm}$

Measure width and distance of grooves inside bores



- Range : 0-300mm
- Resolution : 0.01mm
- Accuracy :  $\pm 0.03\text{mm} / \pm 0.04\text{mm}$

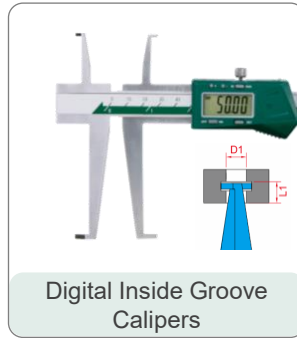
# Special Purpose Calipers



Digital Inside Groove Calipers



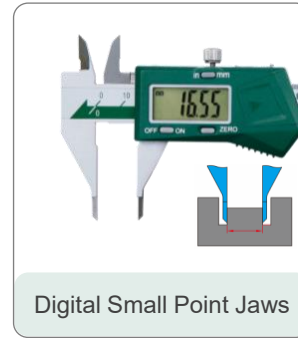
Digital Inside Point Calipers



Digital Inside Groove Calipers



Digital Outside Point Calipers



Digital Small Point Jaws



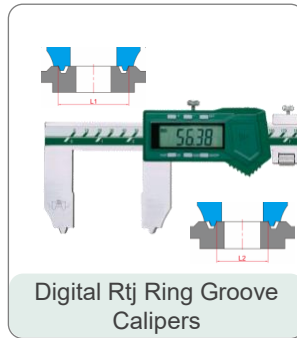
Digital Inside Knife-edge Calipers



Digital V Shape Caliper



Digital Offset Calipers



Digital Rtj Ring Groove Calipers



Digital Crimp Height Calipers



Digital Calipers With Large Measuring Faces



Digital Arc Radius Calipers

# Depth Measuring Tools



**Digital Depth Gauges**



**Dial Depth Gauges**



**Vernier Depth Gauges**



**Extension Bases**



**Mini Depth Gauges**



**Depth Gauges**



**Depth Micrometers**



**Measuring Tools Dynamometers**



**Depth Micrometer Checkers**

# Digital Depth Gauges



IP67 Waterproof Digital Depth Gauges 1149



Digital Depth Gauges (Standard Type) 1141



Digital Hook Depth Gauges 1142



Digital Double Hook Depth Gauges 1144



Digital Double Hook Depth Gauge 1540



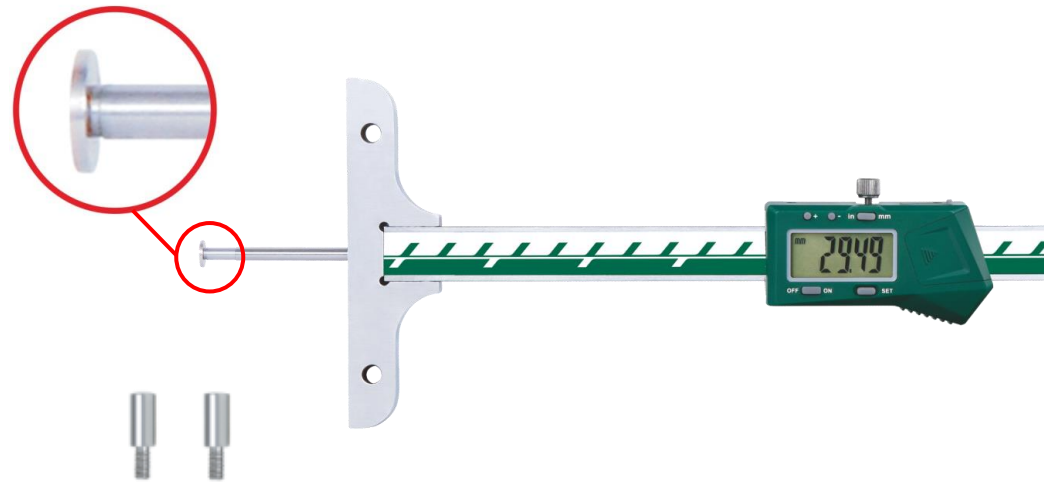
Digital Point Depth Gauges 1143



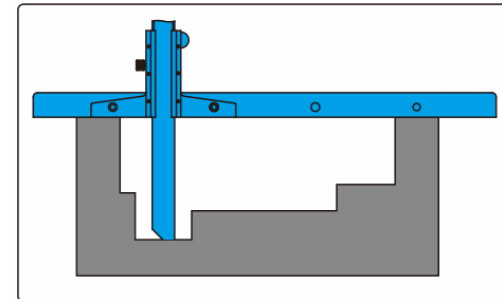
Mini Digital Depth Gauges With Round Bar 1140

# Digital Depth Gauges With Round Depth Bar 1148

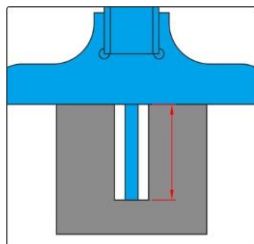
- Range: 0-100mm, 0-120mm (one-hand use), 0-200mm, 0-300mm
- Resolution: 0.01mm
- Accuracy:  $\pm 0.02\text{mm} \sim \pm 0.03\text{mm}$



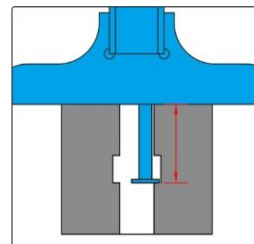
Extension base (optional)



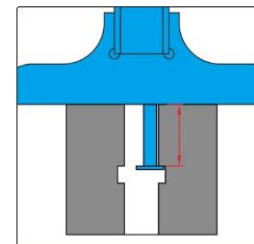
Measure depth of small holes ( $>\phi 4\text{mm}$ )



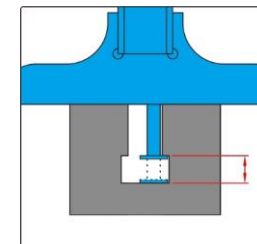
Measure depth of grooves inside bore



Measure depth of grooves inside bore



Measure width of grooves inside bore



# Height Measuring Tools



*Manual Height Gauges*



*Digital Height Gauges*



*Dial Indicator Stands*



*Height Gauges*



*Height Gauge Checkers*

# Manual Height Gauges

2D



DHG-V410/V710

with air cushion

- Measuring range : 0-407mm/0-711mm
- Expandable measuring range : 719mm/1023mm
- Accuracy(at 20°C) : 4.5µm/6µm

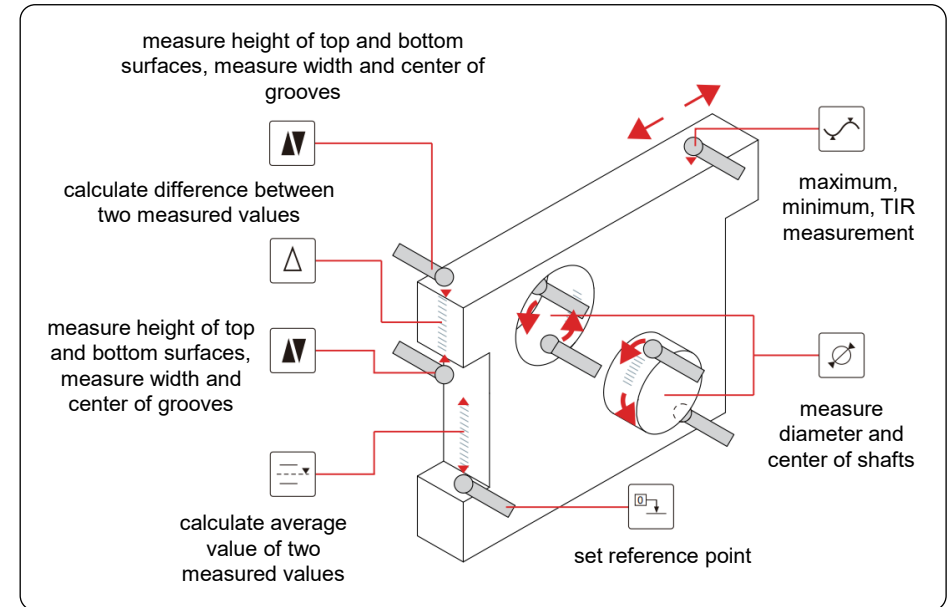
1D



ISHH-V400/V700

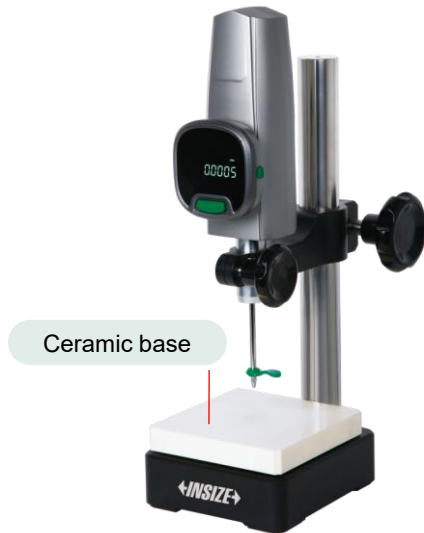
without air cushion

- Measuring range : 0-407mm/0-711mm
- Expandable measuring range : 508mm/812mm
- Accuracy(at 20°C) : 5µm/6µm



# Digital Height Gauges

High Precision Digital Height Gauges 1155



- Range: 0-50mm
- Resolution: 0.5 $\mu$ m(can switch to: 1 $\mu$ m) / 0.1 $\mu$ m(can switch to: 1 $\mu$ m)
- Accuracy (20°C): 1.5 $\mu$ m/1 $\mu$ m

Digital Height Gauges 1157



- Range: 0-50mm
- Resolution: 1 $\mu$ m
- Accuracy (20°C): 3 $\mu$ m

Large Range Digital Height Gauge 1158



- Range: 0-100mm
- Resolution: 0.1 $\mu$ m (can switch to: 1 $\mu$ m)
- Accuracy (20 °C): 3 $\mu$ m

# Height Gauges



Digital Height Gauges 1150



Digital Height Gauges With Driving Wheel 1156



Digital Height Gauges 1151



Dial Height Gauges 1351



Mini Digital Height Gauges 1154



Vernier Height Gauges 1250

# Comparison Measuring Tools



*Universal Comparison Gauges*



*Carbon Fiber Comparison Gauges*



*Universal Comparison Measuring Benches*



*Comparison Gauges*



*Internal/External Measuring Gauges*

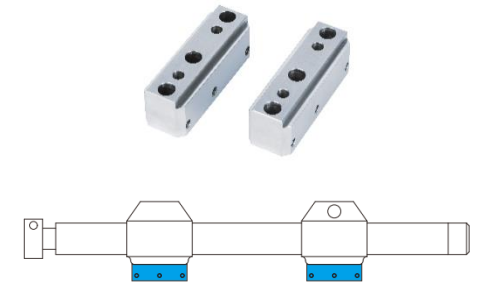


*Screw Thread Comparators*

# Universal comparison Gauge 2927 (P1)



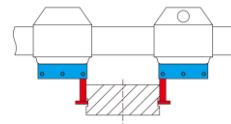
internal/external diameter measurement switch



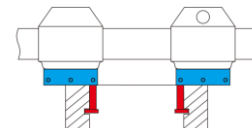
Stands (Optional, Supplied In Pair)



Half Disk Points (Optional, Supplied In Pair)



measuring external groove diameter with flat measuring face (depth≤2.5mm)



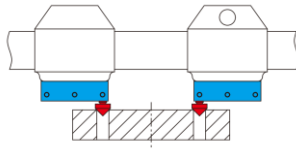
measuring internal groove diameter with spherical measuring face (depth≤7.5mm)

- Range of external diameter: 0-200mm
- Range of internal diameter: 30-250mm
- Maximum measuring range: 500mm (optional extension rods)
- Repeatability: 2µm
- Accuracy: ±5µm

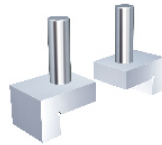
# Universal comparison Gauge 2927 (P2)



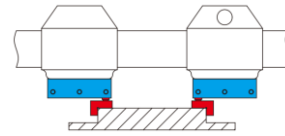
Conical Points



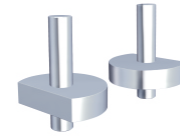
measuring center distance



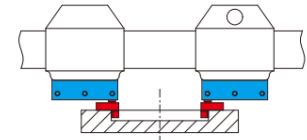
Flat Shoulder Points



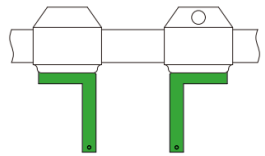
measure outside diameter of low boss



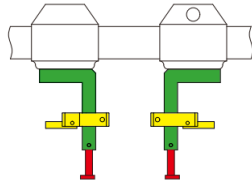
Round Shoulder Points



measure inside diameter of shallow hole



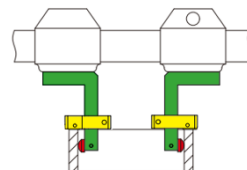
Measuring Jaws



Depth Stop



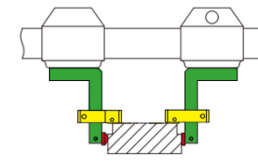
Spherical Point



measure inside diameter (2 spherical points)



Flat Point



measure outer diameter (1 spherical point, 1 flat point)



V-shaped Placement Brackets



Points



Multifunctional Points



Ball Points



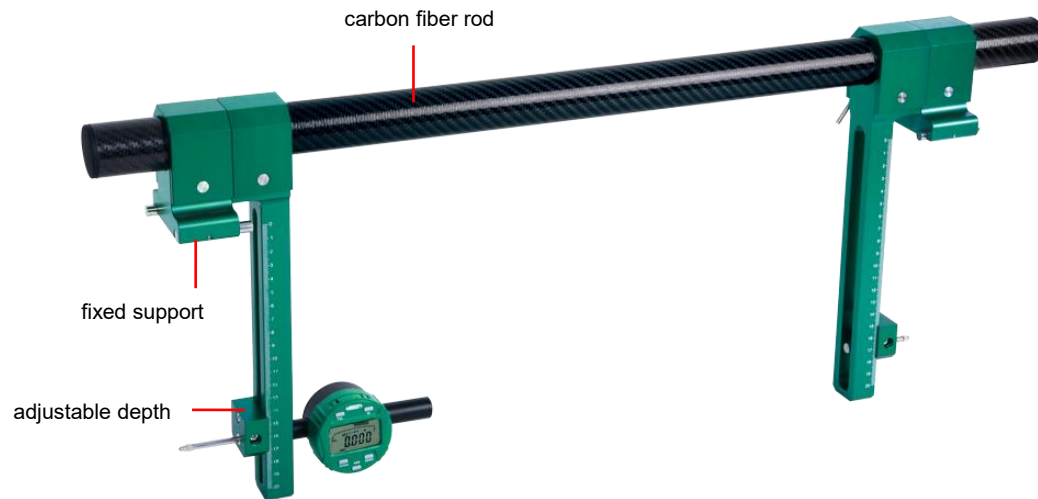
External Thread Points



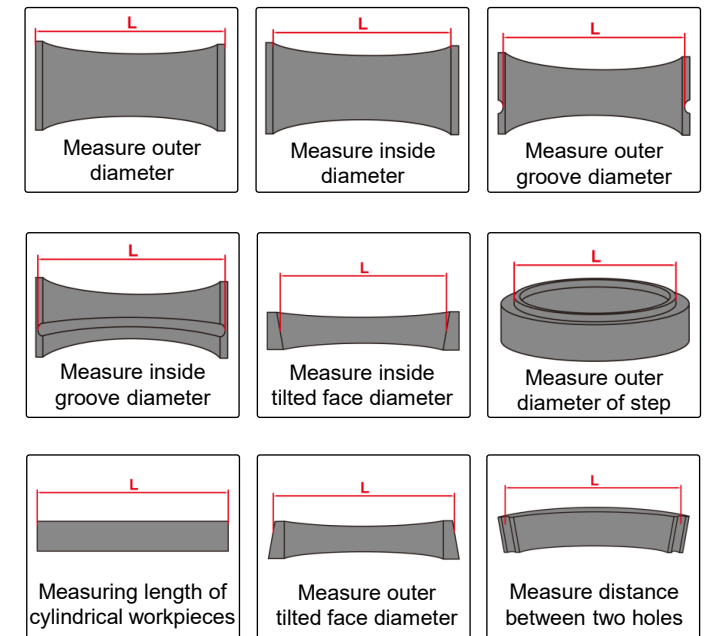
Internal Thread Points

# Carbon Fiber Comparison Gauges 2931

Measure outer diameter, inside diameter, holes distance and cylindrical workpiece length

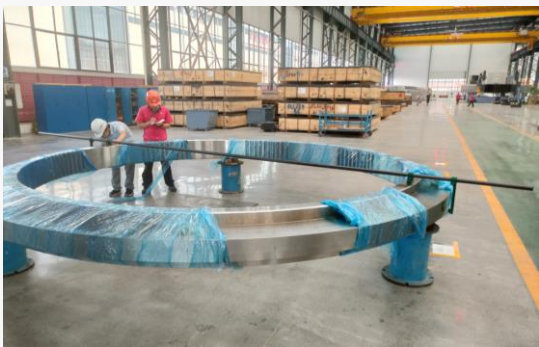


CARBON FIBER RODS, LIGHT WEIGHT, NOT EASY TO DEFORM, NO TEMPERATURE EXPAND, SUITABLE FOR THIN-WALL WORKPIECES AND LARGE-SIZE WORKPIECES



- Maximum measuring range (L): 9000mm
- Measuring depth (H): 0-300mm
- Repeatability: 5 $\mu$ m-120 $\mu$ m

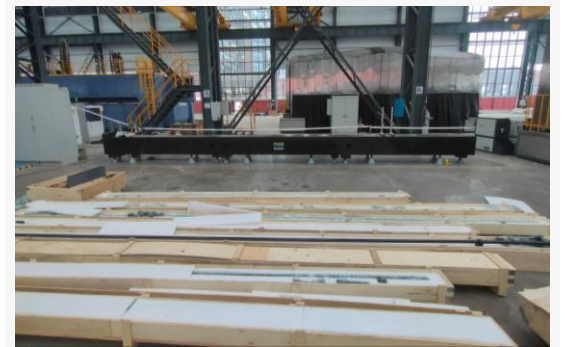
# Carbon Fiber Comparison Gauges 2931--Application



Measure outer diameter



Measure inside diameter



Set zero

Measurement of the inner and outer diameter of bearings, measuring dimensions 3m, 4m, 6m.

# Horizontal Measuring Bench 6849

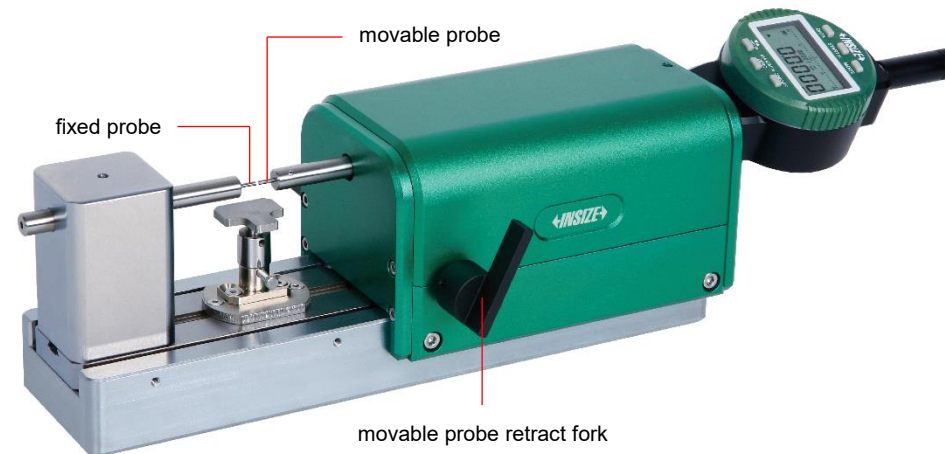
- Quickly measure outside diameters
- The platform can move horizontally and the height is adjustable
- For left and right hand operation
- Carbide probes
- Digital indicator uses linear ball bearings and can be used ten million times

MEASURING FORCE CAN BE CUSTOMIZED,  
MINIMUM MEASURING FORCE IS 2N

DATA  
OUTPUT

DIGITAL INDICATOR USES ABSOLUTE ENCODER,  
THE ORIGINAL DATA REMAINS AFTER POWER OFF

PROBE AND PLATFORM  
CAN BE CUSTOMIZED

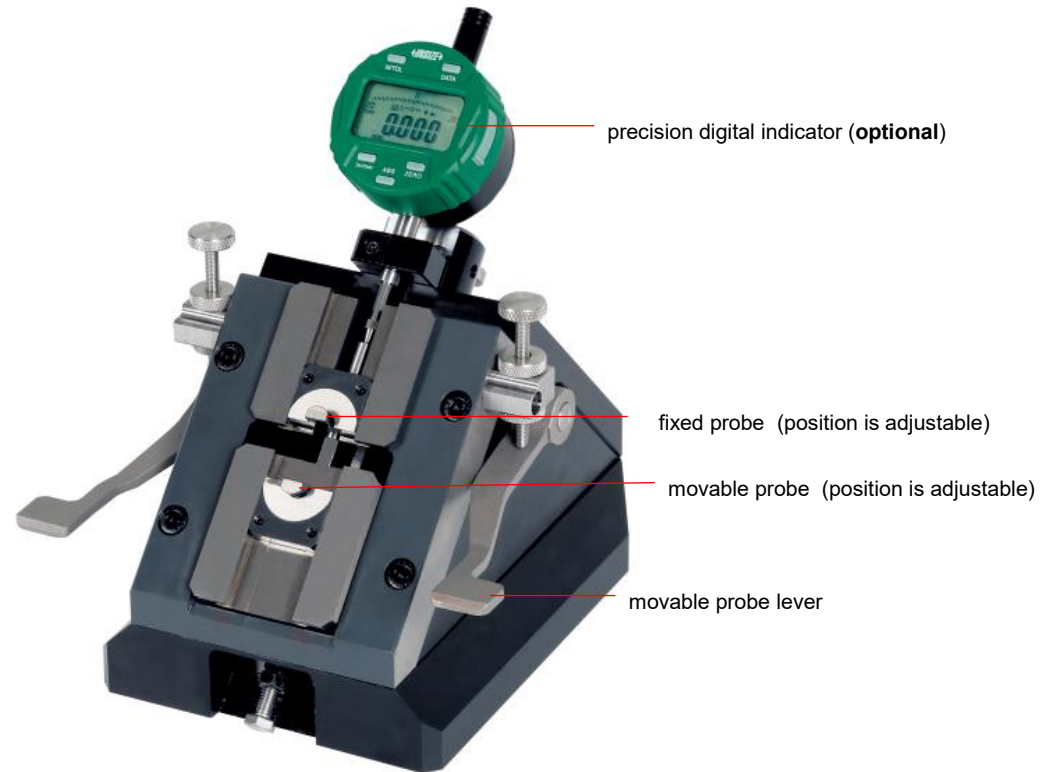


- Range: 0-50mm
- Movable probe travel: 20mm
- Resolution: 0.0002mm
- Accuracy: 5 $\mu$ m

# Internal Comparison Measuring Bench 6831

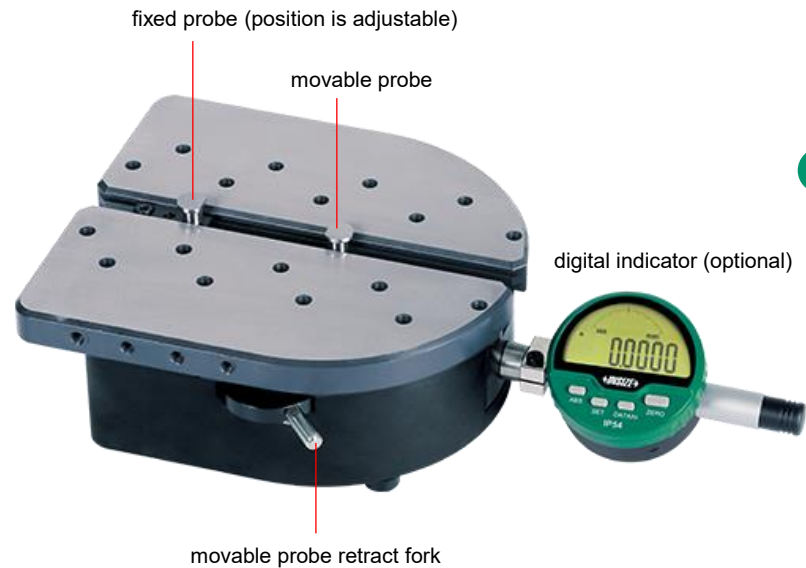
PROBE  
CAN BE CUSTOMIZED

Application



- Range (ØD) : 12-90mm
- Movable probe Stroke : 5mm
- Accuracy : 5µm
- Repeatability : 2µm

# Universal comparison Measuring Bench 6848



- Range of external diameter: 0-100mm
- Range of internal diameter: 25-120mm
- Repeatability(without digital indicator) : 2μm
- Accuracy(without digital indicator): 5μm



Internal Groove Probes



Internal Groove Probes Holders



Disk Probes



Probe Holders



Probes



Multifunctional Probes



Ball Probes



External Thread Probes



Internal Thread Probes



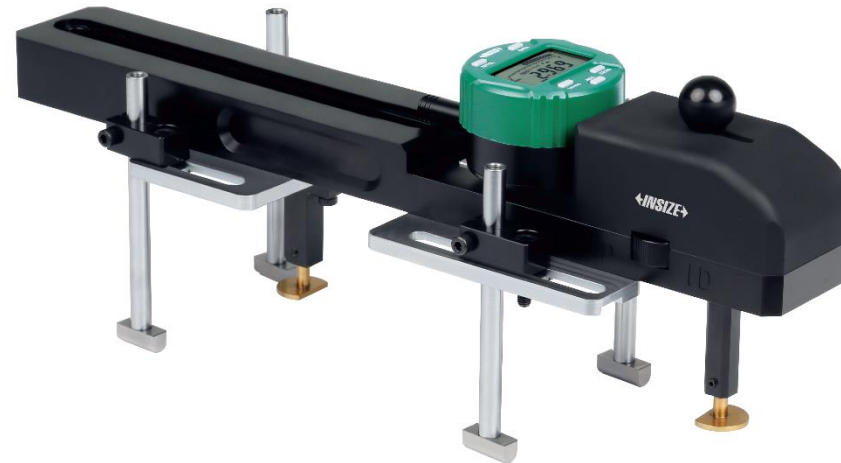
Spacer Blocks

# Digital Comparison Gauges 2514-300

Measure internal diameter and external diameter

CAN BE  
CUSTOMIZED

DATA  
OUTPUT



Contact points (included, supplied in pair)



- Range of internal/ external diameter: 100-300mm
- Contact point Stroke: 10mm
- Accuracy: 5 $\mu$ m
- Repeatability: 2 $\mu$ m

# Comparison Gauges 2252



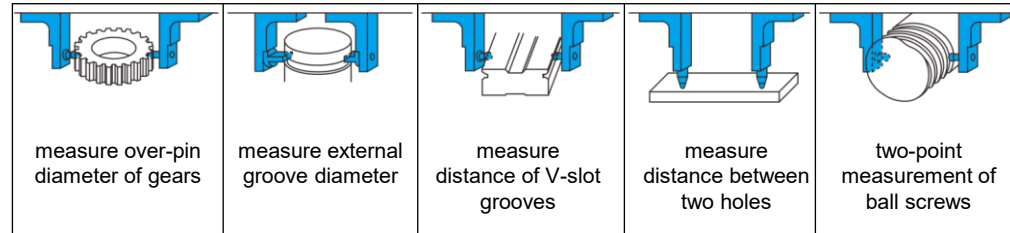
Measure external diameter



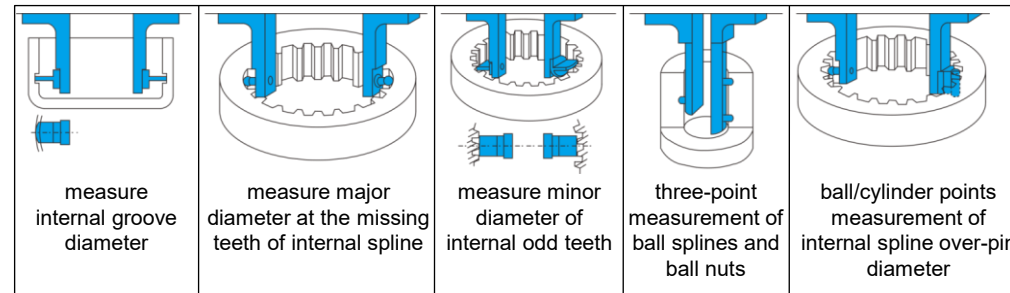
Measure internal diameter

## External diameter measurement application

CUSTOMIZABLE MEASURING JAWS AND POINTS



## Internal diameter measurement application



- Range of external diameter : 0-90mm
- Range of internal diameter : 40-150mm
- Repeatability : 2µm
- Measure external diameter, internal diameter and over-pin diameter of gears
- Accuracy : ±5µm
- Movable point stroke : 8mm
- Effective range of movable point : ±1mm

# Digital Measuring Gauges (Small Range )

DATA  
OUTPUT

Digital Internal Measuring Gauges 2932



Digital External Measuring Gauges 2934

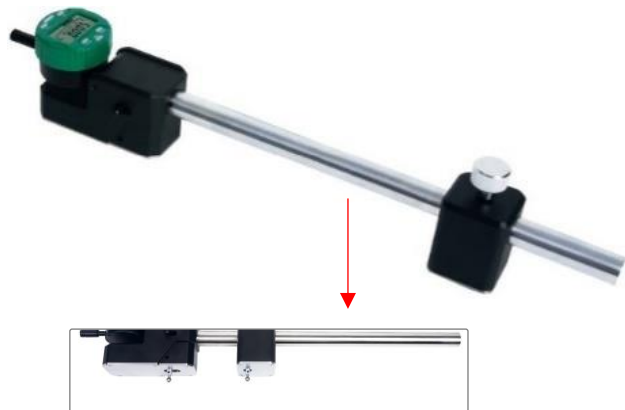


- Measuring range : External : 13-38mm
- Resolution : 0.001mm
- Internal : 24-50mm
- Point height is adjustable, h=2-25mm
- Movable point stroke : 5mm
- Repeatability : 1µm
- Accuracy : 5µm

# Digital Measuring Gauges (Large Range )

DATA  
OUTPUT

Large Range Digital Internal Measuring Gauges 2933



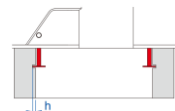
Large Range Digital External Measuring Gauges 2935



- Measuring range : External : 35-320mm  
Internal : 48-330mm
- Movable point stroke : 5mm
- Accuracy : 5 $\mu$ m

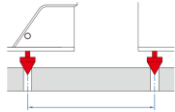
- Resolution: 0.001mm
- Point height is adjustable, h=2-25mm
- Repeatability :1 $\mu$ m

# Digital Measuring Gauges (Optional Probe)



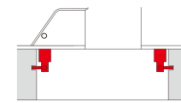
Disk Points

measuring internal groove diameter



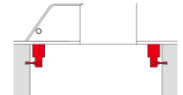
Conical Points

measuring center distance



Spherical Points

spherical points for groove (inside hole) measurement



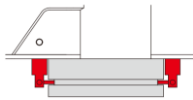
Spherical Blade Points

spherical blade points for narrow groove (inside hole) measurement



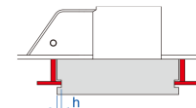
Ball Points

ball points for internal diameter measurement



Spherical/Flat Points

flat points for external groove diameter measurement



Disk Points

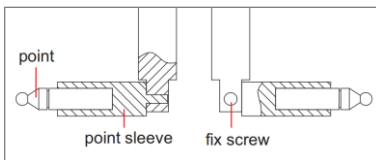
measuring external groove diameter



Flat Shoulder Points

measure outside diameter of low boss

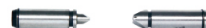
## installation



Point Sleeve



Screw Thread Points



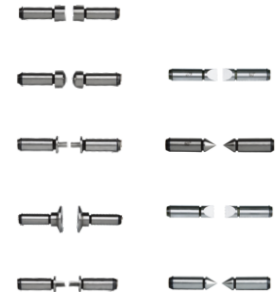
Screw Thread Points



Ball Points



Multifunctional Points



# Ball Screw/Ball Nut Pitch Circle Diameter Comparators

PROBE AND CALIBRATION PLUG GAUGE  
NEED TO BE CUSTOMIZED ACCORDING TO THE WORKPIECE

DATA  
OUTPUT

Ball Screw Pitch Circle Diameter  
Comparators 2677

- Range : 6-50mm
- Contact point opening range : 6-15mm
- Effective stroke of anvil : 0.1mm
- Accuracy : 0.005mm
- Repeatability : 0.002mm
- Adjustable resolution : 0.0005mm/ 0.001mm/ 0.01mm



PROBE AND CALIBRATION RING GAUGE  
NEED TO BE CUSTOMIZED ACCORDING TO THE WORKPIECE

DATA  
OUTPUT

Ball Nut Pitch Circle Diameter  
Comparators 2678

- Range : 6-50mm
- Contact point opening range : 6-15mm
- Effective stroke of anvil : 0.1mm
- Accuracy : 0.005mm
- Repeatability : 0.002mm
- Adjustable resolution : 0.0005mm/ 0.001mm/ 0.01mm



# Micrometers (P1)



**Digital Micrometers/Snap Gauges**



**Wireless Waterproof Digital Outside Micrometers**



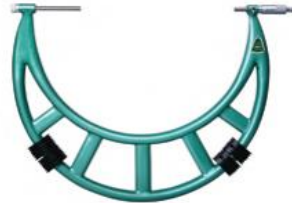
**Quick Feeding Digital Outside Micrometers**



**Digital Micrometers**



**Outside Micrometers**



**Large Outside Micrometers**



**Indicating Micrometers**



**Micrometers With Dial Indicator**



**Groove Micrometers**



**3-Wires**



**Special Purpose Micrometers**



**Optical Parallels**

# Micrometers (P2)



*Parallelism Inspect Devices For Outside Micrometers*



*Measuring Tools Dynamometers*



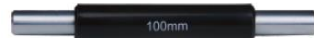
*Micrometer Measuring Force Detectors*



*Micrometer Inspection Gauge Block Sets*



*Micrometer Stands*



*Micrometer Setting Standards*



*Micrometer Lapping Machines*



*Micrometer Heads*

# Digital Micrometers/Snap Gauges

ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF

MEASUREMENT ACCURACY IS NOT AFFECTED BY THE USE OF SLEEVE

NON-ROTATING SPINDLE



High Precision Digital Micrometer/Snap Gauges 3359

- Resolution: 0.0001mm
- Range: 0-25mm
- Accuracy:  $\pm 0.5\mu\text{m}$
- Repeatability: 0.3 $\mu\text{m}$



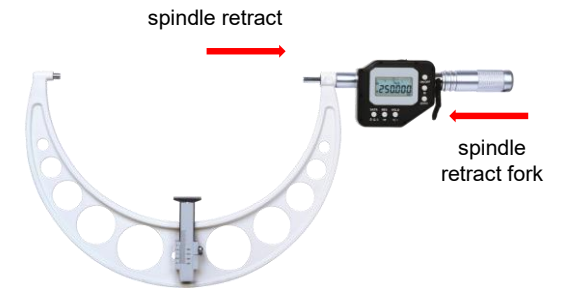
Digital Micrometers/Snap Gauges 3358

- Resolution: 0.001mm
- Range: 0-100mm
- Accuracy: 2 $\mu\text{m}$ /3 $\mu\text{m}$
- Repeatability: 1 $\mu\text{m}$



Digital Micrometers/Snap Gauges 3350

- Adjustable resolution: 0.0002mm/0.001mm/0.01mm
- Range: 0-100mm
- Accuracy: 1.4 $\mu\text{m}$ -2 $\mu\text{m}$
- Repeatability: 0.6 $\mu\text{m}$ /1 $\mu\text{m}$



Digital Micrometers/Snap Gauges 3351

- Adjustable resolution: 0.0002mm/0.001mm/0.01mm
- Range: 100-300mm
- Accuracy: 3 $\mu\text{m}$ -6 $\mu\text{m}$
- Repeatability: 1 $\mu\text{m}$

# Outside Micrometers



Waterproof Digital Outside Micrometers 3101



Digital Vertical Micrometers 3565



Outside Micrometers 3203



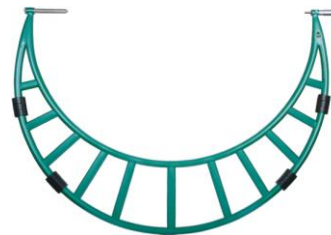
Outside Micrometer With Counter 3400



Outside Micrometers For Left or Right Handers 3236



Digital outside Micrometers with Interchangeable Anvils 3506



Outside Micrometer With Extension Anvil collar 3205



Indicating Micrometers 3332



Micrometers With Dial Indicator 3331

# Digital Indicating Micrometers

IP54  
WATERPROOF

BUILT-IN  
BLUETOOTH

ABSOLUTE ENCODER, THE ORIGINAL  
DATA REMAINS AFTER POWER OFF



Bluetooth Digital Indicating Micrometers 3507

Micrometer head  
• Range : 0-100mm  
• Accuracy : 3 $\mu$ m

Digital indicator  
• Range :  $\pm$ 0.04mm  
• Accuracy :  $\pm$ 1 $\mu$ m

ABSOLUTE ENCODER, THE ORIGINAL  
DATA REMAINS AFTER POWER OFF

IP54  
WATERPROOF



Digital Indicating Micrometers(Without Data output) 3508

Micrometer head  
• Range : 0-100mm  
• Accuracy : 3 $\mu$ m

Digital indicator  
• Range :  $\pm$ 0.04mm  
• Accuracy :  $\pm$ 1 $\mu$ m

# 3-WIRES

3-wires 7382



- Pin gauge diameter :  $\varnothing 0.170\text{mm}-\varnothing 3.200\text{mm}$
- Diameter accuracy :  $\pm 0.5\mu\text{m}$
- Cylindricity :  $1\mu\text{m}$
- Hardness : HRC60

3-wires (Made Of Alloy Steel) 7394



CUSTOMIZABLE  
DIAMETER  $\varnothing d$

- Diameter ( $\varnothing d$ ) :  $0.170\text{mm}-3.200\text{mm}$
- Hardness:
  - HRC60 :  $\varnothing d \leq 0.3\text{mm}$ , made of alloy steel
  - HRA90 :  $\varnothing d > 0.3\text{mm}$ , made of carbide
- Diameter accuracy:  $\pm 0.5\mu\text{m}$
- Cylindricity:  $0.5\mu\text{m}$

# Screw Thread Micrometers



External Screw Thread Micrometers 3680

- Graduation : 0.01mm
- Range : 0-300mm



Digital External Screw Thread Micrometers 3680

- Graduation : 0.01mm
- Range : 200-2000mm



Screw Thread Micrometers 3281

- Graduation : 0.01mm
- Range : 0-300mm



Digital Screw Thread Micrometers 3581

- Resolution : 0.001mm
- Range : 0 -300mm

# Gear Tooth Micrometers



External Gear Tooth Micrometers 3636

- Graduation : 0.01mm
- Range : 0-600mm



Gear Tooth Micrometers 3291

- Graduation : 0.01mm
- Range : 0-275mm



Digital Gear Tooth Micrometers 3591

- Resolution : 0.001mm
- Range : 0-275mm

# Disk Micrometers



Disk Micrometers 3676



Large Range Disk Micrometers 3677



Disk Micrometers 3282



Digital Non-Rotating Spindle Disk Micrometers 3594



Digital Disk Micrometers/snap Gauges 3353

# Special Purpose Micrometers



Digital Point Micrometers  
3530



Digital Crimp Height  
Micrometers 3566



Digital Spline Micrometers  
3533



Digital Disk Brake  
Micrometers 3588



Digital Sheet Metal  
Micrometers 3539



Digital Interchangeable  
Anvil Micrometers 3562



Digital Large Anvil  
Micrometers 3534



Digital V-Anvil  
Micrometers 3590



Digital Universal  
Micrometers 3580



Digital Jaw Type  
Micrometers 3583



Sheet Metal  
Micrometers 3263



Hub Micrometers  
3292



Wire Micrometer  
3285



Can Seam  
Micrometers 3293

# Bore Diameter And Circumference Measurement Tools (P1)



*Inside Micrometers*



*Inside Micrometers*



*Three Points Internal Micrometers*



*Pistol Grip Three Points Bore Gauges*



*Bore Plug Gauges*



*Stand For Split Type Dial Bore Gauges*



*Gear Bore Gauges*



*Split Type Dial Bore Gauges*



*Bore Gauges*



*Carbon Fiber Bore Gauges*



*Large Range Bore Gauges*



*Bore Gauge Setters*

# Bore Diameter And Circumference Measurement Tools (P2)



*Internal Groove Bore Gauges*



*Pistol Grip Groove Bore Gauges*



*Internal Chamfer Gauges*



*Telescoping Gauge Sets*



*Tape Bore Meters*



*Diameter Meters*



*Diameter Meters*



*Circumference Meters*

# Internal Gear Tooth Micrometers



Internal Gear Tooth Micrometers 3678

- Range : 25-75mm
- Graduation : 0.01mm



Internal Gear Tooth Micrometers 3638

- Range : 100-1150mm
- Micrometer head Range : 100-175mm
- Micrometer head Graduation : 0.01mm



Ball Tips For Gear Tooth Micrometers (optional)

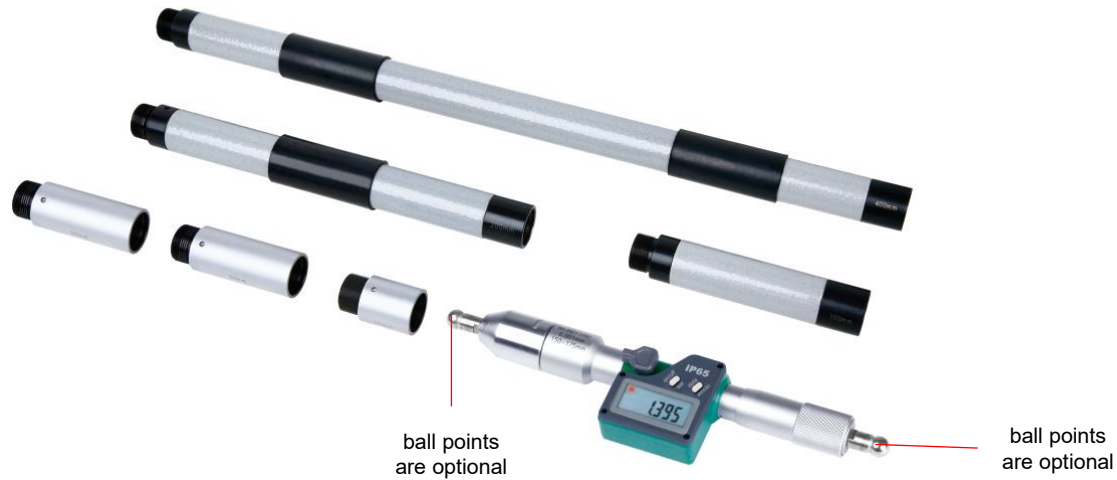
- Ball dia. (SØD) : SØ1-16mm
- Accuracy :  $\pm 1\mu\text{m}/\pm 1.5\mu\text{m}$

# Digital Tubular Inside Micrometers With Interchangeable Points 3525

DATA  
OUTPUT

IP65  
WATERPROOF

POINTS CAN BE  
CUSTOMIZED



- Range : 200-2050mm
- Travel of micrometer head : 25mm
- Resolution : 0.001mm
- Accuracy :  $(3+n+L/50)\mu\text{m}$   
n=number of rods  
L=maximum measuring length (mm)

# Pistol Grip Three Points Bore Gauges 2124



digital indicator is optional



Extension rod (included)



Setting ring

6-100mm: included  
100-300mm: optional

- Range : 6-300mm
- Accuracy (without digital indicator) : 4 $\mu$ m-9 $\mu$ m

# Snap-Open Digital Three Points Bore Gauges 3129



IP54  
WATERPROOF

BUILT-IN  
BLUETOOTH



extension rod (included)



setting ring

6-100mm: included  
100-300mm: optional

- Range : 6-300mm
- Accuracy : 4 $\mu$ m-9 $\mu$ m

# Two Points/Three Points Internal Micrometers

Digital Two Points/Three Points Internal Micrometers 3127



- Resolution : 0.001mm
- Range : 2-300mm
- Accuracy : 4 $\mu$ m-9 $\mu$ m

Two Points/Three Points Internal Micrometers 3227



- 2-12mm: graduation 0.001mm
- 12-300mm: graduation 0.005mm
- Range : 2-300mm
- Accuracy : 4 $\mu$ m-9 $\mu$ m

# Bore Plug Gauges 4653



- Range : 2-130mm
- Repeatability : 0.0005mm/0.001mm



- Range : 130.1-300mm
- Repeatability : 0.002mm



Handle (retraction button)



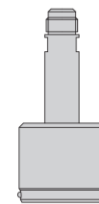
Depth stop (set measuring depth)



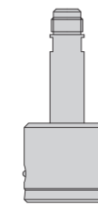
90° Adapter



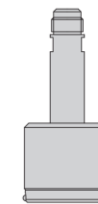
Handle for inductive probe



standard



for through bores



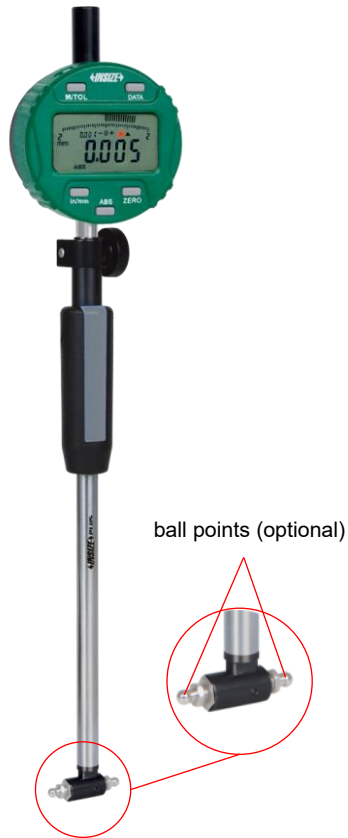
for blind bores

# Bore Plug Gauges 4653--Application



Quickly measure the internal diameter of the differential and upload the data

# Gear Bore Gauges 2428



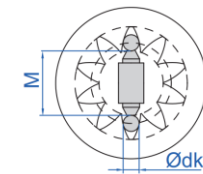
- Range : 8-510mm
- Accuracy (without dial comparator) : 2 $\mu$ m
- Repeatability (without dial comparator) : 0.5 $\mu$ m

## Ball Points (Optional)

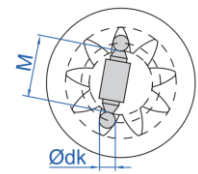


- Ball point diameter  $\varnothing dk$  : 1-10mm
- in pair

## Method of measurement



even number of teeth



odd number of teeth

# Gear Bore Gauges 2428 --Application



Measure the span measurement of the internal spline gear

# Split Type Dial Bore Gauges

Split Type Dial Bore Gauges 2426

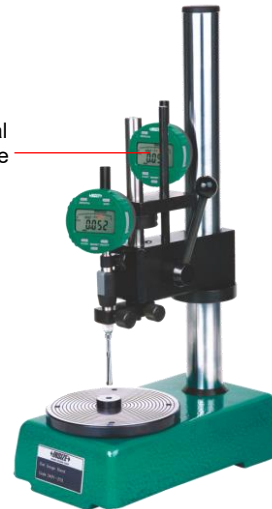


Split Type Dial Bore Gauges For Blind Holes 2427



Stand For Split Type Dial Bore Gauges 2491

Can hold digital/dial indicator to read the measuring value



Floating holder—Suitable for automatic measurement



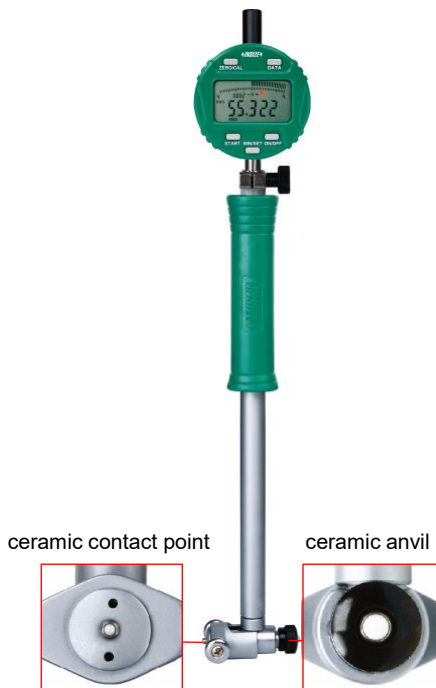
Holder (retraction button)



- Measuring range : 0.95-20.6mm
- Accuracy (without indicator) : 3µm/4µm/4.5µm/6µm
- Repeatability (without indicator) : 1µm
- Split type contact points

# Bore Gauges (P1)

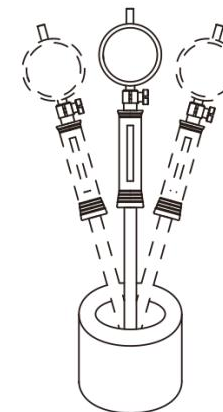
## Bore Gauges (With Digital Indicator)



read the diameter directly, after inputting the size of setting ring

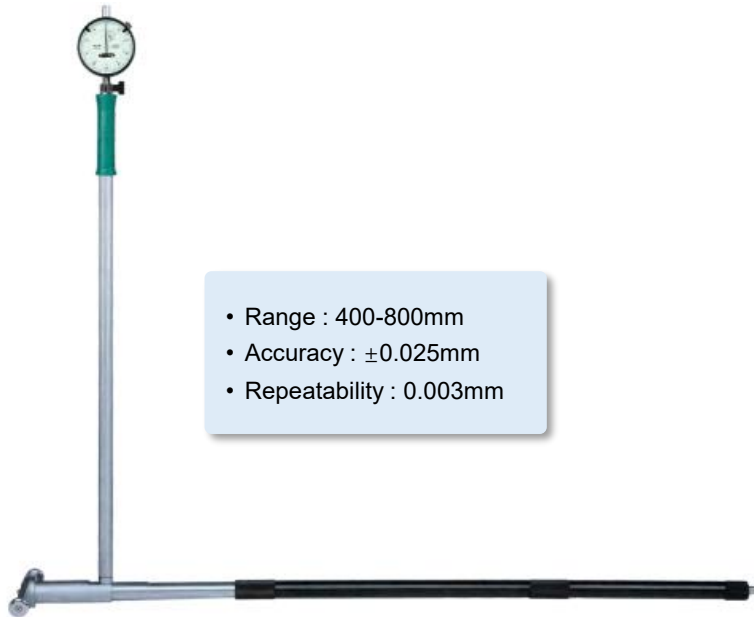


the minimum value tracking function can find the diameter automatically



# Bore Gauges (P2)

Bore Gauges (With Dial Indicator) 2828

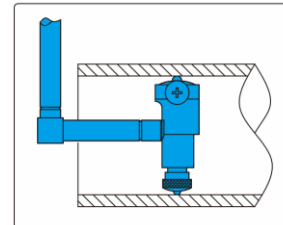


- Range : 400-800mm
- Accuracy :  $\pm 0.025\text{mm}$
- Repeatability : 0.003mm

Bore Gauges (With Dial Indicator) 2827



Application



- Range : 35-450mm
- Accuracy :  $\pm 0.018\text{mm}$
- Repeatability : 0.003mm

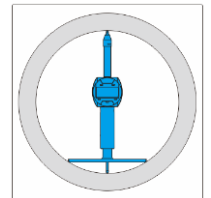
Large Range Bore Gauges 2330



extension rods



Application



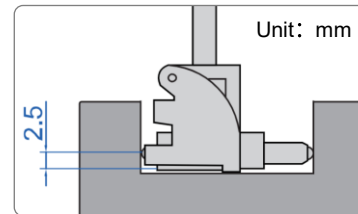
- Range : 180-510mm
- Accuracy (without dial indicator) :  $7\mu\text{m}$
- Repeatability (without dial indicator) :  $2\mu\text{m}$

# Bore Gauges (P3)

## Bore Gauges For Blind Holes 2420/2220



### Application

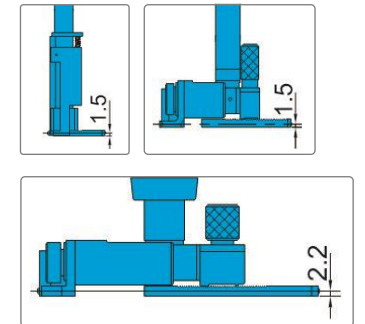


- Range : 35-60mm
- Accuracy :  $\pm 0.018\text{mm}$
- Repeatability : 0.003mm

## Bore Gauges For Blind Holes 2424



### Application



- Range : 20-600mm
- Accuracy (without dial indicator) :  $4\mu\text{m}$
- Repeatability (without dial indicator) :  $1\mu\text{m}$

# Bore Gauges (P4)

Bore Gauges For Barrier Inside Bores 2432



Application

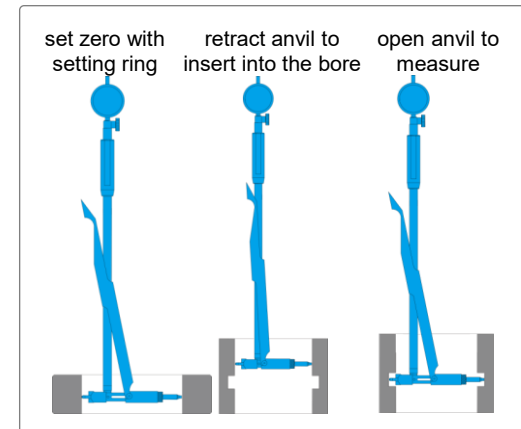


- Range : 25-500mm
- Accuracy (without dial indicator) : 0.01-0.02mm

Internal Groove Bore Gauges 2433



Application



- Measure diameter of internal grooves (width of groove > 3mm)
- Range : 60-300mm
- Accuracy (without dial indicator) : 2µm
- Repeatability (without dial indicator) : 1µm

# Carbon Fiber Bore Gauges With Interchangeable Points 3526

POINTS CAN BE  
CUSTOMIZED

SPRING LOADED  
MEASURING POINT

DATA  
OUTPUT

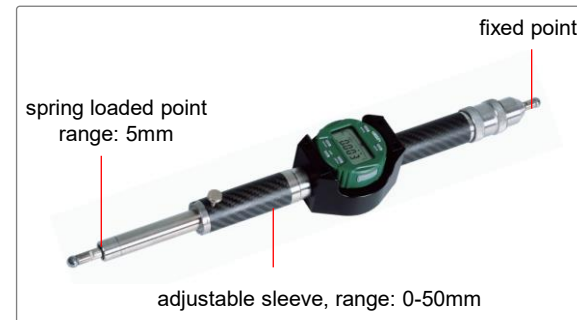
CARBON FIBER EXTENSION RODS, LIGHT WEIGHT,  
NOT EASY TO DEFORM, LOW THERMAL EXPANSION



430mm standard setting gauge (included)  
for micrometer head zero setting



spring loaded point, and max./min. value tracking  
make it easy to find the right measuring position



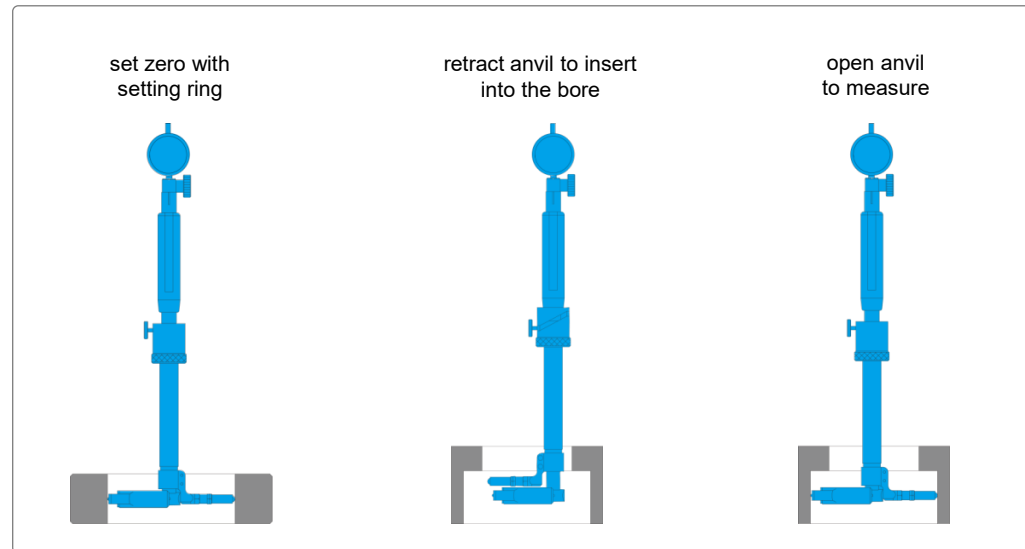
- Range : 430-6430mm
- Micrometer head Range : 430-480mm
- Micrometer head Resolution : 0.001mm/0.00005"
- Micrometer head Accuracy :  $\pm 6\mu\text{m}$
- Micrometer head Repeatability :  $\pm 3\mu\text{m}$

# Rotary Bore Gauges 2921



180° rotatable fixed anvil

## Application



- With rotary anvil, applicable to measure bores with large inner diameter and small opening
- Range : 30-530mm
- Accuracy (without dial indicator) : 2 $\mu$ m/3 $\mu$ m
- Repeatability (without dial indicator) : 1 $\mu$ m/1.5 $\mu$ m

# Pistol Grip Groove Bore Gauges 2436

FAST MEASURING INNER  
DIAMETER OF DEEP GROOVES

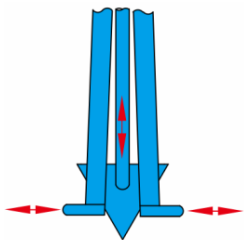


Depth stop (optional)

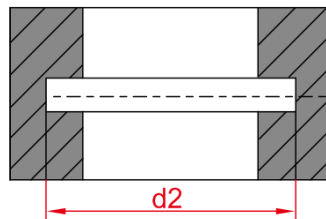


Extension rods (optional)

principle of measurement



applicable  
workpieces



- Range : 6-200mm
- Repeatability : 0.01mm
- Accuracy : 2% of deviation between workpiece size and setting ring, for example, when measuring  $\text{Ø}21\text{mm}$  inner groove, use a  $\text{Ø}20\text{mm}$  setting ring for calibration, accuracy is  $(21-20) \times 2\% = 0.02\text{mm}$

# Bore Gauge setters 7353



Application



Horizontal use



Gauge blocks for 7353-160



- Range : 0-160mm
- Repeatability : 1.2 $\mu$ m

# Chamfer Gauges



2942

- Range : 0.5-40mm
- Resolution : 0.01mm
- Accuracy :  $\pm 0.02\text{mm}/\pm 0.04\text{mm}$



2962

- Range : 1-120mm
- Resolution : 0.01mm
- Accuracy :  $\pm 0.02\text{mm}$



2937 type A

- Range : 1-40mm
- Accuracy :  $\pm 0.02\text{mm}/\pm 0.03\text{mm}$
- Resolution : 0.01mm



2937 type B

- Range : 20-40mm
- Accuracy :  $\pm 0.02\text{mm}/\pm 0.03\text{mm}$
- Resolution : 0.01mm

# Tape Bore Meters/Circumference Meters

Tape Bore Meters 2430



- Range  $\varnothing D$  : 14-330mm
- Graduation : 0.1mm
- Accuracy :  $\pm 0.2$ mm

Circumference Meters 7116



- Range :  $\varnothing 20$ -620mm
- Graduation : 0.05mm
- Accuracy :  $\pm 0.10$ mm~ $\pm 0.20$ mm

Diameter Meters 7135



- Diameter range :  $\varnothing 9$ -9300mm
- Graduation : 0.01mm- 0.05mm

# Arc Radius Measuring Tools



**Outside Diameter Variation Measuring Instruments**



**Outside Diameter Measuring Instruments**



**Digital Radius Gauges**



**Digital Radius Gauges**



**Large Range Digital Radius Gauges**



**Digital Arc Radius Calipers**

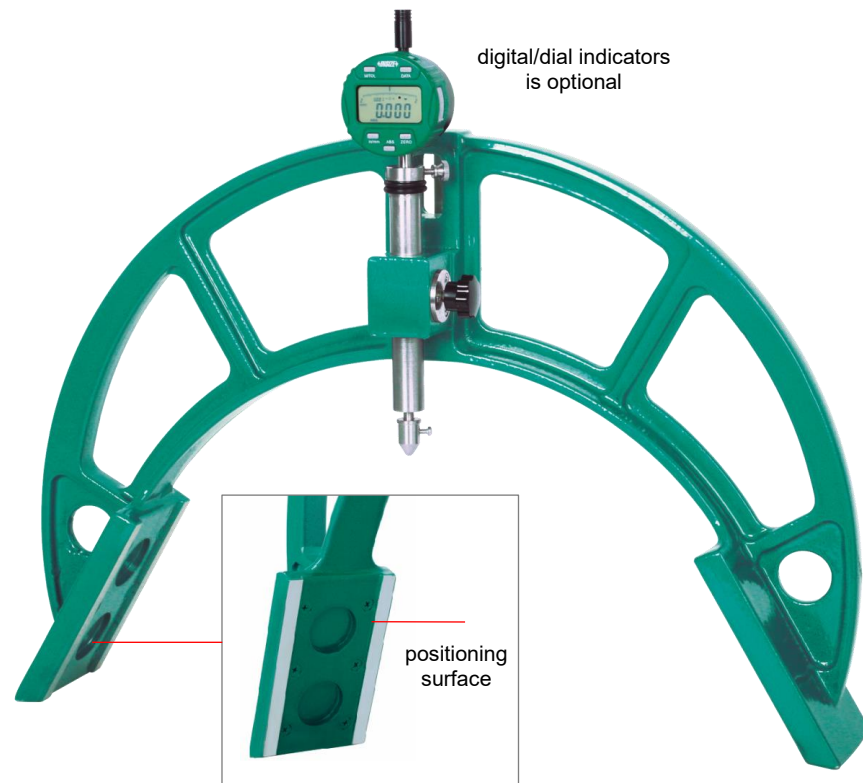


**Digital Radius Calipers**



**Radius Gauges**

# Outside Diameter Measuring Instruments 2716

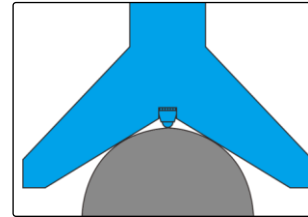


- Range (diameter) : 18-2000mm
- Repeatability : 0.01mm
- The frame is made of aluminum magnesium alloy with light weight and high strength

# Digital Radius Gauges 2188



Application



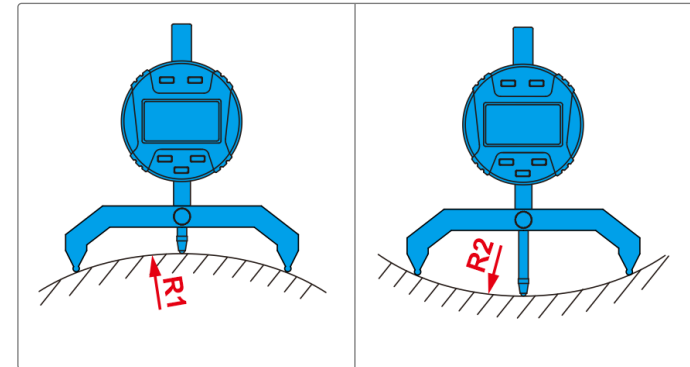
Setting standards



Application

- Range (radius) : 4-323mm
- Resolution : 0.01mm
- Accuracy :  $\pm 0.02\text{mm} \sim \pm 0.04\text{mm}$
- Measure radius of external arc, arc angle of measured surface should be larger than  $60^\circ$
- Display radius value, no need to calculate
- Stainless steel base

# Digital Radius Gauge 2511



- Range of external radius (R1) : 5-910mm
- Range of internal radius (R2) : 7-910mm
- Accuracy (mm) :  $\pm 0.005R$
- Resolution : 0.01mm
- Measure radius of internal or external arcs
- Supplied with 5 jaws for different sizes of arc

# Digital Radius calipers 1501



1501-25



1501-10

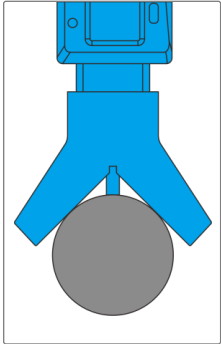
DIRECT READING,  
CALCULATION IS NOT REQUIRED

DATA  
OUTPUT

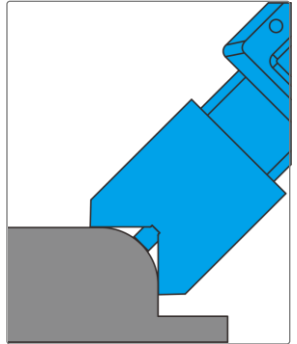
Pin gauge (included)



Application



1501-10 Can measure small workpieces or workpieces with steps



Code	Range (radius)
1501-25	2-25mm
1501-10	2-10mm

- Measure radius of external arc, arc angle of measured surface should be larger than 90°
- Resolution : 0.01mm
- Accuracy : ±0.05mm

# Keyway And Chamfer Measuring Tools



**Keyway Symmetry Gauges**



**Keyway Symmetry Digital Calipers**



**Digital Keyway Depth Gauges**



**Digital Keyway Depth Gauges**



**Groove Micrometers**



**Digital Chamfer Gauges**



**Chamfer Gauges**



**Digital Chamfer Gauges**



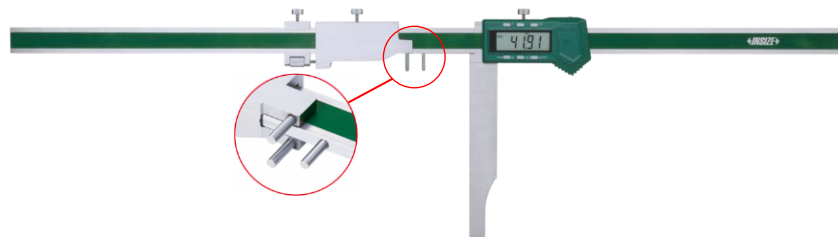
**Chamfer Height Gauges**

# Keyway Symmetry Digital Calipers 1531

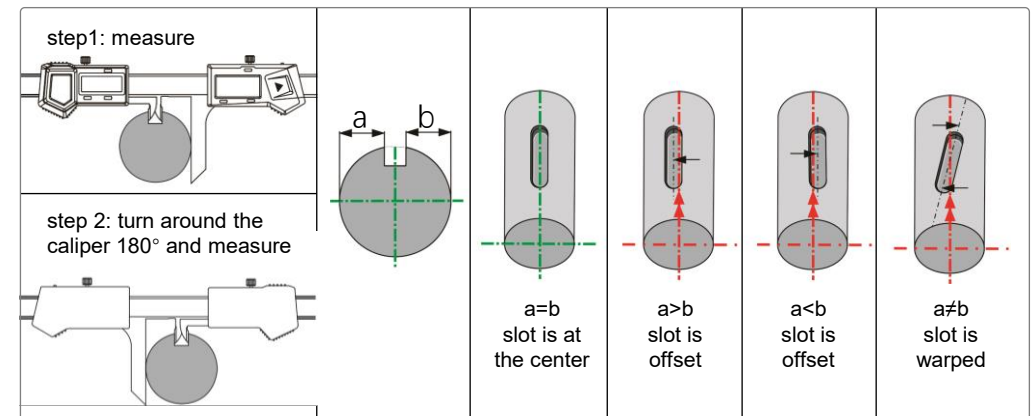


DATA OUTPUT

- Width of keyway : 6-45mm
- Resolution : 0.01mm
- Can measure keyway width
- Diameter of shaft :  $\varnothing 10-120\text{mm}$
- Accuracy :  $\pm 0.05\text{mm}$
- Used to measure the symmetry of shaft keyways



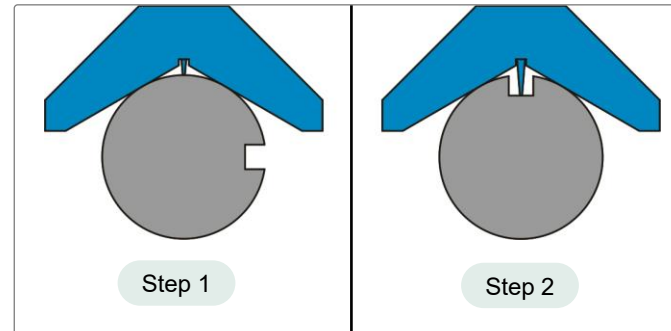
- Width of keyway : 3-250mm
- Resolution : 0.01mm
- Cannot measure keyway width
- Diameter of shaft :  $\varnothing 6-350\text{mm}$
- Accuracy :  $\pm 0.05\text{mm}$
- Used to measure the symmetry of shaft keyways



# Digital Keyway Depth Gauge 2182



DATA  
OUTPUT



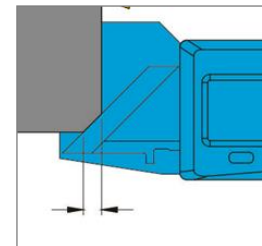
- Range : 0-25.4mm
- Resolution : 0.01mm
- Accuracy :  $\pm 0.02$ mm
- Measure keyway depth of cylindrical workpieces with diameter  $\varnothing 10$ -100mm

# Digital Chamfer Gauges 1180

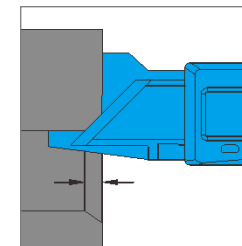
DATA  
OUTPUT



External chamfer



Internal chamfer



- Measure 15°/20°/30°/45°/60° chamfer dimension
- Resolution : 0.01mm
- Range : 0-10mm
- Accuracy :  $\pm 0.06$ mm

# Digital chamfer Gauges 1537



1537-20



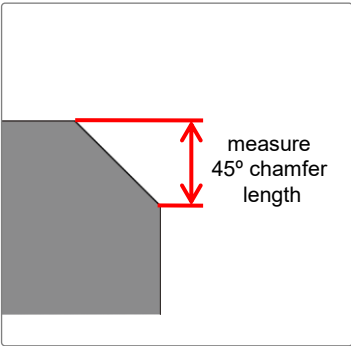
1537-8

DATA OUTPUT

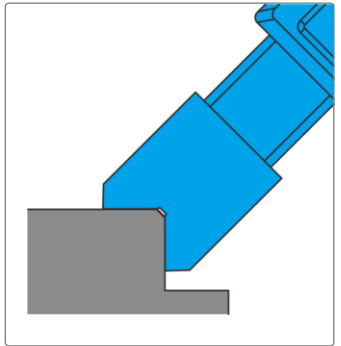
Pin gauge (included)



Application



1537-8 Can measure small workpieces or workpieces with steps



Code	Range
1537-20	0-20mm
1537-8	0-8mm

- Measure 45° chamfer length
- Resolution : 0.01mm
- Accuracy : ±0.05mm

# Indicators And Dial Indicator Stands (P1)



**Dial Test Indicators**



**Styli For Dial Test Indicators**



**Digital Indicators**



**Wireless Digital Indicators**



**Zeroing Foot Switches**



**High Precision Digital Indicators**



**Digital Comparators**



**Dial Indicators**



**Points**



**Lifting Levers**



**Spindle Lift Knob**



**Shaft Sleeve**

# Indicators And Dial Indicator Stands (P2)

←INSIZE→



***Backs***



***Measuring Tools Dynamometers***



***Dial Indicator Tester/Extensometer Tester***



***Dial Indicator Testers***



***Dial Test Indicator Holders***



***Magnetic Stands***



***Dial Indicator Stands (Non-magnetic)***



***Dial Indicator Stands***

# Dial Test Indicators



Precision Dial Test Indicators 2880



Dial Test Indicator 2895



Long Stylus Dial Test Indicator 2896



Vertical Type Long Stylus Dial Test Indicator 2899



Side Type Dial Test Indicator 2898



Tilted Face Type Dial Test Indicator 2399



Large Range Dial Test Indicator 2386



Large Range Vertical Type Dial Test Indicator 2480

# Digital Indicators



Digital Indicators (Standard Type) 2112



Digital Indicators (Advanced Type) 2103



Waterproof Digital Indicators 2115



Adjustable Coefficient Digital Indicators 2501



Compact Digital Indicators 2114



Back Plunger Type Digital Indicators 2118



Large Stroke Digital Indicators 2117



High Precision Digital Indicators 2133



High Precision Digital Indicators 2140

# Digital Indicators For Bore Gauges

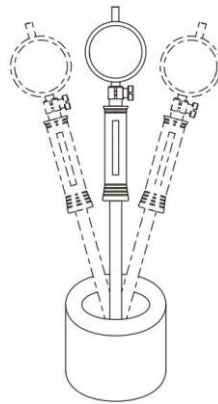
2108 (With Transmission Button and Signal Light)



read the diameter directly,  
after inputting the size of  
setting ring.



the minimum value  
tracking function can find  
the diameter automatically.



2137



IP54  
WATERPROOF

THE ORIGINAL DATA  
REMAINS AFTER POWER OFF

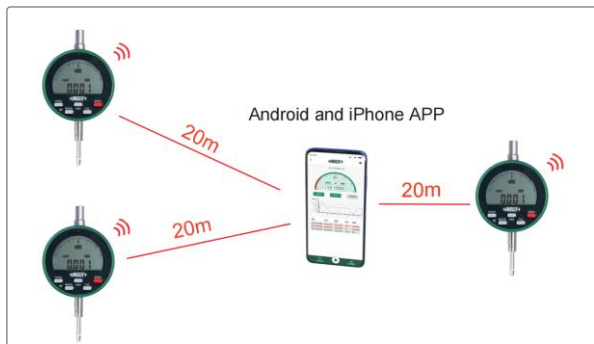
- Range : 12.7mm
- Accuracy : 5µm/20µm
- Hysteresis : 2µm/10µm
- Resolution : 0.001mm/0.002mm(can switch to:0.01mm)

# Built-In Bluetooth Digital Indicators 2510

HIGH PRECISION

BUILT-IN BLUETOOTH

## Application



over upper limit



within tolerance



over lower limit

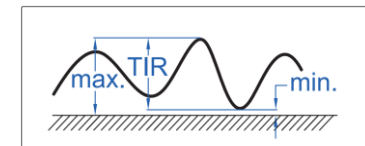


alarm when over tolerance

analog pointer



analog pointer



max./min./TIR measurement

- Range : 12.7mm
- Accuracy : 10µm/3µm
- Hysteresis : 10µm/2µm
- Resolution : 0.01mm/0.001mm
- Maximum measuring force : 1.5N

# Precision Digital Indicators

High Precision Digital indicators 2140



**DATA  
OUTPUT**

**LINEAR BALL BEARINGS  
FOR TEN MILLION TIMES USE**

**Ø28MM STEM SUITABLE FOR  
REINFORCED CLAMPING**

**ABSOLUTE ENCODER, THE ORIGINAL  
DATA REMAINS AFTER POWER OFF**

	2140	2150
<b>Range</b>	0-6mm	0-5mm
<b>Adjustable resolution</b>	0.2µm, 1µm, 10µm	0.1µm, 1µm, 10µm
<b>Accuracy</b>	1.6µm	0.5µm
<b>Hysteresis</b>	0.8µm	0.3µm
<b>Other</b>	Can choose Built-in wireless	

Built-in Wireless Smart High Precision Digital Indicators 2150



**DATA  
OUTPUT**

**THE MEASURING TIME PERIOD CAN BE SET (1-99S IS ADJUSTABLE),  
THE MAX./MIN./TIR/AVG. CAN BE MEASURED AUTOMATICALLY DURING  
THIS PERIOD, AND THE DATA CAN BE TRANSMITTED AUTOMATICALLY  
AFTER EACH MEASUREMENT**

**PRESS BUTTON OR PROBE MOVEMENT CAN START AUTOMATIC MEASUREMENT,  
THE MEASUREMENT CAN BE DELAYED (1-99S IS ADJUSTABLE)**

# Dial Indicators



Dial Comparator 2881



Precision Dial Indicators 2830



High Precision Compact Dial Indicators 2890



Compact Dial Indicators 2887



Dial Indicators 2892



Large Dial Face Dial Indicator 2888



Back Plunger Dial Indicator 2893



Waterproof Dial Indicator 2894



One Revolution Dial Indicators 2882

# Contact Points



# Universal Stands



Hydraulic Universal  
Magnetic Stands 6229



Magnetic Stands  
6200



Magnetic Stand For Uneven  
Surfaces 6215



Mini Magnetic  
Stand 6211



Flex Arm Magnetic  
Stand 6207



Vacuum Stand  
6217



Universal Stand  
6214



Universal Dial Indicator  
Stands(Non-magnetic) 6225



Dial Indicator Stands (Non-  
magnetic) 6227

# Dial Indicator Stands



Dial Indicator Stands 6876



Granite Dial Indicator Stand 6866



Granite Dial Indicator Stands 6867



Dial Indicator Stands 6864



Heavy Duty Dial Indicator Stand 6869



Transfer Stands 6865

# Indicating Measuring Tools (P1)



**Internal Caliper Gauges**



**External Caliper Gauges**



**Thickness Gauges**



**Geomembrane Thickness Gauges**



**Rubber Thickness Gauges**



**Leather Thickness Gauges**



**Tube Thickness Gauges**



**Thread/Lead Screw Pitch Diameter Snap Gauges**



**Saw Teeth Setting Gauges**



**Snap Gauges**



**Step And Gap Gauges**



**Mini Digital Height Gauges**

# Indicating Measuring Tools (P2)



**Height Gauges**



**Crankshaft Testers**



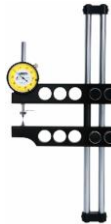
**Thread Pitch Measuring Instruments**



**Buttress Thread Run-out Gauges**



**Buttress Thread Tooth Thickness Gauges**



**Thread Taper Measuring Instruments**



**Thread Height Measuring Instruments**



**Thread Height Measuring Instruments**



**Thread Crest Diameter Measuring Instruments**



**External Spline Comparator**

# Thickness Gauges



High Precision Digital Thickness Gauges 2879



Smart Digital Thickness Gauges 2850



Digital Thickness Gauges 2673



Digital Thickness Gauges 2871



Thickness Gauges 2364



Digital Thickness Gauges 2674



Digital Thickness Gauges 2872



Thickness Gauge 2361



Thickness Gauge 2363



Digital Roller Thickness Gauges 2877



Digital Rubber Thickness Gauges 2263



Digital Leather Thickness Gauges 2262

# Bluetooth Digital Indicating Snap Gauges 3509

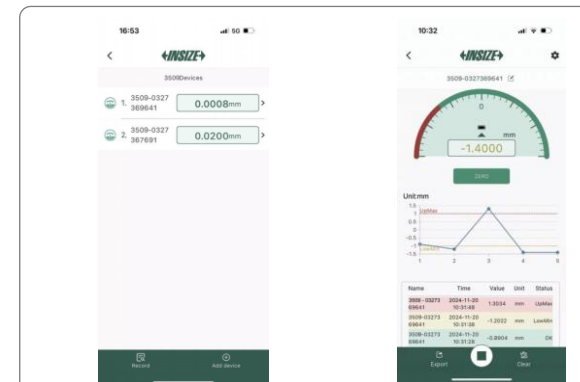
BUILT-IN BLUETOOTH

IP54 WATERPROOF

ABSOLUTE ENCODER, THE ORIGINAL DATA REMAINS AFTER POWER OFF



Data collection application (included) real-time display (continuous streaming) or single acquisition mode selectable



real-time display of multiple snap gauges (connected with maximum 7 snap gauges)

single snap gauge display interface



over lower tolerance in yellow



within tolerance in green



over upper tolerance in red

- Range : 0-50mm
- Resolution : 0.1µm
- Accuracy : 1µm
- Repeatability : 0.3µm

# Dial Snap Gauges 2186



digital indicator optional

## Application



- Range : 0-300mm
- Parallelism of measuring faces : 4 $\mu$ m-12 $\mu$ m
- Flatness of anvil : 1.5 $\mu$ m

- Left anvil retracting stroke : 2mm
- Measuring force : 6-8N
- Repeatability : 1 $\mu$ m

## **Dial Snap Gauges 2186--Application**

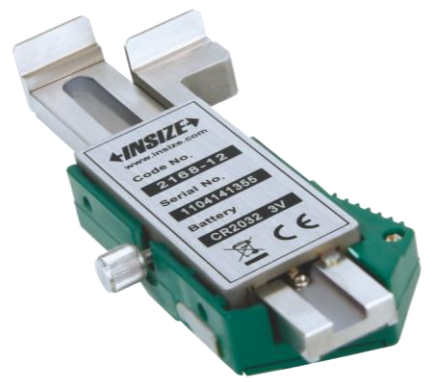


Quickly measure the outer diameter of the differential

# Step And Gap Gauges 2168

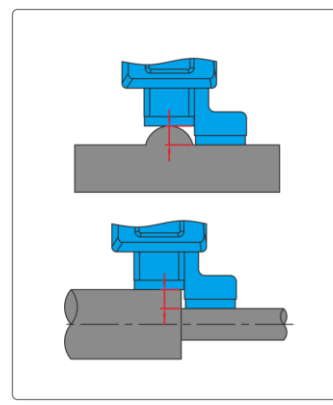


Front

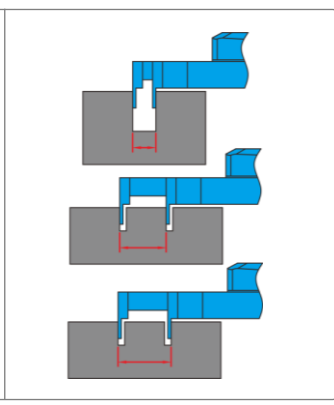


Back

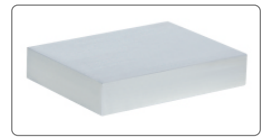
Step height



Gap width



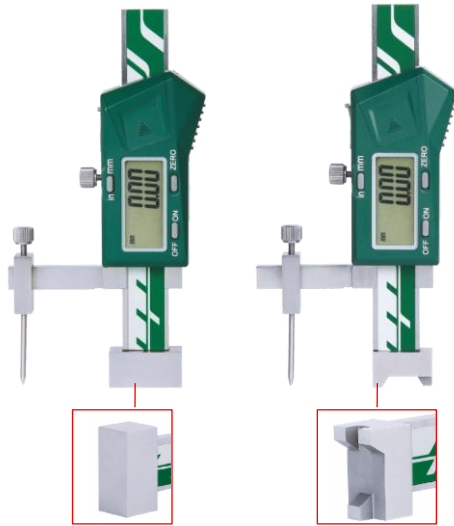
Zero setting block (included)



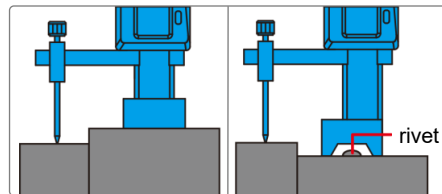
- Range : 0-12.7mm
- Accuracy : ±0.03mm
- Resolution : 0.01mm
- Measure step height and gap width

# Digital Height Gauges

1146



Application

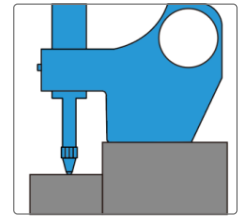


- Resolution : 0.01mm
- Range : 0~±20mm
- Accuracy : ±0.02mm
- Measure height difference of two surfaces

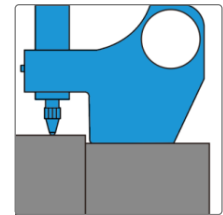
2146-4A



Measure sinked step



Measure raised step



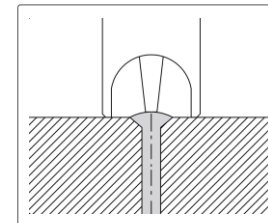
- Range (adjustable) : 0-4mm (sinked)), 0-12.7mm (raised)
- Digital indicator resolution : 0.01mm/0.001mm
- Accuracy : ±0.02mm/±0.005mm
- Measure height difference of two surfaces

# Digital Flushness Gauge 2936



DATA  
OUTPUT

## Application



## Zero-setting block (included)

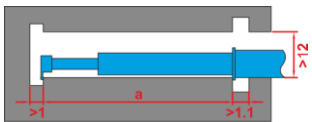


- Measuring range :  $\pm 5\text{mm}$
- Accuracy :  $0.005\text{mm}$
- Resolution :  $0.001\text{mm}$
- Repeatability :  $0.002\text{mm}$
- Measuring force :  $8\text{-}12\text{N}$

# Pistol Grip Groove Width Bore Gauge 2438

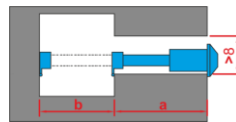
- Travel of contact point : 10mm
- Accuracy : 5 $\mu$ m

2438-BASE1



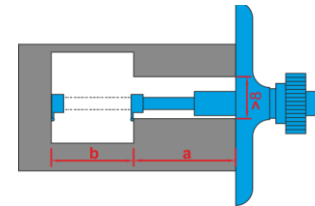
Measuring groove pitch

2438-BASE2



Measuring groove width and depth

2438-BASE3



Measuring groove width and depth

# Standards And Gauge Blocks (P1)



**Gauge Blocks**



**Caliper Inspection Gauge Block Sets**



**Micrometer Inspection  
Gauge Block Sets**



**Cylinder Gauge Blocks**



**Gauge Block Accessories**



**Gauge Block Holders**



**Caliper/Height Gauge Checkers**



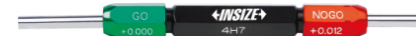
**Angle Gauge Blocks**



**Pin Gauges**



**Pin Gauges With Handle**



**Pin Gauge Handles**



**Setting Rings**

# Standards And Gauge Blocks (P2)



**Cylinder Gauges**



**Adjustable Snap Gauges**



**Plain Plug Gauges**



**Spline Ring/Plug Gauges**



**Measuring Balls**



**Threaded Hole Location Gauges**



**Thread Depth Gauges**



**Thread Ring/Plug Gauges**



**Semi-Automatic Thread Inspectors**



**Handheld Thread Inspection Machines**



**External Thread Measuring Devices**

# Setting Rings

CUSTOM-MADE



Setting Rings 6312

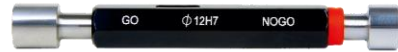


Carbide Setting Rings 6317



Ceramic Setting Rings 6319

# Plain Plug Gauges



Plain Plug Gauges 4124

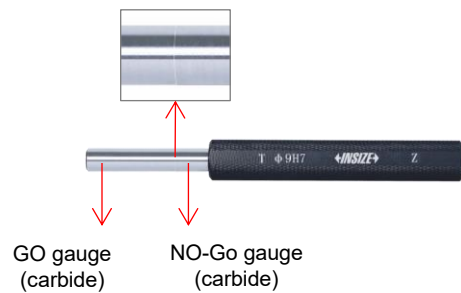


Carbide Plain Plug Gauges 4128

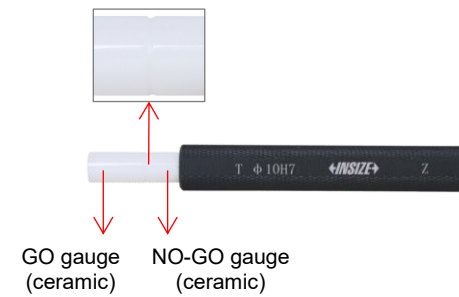


Ceramic Plain Plug Gauges 6332

CUSTOM-MADE

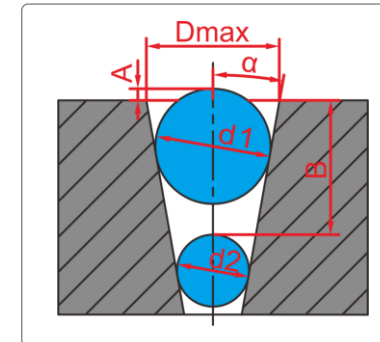


Carbide Plain Plug Gauges (Single End) 6331



Ceramic Plain Plug Gauges (Single End) 6333

# Ceramic Measuring Balls 4190



calculate angle ( $\alpha$ ) and diameter( $D_{max}$ ) according to the ball diameter( $d_1$ ,  $d_2$ ), height (A) and depth (B)

- Diameter : 1-40mm
- Accuracy :  $\pm 2\mu\text{m}$  /  $\pm 2.5\mu\text{m}$
- Roundness :  $0.5\mu\text{m}$ - $1.5\mu\text{m}$
- Zirconia material, high strength and hardness, extremely wear resistance and corrosion resistance, good insulation, antistatic and magnetic resistance
- Mirror surface without holes

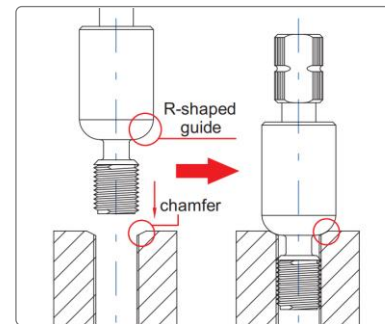
# Threaded Hole Location Gauges 4676



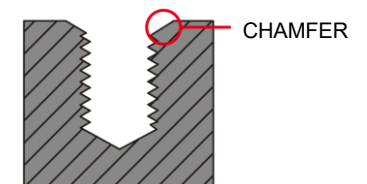
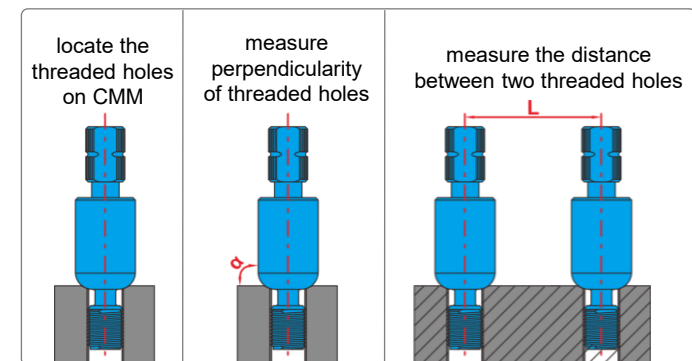
the concentricity between this surface and threaded part is less than 0.01mm

Size: M3-M12

there is a R-shaped guide, which leads the gauge to the center of the threaded holes by fitting the R-shaped guide on the chamfer of the threaded holes



## Application

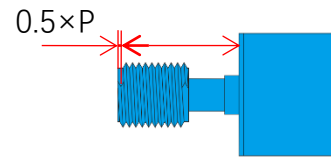


ATTENTION: ONLY FOR THE WORKPIECES THAT THE CHAMFER IS CONCENTRIC WITH THE SCREW PART

# Thread Depth Gauges

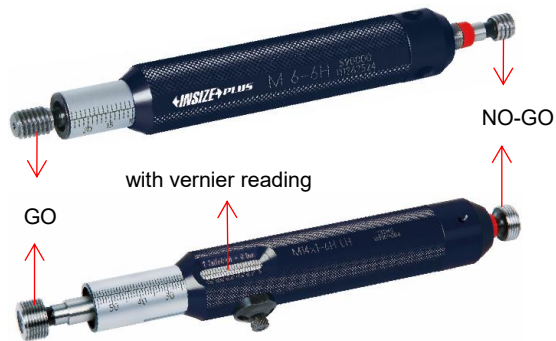


4649



the depth measurement starts at 1/2 thread pitch (P)

- Size : M2-M30
- Resolution : 0.01mm
- The GO gauge can be replaced after wear



4666



check GO and NO-GO while measuring depth of thread holes

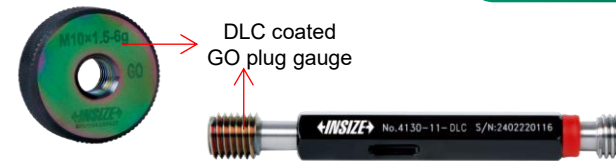
- Size : M2-M30
- Graduation : 0.5mm/0.1mm
- The GO gauge can be replaced after wear

# Thread Plug And Ring Gauges



Thread Plug And Ring Gauges

- Metric/Unified/Taper Pipe/Whitworth Parallel Pipe Thread series
- Customized available according to customer drawings



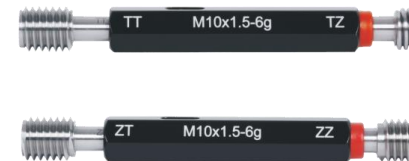
DLC Coated Thread Ring Gauges And Plug Gauges

- The DLC coating has the following advantages:
- High hardness, extremely wear resistance
  - Low friction coefficient
  - Corrosion resistance



Metric Thread Plug Gauges

- Supplied with Go and No-Go gauges together



Check Plugs For Metric Thread Ring Gauges

- Check thread ring gauges

# Electric Thread Plug Gauges 4256

- Suitable for left-hand and right-hand threads
- Fast screw-in and screw-out

CUSTOMIZED THREAD PLUG  
GAUGES ARE AVAILABLE



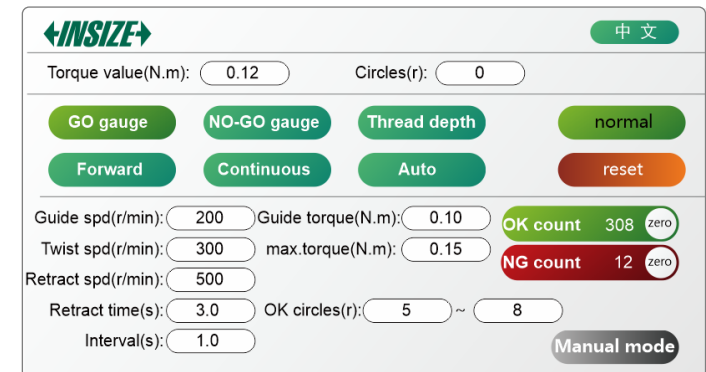
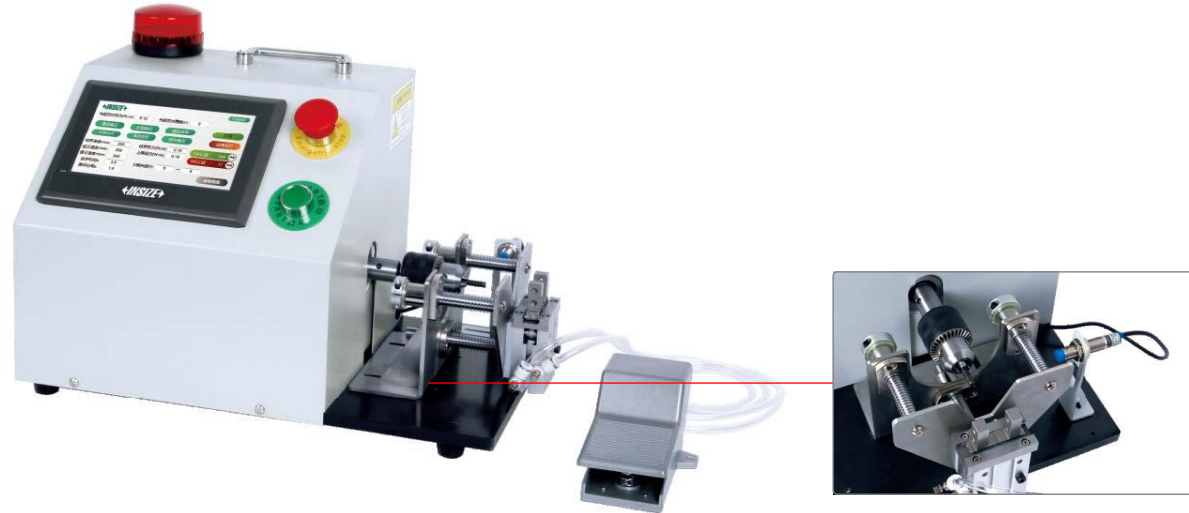
handle with adjustable angle

4256-HANDLE

- Electric Driver (thread plug gauge are not included)
- Torque range : 0.3~2.9N.m
  - Number of torque settings : 21

# Automatic Thread Inspection Machine TCM

CUSTOM-  
MADE



- Measuring range : thread : M1-M30
- Reprocessing range : thread : M1-M20

- For inspection of GO, NO-GO and depth of threads
- Can be for repair of thread defects
- Real-time display of torque, circles, OK and NG counts
- If NG thread is detected, audible and visual alarm are activated and the motor is automatically reversed to exit the thread gauge
- For different length of thread by adjusting the induction switc
- Thread gauges with DLC coating, excellent wear resistance

# Handheld Thread Inspection Machines

## HES-TP01/HES-TP02



Controller (included)



Code	Measuring range (internal thread)	Torque range	Max. speed
HES-TP01	M4-M13	0.02-0.23N.m	5000rpm
HES-TP02	M14-M30	0.15-0.90N.m	1200rpm

- For inspection of left-hand and right-hand internal thread
- High precision torque+angle control
- Real-time display torque, OK counts, NG counts and pass rate
- If NG thread is detected, the alarm is activated and the corresponding NG parameter is displayed in red on the controller
- Provide programmable IO and RS485 communication port for process control and data transmission
- Thread plug gauges can be replaced with different sizes
- Thread gauges with DLC coating, excellent wear resistance

# Angle, Straightness, Flatness Measuring Tools



Angle Meters



Protractors



Granite Squares



Granite Square



Cylinder Squares



Perpendicularity Testers



Squares



Straight Edges



Straight Edges



Optical Flats



Sodium Light Cabinets



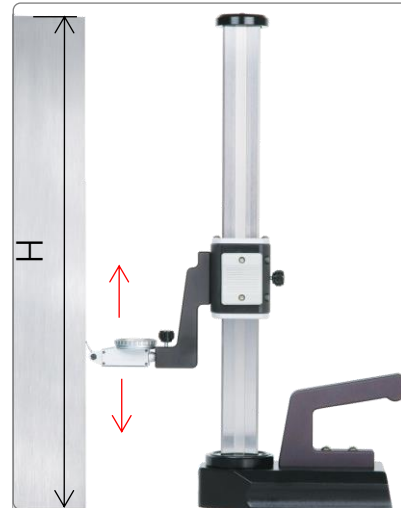
Flatness Measurement Stands

# Digital Protractor 2771



- Resolution : 1'/0.01°
- Range : 0-360°
- Accuracy : ±5'

# Perpendicularity Testers 4770



Code	Range (H)	Perpendicularity ( $\alpha$ )	Side perpendicularity ( $\beta$ )
4770-300	0-300mm	3 $\mu$ m	10 $\mu$ m
4770-600	0-600mm	5 $\mu$ m	20 $\mu$ m

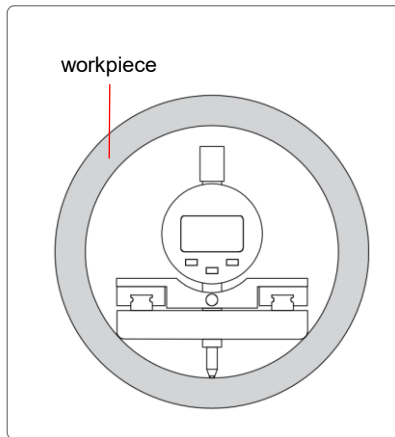
# Pipe Straightness Gauge 2226

- Measure inner wall straightness of pipes

DATA  
OUTPUT

GUIDE LENGTH (L) CAN  
BE CUSTOMIZED

Application



- Measuring range : 400mm
- Inner diameter of measured bore : 100-250mm
- Resolution : 0.01mm
- Straightness accuracy : 0.05mm
- Guide rail length : 430mm

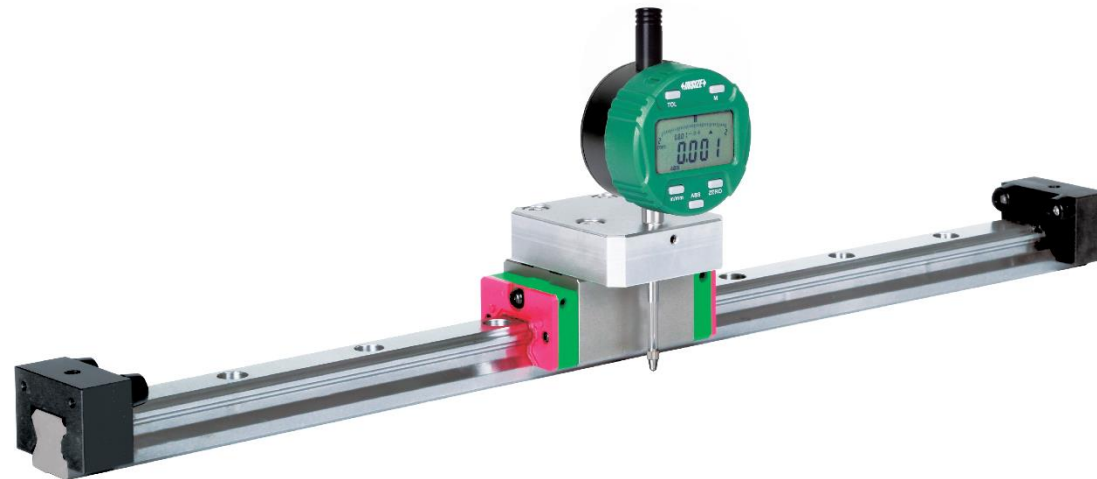
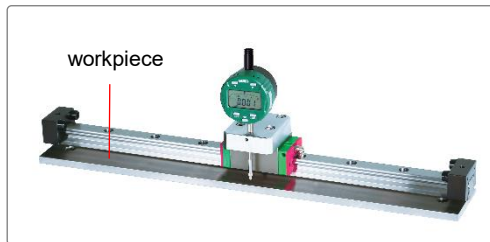
# Straightness Gauge 2225

- Measure straightness of workpieces

DATA  
OUTPUT

GUIDE LENGTH (L) CAN  
BE CUSTOMIZED

## Application



- Measuring range : 370mm
- Resolution : 0.001mm
- Straightness accuracy : 15 $\mu$ m
- Guide rail length : 500mm

# Flatness Measurement Stands 6852

GRANITE PLATE CAN BE CUSTOMIZED  
ACCORDING TO WORKPIECES



ball point

Application



workpiece

- Digital indicator resolution : 0.001mm
- Flatness measurement accuracy : 2 $\mu$ m
- Flatness of granite plate : 2 $\mu$ m

# Concentricity And Runout Testers



**Concentricity Gauges**



**Bench Centers**



**Bench Centers**



**Motorized Concentricity Gauges**



**Digital Motorized Concentricity Gauge**



**Vertical Bench Centers**



**V-blocks**



**Expansion Mandrels**

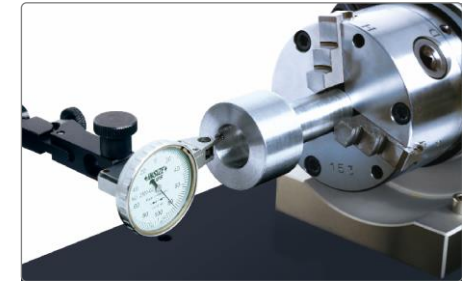
# Concentricity Gauges 4786



For cylinder



For tube



- Applicable inside diameter :  $\text{Ø}24\text{-}64\text{mm}$
- Applicable outside diameter :  $\text{Ø}2\text{-}70\text{mm}$
- Accuracy :  $3\mu\text{m}$
- $\text{Ø}50\text{mm}$  setting ring and  $\text{Ø}55\text{mm}$  calibration cylinder are included
- To ensure the accuracy  $3\mu\text{m}$ , the distance between measuring point and roller should be  $<50\text{mm}$

## Bench Centers



4736

- Diameter range : Ø3-35mm
- Workpiece length : 15-405mm
- Accuracy : 2µm



4739

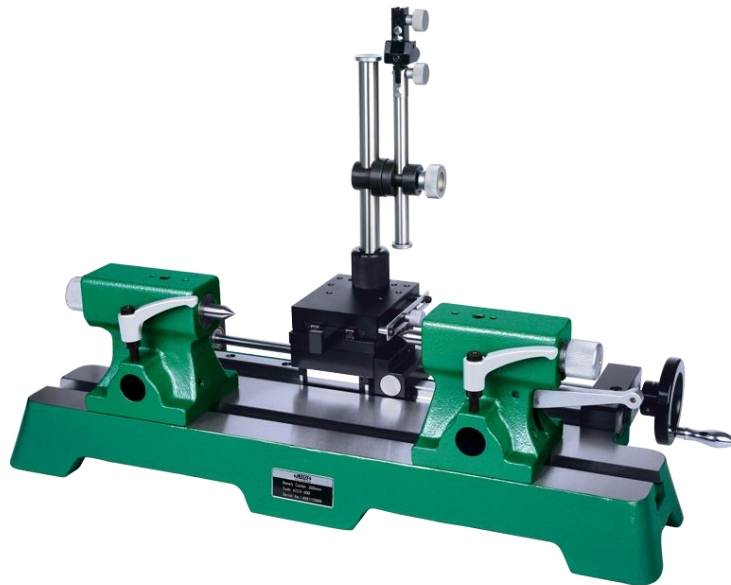
- Accuracy : 2µm



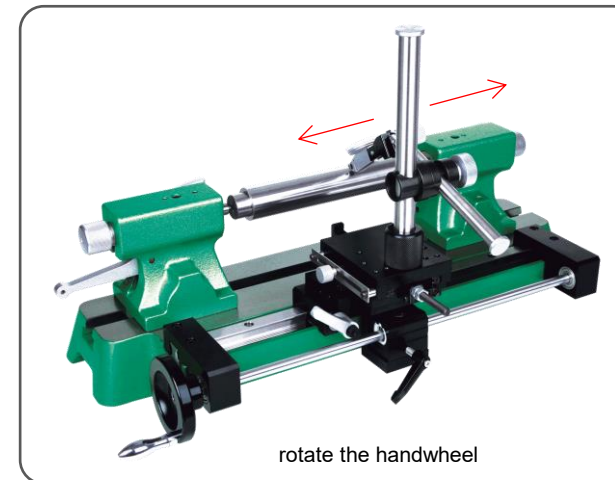
4741

- Stem hole : Ø8mm-Ø28mm
- Diameter range : Ø3-40mm

# Bench Center With Straightness Measurement 4723



Straightness measurement



- Runout accuracy : 2 $\mu$ m
- Accuracy of straightness measurement : 0.02mm
- Distance between two centers (D) : 300mm

# Simple Measuring Tools (P1)



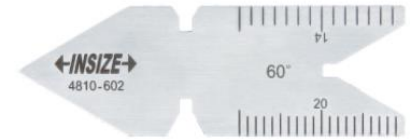
**Feeler Gauges**



**Pitch Gauges**



**Gear Tooth Pitch Gauges**



**Center Gauges**



**Thread Gauges**



**Angle Gauges**



**Radius Gauges**



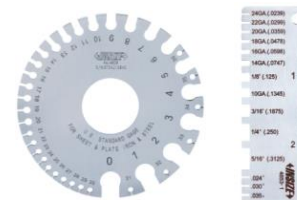
**Drill Gauges**



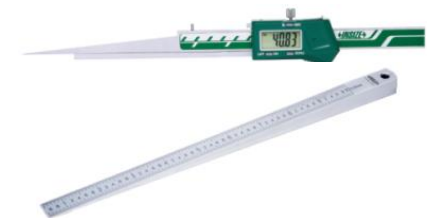
**Angle Gauges**



**Wire Gauges**



**Thickness Gauges**



**Taper Slot Gauges**

# Simple Measuring Tools (P2)



**Taper Gauges**



**Taper Bore Gauges**



**Welding Gauges**



**Fillet Welding Gauges**



**Welding Gauges**



**Pipe Welding Gauges**



**Inside/Outside Calipers**



**Dividers**



**Length Tapes**



**Measuring Tapes**



**Long Measuring Tapes**



**Automatic Measuring Tapes Calibration Systems**

# Simple Measuring Tools (P3)



**Measuring Wheels**



**Digital Measuring Wheels**



**Steel Rules**



**Automatic Steel Rulers  
Calibration Systems**



**Digital Scales With  
Microscope**



**Combination Squares**



**Plastic Angle Squares**



**T-levels**



**Marking Gauges**



**Center Marking Gauges**



**Locators**



**Scribing Calipers**

# Simple Measuring Tools (P4)

←INSIZE→



*Height Scribes*



*Scribers*



*Precision Screwdriver Sets*



*LED Flashlights*

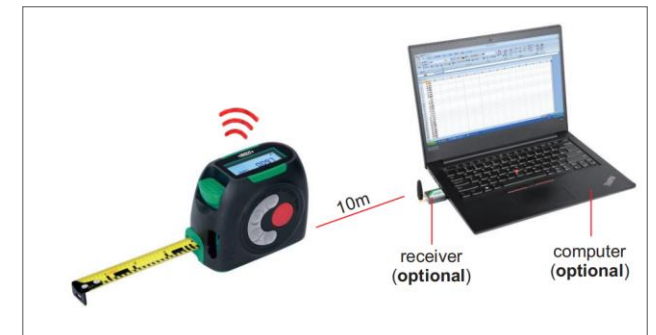


*Measuring Tool Sets*

# Digital Measuring Tapes 9570



## Wireless Connect To Computer



- Range : 5m
- Digital measurement accuracy :  $\pm 1\text{mm}$
- Blade graduation : 1mm, 1/16"
- Blade graduation accuracy :  $\pm(0.5+D/5000)\text{mm}$ , D : measured distance rounded to whole metres, when  $D < 1\text{m}$ , D takes to 1m

# Set-Up Tools (P1)



**Granite Surface Plates**



**Stands For Granite Surface Plates**



**Jack Sets For Granite Surface Plates**



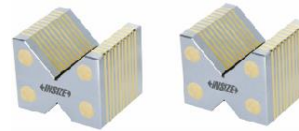
**Magnetic Rectangular Blocks**



**V-blocks**



**Magnetic V-blocks**



**Magnetic Induction V-blocks**



**Squares With V Groove**



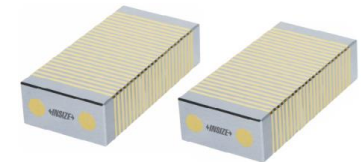
**Permanent Magnetic Chucks**



**Parallels**

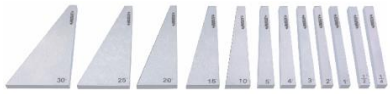


**Parallel/Square Sets**



**Magnetic Induction Parallel Sets**

# Set-Up Tools (P2)



**Angle Plate Sets**



**Adjustable Angle Blocks**



**Right Angle Plates**



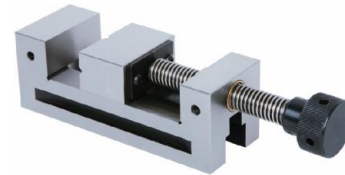
**Sine Bars**



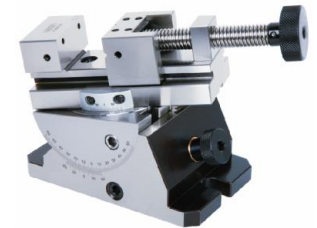
**Sine Tables**



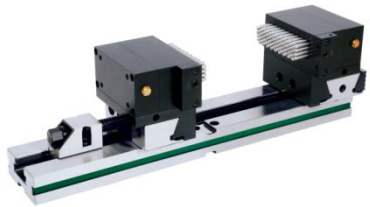
**Precision Sine Vises**



**Precision Vises**



**Precision Universal Vises**



**Anvil Vises**



**Stages**

# Vibration Isolation Platforms



rubber vibration damper  
(included)

0790-B

- Countertop material : marble/honeycomb platen
- Countertop thickness : 100mm/200mm
- Max. load : 400kg-800kg
- Dimension (L×W×H) :  
800×800×800mm-2000×1200×800mm

built-in air spring  
vibration  
isolation system  
(included)



0791-S

- Countertop material : marble/honeycomb platen
- Countertop thickness : 100mm/200mm
- Max. load : 500kg/800kg
- Dimension (L×W×H) :  
800×800×800mm-2000×1200×800mm

precision air-  
floating vibration  
damper

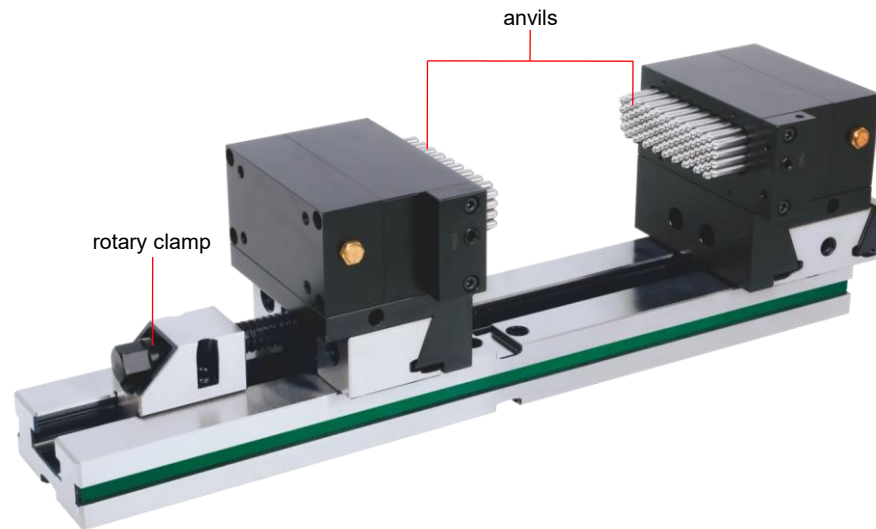
pressure regulating  
valve



0792-A

- Countertop material : marble/honeycomb platen
- Countertop thickness : 100mm-200mm
- Max. load : 300kg-1500kg
- Dimension (L×W×H) :  
800×600×780mm-1600×1200×780mm

# Anvil Vises 6519



- Guide length : 520mm, 680mm
- Clamp range : 0-190mm, 0-320mm
- Clamp force : 6500N, 8000N

## Application



- The vise is used to fix workpieces during machining. The anvils are formed according to the shape of workpieces to be fixed, so the vise can fix workpieces quickly.
- Diameter of anvil : 6mm
- Movement range of rotary clamp : 0-50mm

# 03

## Levels (P1)



**Built-in Bluetooth Electronic Levels**



**Built-in Bluetooth Digital Levels**



**Built-in Bluetooth Dual-Axis Digital Level**



**High Precision Digital Inclination Level**



**Digital Levels And Slope Meters**



**Frame Levels**



**Built-in Bluetooth Block Levels**



**Block Levels**



# 03

## Levels (P2)



**Imaging Level**



**Level Bubbles**



**Levels**



**Cross-line Laser Levels**



**Self-Leveling Rotary Lasers**

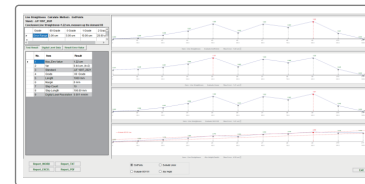


# Built-in Bluetooth Wireless Electronic Levels 4952

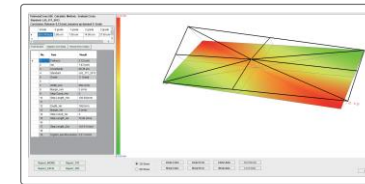


LCD display

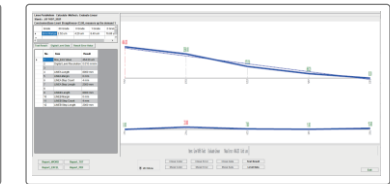
straightness measurement



flatness measurement



parallelism measurement



- Measures flatness, parallelism and straightness
- Built-in bluetooth, transmission distance is 30 meters (under the condition of no obstruction and no electromagnetic interference)
- The LCD can be rotated for easy observation in different directions

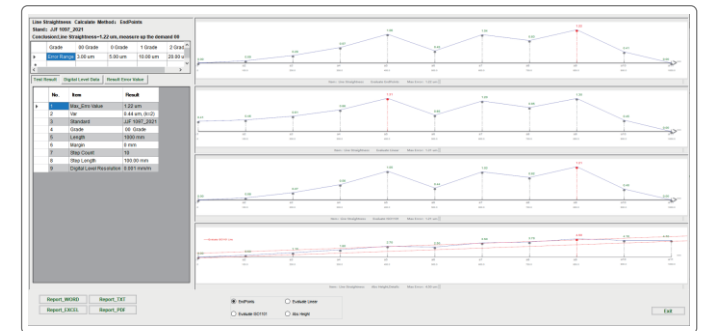
Code	4952-150		4952-150L	
	Resolution (adjustable)	0.01mm/m	0.001mm/m	0.01mm/m
Range	±5mm/m	±0.5mm/m	±5mm/m	±2.5mm/m
Repeatability	0.01mm/m	0.001mm/m	0.01mm/m	0.005mm/m
Response time	<3s	<10s	<3s	<5s
Accuracy	±(0.01+2%A)*	±(0.001+2%A)*	±(0.01+2%A)*	±(0.005+2%A)*

\* A is the absolute measured value, for example A=0.1mm/m, the resolution is 0.001mm/m, the accuracy is ±0.003mm/m

# Cylinder Straightness Measuring Instruments 4957



straightness measuring software (included)



- Measure the straightness of cylinders, calibrate the horizontal installation of cylindrical equipments
- Android APP and straightness measuring software are included

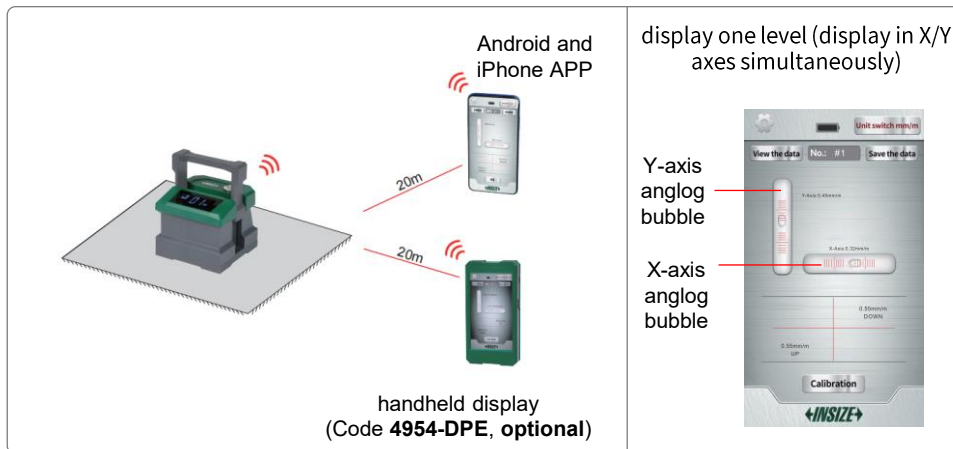
Resolution (adjustable)	0.01mm/m(2")	0.005mm/m(1")
Range	±5mm/m	±2.5mm/m
Repeatability	0.01mm/m	0.005mm/m
Response time	<3s	<5s
Accuracy	±(0.01+2%A)*	±(0.005+2%A)*

\*A is the absolute measured value, for example A=1mm/m, the resolution is 0.005mm/m, the accuracy is 0.025mm/m

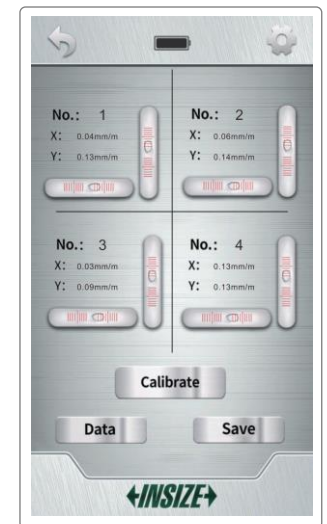
# Built-in Bluetooth Dual-axis Digital Levels 4954

- Measure the level of machine tools and other equipments
- Built-in bluetooth, transmission distance is 20 meters (under the condition of no obstruction and no electromagnetic interference)
- Can display one level, can also display two or more (up to 4 levels at a time)

data output



up to 4 levels at the same time



- Range:  $\pm 0.5\text{mm/m}$
- Resolution:  $0.01\text{mm/m}$
- Accuracy:  $\pm 0.02\text{mm}$

# Dual Axis Digital Level And Gyro Angle Meter 2199

DISPLAY FLIPS OVER WHEN THE BOTTOM FACES UP

AUDIBLE ALARM WHEN OUT OF LIMIT

BACKLIGHT



Measurement of angle between two planes in any direction (gyro technique)



place the angle meter at the first position, press "angle" button, rotate to another position (rotation speed < 90°/s), LCD shows the angle  $\alpha$

- Single axis/double axis level and slope meter, gyro technique can measure the angle between two planes in any direction
- Hard plastic case, with V-shaped grooves, four magnetic sides



Dual axis mode



Single axis mode

Connect to mobile phone



Connect to computer



Dual axis digital level:

- Range: single axis level:  $4 \times 90^\circ$   
dual axis level:  $\pm 40^\circ$
- Resolution:  $0.01^\circ$
- Accuracy: at  $0^\circ$  and  $20^\circ$ :  $\pm 0.05^\circ$   
at  $20^\circ$  and  $70^\circ$ :  $\pm 0.15^\circ$   
at  $70^\circ$  and  $90^\circ$ :  $\pm 0.05^\circ$

Gyro angle meter:

- Range:  $360^\circ$
- Resolution:  $0.1^\circ$
- Accuracy:  $\pm 0.5^\circ$

# Built-in Bluetooth Digital Level And Slope Meter 2198



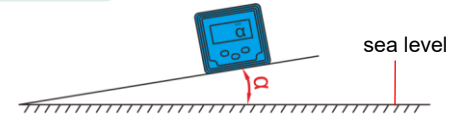
MAGNETIC BOTTOM

BACKLIGHT

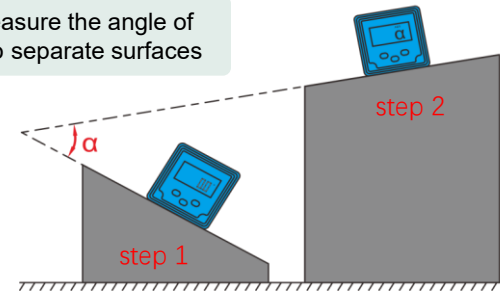
DISPLAY FLIPS OVER WHEN THE BOTTOM FACES UP

ABSOLUTE LEVEL

Measure slope

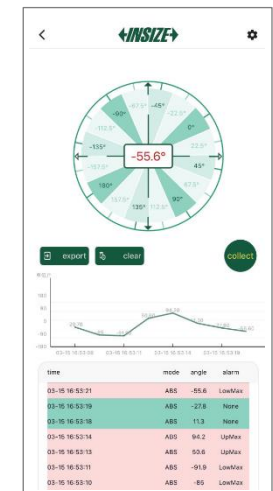


Measure the angle of Two separate surfaces



- The sea level is permanently set inside the chip, zero setting is not needed when battery is replaced
- Built-in bluetooth, transmission distance is 15 meters (under the condition of no obstruction and no electromagnetic interference). Android and iPhone APP are included

- Range :  $4 \times 90^\circ$
- Resolution :  $0.1^\circ (=1.745\text{mm/m})$
- Accuracy : at  $0^\circ$  and  $90^\circ$  :  $\pm 0.1^\circ$ ;  
at others :  $\pm 0.2^\circ$



Android and iPhone APP (included), can choose real-time display (continuous transmission) or single transmission

# Built-in Bluetooth Block Level 4953



COLOR DISPLAY  
LARGE CHARACTERS WITH BACKLIGHT

BUILT-IN  
BLUETOOTH

- Range :  $\pm 0.5\text{mm/m}$
- Resolution :  $0.01\text{mm/m}$
- Accuracy :  $\pm 0.02\text{mm/m}$
- Repeatability :  $0.01\text{mm/m}$

• Analog bubbles can show tilt trends in X-axis and Y-axis

# 04

## On-Machine Measurement (P1)



**Video Measuring Instrument  
For Machine Tools**



**Centering Indicators**



**Edge Finders**



**Edge Finders For EDM**



**3D Testers**



**Trigger-type 3D Probes**



**Machine Tool Probes With Cable**



**Transmission Probes For  
CNC Machine tools**



# 04

## On-Machine Measurement (P2)



**Zero Setters With Cable**



**Automatic Zero Setter System For Lathe**



**Zero Setter**



**Five-Side Zero Setter With Cable**



**Electronic Tool Setter**



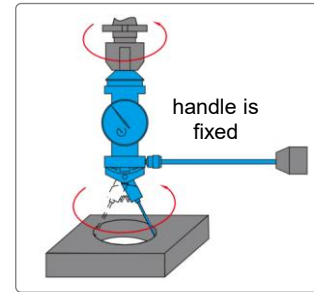
**Zero Setters**



**Vertical Milling Machine Perpendicularity Measuring Gauges**

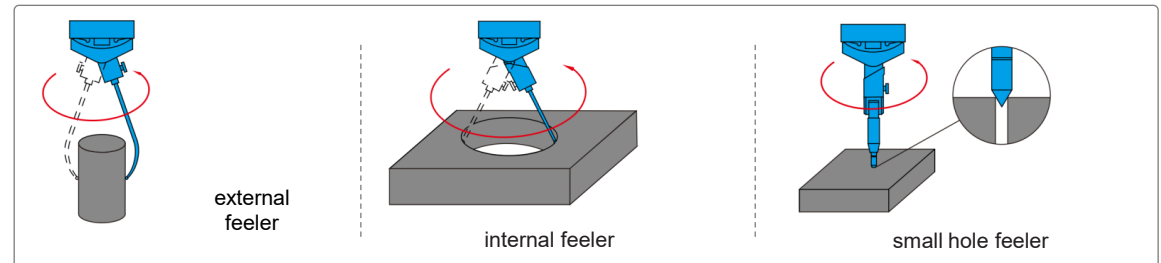


# Centering Indicator 2385



Feeler	Measuring diameter	Accuracy
P1	Ø0-60mm	0.015mm
P2	Ø0-160mm	0.02mm
P3	Ø0-250mm	0.03mm
P4	Ø3.2-80mm	0.015mm
P5	Ø3.2-180mm	0.02mm
P6	Ø3.2-280mm	0.03mm
P7	Ø0-2.8mm	0.015mm

## Application



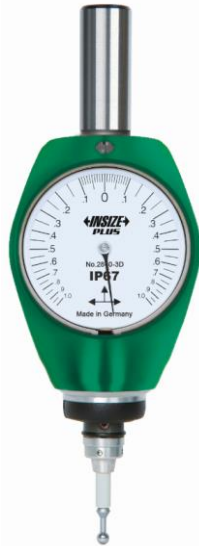
- Provides quick and accurate centering in boring and milling set-up
- Maximum speed is recommended not to exceed 800rpm

# 3D Testers

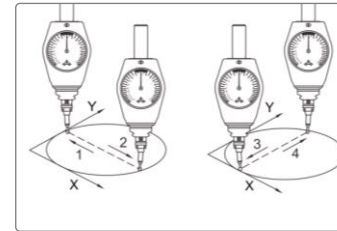
2846



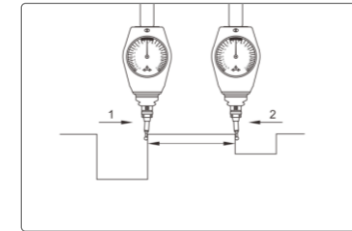
2840



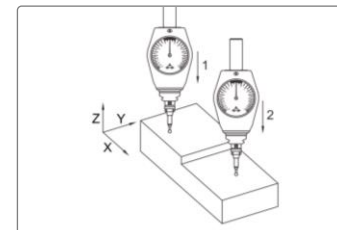
Find center of holes



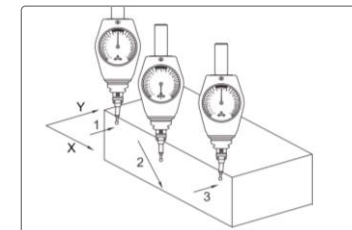
Length measurement



Depth measurement



Position workpieces

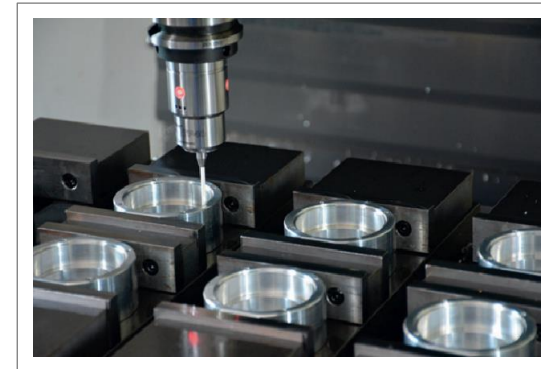


- Mainly used for milling machines and CNC machine tools
- 1. determine coordinate point on workpieces
- 2. find center of holes
- 3. adjust and position workpieces
- Can be used to measure length and depth

# Trigger-type 3D Probe (Audible And Visual Alarm) 9410



Application



- Arbitrary one-way repeated trigger accuracy :  $\leq 1\mu\text{m}$
- Directional trigger protection stroke : X-Y:  $\pm 12^\circ$ , Z: +5mm
- Trigger force in X-Y direction (with standard styli) : 0.3-0.6N
- Trigger force in Z direction : 4N

# Infrared Transmission Probes For CNC Machine Tools 9413

Probe

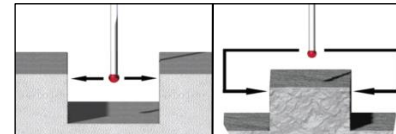


Receiver

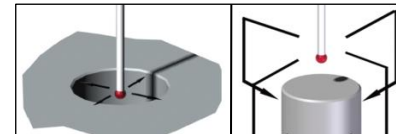


Automatic measurement software (included)

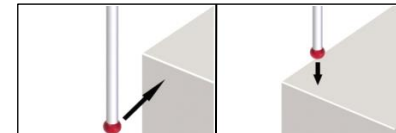
1. Stylus automatic calibration
2. Protection of stylus during probe movement (avoid collision)
3. Groove and boss measurement



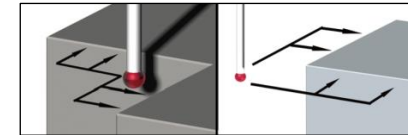
4. Bore and axis measurement



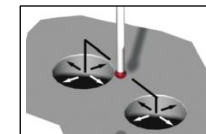
5. X or Y single-surface measurement



6. Internal and external corner measurement



7. 4th axis measurement
8. Angle on X and Y plane measurement
9. Three points measurement of arc
10. Measure the distance between two holes



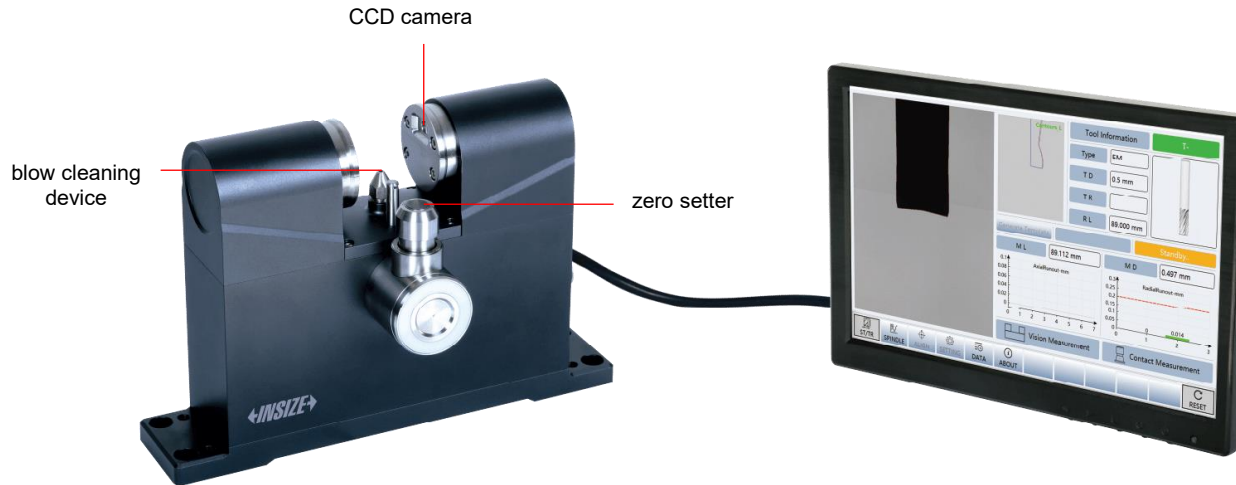
- Trigger accuracy of styli in any direction : 1µm
- Infrared transmission/reception range: 5m

# Vision Zero Setter 9417

HIGH ROTATION  
MEASUREMENT

IP65  
WATERPROOF

Application



- For 3-axis/5-axis high-speed precision machining centers
- Zero setter for large diameter cutting tool lengths
- High-precision CCD camera to measure tool length, tool diameter, axial runout, radial runout, etc.
- Monitoring spindle thermal steady state
- Applicable CNC systems: FANUC, HAAS, OKUMA, SIMENS, LYNUC, MITSUBISHI, etc.

## Vision measurement

- Range :  $\varnothing 0.05-30\text{mm}$
- Static measurement accuracy :  $\pm 2\mu\text{m}$
- Repeatability :  $\leq 3\mu\text{m}$
- Communication protocols : OPC-UA, TCP/IP, RS232

## Zero setter

- Working air pressure : 0.4-0.8MPa
- Repeated trigger accuracy :  $\leq 2\mu\text{m}$

# Zero Setter With Cable (Five-side) 9412

- Suitable for various machining centers, CNC boring and milling machines, etc.
- Automatically set the tool length parameters before CNC machining process
- Automatic detection of tool wear or damage during CNC machining
- Automatic detection of tool wear or damage after CNC machining is completed
- The working surface adopts ceramic material and chamfering process, which can greatly improve the service life
- The plug, cable part and output signal of the host are protected, so that the zero setter can work in the splash environment for a long time

Application



- Trigger protection stroke : X-Y :  $\pm 5\text{mm}$ , Z : 8mm
- Axial reset force : 3.4N-3.6N
- Repeated trigger accuracy :  $\leq 1\mu\text{m}$
- Hardness of the zero setter : HM8.5

# 05

## Linear Probes And Scales



**Linear Probes**



**Inductance Type Probe**



**Digital Linear Gauges**



**Capacitance Type Linear Gauges And Display Units**



**Laser Displacement Sensors**



**Linear Scales And Digital Readouts**



**Magnetic Linear Scales**



**Scales**



# Inductance Type Probes 9420

IP65  
WATERPROOF



9420-AP02



9420-BP02

Code	9420-AP02	9420-BP02
Range	±0.9mm	±1mm
Accuracy	$\pm(0.3+3 \times  L ^3) \mu\text{m}$	$\pm(0.2+3 \times  L ^3) \mu\text{m}$
Repeatability	0.15 $\mu\text{m}$	

L is measuring length in mm

# Inductance Probe Displays

9427



- Channel number : 1-4
- Unit :  $\mu\text{m}$ , mm
- Range :  $\pm 1\text{mm}$ ,  $\pm 2\text{mm}$ ,  $\pm 5\text{mm}$ ,  $\pm 10\text{mm}$  (adjustable)
- Resolution :  $0.1\mu\text{m}$ ,  $1\mu\text{m}$

9428



- Channel number : 1-16 (selectable)
- Unit :  $\mu\text{m}$ , mm
- Range :  $\pm 0.5\text{mm}$ ,  $\pm 1\text{mm}$ ,  $\pm 2\text{mm}$ ,  $\pm 5\text{mm}$ ,  $\pm 10\text{mm}$  (adjustable)
- Resolution :  $0.1\mu\text{m}$

# Inductance Type Probe And Display Unit 9442-SET1

UNIDIRECTION

FIXED LEVER  
ANGLE



9427-S01B



9442-G03

Spindle runout measurement application



universal magnetic stand (optional)

Display Unit Specification

- Resolution : 0.1μm/1μm
- Channel number : 1  
(can be customized up to 4 channels)

Inductance Type Probe Specification

- Range : ±0.3μm
- Overall accuracy : ±2μm
- Overall repeatability : 0.3μm

# Digital Linear Gauges

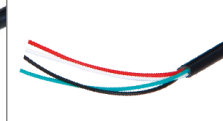
7130-10



Output interface



RS232, TTL level  
RS232, 232 level



RS485



RS232, TTL level  
RS232, 232 level

7134-10L (Pneumatic Digital Linear Gauges)



- Range : 0-12.5mm
- Accuracy : 1µm/3µm
- Measuring force : ≤1.5N

- Repeatability : 0.5µm/1.5µm
- Absolute encoder, the original data remains after power off
- Digital signal output, amplifier is not required
- Dust/waterproof : IP43/IP66

# Capacitance Linear Gauges 7107

## Capacitance Linear Gauges

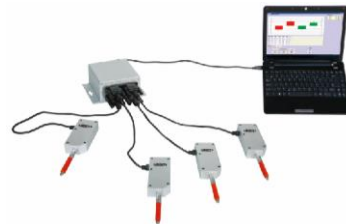


- Measuring range : 12mm
- Resolution : 0.01mm / 0.001mm
- Accuracy : 20µm / 5µm
- Hysteresis : 10µm / 2µm

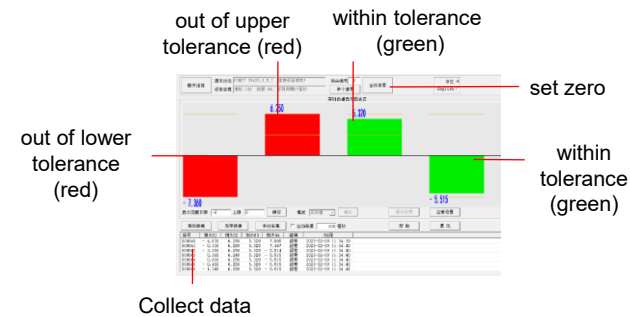
## Multichannel Interface Boxes For Capacitance Linear Gauges



Connected with 7107-11, 7107-12, 7107-11V or 7107-12V linear gauges



## Software (included)



Connected with digital indicators (data cable 7309-C01M is needed)



suitable for 2112, 2114, 2115, 2116, 2501, 2103 and 2104 series digital indicators

# Laser Displacement Sensors LDS-N Series

- High accuracy, non-contact measurement, high speed response, multiple measurement modes, environmental adaptability, programmable control, rich data output interface and easy maintenance
- Can be used in automated production lines, robotic arms, packaging equipment, printing equipment, medical equipment etc.

IP67  
WATERPROOF



Code	NPN+Analog current	LDS-N30	LDS-N50	LDS-N100	LDS-N200	LDS-N400	
	NPN+Analog voltage	LDS-N30-MC	LDS-N50-MC	LDS-N100-MC	LDS-N200-MC	LDS-N400-MC	
	NPN+RS485	LDS-N30-RS	LDS-N50-RS	LDS-N100-RS	LDS-N200-RS	LDS-N400-RS	
Basis (center) distance	30mm	50mm	100mm	200mm	400mm		
Detection range (FS)	25-35mm	35-65mm	65-135mm	120-280mm	200-600mm		
Full scale	10mm	30mm	70mm	160mm	400mm		
Repeat accuracy	5μm	15μm	35μm	100μm	200-400mm: 150μm	400-600mm: 400μm	
Linear accuracy	±0.2% FS				200-400mm: ±0.2% FS	400-600mm: ±0.3% FS	

# 06

## Roundness, Profile And Roughness Testers



**Roundness/Cylindricity Tester**



**Roundness Measuring Machines**



**Precision Air Floating Rotary Tables**



**Surface Profile Measuring Machines**



**Roughness Measuring Machines**



**Roughness Testers**



**Surface Roughness Specimens**



**Surface Roughness Reference Specimens**



# Roundness/Cylindricity Testers

Roundness/Cylindricity Tester RCT-300



- Automatic centering and leveling
- Evaluation items: cylindricity module, roundness module, straightness module, single section flatness module, multi-section flatness module, commutator module
- Analytical ability: cylindricity function, reference benchmarks for cylindricity evaluation, reference circle for roundness evaluation, measurement band, notched measurement

Roundness Measuring Machine RCT-RA260



- Air-floating spindle
- Can measure roundness, concentricity, flatness, radial runout
- Spectrum analysis, automatic gap/burr removal, waveform analysis
- 4 roundness evaluation methods: smallest area method, least square method, smallest circumscribed circle method, largest inscribed circle method

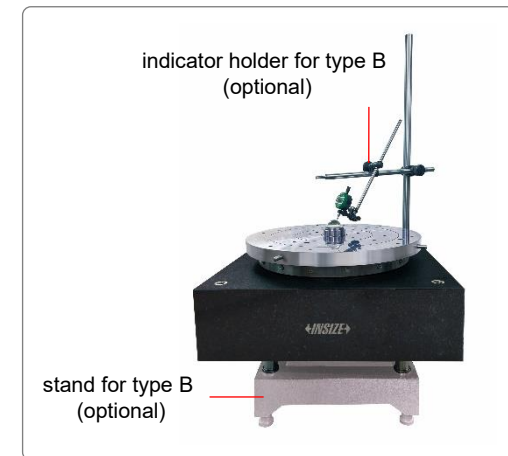
# Precision Air Floating Rotary Tables 6875

CUSTOM-MADE  
SUPPLY SPECIAL SIZES ACCORDING  
TO CUSTOMER'S REQUEST



- Manual drive
- Floating by air pressure, the rotary table can rotate smoothly and be free from wear

## Application



- Stage Size : Ø320mm/Ø400mm/Ø500mm/Ø600mm
- Rotation accuracy in radial/axial : <math><0.3\mu\text{m}</math>

# Roughness And Profile Measuring Machines (P1)

Surface Profile Measuring Machine SPM-1000



Roughness And Profile Measuring Machine (Two Probes Type) SPM-2000



- Measure curved surfaces

# Roughness And Profile Measuring Machines (P2)

Roughness And Profile Measuring Machine (One Probe Type) SPM-5000



- Roughness, waviness, and profile analysis can be achieved with just one measurement

Roughness Measuring Machine SPM-4000

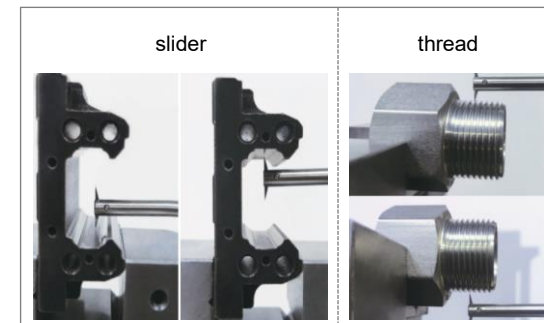


- Hundreds of parameters can be evaluated, such as roughness profile, waviness profile, primary profile, etc.

# Bidirectional Roughness And Profile Measuring Machine SPM-6000



## Application



- Bidirectional probe measurement
- Constant measuring force
- Intelligent tracking control system, real-time scanning measurement

# Roughness Tester (Separable Type) ISR-C300/ISR-C301/ISR-C300WL

BLUETOOTH

TOUCH  
SCREEN

DATA  
OUTPUT

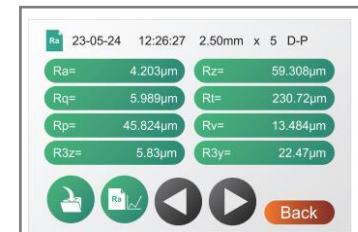
CAN BE OPERATED BY  
COMPUTERS OR MOBILE PHONES



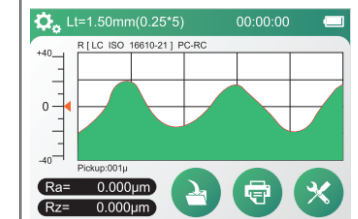
Probe and main unit Can be combined together



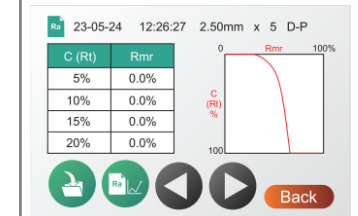
Roughness tester screen display



measurement result



roughness profile



Rmr analysis

- Roughness tester can be operated by mobile phones or computers
- Optional wireless or Bluetooth receivers can be used to output keyboard signals, connecting to a computer to send data to Excel
- Support bluetooth printer
- 36 roughness parameters
- Meet ISO, DIN, ANSI, JIS standards

- Display roughness values, profile and curve
- Memory of maximum 100 data and waveform
- Built-in lithium battery, working time more than 50 hours
- Touch screen
- Automatic power off


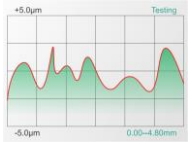


# Roughness Tester For Automation ISR-C400

CAN BE OPERATED BY  
MOBILE PHONES OR COMPUTERS

BLUETOOTH

DATA  
OUTPUT

## Screen display

 <p>display 1 group of parameter</p>  <p>roughness profile</p>	 <p>displays 3 groups of parameters</p>  <p>threshold alarm setting</p>
---	--



## Application



- Range: 320 $\mu\text{m}$  (-160 $\mu\text{m}$ ~160 $\mu\text{m}$ )
- Accuracy:  $\pm 10\%$
- Resolution (Ra): 0.001 $\mu\text{m}$

# Roughness Testers (P1)

Surface Roughness And Profile Tester ISR-S600



standard roughness probe (included),  
for measuring plane and curved surfaces



standard profile probe (included),  
for measuring profile and dimension

- Profile measurement specification  
X axis measuring range : 59mm  
X axis resolution : 1 $\mu$ m  
Z axis measuring range : 3mm  
Z axis resolution : 1 $\mu$ m

- Roughness measurement specification  
Range : 1500 $\mu$ m  
Resolution (Ra) : 0.0001 $\mu$ m

Roughness Tester (Compact Type) ISR-C200



- Range : X axis : 17.5mm  
Z axis : 250 $\mu$ m
- Accuracy :  $\pm(5\%+0.025)\mu$ m
- Resolution (Ra): 0.001 $\mu$ m

# Roughness Testers (P2)



Roughness Tester ISR-C002

- Range : 320 $\mu$ m (-160 $\mu$ m~160 $\mu$ m)
- Accuracy:  $\pm$ 10%
- Resolution (Ra) : 0.001 $\mu$ m



Roughness Tester ISR-T120

- Range : X axis : 17.5mm  
Z axis : 640 $\mu$ m (-320 $\mu$ m~320 $\mu$ m)
- Accuracy :  $\pm$ 10%
- Resolution (Ra): 0.001 $\mu$ m



Roughness Tester (Basic Type) ISR-C003

- Range : Ra, Rq: 0.05-15 $\mu$ m  
Rz, Rt: 0.1-50 $\mu$ m
- Accuracy :  $\pm$ 10%
- Resolution (Ra): 0.01 $\mu$ m

**CMM**



**Measuring Arms**



**Handheld 3D Scanners**



**Styli For CMM**



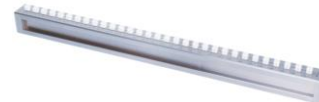
**Ceramic Ball Gauges**



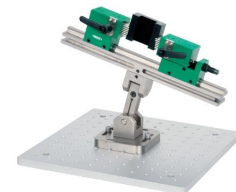
**Gauge Block Stands for CMM**



**CMM Check Masters**



**Jigs For CMM**



# Coordinate Measuring Machines (Small Range) CMM-LM/CMM-LE Series



#### Standard accuracy (LM series)

- Range : X : 500-800mm  
Y : 600-1500mm  
Z : 400-600mm
- MPEE ( $\mu\text{m}$ ) :  $\pm(2.1+L/250)\mu\text{m} \sim \pm(2.7+L/250)\mu\text{m}$

#### High accuracy (LE series)

- Range X : 500-800mm  
Y : 600-1500mm  
Z : 400-600mm
- MPEE ( $\mu\text{m}$ ) :  $\pm(1.6+L/330)\mu\text{m} \sim \pm(2.1+L/330)\mu\text{m}$

# Coordinate Measuring Machines (Large Range) CMM-PM/CMM-PE Series



#### Standard accuracy (PM series)

- Range : X : 600-1800mm  
Y : 800-4000mm  
Z : 600-1000mm
- MPEE ( $\mu\text{m}$ ) :  $\pm(1.5+L/300)\mu\text{m} \sim \pm(3.9+L/300)\mu\text{m}$

#### High accuracy (PE series)

- Range X : 600-1800mm  
Y : 800-4000mm  
Z : 600-1000mm
- MPEE ( $\mu\text{m}$ ) :  $\pm(1.2+L/350)\mu\text{m} \sim \pm(3.5+L/350)\mu\text{m}$

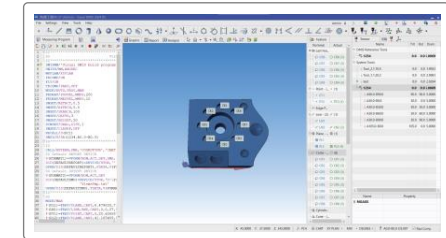
# Workshop Coordinate Measuring Machines CMM-WM Series



- Ultra-high-speed measurement Measurement efficiency is three times of ordinary CMM
- Built-in temperature sensor with real-time temperature compensation
- Ready to use when connected to the power supply, no compressed air
- Dedicated touchscreen software with configurable access permissions ensures both convenience and safety during production site operations.



workshop specific software  
(included)



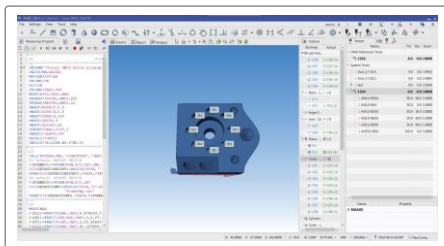
measurement software  
(included)

Code	CMM-WM342A	CMM-WM342B	CMM-WM565A	CMM-WM565B
Range	300×400×200mm		500×600×500mm	
Accuracy MPEE	±(2.7+L/200) μm		±(3.1+L/200) μm	
Movement speed	860mm/s			
Moving acceleration	5000mm/s <sup>2</sup>			

# Automatic Measurement System RBT-CMM01

CUSTOM-  
MADE

Measurement software (included)



## Robot

- Robot arm spreading : 720mm
- Max. Working speed : 4000mm/s
- Max. Weight of workpiece : 8kg
- Repeat positioning accuracy :  $\pm 0.02$ mm
- Number of control axis : 6
- Communication protocols : ethernet modbus tcp

## CMM\*

- Range : 500×600×400mm
- Mpee :  $\pm(2.3+L/250)\mu\text{m}$
- Mpep : 2.4 $\mu\text{m}$
- \* CMM can select different models according to the workpiece

# Measuring Arms



Adjustable tripod (optional)



Laser line probe (optional)

CMM-CM30



- Internal balance
- Equivalent-arm design
- Aerospace grade carbon-fiber material
- U-shaped anti-collision design of the base



3mm zircon ball probe (included)



6mm zircon ball probe (included)



calibration cone (included)

- High precision, CM series, 6-axis: range: 1500-4500mm
- High precision, CM series, 7-axis: range: 2000-4500mm
- Standard precision, BE series, 6-axis: range: 1500-4500mm
- Ultra High Precise: HP series, 6-axis: range: 1500-4500mm
- Ultra High Precise: HP series, 7-axis: range: 2000-4500mm
- Temperature rate: 3°C/5min

# Measuring Arms (Advanced)



Laser line probe (optional)



Adjustable tripod (optional)



CMM-HM30S



3mm intelligent  
probe (included)



6mm intelligent  
probe (included)



calibration cone  
(included)

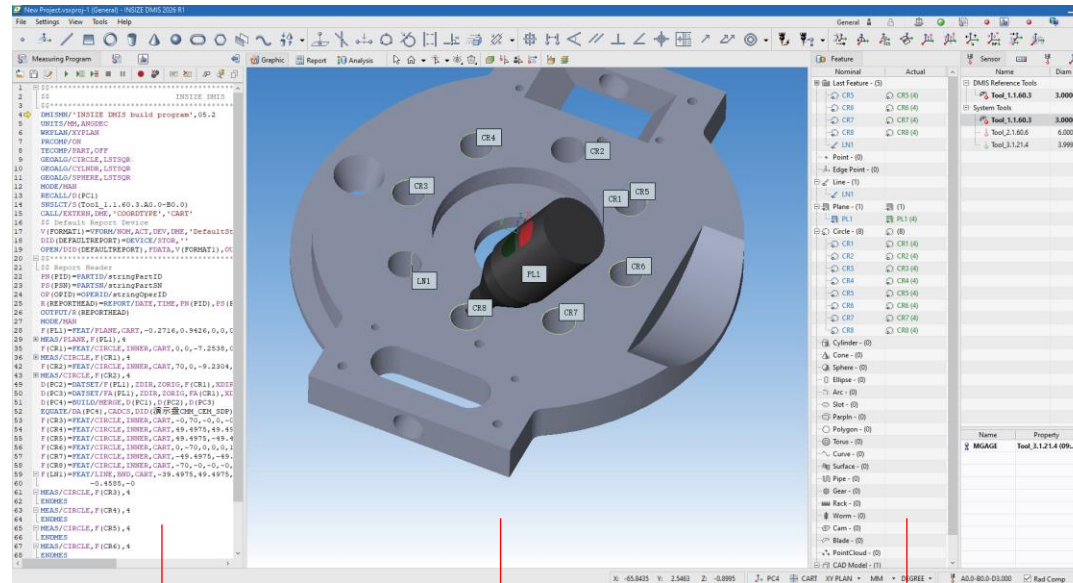
- Standard Accuracy, HE Series, 6-Axis : Measuring range : 1500-4500mm
- Standard Accuracy, HE Series, 7-Axis : Measuring range : 1500-4500mm
- High Accuracy ,HM Series, 6-Axis : Measuring range : 1500-4500mm
- High Accuracy ,HM Series, 7-Axis : Measuring range : 1500-4500mm
- Ultra High Accuracy, GP Series, 6-Axis : Measuring range : 1500-4500mm
- Ultra High Accuracy, GP Series, 7-Axis : Measuring range : 1500-4500mm

# Software For Measuring Arms CMM-ARM-DMIS

- Simple and intuitive user interface
- Drag-and-drop operation for simplicity and efficiency
- Standard DMIS kernel with self-learning programming function
- Multilingual design
- The tolerance algorithm supports ISO and ASME Y14.5



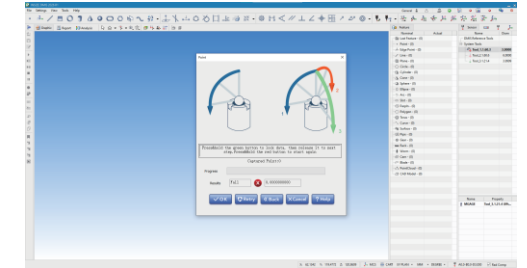
Measuring arm (optional) applications



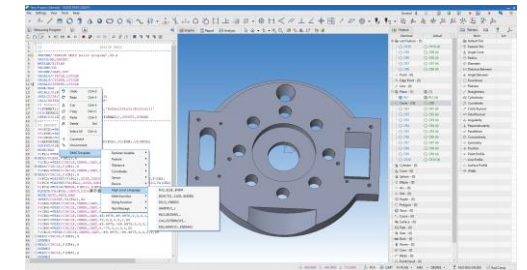
measuring program

integrated display window

element library



probe calibration



advanced programming

# Handheld 3D Scanner LSM-L340/L560

- Three scanning modes to suit different situations
- AI algorithm module, greatly improve the scanning effect
- Highly efficient scanning with ultra-fast measuring speeds
- Metrology-grade measuring accuracy

Scanning software (included)

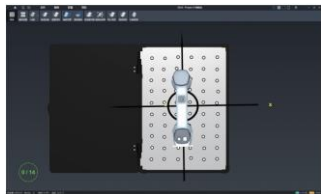
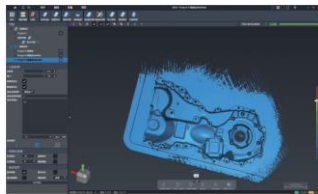
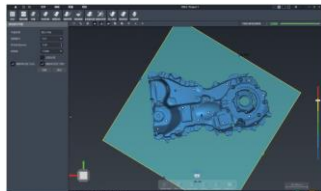


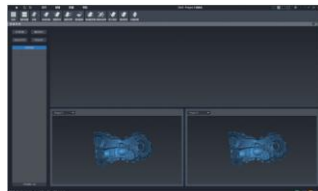
image-guide calibration



point cloud meshing



invalid area removal



scanning splicing



laser transmitter



scan indicator



Multi-function keys

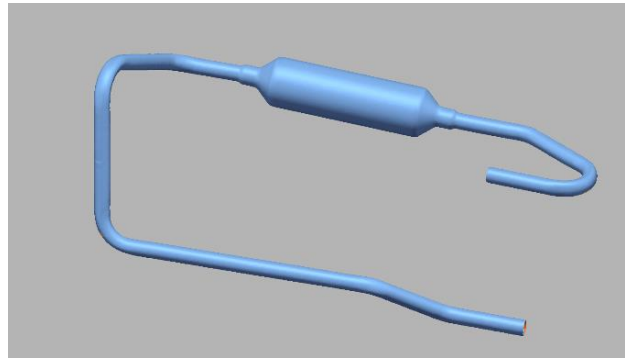
Code	LSM-L340	LSM-L560
High-speed scanning	26 cross blue laser lines	50 cross blue laser lines
Precision scanning	7 parallel blue laser lines	7 parallel blue laser lines
Deep hole scanning	1 blue laser line	1 blue laser line
Maximum scanning speed	5400000 measurements/s	7100000 measurements/s
Maximum resolution	0.01mm	

# Handheld 3D Scanner -Case Studies on Pipe Bending

Multi-laser line scanning is simple to operate and fast



Obtaining a complete outline facilitates measurement and reverse engineering



Data archiving and commissioning of pipe bending equipment

Feature Table							
Length/Units	Volume	Data Alignment					
Control	Min	Max	Tol	Dev	Test	Out/In	
@ Pipe_1	14.90	14.92	1.30	0.02	Pass		
@ Pipe_2	14.90	14.92	1.30	0.02	Pass		
@ Pipe_3	14.90	14.94	1.30	0.04	Pass		
@ Pipe_4	14.90	14.94	1.30	0.04	Pass		
+ Feature_1	Z	2.82	3.82	1.30	0.02	Pass	
+ Feature_2	Y	2.82	3.82	1.30	0.02	Pass	
+ Feature_3	X	171.01	171.01	1.30	0.02	Pass	
+ Feature_4	Y	2.82	3.82	1.30	0.02	Pass	
+ Feature_5	Z	150.84	152.36	1.30	0.02	Pass	
+ Feature_6	X	249.29	249.29	1.30	0.02	Pass	
+ Feature_7	Y	249.29	249.29	1.30	0.02	Pass	
+ Feature_8	Z	151.15	151.40	1.30	0.02	Pass	
+ Feature_9	X	171.01	171.01	1.30	0.02	Pass	
+ Feature_10	Y	171.01	171.01	1.30	0.02	Pass	
+ Feature_11	Z	150.84	152.36	1.30	0.02	Pass	

Organization: Part name:  
Operator: Part number:  
E-mail: Piece: piece 1

2025/5/22 3/3

Feature Table							
Length/Units	Volume	Data Alignment					
Control	Min	Max	Tol	Dev	Test	Out/In	
@ Pipe_1	15.13	15.13	1.30	0.02	Pass		
@ Pipe_2	15.13	15.13	1.30	0.02	Pass		
@ Pipe_3	15.13	15.13	1.30	0.02	Pass		
@ Pipe_4	15.13	15.13	1.30	0.02	Pass		
+ Feature_1	Z	2.82	3.82	1.30	0.02	Pass	
+ Feature_2	Y	2.82	3.82	1.30	0.02	Pass	
+ Feature_3	X	171.01	171.01	1.30	0.02	Pass	
+ Feature_4	Y	2.82	3.82	1.30	0.02	Pass	
+ Feature_5	Z	150.84	152.36	1.30	0.02	Pass	
+ Feature_6	X	249.29	249.29	1.30	0.02	Pass	
+ Feature_7	Y	249.29	249.29	1.30	0.02	Pass	
+ Feature_8	Z	151.15	151.40	1.30	0.02	Pass	
+ Feature_9	X	171.01	171.01	1.30	0.02	Pass	
+ Feature_10	Y	171.01	171.01	1.30	0.02	Pass	
+ Feature_11	Z	150.84	152.36	1.30	0.02	Pass	

Organization: Part name:  
Operator: Part number:  
E-mail: Piece: piece 1

2025/5/22 3/3

- Supports exporting inspection reports in multiple formats, including PDF, Excel and Word, for convenient archiving and storage
- Precise calibration of tube bending machinery based on actual measurement data such as XYZ and LRA obtained from testing

# Gauge Block Stands For CMM



6885

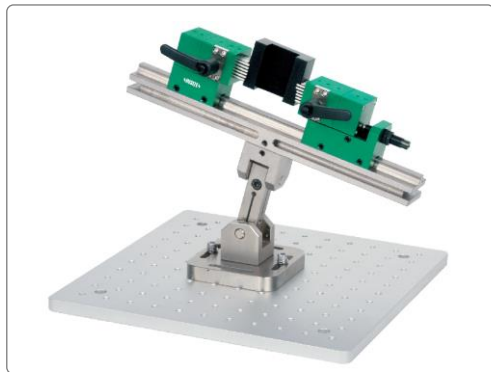
- Length: 500mm, 600mm, 650mm, 700mm, 750mm, 800mm, 850mm, 900mm, 1000mm
- Height: 235mm, 355mm, 475mm



7398

- Applicable block length : 30mm、100mm、125mm、150mm、175mm、200mm、250mm、300mm、400mm、500mm、600mm、700mm、800mm、900mm、1000mm
- Column height : 450mm
- Angle adjustment range : 0 ° ~90°

# Jigs For CMM



Anvil Ø2.5mm



Anvil Ø2.5mm



Anvil ø6mm



Anvil ø6mm

# 08

## Profile Projectors, Quick Measurement Systems, Vision Measuring Systems (P1)



**Profile Projectors**



**Large Size Profile Projectors**



**Sheet Metal Vision Measuring Systems**



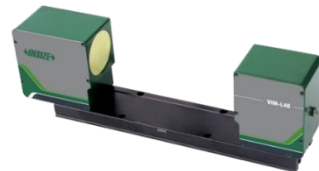
**Quick Measurement Systems**



**Quick Automatic Measurement Systems**



**Online/Offline Quick Measurement Systems**



**2D+3D Composite CNC Vision Measuring Systems**



**CNC Vision Measuring Systems**



# 08

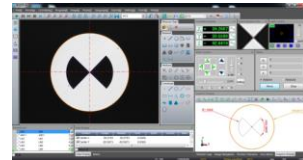
## Profile Projectors, Quick Measurement Systems, Vision Measuring Systems (P2)



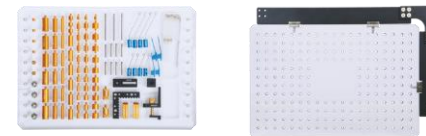
**CNC Vision Measuring Systems  
(Advanced Type)**



**Vision Measuring Softwares**



**Jig Set For Vision  
Measuring Systems**



**Standard Glass Scales**



**Contact Angle Goniometer**



# Profile Projectors



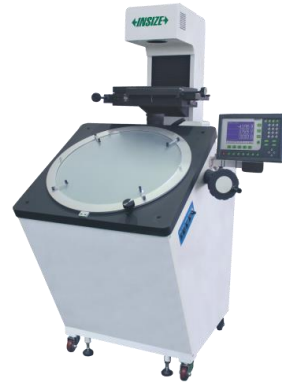
High Precision Profile Projectors  
ISP-A5000E Series

Projector screen diameter :  
Ø300mm



Horizontal Profile Projectors  
ISP-W4025/ISP-A7000E

Projector screen diameter :  
Ø400mm



Profile Projectors  
ISP-A6000/ISP-A6000E

Projector screen diameter :  
Ø600mm



Large Size Profile Projector  
ISP-T800

Projector screen diameter :  
Ø800mm



Large Size Profile Projector  
ISP-T1200

Projector screen diameter :  
Ø1200mm

# Quick Measurement Systems



Large Size Quick Measurement System  
QMS-A450



Quick Measurement Systems (With Stitching)  
QMS-A220/QMS-A315



Quick Measurement Systems (Without Stitching)  
QMS-A110/QMS-A200

# Quick Automatic Measurement Systems

**CUSTOM-  
MADE**



**RBT-QM01**



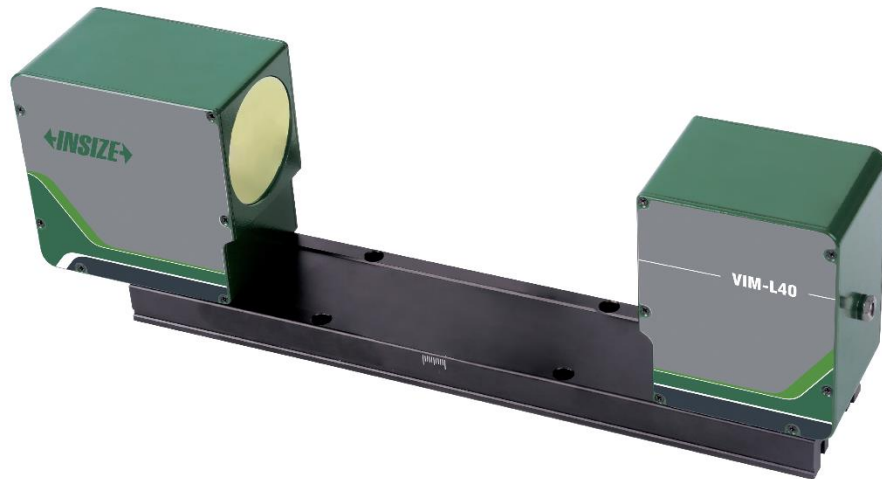
**RBT-QM02**

Code	RBT-QM01	RBT-QM02
Robot arm spreading	727mm	400mm
Max working speed	4000mm/s	7225mm/s
Max weight of workpiece	8kg	3kg
Repeat positioning accuracy	±0.02mm	±0.02mm
Number of control axis	6	4
Communication protocols	Ethernet Modbus Tcp	

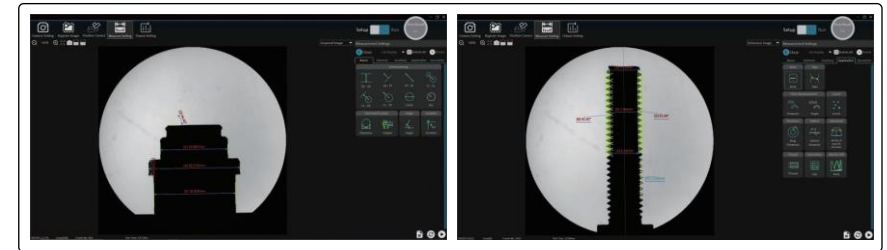
# Online/Offline Quick Measurement System VIM-L Series

TELECENTRIC SYSTEM WITH  
LARGE DEPTH OF FIELD

ONLINE/OFFLINE DIMENSION  
MEASUREMENT



Application



Automatically measure widths, pitch, arc, angles at  
the same time, simple and efficient

- Low-distortion system assures the accuracy throughout the field of view
- The dual telecentric optical system ensures sharp edges without losing accuracy even for misaligned targets
- Easy to use measurement tools for simplified setup

#### Measurement range

- View field : high precision measurement area :  $\text{Ø}26\text{mm}-\text{Ø}60\text{mm}$   
full measurement area :  $\text{Ø}40\text{mm}-\text{Ø}120\text{mm}$
- Depth of field : high precision measurement area : 10mm-20mm  
full measurement area : 20mm-40mm

#### Measurement accuracy

- high precision measurement area :  $\pm 2\mu\text{m}\sim\pm 4\mu\text{m}$
- full measurement area :  $\pm 3\mu\text{m}\sim\pm 5\mu\text{m}$

# Vision Measuring Systems



2D+3D Composite CNC Vision Measuring Systems ISD-U Series



CNC Vision Measuring Systems (With Stand) ISD-E320/ ISD-E430



CNC Vision Measuring Systems (Standard Type) ISD-V220CNCA



Manual Vision Measuring Systems (Standard Type) ISD-V Series



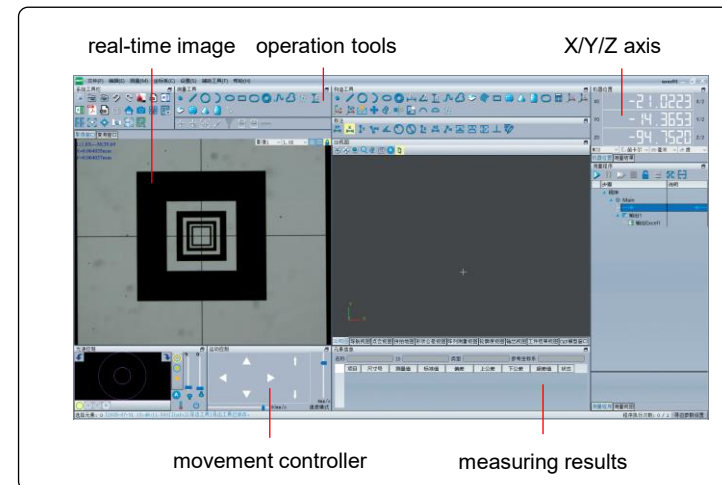
CNC Vision Measuring Systems ISD-V500N Series

# CNC Vision Measuring Systems (Advanced Type) ISD-K Series



- RSF brand linear scales
- Panasonic servo control motor, with precise positioning performance in high-speed movement

Software (included)



HIGH-RESOLUTION  
AUTO ZOOM LENS

NAVIGATION  
CAMERA

Code	ISD-K322	ISD-K432	ISD-K542
Measuring range (X×Y×Z)	300×200×200mm	400×300×200mm	500×400×200mm
Resolution of X/Y/Z axis	0.5μm		
Accuracy of X/Y axis	≤(2.0+L/200)μm*		≤(2.5+L/200)μm*
Magnification	27X~356X (on 23.8" monitor)		

\*L is the measuring length in mm

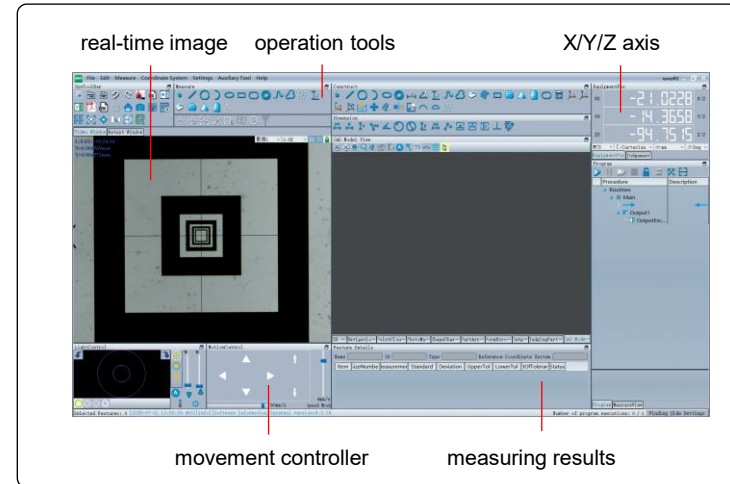
# CNC Vision Measuring Systems (Advanced Type) ISD-Q Series



Software (included)

HIGH-RESOLUTION  
AUTO ZOOM LENS

NAVIGATION  
CAMERA



Code	ISD-Q542	ISD-Q652	ISD-Q762	ISD-Q1210	ISD-Q1612	ISD-Q2015
Measuring range (X×Y×Z)	400×500×200mm	500×600×200mm	600×700×200mm	1000×1200×200mm	1200×1600×200mm	1500×2000×200mm
Accuracy of X/Y axis	≤(2.5+L/200)μm (L is the measuring length in mm)					
Resolution of X/Y/Z axis	0.5μm					
Magnification	27X~356X (on 23.8" monitor)					

**Tool Presetters**



**Tool Presetters (Projector Type)**



**Cutting Tools Microscopes**



**Cutting Tools Vision Measuring Systems**



**Tool Presetter**



**Shank Runout Testers**



**Shank Taper Inspection Instruments**



# Tool Presetters



ISP-B420

- Maximum tool diameter (X axis) : 420mm
- Range of snap gauge (X axis) : 100mm
- X/Z axis resolution : 1µm
- Maximum tool height (Z axis) : 420mm/600mm
- Repeatability : X axis : 2µm, Z axis : 2µm



ISP-A350

- Maximum tool diameter (X axis) : 320mm
- Repeatability : X axis : 2µm, Z axis : 2µm
- Maximum tool height (Z axis) : 350mm
- X/Z axis resolution : 1µm

# Dual-display Cutting Tools Microscope ISM-CT600

MULTI-ANGLE  
OBSERVATION

4K



- Cutting tools range:  $\varnothing 3\sim 20\text{mm}$ , length 20~60mm
- Resolution: 3840×2160
- View field: 1.4×2.5~14×25mm
- Magnification: 23X~230X (on 27" monitor)
- Rotary table: sliding distance: 90mm, rotation range: 0~220°

# Cutting Tools Microscope ISM-CT820



- Cutting tools range : Ø4-12mm, length 30-75mm
- Lens : step-zoom lens
- Output : HDMI
- Resolution : 1920×1080

- Split screen design, zoom in and out independently
- One mouse can operate two cameras
- Display cross hairs
- Brightness, contrast ratio, white balance are adjustable
- Basic measuring tools including point to point, point to line, line to line, angle, three-point circle, etc.

# Cutting Tools Vision Measuring System TLP-D150

CUTTING TOOLS  
MEASUREMENT

SCAN MAXIMUM  
PROFILE

CAD  
COMPARISON



- Measuring range (X×Y) : 150×60mm
- Applicable range : 0-40mm
- Resolution of X/Y axis : 1μm
- Accuracy of X/Y axis : 5μm
- Magnification : 20X-240X(on 27" monitor)

- Measurement and inspection of milling cutters, drill bits, non-standard molding tools under surface light
- Profile measurement, automatic profile capture for straight and helical fluted tools
- High magnification for clear observation of tool chipping and grinding wheel pattern on the back face
- The crosshairs of the cutting edge can be automatically recognized and captured

**Large Depth Of Field 3D Measuring Microscopes**



**Toolmaker Microscopes**



**Universal Toolmaker Microscope**



**Motorized Zoom 4K Measuring Microscope**



**Digital Microscopes**



**2D Manual Rotation 3D Microscope (With Display)**



**Flexible Arm Auto Focus Digital Microscopes**



**Digital Measuring Microscopes**



**Low-Magnification High-Definition Stereo Microscopes**



**Metallurgical Microscopes**



**Zoom Stereo Microscopes**



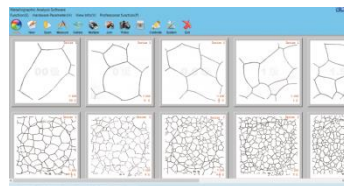
**Biological Microscopes**



### Digital Cameras For Microscopes



### Metallurgical Analysis Softwares



### Portable Measuring Microscopes



### Table Magnifiers With Illumination



### Digital Magnifiers



### Magnifiers



### Telescoping Inspection Mirrors



### Telescoping Pick-up



# White Light Interference Measuring Microscope ISM-A8000

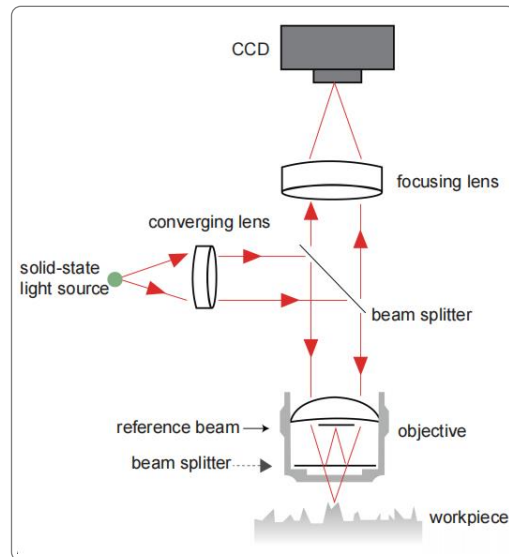
NON-CONTACT ROUGHNESS  
MEASUREMENT

SUB-NANOMETER  
VERTICAL RESOLUTION

MOTORIZED  
STITCHING

MICRO 3D MORPHOLOGY  
MEASUREMENT

working principle of white light  
interference measuring microscope



computer is included



- Measuring mode : PSI (physiognomic scanning)/VSI (vertical scanning)/bright field
- Light source : white light, green light
- Resolution of camera : 1600×1100
- View field (20X interference objective) : 414×414μm

# Large Depth of Field 3D Measuring Microscope (Advanced Type) ISM-H5000



controller

STEREOSCOPIC 3D IMAGING

IMAGE STITCHING

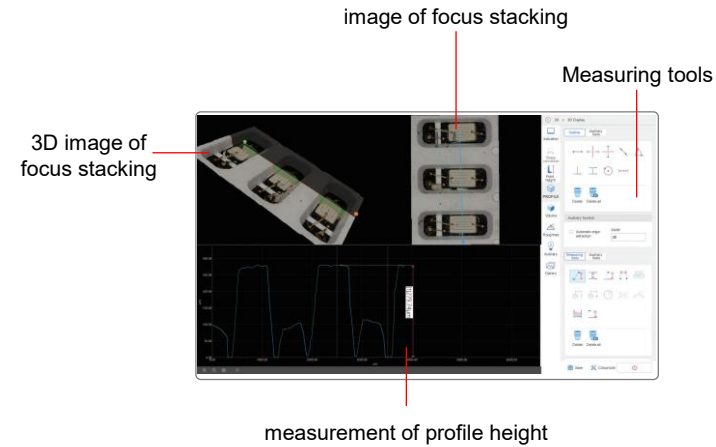
MOTORIZED XYZ AXIS

2D/3D MEASUREMENT

MAGNIFICATION 30-6000X

MOTORIZED ZOOM LENS

MAP NAVIGATION



- Objective : 1.5X, 5X, 20X, 50X
- Maximum depth of field : 30mm
- Max. height of workpieces : 90mm
- View field : 50.60×38.00μm-9977.30×7483.00μm

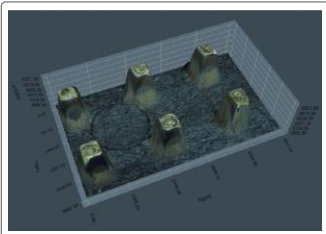
- Horizontal resolution:0.42μm
- Working distance:2-30mm
- Accuracy: ±(0.5+0.005L)μm  
(L is measuring length or height in μm)

# Large Depth of Field 3D Measuring Microscope

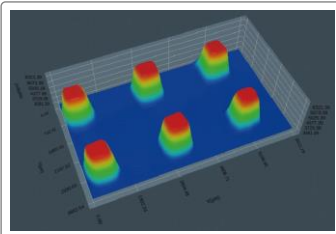


**5324-K210**

constructing stereoscopic 3D imaging that can be dragged and rotated for viewing



the chromatogram height clearly shows the difference in three-dimensional height



**5324-K220**

fast measurement of profile height difference



**ROTATABLE  
WORKTABLE**

**PLANE MEASUREMENT AND  
PROFILE HEIGHT MEASUREMENT**

**ROTATABLE OBSERVATION  
STEREOSCOPIC 3D IMAGING**

**AUTO  
FOCUS**

<b>Code</b>	<b>5324-K210</b>	<b>5324-K220</b>
<b>Stand</b>	<b>vertical stand</b>	<b>tilted stand</b>
<b>Magnification</b>	<b>100X~750X</b>	
<b>Sensor</b>	<b>1/2" CMOS</b>	
<b>Pixel</b>	<b>2M</b>	
<b>Resolution</b>	<b>1920 × 1080</b>	
<b>Frame rate</b>	<b>60fps</b>	

# High Magnification Toolmaker Measuring Microscopes (Advanced Type) ISD-TM Series



- Optical magnification : 50X-500X, up to 1000X with optional 100X objective
- Digital magnification :150X-1500X(on 23.8" monitor), up to 3000X with optional 100X objective

Code	ISD-TM215	ISD-TM320	ISD-TM330	ISD-TM430
X/Y axis travel	200×150mm	300×200mm	300×300mm	400×300mm
Metal stage size	400×280mm	500×350mm	500×450mm	600×450mm
Glass stage size	245×192mm	350×250mm	350×300mm	450×300mm

# Digital Microscopes (P1)



Auto Focus Digital Microscopes (Large View Field) 5302-AF105/AF108



Manual 3d Rotation Microscope 5313-S407



Digital Measuring Microscopes ISM-DL301



Motorized Focus Stacking Microscope (Large Depth Of View) ISM-DL520

# Digital Microscopes (P2)



Horizontal Microscope  
5316-HM810



Flexible Arm Auto Focus Digital Microscopes  
5317-AF



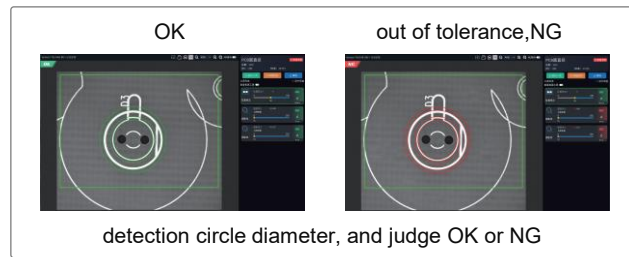
Auto Focus Digital Microscope (Advanced Type)  
5319-AF290

# Smart Microscope ISM-DL402

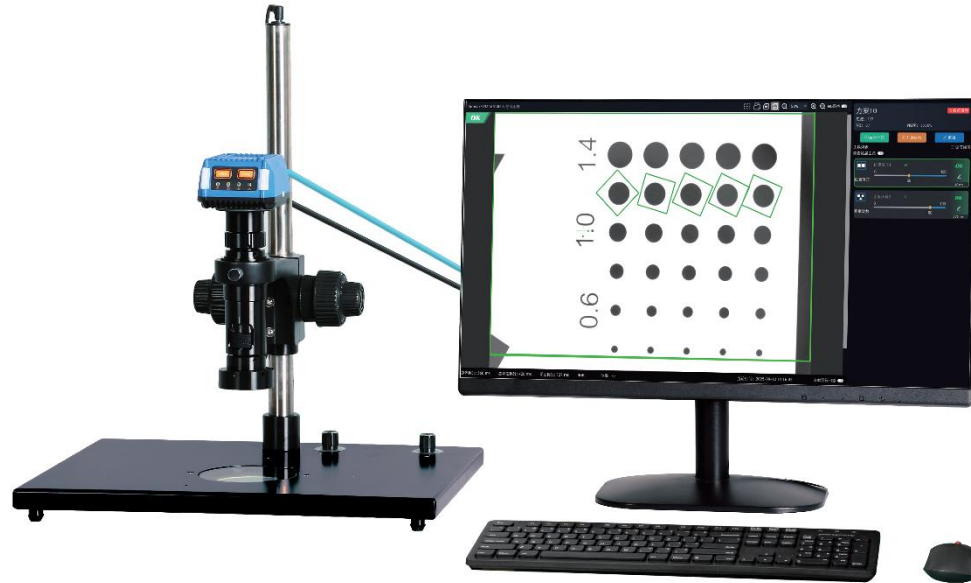
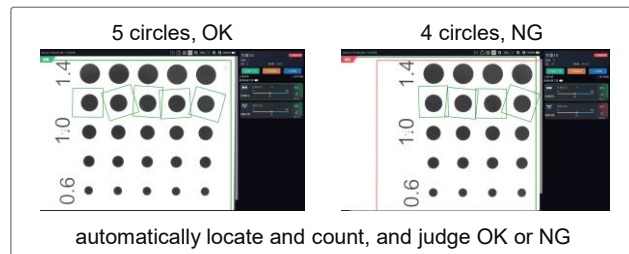
dimension measurement



circle diameter inspection



counting

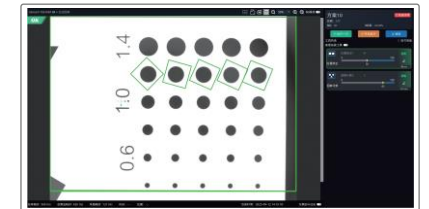


AUTOMATIC RECOGNITION

AUTOMATIC MEASUREMENT

AUTOMATICALLY LOCATE WORKPIECES REGARDLESS OF POSITION AND DIRECTION

Software for computer (included)



- Magnification\* : 13.5X~90X
- View field : 17×14~2.5×2mm
- Sensor : 1/1.8" CMOS
- Pixel : 5M
- Resolution : 2448×2048
- Single pixel size : 2.74×2.74μm
- Frame rate : 30fps

\*Magnification for using the measuring tool: 13.5X~54X

# Motorized Zoom Microscope (Basic Type) 5325-VM100

PROGRAMMABLE SEGMENTED  
RING LIGHT

DISPLAY ACTUAL  
MAGNIFICATION



Focus stacking



focus on the top



focus on the bottom



clear image of both  
top and bottom

- Measuring accuracy :  $\pm 0.02\text{mm}$
- Frame rate : 60fps
- Magnification : 10-68.5X (1X included)  
5-34.2X (0.5X optional)

# Metallurgical Microscopes (Advanced Type) 5108



- Infinite chromatic aberration correction optical system
- Three way observation tube with infinite hinge
- Translucent and reflective frame, front low-hand position coarse and fine coaxial focus adjustment mechanism, with adjustment elastic device to prevent sliding and random upper limit device
- Bright and dark field five-hole converter with DIC slot
- Adopt digital dimming, with light intensity reset and setting function
- With polarizer insert plate and 360° rotating analyzer insert slot

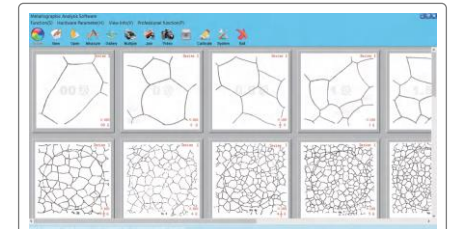
- Optical magnification : 50X-500X  
(up to 1000X with optional 100X objective)
- Digital magnification : 170X-1700X(on 21.5" monitor), up to 3400X with optional 100X objective

# Metallurgical Analysis Software And Camera ISM-MAS100



- Sensor : 1/1.8" CMOS
- Pixel : 6.3M
- Resolution : 3072×2048

## Metallurgical analysis software (included)



this software can be used with variety of metallographic microscopes for acquisition, processing, analysis, report generation of metallurgical images

- More than 100 standards (ISO, ASTM, JIS, etc.)
- For metallurgical microscopes
- The camera can be inserted into the eyepiece tube or camera connector of microscopes
- Metallurgical analysis software is included, which can make comparative analysis, measurement and evaluation of various materials

## Application

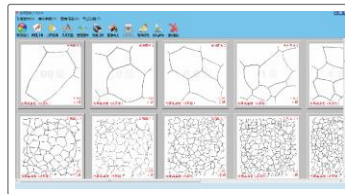


# Software And Cameras

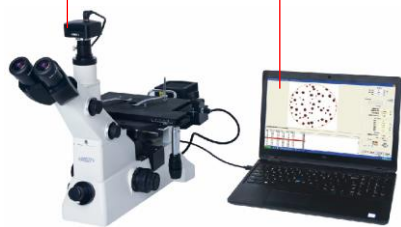
Camera (included)



Metallurgical analysis software (included)



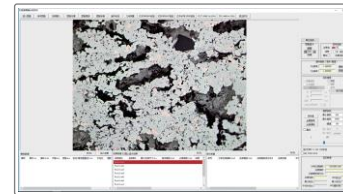
camera



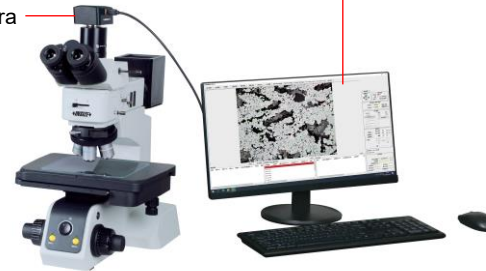
application

Metallurgical Analysis Software And Camera  
ISM-MAS100

Porosity measurement software (included)



camera



application

Porosity Measurement Software And  
Camera ISM-MAS200

Weld seam measurement software (included)



camera



application

Weld Seam Measurement Software And  
Camera ISM-MAS300

# Digital Depth Measuring Microscope ISM-PM110

- Measuring the depth of scratches, chips, burrs, pitting, chattering, scribe lines, engraving, markings, etc.
- Built-in light source for on-the-spot detection
- Equipped with a display indicator that clearly shows the data

- Total magnification : 100X
- Eyepiece : 10X with graduation
- Objective (achromatic) : 10X (numerical aperture 0.25)
- Working distance : 7mm
- Accuracy :  $\pm 0.02\text{mm}$
- Viewing field :  $\varnothing 1.8\text{mm}$
- Focus range : 30mm
- Depth measurement distance : 7mm
- Illumination : LED light



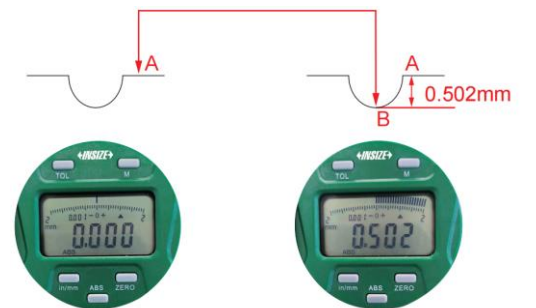
10X eyepiece  
with graduation

## Depth measurement

focus on surface A



focus on surface B



# Measuring Magnifiers (With Illumination) 7527

- Base with scale
- With 5 white LED and 5 UV LED
- Charging port: Type-C
- Work for 30min after fully charged



Base with scale



Code	7527-D1	7527-D2	7527-D1B
Magnification	10X	10X	10X
Lens diameter (ØD)	Ø30mm	Ø30mm	Ø30mm

## Videoscopes

**Videoscopes (Desk Type)**



**Videoscopes**



**Multipurpose Videoscopes**



**Carbon Fiber Telescopic Pole Videoscopes**



**Rigid Borescopes**



**LED Light Handles**



**Cameras (With Display)**



**Fixture For Rigid Borescopes**



# Videoscope (Desk Type) ISV-Y



rigid straight lens tube,  
front view/side view/front  
view & side view

Lens tube:

- Diameter: Ø1.2-Ø6.0mm
- Length: 90mm - 300mm (optional 90-1000mm)



bending spring lens tube

Lens tube:

- Diameter: Ø3.0-Ø7.0mm
- Length: 1000mm

# Videoscopes (Cable Is Optional) ISV-L Series



REAR FIBER  
ILLUMINATION

Changeable lens cable



Front view :

- One-direction cable (no bending): diameter :  $\text{Ø}0.95\text{mm}-\text{Ø}1.5\text{mm}$
- Two-direction bending cable: diameter :  $\text{Ø}1.8\text{mm}-\text{Ø}2.4\text{mm}$
- Four-direction bending cable: diameter :  $\text{Ø}2.8\text{mm}-\text{Ø}6.0\text{mm}$

Side view :

- Two-direction bending cable : diameter :  $\text{Ø}1.8\text{mm}$
- Four-direction bending cable : diameter :  $\text{Ø}2.8\text{mm}-\text{Ø}6.0\text{mm}$

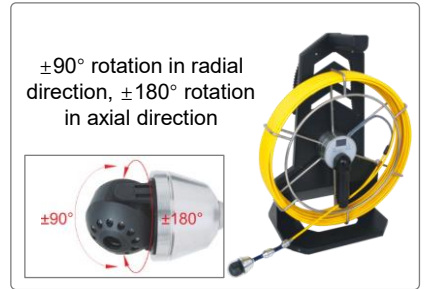
# Multipurpose Videoscope VSP-201



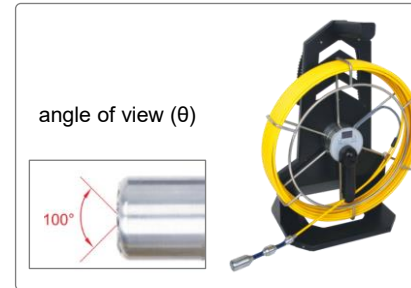
Four-direction bending cable



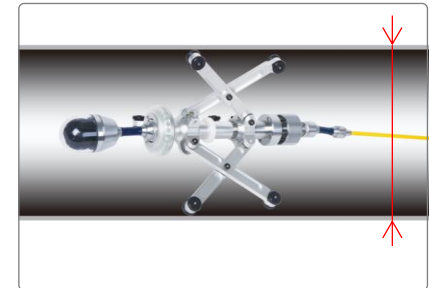
Rotating lens cable



Wide-angle lens cable



Adjustable support



# 4K Carbon Fiber Telescopic Pole Videoscope ISV-CF5



7" LCD touch screen

IP65  
WATERPROOF

- Resolution : 3840×2160
- Lens diameter (ØD) : 40mm
- Pole : carbon fiber, can be fixed between 1~5 meters

- Dual motorized control of lens view, 300° horizontal and vertical 360° rotation
- 4K HD true color camera
- Built-in infrared and white light for night and day use

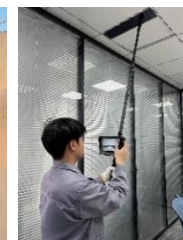
## Application



underbody  
inspection



constructure  
inspection  
(WIFI real-time  
image transmission)



ceiling duct  
inspection



roof inspection



car roof  
inspection

### Coating Thickness Gauges



### Electromagnetic Ultrasonic Thickness Gauges



### Ultrasonic Thickness Gauges



### Glass Thickness Meters



### Laser Distance Meters



### Laser Scan Micrometers



### Dual Axis Photoelectric Autocollimators



### Air Gauges And Displays



**Length Presetters**



**Digital Gap Gauges**



**3D Line Laser Profile Measuring Machines**



**Automatic Vision Inspection Machines**



**Semi-Auto Measurement Stations**



**Three-Dimension Full-Field Strain Measurement Systems**



**Large Field Of View Dynamic Measurement Systems**



**Total Stations**



# Pen Type Electromagnetic Ultrasonic Thickness Gauges EMU-A100/EMU-B100

- Compact size, easy to carry, comes with waveform display and full-function keyboard, easy to adjust the measurement parameters
- Non-contact measurement of rough, corroded surfaces without sanding
- Suitable for inspection of workpieces of various shapes, such as pipes, small tubes, elbows, etc.

COUPLING AGENT IS NOT REQUIRED

MEASUREMENT THROUGH COATING AND RUST LAYER

WORK AT MAXIMUM 600°C

WITH A AND B SCAN



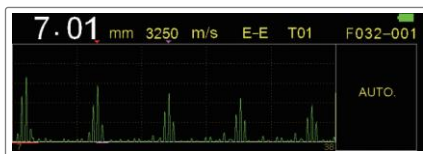
high temperature probe (optional)



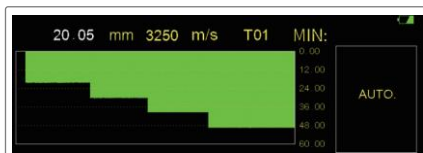
calibration block (included)



A-Scan



B-Scan



- Measuring range : 1.5-300mm
- Resolution : 0.01mm
- Accuracy :  $\pm 0.04\text{mm}$  ( $H \leq 10\text{mm}$ )  
 $\pm (0.04 + H/1000)\text{mm}$  ( $10 \leq H < 100\text{mm}$ )  
 $\pm H/333$  ( $H \geq 100\text{mm}$ )  
 H is measuring thickness in mm

# Built-In Wireless Ultrasonic Thickness Gauge (Advanced Type) ISU-800DWL



transducer ISU-S15-P06  
(included)



PENETRATE COATING AND MEASURE  
THE THICKNESS OF SUBSTRATE

BUILT-IN  
WIRELESS

REAL-TIME TEMPERATURE  
COMPENSATION

DATA  
OUTPUT

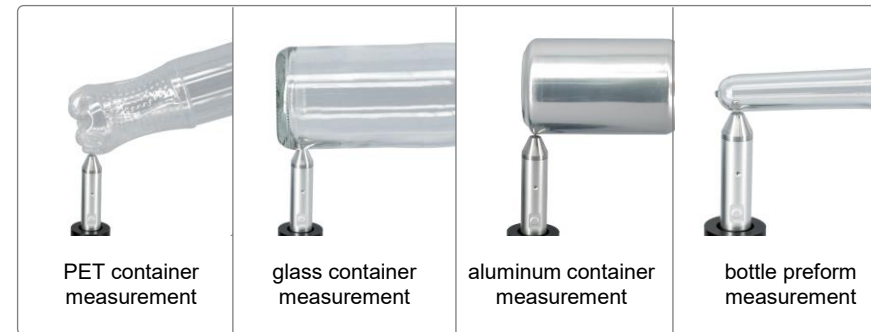
- Measuring (included) : I-E : 0.9-28mm  
E-E : 0.15-14mm
  - Resolution : 0.01mm/0.001mm
  - Accuracy :  $\pm 0.02\text{mm}/0.3\%H$  \* (take the larger one)
- \* H is the measured thickness in mm

# Hall-effect Thickness Gauge 5408-HE25



DATA OUTPUT

### Measurement Application



PET container measurement

glass container measurement

aluminum container measurement

bottle preform measurement

• Range : 4mm/ 6mm/ 8mm/ 10mm  
(determined by the calibration performed with standard gauge blocks)

Accuracy of single-point calibration	Accuracy of multi-point calibration	Suggested measuring range
5%+0.003mm (calibrated with 1.59mm steel ball)	3%+0.003mm (calibrated with gauge blocks and 1.59mm steel ball)	0~2mm
4%+0.003mm (calibrated with 3.18mm steel ball)	2%+0.003mm (calibrated with gauge blocks and 3.18mm steel ball)	0~4mm
3%+0.003mm (calibrated with 4.76mm steel ball)	1%+0.003mm (calibrated with gauge blocks and 4.76mm steel ball)	0~4mm or 0~6mm
3%+0.003mm (calibrated with 5.00mm steel ball)	1%+0.003mm (calibrated with gauge blocks and 5.00mm steel ball)	1~8mm or 1~10mm

# Ultrasonic Thickness Gauges



Ultrasonic Thickness Gauge  
ISU-810D



Ultrasonic Thickness Gauge  
ISU-720D



Ultrasonic Thickness Gauge (For Thick Workpieces  
Made Of Organic Materials) ISU-710D



Ultrasonic Thickness Gauge (For Thin Workpieces)  
ISU-700D



Ultrasonic Thickness Gauge  
(Through Coating) ISU-300D



Ultrasonic Thickness Gauge  
ISU-250C



Ultrasonic Thickness Gauge  
ISU-200D



Ultrasonic Thickness Gauge (Basic Type)  
ISU-100D

# Laser Scan Micrometers



Mini Laser Distance Meter 9565



Laser Scan Micrometers LDM Series

# Automatic Laser Scan Micrometer LDM-AT01



- Motorised rotation with adjustable speed
- Auto-moving laser scan micrometer
- Measure the outer diameter, roundness and runout of workpieces at multiple sections

CUSTOMIZED ACCORDING  
TO WORKPIECES

Clamping workpieces by  
center-type bench center



Clamping workpieces by  
v-type bench center



Center-type bench center

- Measuring range of workpieces :  
length : 5-300mm  
Diameter : 3-60mm  
Max. Weight : 20kg

V-type bench center

- Measuring range of workpieces :  
length : 10-230mm  
Diameter : 10-60mm  
Max. Weight : 1.5kg

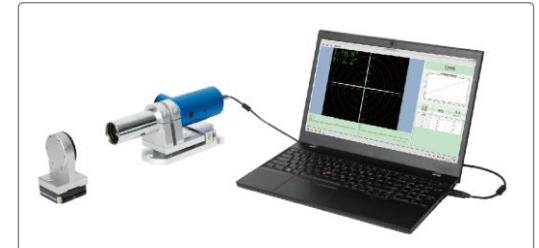
• Accuracy at 25°C :  $\pm(0.5+10\%d)\mu\text{m}$ , D is measuring diameter in mm

# Dual Axis Photoelectric Autocollimator CMS-L401

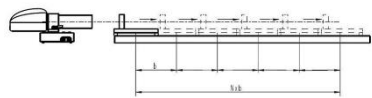
- Dual axis simultaneous measurement, convenient and efficient
- Electronic eyepiece, low aiming error
- High resolution photodetector, high measurement accuracy
- Semiconductor LED light source, long service life of the light source
- Automatic curve plotting, automatic error calculation
- Multiple data processing methods, can generate standard Excel reports



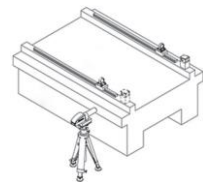
## Software (included)



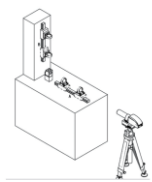
## Application



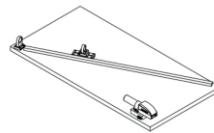
straightness measurement



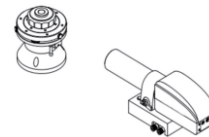
parallelism measurement



perpendicularity  
measurement



flatness  
measurement



turntable  
measurement

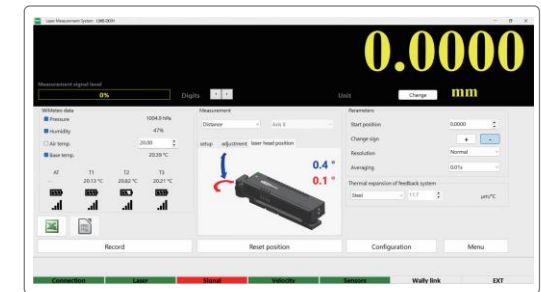
- Field of view range : 3200×2400"
- Accuracy : ±1000" within ±1"
- Resolution : 0.1"

# Linear Laser Interferometer Measurement System LMS-D301

- Built-in alignment tools indicator for the laser head, it shows the pitch and yaw angles, it helps to reduce setup time
- Unique machine tools analysis capability, high dynamic sampling frequency
- Compensated measurement of linear positioning accuracy for CNC/CMM machines



Software (included)



Laser head and tripod (included)



linear retro-reflector  
(included)



linear interferometer  
(included)



environment compensation  
sensor (included)



material temperature  
compensation sensor (included)

### Laser head specification

- Laser type : He-Ne laser
- Wavelength accuracy :  $\pm 0.005\text{ppm}$
- Short term stability :  $\pm 0.001\text{ppm}$
- Long term stability :  $\pm 0.001\text{ppm}$

### Distance specification

- Range : 0~30m
- Resolution : 100pm (0.1nm)
- Accuracy :  $\pm 0.4\mu\text{m/m}$

# Air Gauges And Air Gauge Displays



9408



9401

- Can store 10 measuring programs, and the program can be switched quickly
- Data storage and query function

Range	Resolution		Accuracy
	LED	Display	
10μm	0.1μm	0.1μm	0.2μm
20μm	0.2μm	0.1μm	0.4μm
50μm	0.5μm	0.5μm	1μm
100μm	1μm	0.5μm	2μm

# Multi Channel Air Gauge Displays 9440-DP Series

- With data statistics and analysis functions, can display graphs and Xbar-R control charts

DATA TRANSMISSION  
CAN BE CUSTOMIZED

TOUCH  
SCREEN



Back of display



- Number of channels : 1-8
- Resolution : 0.1 $\mu$ m
- Range : 10-100 $\mu$ m(adjustable)
- Accuracy : 0.2-3 $\mu$ m

Scanning gun input product code function (customised)



Air filter (optional)



Foot switch (optional)



RS232 cable (optional)



# SPC Measurement Station CMW-□□□



graphical guide for measurement in software

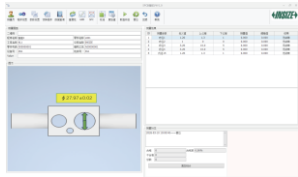
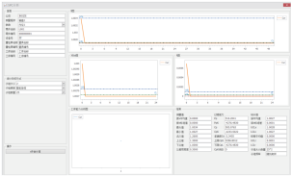
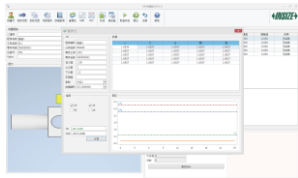
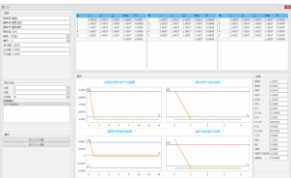
operation button

- Flexible instrument configuration: selection of air gauges, inductive probes (LVDT), and measuring tools (e.g., digital calipers, micrometers, digital Indicators) and Go/No-Go gauges based on specific requirements
- Visual software guidance: graphical interface functionality that provides step-by-step instructions and highlights the specific location of each dimension to be measured
- Light indicator guidance: signal lights to guide the operator to the specific gauge or instrument required for each measurement step
- Data analysis & reporting: software equipped with modules for real-time data processing and professional report generation

### Optional measuring tools and instruments

 <p>air gauges</p>	 <p>inductance probes</p>
 <p>measuring tools</p>	 <p>Go/No-Go gauges</p>

### SPC measurement software system (customizable)

 <p>measurement interface</p>	 <p>SPC analysis</p>
 <p>CG analysis</p>	 <p>GRR analysis</p>

# Length Presetters (Motorized Type) ISQ-S Series








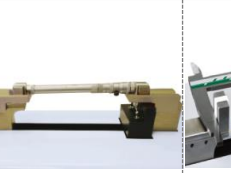

**REPLACING RING GAUGES  
AND GAUGE BLOCKS**

**CAN BE USED  
IN WORKSHOPS**

**ATTENTION: WORKING TEMPERATURE 10-35°C,  
TEMPERATURE CHANGE ≤1°C/h**

**ATTENTION:  
ADAPTERS ARE NEEDED**

**Application**

						
zero setting and calibration of bore gauges	zero setting and calibration of split type dial bore gauges	zero setting and calibration of internal/external snap gauges	zero setting and calibration of three-point internal micrometers	zero setting and calibration of micrometers	zero setting and calibration of tubular inside micrometers	caliper calibration

- Range : inter diameter 0.1-5000mm  
outer diameter 40-5040mm
- Resolution : 0.5µm
- Accuracy : (1.5+L/500)µm / (3+L/500)µm  
(L is measuring length in mm)
- Repeatability : 0.8µm

# Length Presetters (Motorized/Manual Type) ISQ-M Series

- Range : inter diameter 0.1-2950mm  
outer diameter 40-2990mm
- Resolution : 0.5 $\mu$ m
- Accuracy : (1.5+L/500) $\mu$ m  
(L is measuring length in mm)
- Repeatability : 0.8 $\mu$ m

**REPLACING RING GAUGES  
AND GAUGE BLOCKS**

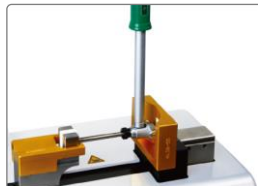
**CAN BE USED  
IN WORKSHOPS**

**ATTENTION: WORKING TEMPERATURE 10-35°C,  
TEMPERATURE CHANGE  $\leq 1^\circ\text{C/h}$**

**ATTENTION:  
ADAPTERS ARE NEEDED**



## Application



zero setting and calibration of bore gauges



zero setting and calibration of split type dial bore gauges



zero setting and calibration of internal/external snap gauges



zero setting and calibration of three-point internal micrometers



zero setting and calibration of micrometers



zero setting and calibration of tubular inside micrometers



caliper calibration



measuring workpieces (manual mode)

# Digital Gap Gauges (P1)



### Application



- Customizable measuring range: 0.35-6mm
- Effective range:  $\pm 0.5$ mm
- Accuracy: range: (0.35-2)mm, Accuracy :  $\pm 0.03$ mm  
range: (0.35-6mm), Accuracy :  $\pm 0.04$ mm
- Resolution: 0.1/0.01/0.001mm
- Max. customizable length: 500mm
- Repeatability: 0.02mm
- Measuring force: < 3.5N

# Digital Gap Gauges (P2)

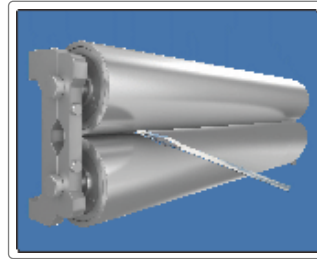
Measuring car body seam



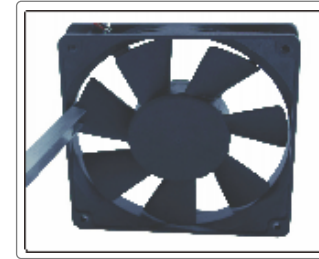
Measuring gaps on the car dashboard



Measuring roll gap



Measuring blade to sidewall gap



Bilateral probe (optional)



Depth positioning probe (optional)



Single-side hockey stick shaped probe (optional)



90° probe (optional)



Single-side positioning probe (optional)



# Digital Gap Gauge -- Application



In the steam turbine assembly workshop, measure the gap between the rotor and the cylinder block

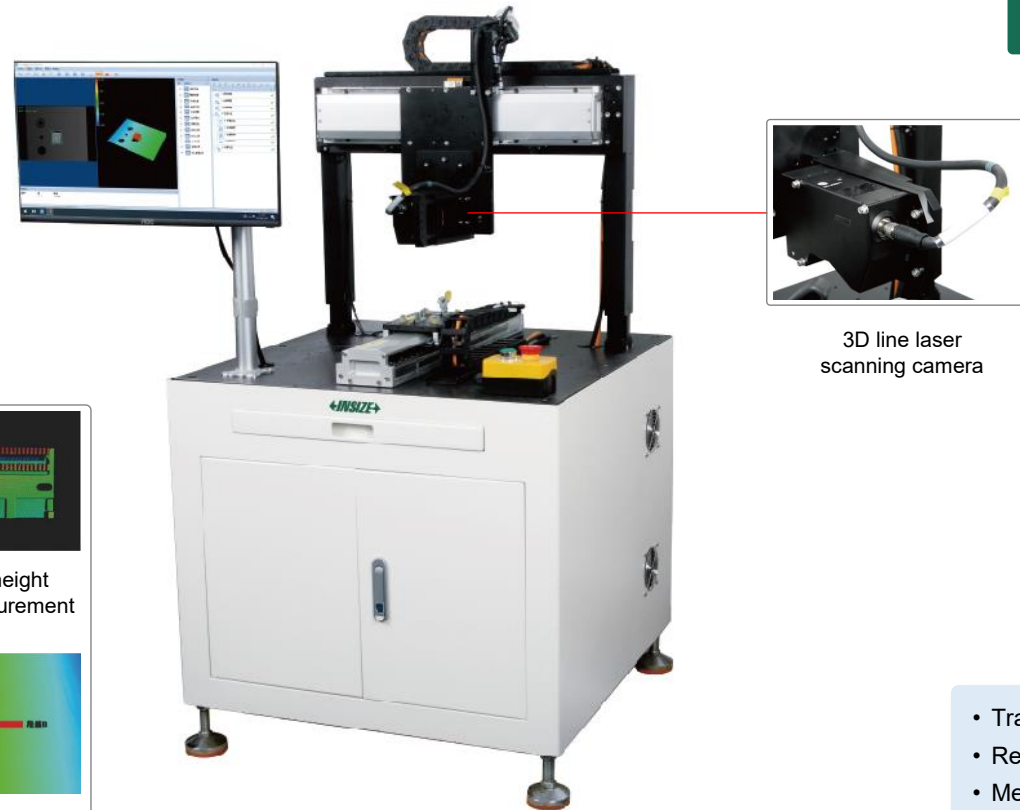
# 3D Line Laser Profile Measuring Machine VIM-P140

NON-CONTACT  
SCANNING

HIGH SPEED  
MEASUREMENT

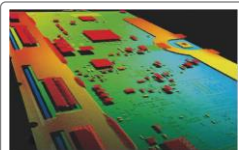
FLATNESS/HEIGHT  
DIFFERENCE MEASUREMENT

CUSTOM-  
MADE

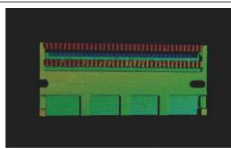


3D line laser  
scanning camera

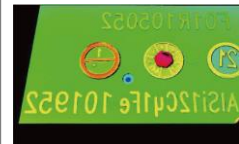
## Application



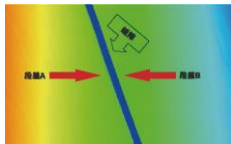
component height  
measurement on circuit  
boards



flatness and height  
difference measurement



character height  
measurement



gap depth measurement

- Flatness and height difference measurement of machinery, electronics, cell phones, molds, circuit boards and other products
- Full-range focusable optical system allows you to take pictures in focus range, even when the target height is changed
- Combing 2D and 3D data for complete detection; 2D data can be used for localization, code reading, character recognition, etc.
- The software is automatically corrected for workpiece position deviation; multiple scanned images can be automatically spliced to achieve stable detection

- Travel range XY : 400×350mm
- Repeat positioning accuracy : 2μm
- Measuring range of Z-axis : 24mm
- Width of X-axis : 96mm
- Accuracy of Z-axis : ±0.02mm
- Repeatability of Z-axis : ±0.5μm
- Scanning speed : 2500-10000Hz

# **Automatic Vision Inspection Machine AVIM**

- For testing fasteners, mobile phone parts, plastical products, electronic components and special-shaped hardware, etc.



**AUTOMATIC INSPECTION OF LARGE  
QUANTITIES OF WORKPIECES**

**AUTOMATIC  
SORTING**

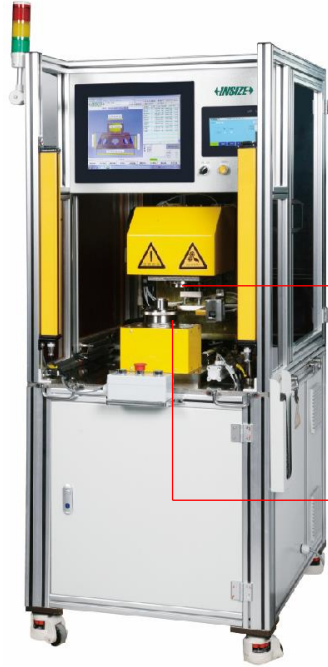
**SIZES MEASUREMENT AND  
DETECTION OF SURFACE DEFECTS**

**CUSTOM-  
MADE**

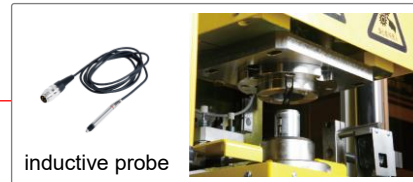
# Semi-auto Measurement Stations

Semi-auto Measurement Station ATU-01A

CUSTOMIZED ACCORDING  
TO WORKPIECES



Measurement device



inductive probe



Workpiece fixing device

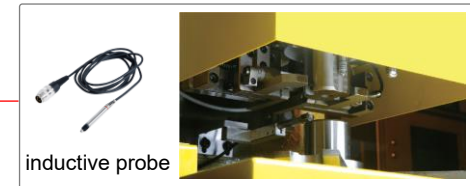
- Repeatability : 3 $\mu$ m
- Measurement cycle time : 8s

Semi-auto Rotary Measurement Station ATU-01B

CUSTOMIZED ACCORDING  
TO WORKPIECES



Measurement device



inductive probe



Workpiece fixture and rotating plate

- Repeatability : 10 $\mu$ m
- Measurement cycle time : 46s

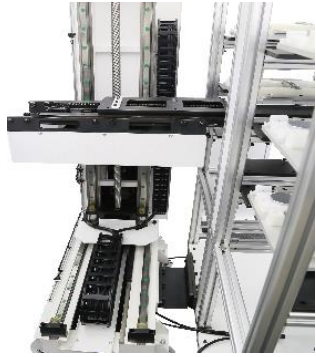
# Automatic Inspection System ATU-MHV35 (P1)

- Automatic inspection system: delivers unmanned inspection and automatic data collection, fundamentally cutting labor costs, maximizing equipment utilization, enhancing efficiency, ensuring quality, and ultimately achieving visual management of production progress and quality status

CUSTOM-  
MADE



# Automatic Inspection System ATU-MHV35 (P2)



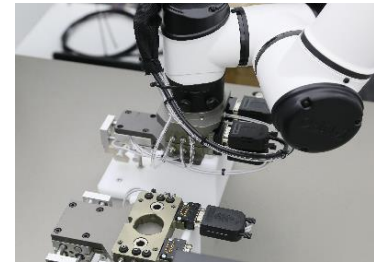
The palletizing elevator automatically takes the workpiece pallets from vertical storage system



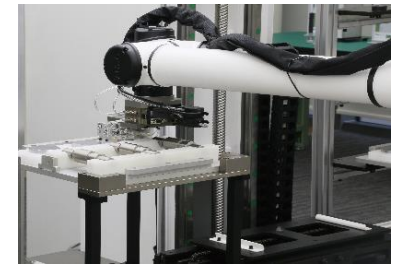
The palletizing elevator automatically conveys the workpiece pallets to the vision positioning station



The vision positioning station automatically verifies the workpiece placement position



The robot automatically changes grippers



The robot automatically grips the workpiece on the vision positioning station



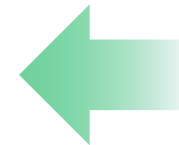
The robot automatically places the workpiece into OK or NG positions on the servo stacking&unloading



The robot automatically places the workpiece on the hardness tester station for automatic measurement



The robot automatically places the workpiece on the CMM station for automatic measurement



The robot automatically places the workpiece on the CNC vision measuring station for automatic measurement

# 13

## Hardness Testers (P1)

←INSIZE→

**Rockwell Hardness Testers**



**Micro-Vickers Hardness Testers**



**Vickers Hardness Testers**



**Vickers Hardness Measuring Systems**



**Automatic Digital Brinell Hardness Tester**



**Brinell Hardness Testers**



**Rockwell/Brinell/Vickers Hardness Testers**



**Brinell Indentation Hardness Measuring Systems**



**Brackets**



**Ultrasonic Hardness Testers**



**Portable Leeb Hardness Testers**



**Pen-Type Leeb Hardness Tester**



# 13

## Hardness Testers (P2)

←INSIZE→

**Magnetic Brinell/Rockwell  
Hardness Testers**



**Portable Brinell And Rockwell  
Hardness Testers**



**Portable Rockwell Hardness  
Tester**



**Magnetic Rockwell Hardness  
Tester**



**Pin Brinell Hardness Testers**



**Hydraulic Brinell Hardness  
Testers**



**Electric Aluminum Hardness  
Testers**



**Aluminum Hardness Testers**



# 13

## Hardness Testers (P3)

←INSIZE→

**Aluminum Hardness Testers**



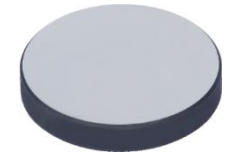
**Shore Durometers**



**Fruit Hardness Testers**



**Hardness Test Blocks**

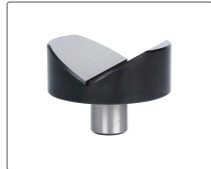


**Concrete Strength Testers**



# Motorized Digital Rockwell/Superficial Rockwell Hardness Testers (Dolphin-Nose Type) HDT-DM Series

V-type anvil  
(included)



Ø150mm flat anvil  
(included)



4mm high Rockwell  
indenter (optional)



14mm high Rockwell  
indenter (included)



test interface



FORCE LOADING BY ELECTRIC  
MOTOR (WITHOUT WEIGHTS)

TOUCH  
SCREEN

Can test rings, tubes, internal  
Surfaces of frame parts, etc.



- Full closed-loop precise control, real-time monitoring of test force, greatly increase the accuracy
- Dolphin-nose structure indenter, more measuring space
- Measurements on 30 Rockwell and Superficial Rockwell scales
- Convertible to various hardness standards such as HB, HV, HLD, HK and tensile strength

# Motorized Digital Rockwell/Superficial Rockwell Hardness Testers HDT-RT Series

FORCE LOADING BY ELECTRIC MOTOR (WITHOUT WEIGHTS)

TOUCH SCREEN



Test interface



Test result display interface



Chart interface



# **Dual Touch Screen Digital Micro-Vickers Hardness Tester (Advanced Type) HDT-DMV90**

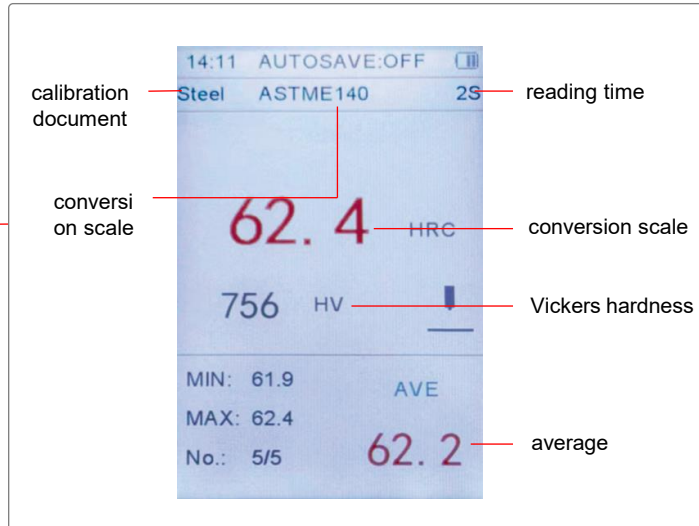
**MOTOR DRIVEN  
TURRET**

**AUTOMATIC  
TEST**



- Dual touch screen control, high-definition image measurement and analysis
- One click start, automatic pressing and automatic measurement
- The host and vickers hardness measurement software can be operated independently
- Automatic switch between the indenter and objective lens
- Data storage and average value calculation
- Can connect with wired and wireless networks to transmit data

# Ultrasonic Hardness Testers 9646



ATTENTION: NEED TO CONFIRM IF THE WORKPIECES ARE SUITABLE BEFORE PURCHASE

SMALLTEST INDENTATION

ATTENTION: HARDNESS BLOCKS FOR CALIBRATION ARE OPTIONAL

WIRELESS TRANSMISSION IS OPTIONAL

Applications:

1. Hardness measurement of flange edges and gear root stampings, gears and gear grooves with surface hardening of lamina, taper sections
2. Hardness measurement of shafts and thin-walled pipes and container
3. Hardness measurement of thin plating, wheels, turbine rotors and welded parts
4. Measurement of the depth of a certain diameter deep holes, dents of the larger curvature and convex marks, irregular planes
5. Covering the majority of hardness measurement of industrial production of ferrous metals, non-ferrous metals and their alloys

<b>Code</b>	<b>9646-300</b>	<b>9646-301</b>	<b>9646-310</b>	<b>9646-311</b>
<b>Data printout</b>	without printer	with bluetooth printer	without printer	with bluetooth printer

- Small size, light weight, portable, convenient for on-line measurement and can be used to measure large workpieces
- Support 360° measurement, fast test speed, the fastest results in 1 second
- Standard Vickers indentation, small test indentation and low damage to the workpiece

# Portable Leeb Hardness Tester With Wireless Probe HDT-WP201

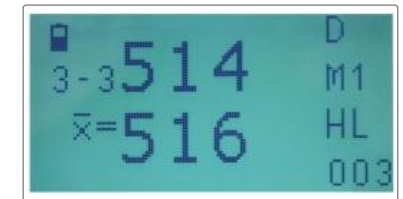


- Wireless digital probe
- Universal testing angle, no need to set impact direction
- Based on Leeb (HLD), converted to Vickers (HV), Brinell (HB), Rockwell (HRC, HRB), Shore (HSD) and tensile strength ( $\sigma_b$ )
- Dual value display, shows both Leeb and converted hardness
- Large LCD display with backlight
- Can choose large font display and statistics display
- Automatically calculate maximum, minimum and average value
- Save 300 data

large font display

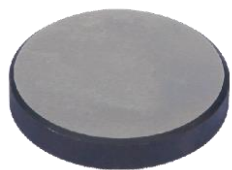


statistics display

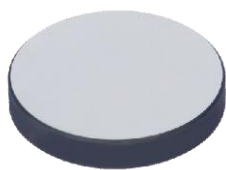


- Resolution : 1HLD/1HV/1HB/0.1HRC/0.1HRB/0.1HSD/1 $\sigma_b$
- Accuracy :  $\pm 6$ HLD (when HLD=800)

# Hardness Test Blocks



Rockwell



Vickers



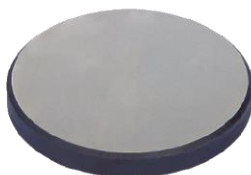
Leeb



Knoop



Micro-Vickers



Brinell



Shore



Ultrasonic

### Cutting Machines



### Mounting Presses



### Grinders And Polishers



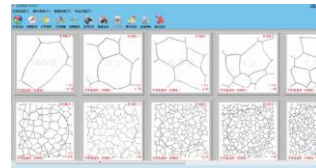
### Automatic Liquid Droppers



### Metallurgical Microscopes



### Metallurgical Analysis Softwares



### Cutting Machine Accessories



### Mounting Press Accessories



### Grinder And Polisher Accessories



# Cutting Machines



Automatic Specimen Cutting Machine  
(Advanced Type) MLP-ACM160



Automatic Cutting Machine  
(Advanced Type) MLP-HCM102



Cutting Machine (Standard Type)  
MLP-CM60



Cutting Machine (Basic Type)  
MLP-CM86

# Manual Precision Cutting Machine MLP-PCM100



- Equipped with a high-torque DC motor and stepless speed control system, boasting strong power and high efficiency
- The rotation speed is digitally displayed for simple operation
- With a magnetic safety switch, the motor automatically stops when the protective cover is opened, ensuring safety performance
- Integrally formed high-strength composite material shell, anti-corrosive and rust-proof
- Panoramic transparent observation window, facilitating the observation of the sample cutting process
- With circulating cooling water tank, lightweight in volume

Cutting coolant (optional)



Cutting blade (optional)



Diamond blade (optional)



- Maximum cutting diameter : Ø40mm
- Maximum travel : 190mm
- Diamond blade : Ø200 × 0.8 × Ø12.7mm
- Cutting method : manual cutting, Y-axis

# Mounting Presses



Mounting Presses (Advanced Type) MLP-MP53



Mounting Press (Standard Type) MLP-MP30



Mounting Press (Basic Type) MLP-MP62



Vacuum Mounting Press MLP-MP25

# Grinders And Polishers



Automatic Grinder And Polisher  
(Advanced Type) MLP-GP406



Automatic Grinder And Polisher  
(Advanced Type) MLP-GP505



Automatic Grinder And Polisher  
(Standard Type) MLP-GP305



Automatic Grinder And Polisher  
(Standard Type) MLP-GP260



Manual Grinders And Polishers  
(Standard Type) MLP-GP280



Manual Grinder And Polisher  
(Basic Type) MLP-GP314

**Portable Eddy Current  
Flaw Detectors**



**Ultrasonic Flaw Detectors**



**Ultrasonic Phased Array  
Detectors**



**Standard Test Blocks For  
Ultrasonic Flaw Detection**



**Ultrasonic Water Immersion  
Detection Systems**



**Air-Coupled Ultrasonic Detector**



**Ultrasonic Flaw Detector  
For Concretes**



**Portable Magnetic  
Powder Flaw Detectors**



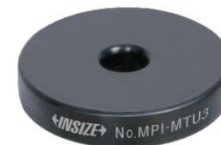
**Permanent Magnet Yoke Flaw  
Detector**



**Fluorescent Magnetic  
Powder Flaw Detectors**



**Magnetic Powder Test Blocks**



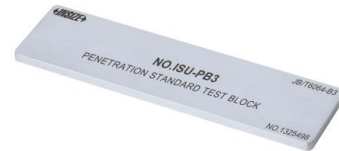
**Magnetic Field Indicator Sets**



**UV Flaw Detection Lights**



**Penetration Standard Test Blocks**



**Supplementary Materials**



**Industrial Automatic X-Ray Film Processor**



**Industrial Viewing Lamps**



**Black And White Densitometers**



**Wire Rope Flaw Detectors**



# Portable Eddy Current Flaw Detector ECT-S610



- Real-time impedance plane and time base sweep display modes available
- Applicable to all kinds of metal materials and parts, such as weld cracks, copper pipe, seamless steel pipe, stainless steel pipe, folding, scars, pits, cracks, delamination and other defects, with high sensitivity

Right angle probe (included)



Pen probe (included)



- Detection channel : channel 1 (X1-Y1), channel 2 (X2-Y2), mixing channel
- Detection frequency : 2
- Transmission frequency : 50Hz-10MHz
- Sampling frequency : 40MHz, 12-bit data acquisition

# Ultrasonic Flow Detectors



Digital Ultrasonic Flow Detector  
(Advanced Type) UFD-P710



Digital Ultrasonic Flow Detector  
(Excellent Type) UFD-C870



Digital Ultrasonic Flow Detector  
(Standard Type) UFD-F720



Digital Ultrasonic Flow Detector  
(Basic Type) UFD-B450

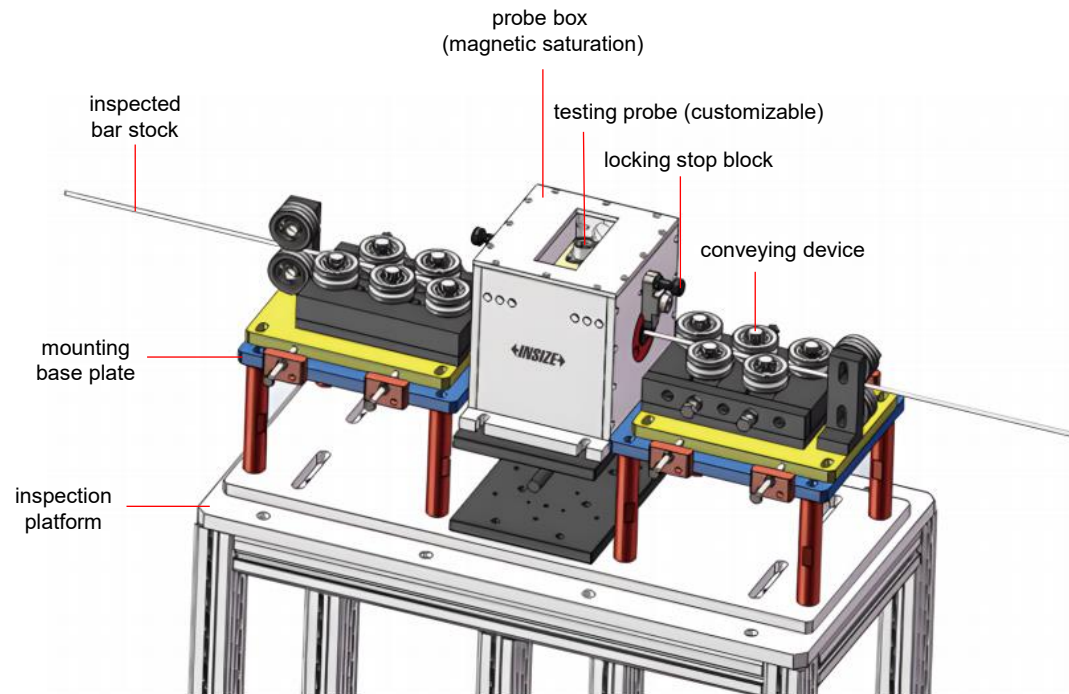


Digital Ultrasonic Flow Detector  
(Basic Type) UFD-T680

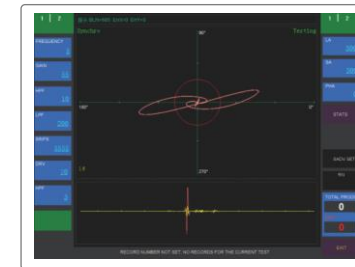


# Online Eddy Current Testing System ECT-WZ

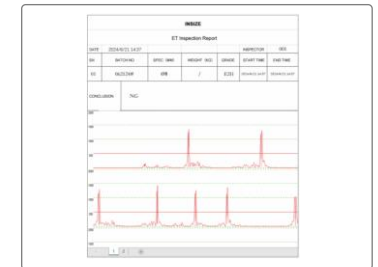
CUSTOMIZABLE



eddy current testing window



ET report display



- Capable of high-speed data processing, with a detection speed up to 1~1200 m/min
- High-performance DSP algorithm and signal processing enable the detection of microcracks with a depth of 0.05mm

- Measuring range :  $\varnothing 1\text{mm}-\varnothing 100\text{mm}$ (customizable)
- Detection sensitivity : detection of  $0.05 \times 0.01 \times 5\text{mm}$  (D×W×L) crack notch with signal-to-noise ratio  $\geq 10\text{dB}$
- Flaw detection speed :  $> 0.5\text{m/min}$

# **Fluorescent Magnetic Powder Flaw Detector MPI-FX1000**

**CAN BE CUSTOMIZED ACCORDING  
TO CUSTOMER NEEDS**



# Intelligent Image UV Flaw Detection Light MPI-SC608



3" touch LCD

Imaging

- UV-B/C content is 0
- Without preheating, instant start, instant on/off, no need to wait
- Continuous irradiation surface spot uniform, no dark areas, no point-like strong light source
- 13M UV-resistant specialized lens for high-definition photos and videos
- Precise measurement of small defects
- High-definition defects can be freely magnified up to 12 times (3 times optical magnification, 4 times electronic magnification)

- UV(Light)Lux : about  $4000\mu\text{W}/\text{cm}^2$
- Covering area :  $\varnothing 180\text{mm}$  (at 381mm distance)

# 16

## Testing Machines, Force Gauges, Tension Meters (P1)



**Electronic Universal Testing  
Machines**



**Electronic Universal Testing  
Machines**



**High And Low Temperature Test  
Chambers For Electronic Universal  
Testing Machines**



**Hydraulic Universal Testing  
Machines**



**Extensometers**



**Electro-Hydraulic Servo Flexural And  
Compressive Testing Machines**



**Servo-hydraulic Fatigue Testing  
Machines**



**Video Extensometers**



**Impact Testing Machines**



**Charpy Impact Testing  
Machines (Standard Type)**



**Izod Impact Testing Machines  
(Standard Type)**



**Plastic Pendulum Impact Testing  
Machines**



# 16

## Testing Machines, Force Gauges, Tension Meters (P2)

←INSIZE→

**Impact Standard Samples**



**Impact Specimen Notch Projectors**



**Impact Specimen Notch Broaching Machines**



**Impact Broaches**



**Gauge Marking Instruments  
(Marking Point)**



**Gauge Marking Instruments  
(Marking Line)**



**Steel Bar Bending Testing Machines**



**Friction And Wear Testing Machines**



**Friction/Peel Testers**



**Friction Testers**



**Electronic Peel Testers**



**Pneumatic Key Life Testers**



# 16

## Testing Machines, Force Gauges, Tension Meters (P3)



**Bond Force Testers**



**Horizontal Soft Bearing  
Balancing Machines**



**Horizontal Mass And Center Of  
Mass Testing Machines**



**Tensile And Compression  
Testing Machines**



**Digital Spring Testers**



**Manual Spring Testing Machines**



**Touch Screen Automatic Spring  
Testing Machines**



**Automatic Spring Testing  
Machines**



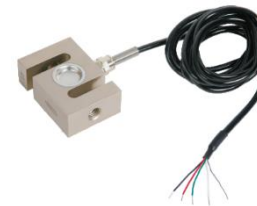
**Force Gauges**



**Test Stands For Force Gauges**



**Tensile/Compression Sensors**



**Electromagnetic Ultrasonic Bolt  
Axial Force Tester**



# 16

## Testing Machines, Force Gauges, Tension Meters (P4)

←INSIZE→

**Tube Force Gauges**



**Wire Tension Meters**



**Infrared Belt Tension Meter**



**Belt Tension Meters**



**Spindle Tension Meters**



# Electronic Universal Testing Machines UTM-Z Series



Computer and software (included)



- Max. test force : 50N-5000N
- Accuracy class : class 0.5
- Accuracy of test force :  $\pm 0.5\%$  of indicating value
- Range of test force : 0.4%-100%FS
- Resolution of test force : 1/300000FS
- Accuracy of displacement :  $\pm 0.5\%$  of indicating value

- Resolution of displacement : 0.2 $\mu$ m
- Range of crossbeam speed : 0.001-1000mm/min
- Accuracy of crossbeam speed :  $\pm 0.5\%$  of indicating value
- Range of force control speed : 0.05%-10%FS/s
- Accuracy of force control speed :  $\pm 0.5\%$  of indicating value

# Electronic Universal Testing Machines

Electronic Universal Testing Machines UTM-E series



- Max. test force : 10kN-600kN
- Accuracy class : class 0.5
- Accuracy of test force :  $\pm 0.5\%$  of indicated value
- Range of test force : 0.2%-100%FS
- Resolution of test force : 1/500000FS

High And Low Temperature Test Chambers For  
Electronic Universal Testing Machines UTT-M Series

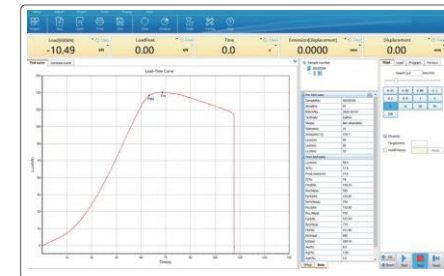


- Temperature range :  $-60\sim 300^{\circ}\text{C}$
- Temperature accuracy :  $\pm 1^{\circ}\text{C}$
- Temperature fluctuation :  $\pm 0.5^{\circ}\text{C}$
- Temperature uniformity :  $\leq 2^{\circ}\text{C}$
- Temperature resolution :  $0.1^{\circ}\text{C}$

# Hydraulic Universal Testing Machines UTM-H Series



Computer and software (included)



- Max. test force : 300kN-3000kN
- Accuracy :  $\pm 1\%$
- Test force measurement range : 2%-100%FS
- Resolution of test force measurement : 1/300000 of Max. test force  
(same resolution all the way)

# Electro-hydraulic Servo Flexural And Compressive Testing Machine UTM-RA10300



Cementitious sand flexural fixture (included)



Cementitious sand compression fixture (included)



- Suitable for cementitious sand flexural test, cementitious sand compressive test and concrete flexural test
- With constant stress control and load holding function

Application	flexural	compression
Max. test force	10kN	300kN
Accuracy class	0.5 class	
Accuracy of test force	±0.5% of indicated value	
Range of test force	1%-100%FS	
Resolution of test force	1/300000FS	

# Servohydraulic Fatigue Testing Machines

Servohydraulic Fatigue Testing Machines  
(Cylinder Down-mounted) FTM-D Series



- Max. test force : 50kN-500kN
- Accuracy of static force measurement :  $\pm 0.5\%$  of indicated value
- Accuracy of dynamic force measurement :  $\pm 2\%$  of indicated value
- Actuator stroke :  $\pm 75\text{mm}$
- Accuracy of displacement measurement : linearity error $<40\mu\text{m}$ , repeatability $<0.001\%FS$
- Range of frequency : 0-100Hz

Servohydraulic Fatigue Testing Machines  
(Cylinder Up-mounted) FTM-U Series

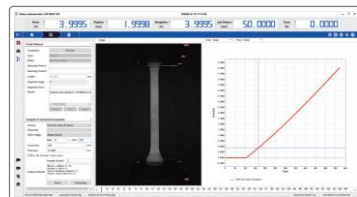


- Max. test force : 10kN-2500kN
- Accuracy of static force measurement :  $\pm 0.5\%$  of indicated value
- Accuracy of dynamic force measurement :  $\pm 2\%$  of indicated value
- Actuator stroke :  $\pm 75\text{mm}$
- Accuracy of displacement measurement : linearity error $<40\mu\text{m}$ , repeatability $<0.001\%FS$
- Range of frequency : 0-100Hz

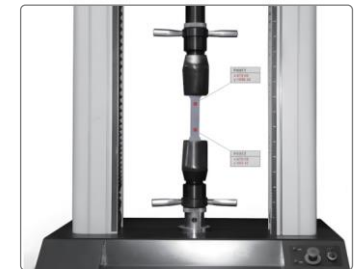
# Video Extensometers UTM-M Series

- It is used for testing and analyzing the performance of specimens in tension, compression, bending, creep, fatigue, etc. It includes strain (elongation) measurement, tensile/compressive strength measurement, modulus of elasticity measurement and Poisson's ratio measurement

Software (included)



Application



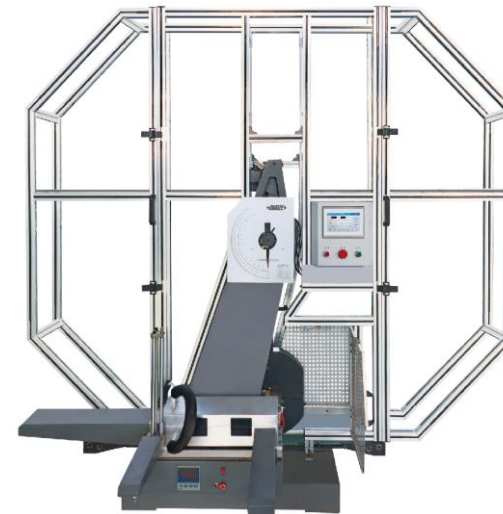
- Resolution : 0.1 $\mu$ m
- Range of deformation : standard: 60-240mm  
extensions :100-1500mm ( $\pm$ 1%)

# Impact Testing Machines



Impact Testing Machines ITM-S Series

- According to GB/T 3808, GB/T 229, JJG 145, ASTM E23(with American standard blade), ISO 148.1, ISO 148.2, ISO 148.3, ISO R83



Low Temperature Automatic Impact Testing Machines ITM-T Series

# Bending Testing Machines



Steel Bar Bending Testing  
Machines STM-D



Vertical Bending Testing  
Machine STM-E1



Metallic Material Reverse Bending  
Testing Machine STM-F1



Friction And Wear Testing  
Machine STM-C1

## Friction/Peel Testers STM-A Series

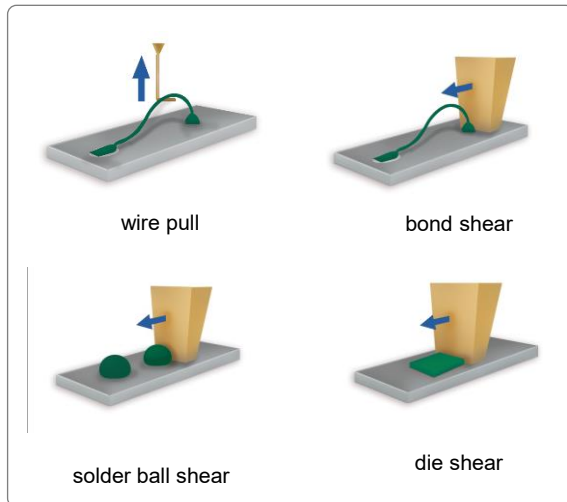


- Suitable for plastic film, foil, paper, cardboard, fabrics, communication cables and cables with metal materials composite belt, conveyor belt, paper and other related materials, dynamic and static coefficient of friction and adhesive composite products, medical patches, paper, protective film and other products, peel strength determination

- Max. test force : 5N-30N
- Accuracy of test force :  $\pm 0.5\%$
- Resolution of test force : 0.001N
- Range of test force : 0.5%-100%FS

# Bond Force Testers DTM-A Series

Measurement schematic



- Suitable for testing the strength of microelectronic after bonding, and adhesion testing between solder and substrate surfaces, and failure analysis
- Suitable for wire pull, bond shear, ball shear, die shear test

- Max. load capacity : 50KG-200KG
- Axis travel: X : 140-320mm  
Y : 140-320mm  
Z : 65-100mm
- Speed : 0.1-1000mm/min
- Min. travel distance of Z-axis : 0.25 $\mu$ m/0.1 $\mu$ m

# Electronic Tensile And Compression Testing Machines UTM-SC Series

- Suitable for tensile, peeling and tearing tests of metal wires, metal foils, plastics, food packaging, textile fibres, wires and cables, adhesives, connectors and other industries



Test interface



- Max. test force : 100N-1000N
- Test force measurement range : 0.4%-100%FS
- Test force measurement resolution : 0.01N
- Test force measurement accuracy :  $\pm 0.5\%$  of indicating value

# Spring Testing Machines



Automatic Spring Testing  
Machines SRT-C Series



Automatic Spring Testing  
Machines SRT-W



Digital Spring Testers  
ISF-S Series

# Digital Force Gauges (Standard Type) ISF-DF Series

• Type A and B can be used for tension and pressure tests, type C is only used for pressure tests

DATA  
OUTPUT



Type A

- Type A (internal sensor):
- Load capacity: 5N-1000N
  - Resolution: 0.0005N-0.1N
  - Accuracy:  $\pm 0.2\%$  FS



Type B

- Type B (external sensor):
- Load capacity: 1000N-20000N
  - Resolution: 0.1N-5N
  - Accuracy:  $\pm 0.2\%$  FS



Type C

- Type C (external sensor):
- Load capacity: 10kN-200kN
  - Resolution: 0.001kN-0.05kN
  - Accuracy:  $\pm 0.2\%$  FS

# Test Stand For Force Gauges



Test Stand For Digital Force Gauges ISF-MT1K



Manual Vertical Test Stands For Force Gauges ISF-V10A/ISF-V10D

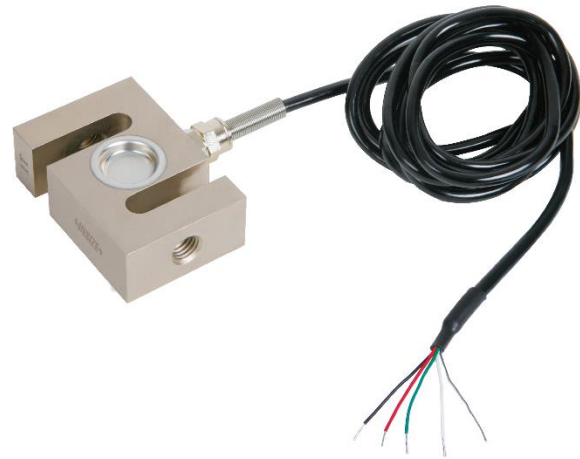


Manual Horizontal Test Stands For Force Gauges ISF-H20A/ISF-H20D



Manual Stripping Force Test Stands ISF-P30A/ISF-P30D

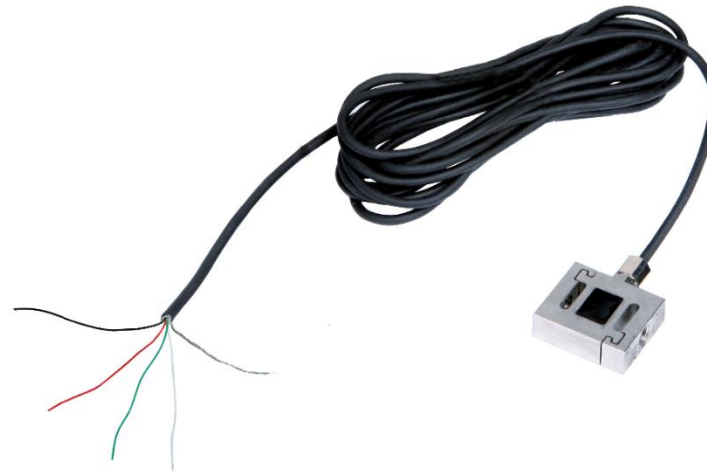
# S-Type Tensile/Compression Sensors



8650



Connected with handheld indicator (optional)



8651



Connected with handheld indicator (optional)

# Wire Tension Meters

• For tension measurement of fine materials: textiles, chemical fibers, fine wires



Wire Tension Meters  
ISF-DU

Code	ISF-DU50	ISF-DU100	ISF-DU200
Accuracy class	±3%FS		
Range of test force	0.3~50cN	1~100cN	1~200cN
Test force resolution	0.1cN		

• For tension measurement of high-speed threads: textiles, chemical fibers, fine wires



High-speed Wire Tension Meters  
ISF-DV

Code	ISF-DV100	ISF-DV200	ISF-DV500
Accuracy class	±3%FS		
Range of test force	1~100cN	1~200cN	1~500cN
Test force resolution	0.1cN		

## Torque Testers, Torque Wrenches (P1)

**Torsion Testing Machines**



**Workpiece Torsion Fatigue Testing Machines**



**Torque Testers**



**Torque Testers**



**Torque Wrench Test Stands**



**Dynamic Torque Sensors**



**Torque Sensors**



**Handheld Force/Torque Indicators**



**Torque Screwdrivers**



**Desktop Automatic Tightening Machines**



**Electric Screwdrivers**



**Digital Torque Wrenches**



## Torque Testers, Torque Wrenches (P2)

**Torque Wrenches**



**Slip Type Preset Torque Wrenches**



**Dial Torque Wrenches**



**Torque Adapters**



**Torque Multipliers**



# Electronic Torsion Testing Machines UTM-TT

- Suitable for torsion testing of metallic and non-metallic materials, composite materials and components

**OPTIONAL ACCURACY  
CLASS: CLASS 0.5**



Code	Type A	Type B
Max. test torque	2N.m-50N.m	200N.m-5000N.m
Accuracy of test torque	±1% of indicated value	
Range of test torque	2%-100%FS	
Min. resolution of test torque	0.0001N.m-0.001N.m	0.01N.m-0.1N.m
Accuracy of torsion angle	±1% of indicated value	
Range of torsion angle	0-9999°	
Resolution of torsion angle	0.01°	
Accuracy of torsion angle speed	±1% of the set value	
Accuracy of constant load torque	±1% of the set value	

# Workpiece Torsion Fatigue Testing Machine ITU-A102

CUSTOMIZED ACCORDING  
TO WORKPIECES



built-in dynamic torque sensor  
IST-TA10



workpiece fixture

#### Main unit

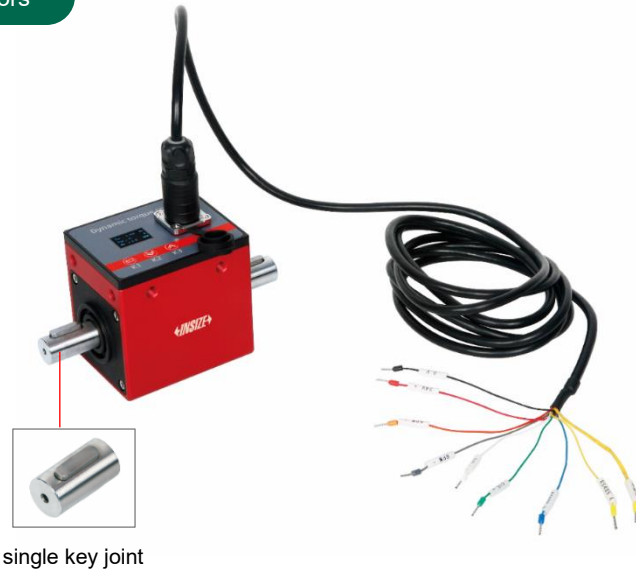
- Servo control mode : torque, angle and speed
- Range of test torque : 20%-100%FS
- Range of torsion angle : 0-9999°
- Max. Test RPM : 100rpm

#### Dynamic torque sensor

- Torque capacity : 10N.M
- Accuracy : 0.1%fs
- Hysteresis : 0.5%f.S.

# Torque Sensors IST Series

## Dynamic Torque Sensors



single key joint

- Overall accuracy :  $\pm 0.2\%$ FS
- Repeatability :  $0.1\%$ FS
- Response frequency : 2kHz
- Maximum range : 1N.m-20000N.m

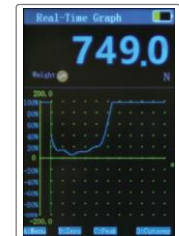
## Static Torque Sensors



- Output sensitivity : 1.0-2.0mV/V
- Zero output :  $\pm 1\%$ FS
- Accuracy :  $\pm 0.2\%$ FS
- Repeatability :  $\pm 0.2\%$ FS
- Maximum range : 10N.m-5000N.m

# Handheld Force/Torque Indicators ISF-DG Series

- For use with force sensors and torque sensors
- Three modes of real-time value display, peak value display and valley value display
- High sampling rate captures peak value accurately
- Parameter backup and restoration, even if the parameters are messed up, you can restore them with a single click
- Weightless calibration, just enter the sensor parameters and you are ready for calibration
- A variety of alarm options: upper limit alarm, lower limit alarm, peak and valley alarm, over 1.2 times of the range alarm



graph mode



example of torque  
sensor connection



example of force  
sensor connection

- Max. sampling frequency : 3200Hz-12800Hz
- Accuracy :  $\pm 0.1\%$ (of load capacity)

# Torque Screwdrivers



Digital Torque Screwdrivers  
IST-SD Series

- Range : 10-400cN.m
- Resolution : 0.1cN.m
- Accuracy :  $\pm 2.5\% / \pm 3\%$  (clockwise)  
 $\pm 3.5\% / \pm 4\%$  (counter-clockwise)



Bluetooth Digital Torque Screwdrivers  
(Keyboard Signal) IST-3SD Series

- Range : 10-600cN.m
- Resolution : 0.1cN.m
- Accuracy :  $\pm 2\%$  (clockwise)  
 $\pm 3\%$  (counter-clockwise)



Torque Screwdrivers  
IST-MG Series

- Range (clockwise) : 20cN.m–6.0N.m
- Graduation : 2cN.m/5cN.m/0.1N.m
- Accuracy :  $\pm 6\%$

# Build-in Wireless Digital Torque Screwdrivers IST-4SD Series

- Clockwise and counter-clockwise operation
- Peak and track working mode
- Upper and lower tolerance limits can be set and measurement results automatically calculate % difference from target value
- 10 preset target torque values and usage modes, parameters can be locked to prevent change

BUILD-IN  
WIRELESS

DATA  
OUTPUT



Application

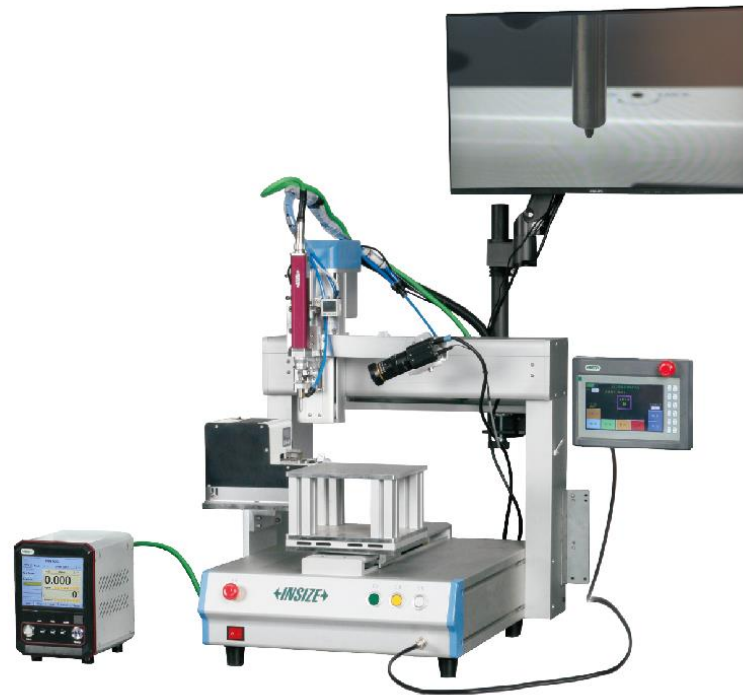


Code	IST-4SD50	IST-4SD200	IST-4SD400	IST-4SD600
Range	10~50cN.m	40~200cN.m	80~400cN.m	120~600cN.m
Accuracy	Clockwise : $\pm 2\%$ counter-clockwise : $\pm 3\%$			
Resolution	0.1cN.m			

# Desktop Automatic Tightening Machine ATM

CUSTOMIZED ACCORDING  
TO WORKPIECES

Screw feeding system



- Positioning repeatability :  $\pm 0.05\text{mm}$
- Number of preset positioning programs : 80
- Number of positioning points for one program : 350
- Applicable torque range :  $0.01\text{-}7.50\text{n.M}$
- Applicable screw outside diameter :  $1.0\text{-}7.0\text{mm}$
- Torque accuracy :  $\pm 5\%$  at  $30\%\sim 80\%$  of maximum output torque,  $\pm 8\%$  in other range

# Intelligent Electric Screwdrivers (Current Control) HES-E



- Torque range : 0.01-5.50N.m
- Max. speed : 800-5000rpm
- Torque accuracy :  $\pm 5\%$  at 30%~80% of maximum output torque,  $\pm 8\%$  in other range

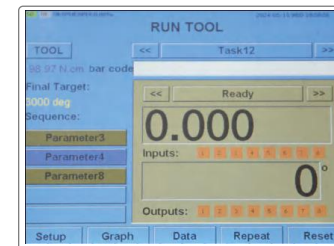


Controller type A



Controller type B

Controller (included)



Interface of tightening parameter setting



Balance arm (optional)



# Quality Inspection Torque Wrenches IST-4W Series



OPTIONAL ACCURACY: CLOCKWISE:  $\pm 1\%$   
COUNTER-CLOCKWISE:  $\pm 2\%$  ONLY FOR RANGE 6~340N.m

MEASURE THE TORQUE  
OF TIGHTENED BOLTS

- Three measuring modes:
  - Angle mode: rotation angle can be set, when turning to the angle, 2 LED lights blinking and buzzer beeping, capturing torque values
  - Maximum value display mode: capturing peak torque values
  - Real-time value display mode: real-time tracking of torque values
- In angle mode and maximum value mode, upper and lower tolerance limits can be set to determine pass or fail by LED lights
- Clockwise and count-clockwise operation

## Type A

- Range : 6-340N.m
- Resolution : 0.01N.m/0.1N.m
- Accuracy : clockwise :  $\pm 2\%$   
counter-clock wise:  $\pm 3\%$

## Type B

- Range : 170-2000N.m
- Resolution : 0.1N.m/1N.m
- Accuracy : clockwise :  $\pm 2.5\%$   
counter-clock wise :  $\pm 3.5\%$

# Built-in Wireless Digital Torque Wrenches (Keyboard Signal) IST-42W Series

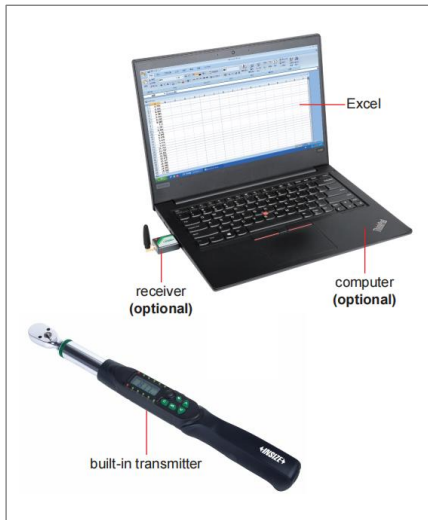
DATA  
OUTPUT

clockwise/counter-clockwise setting



Type B

## Application



Type	Type A	Type B	Type C
Range	1.2N.m-20N.m	6N.m-500N.m	170N.m-2000N.m
Resolution	0.001N.m-0.1N.m		0.1N.m-1N.m
Accuracy	Clockwise : $\pm 2\% \sim \pm 2.5\%$ , counter-clockwise : $\pm 3\% \sim \pm 3.5\%$		

# Interchangeable Head Two-way Wireless All-mode Digital Torque Wrenches IST-45W Series

ALL  
MODE

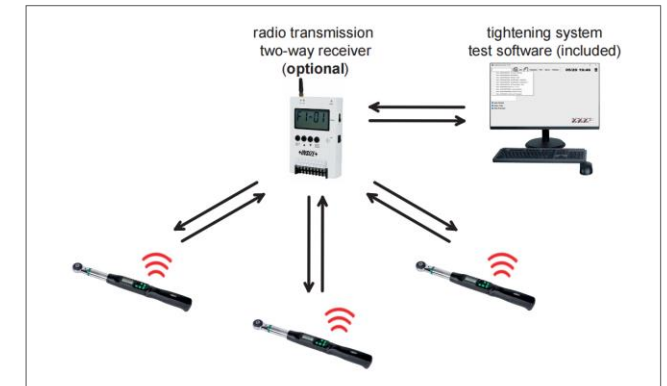
ANGLE  
CURVE

DATA  
OUTPUT



- Unit: N.m, in.lb, ft.lb, kg.cm, °
- Clockwise and counter-clockwise operation
- Includes all operating modes of the digital torque wrench
- Upper and lower tolerance limits can be set to determine pass or fail by LED lights, can set whether to send beyond tolerance limits
- 10 preset target values and usage modes, parameters can be locked to prevent change

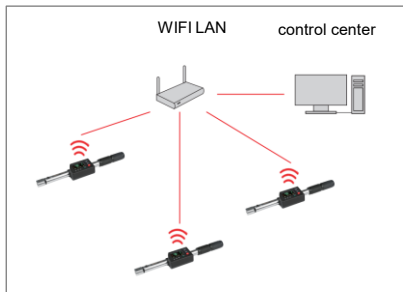
## Data transmission application



- Range : 2.4-410N.m
- Resolution : 0.01N.m/0.1N.m
- Accuracy : CW:  $\pm 2\%$   
CCW:  $\pm 3\%$ ,  $\pm 2^\circ$  (rotate  $90^\circ$ )

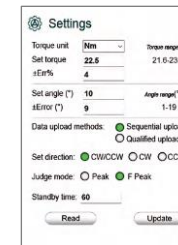
# Interchangeable Head Digital “Click” Torque Wrenches (Wifi Lan) IST-WPE Series

## Application

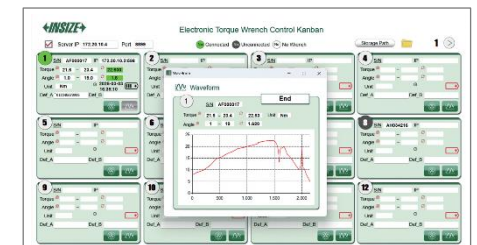


DATA OUTPUT

## Parameter setting software (included)



## Work display software (included)



- Clockwise and counter-clockwise operation
- Mechanical structure adjusts torque value, digital sensor displays real torque value, wrench can be used without torque tester
- Set the angle range to strictly monitor angle of the screw from fitting surface to tightening
- Interval display of curved interface and main interface after unloading, upper and lower tolerance limits can be set to determine pass or fail by LED lights
- Provide torque graph for analyzing and adjusting the tightening strategy
- Scanning module and scanning windows to match corresponding screws
- Open communication protocols for users to develop and interface with factory MES, PLC and other systems

- Range : 2-400N.m
- Resolution : 0.001N.m-0.1N.m
- Accuracy : Torque :  $\pm 3\%$   
Angle :  $\pm 1\%$  of indicated value +  $\pm 1^\circ$  (speed 10~180°/s) +  $\pm 1^\circ$  (clamping error)

# Color Screen Multifunctional Digital Torque Wrenches IST-40W

clockwise/counter-clockwise setting

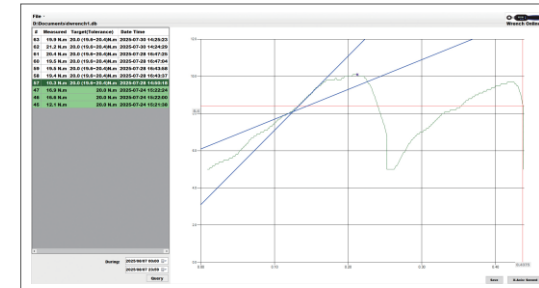


square driver

alarm LED



software (included)



DATA  
OUTPUT



pointer mode



numerical mode



curve mode

- Clockwise and counter-clockwise operation
- Maximum value and real-time value displayed simultaneously
- Three display modes for torque values: pointer, numerical, and curve
- Upper and lower tolerance limits can be set to determine pass or fail by LED lights
- The data is stored in the wrench when the wrench is disconnected, and the data is automatically uploaded to computer after transmission cable is connected to the software
- Real-time uploading of data when transmission cable is connected to the software

- Range : 6-340N.m
- Resolution : 0.01N.m/0.1N.m
- Accuracy : clockwise:  $\pm 2\%$   
counter-clock wise:  $\pm 3\%$

# Torque Wrenches



Digital Torque Wrenches  
IST-W Series



Mechanical Torque Wrenches  
(Digital Setting) IST-19WM Series



Torque Wrenches  
IST-9WM Series



Preset Torque Wrenches  
IST-PW Series



Dial Torque Wrenches  
IST-DW Series

# Digital torque wrench transmission mode

## Wired transmission (keyboard signal)

- Keyboard signal through a cable, can be transmitted to Excel, Word, Txt, etc.
- Press the output button once to output a value

## Bluetooth transmission (keyboard signal)

- Built-in Bluetooth 4.0 module, which can be connected with computers (with Bluetooth function), mobile phones, tablets and other devices
- Keyboard signal, can be transmitted to Excel, Word, TXT
- Transmission distance is 10 meters (no obstacles, no electromagnetic interference)
- Bluetooth connection and disconnection are respectively shown by indicator lights

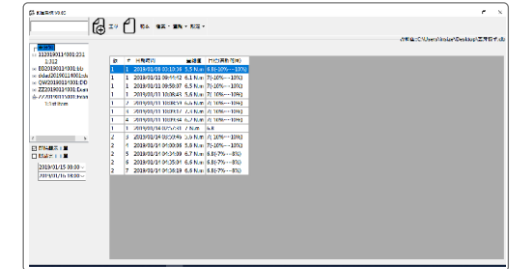
## Two-way radio transmission

- A two-way receiver can be connected with up to 10 wrenches at the same time, and the maximum transmission distance is 100 meters
- Two data transmission modes: automatic or press button to send
- When the wrench is disconnected, data is stored in the wrench and automatically sent to computer after wireless connection

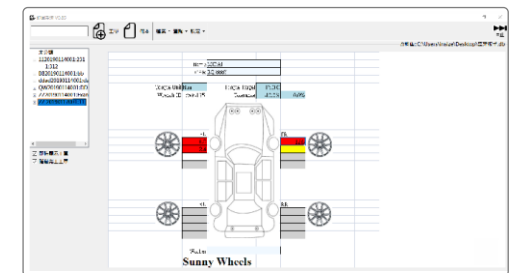
## Two-way bluetooth transmission

- Data transmission via bluetooth (bluetooth 4.0)
- Two-way transmission and control
- Transmission distance: 10m (no obstacles, no electromagnetic interference)
- Bluetooth connection and disconnection are displayed by indicator light
- Two data transmission modes: automatic or press button to send
- When the wrench is disconnected, data is stored in the wrench and automatically sent to computer after connection via Bluetooth

## Data transmission mode



## Program guidance mode



# Digital Torque Wrenches



Small Range Digital Torque Wrenches IST-WP Series



Short Handle Digital Torque Wrenches IST-WS Series



Interchangeable Head Quality Inspection Torque Wrenches IST-16W Series



Digital Angle Torque Wrenches IST-1W Series



Digital Torque Wrenches IST-W Series



Swing-head Digital Torque Wrenches IST-21W Series



Adjustable Open Head Digital Torque Wrenches IST-24W Series

# Automatic Torque Wrench Calibrator IST-HT1000

- Unit: N.m, cN.m, in.lb, ft.lb, kg.cm
- Automatically load clockwise or counterclockwise
- The test curve can be displayed in real time
- Four test modes: preset mode, preset mode (manual), indication mode (standard), indication mode (device under test)
- Single-point and multi-point automated testing and fatigue testing of torque wrenches

AUTO  
LOAD



selection of test modes on  
the calibrator



calibrator test  
process interface

computer and software  
(included)



- Automatic load torque range : 1~1000N.m
- Sampling frequency : ≥1500Hz
- Arm length range : 135~1185mm
- Limit stop angle : ±20°
- Adaptor : 3/4" to 1/2", 3/4" to 3/8", 3/4" to 1/4"

**Handheld XRF Spectrometers**



**Handheld LIBS Spectrometers**



**XRF Spectrometers**



**XRF Precious Metals Analyzer**



**Standard Sheets For XRF Plating Thickness Instruments**



**Spark Direct Reading Spectrometers**



**Standard Samples For Spectral Analysis**



**Spectral Sample Grinders**



**Handheld Raman Spectrometers**



**Fourier Transform Infrared Spectrometers**



**Carbon And Sulfur Analyzers**



**Oxygen/Nitrogen/Hydrogen Analyzers**



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## Component Analysis (P2)

←INSIZE→

**Atomic Absorption Spectrometers**



**Kjeldahl Nitrogen Analyzer**



**Gas Chromatographies**



**Liquid Chromatographies**

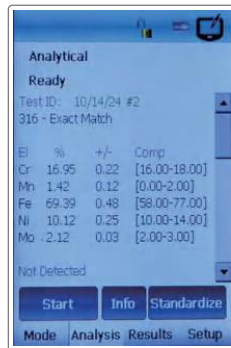


**Ion Chromatographies**

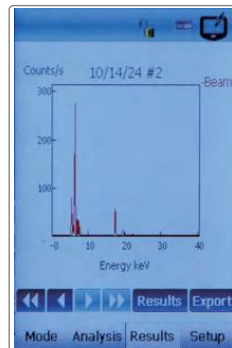


# Handheld XRF Alloy Analyzer (Basic Type) HSM-A310

Test interface



Spectral analysis



**Elemental analysis range**

K, Ca, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, As, Se, Rb, Sr, Zr, Nb, Mo, Ru, Rh, Pd, Ag, Cd, Sn, Sb, Ba, Ta, Hf, W, Re, Ir, Pt, Au, Hg, Pb, Bi

**Alloy analysis mode**

1. iron-based alloys (stainless steels, chromium/molybdenum alloys, low alloy steels, tool steels, seamless steels), nickel-based alloys, cobalt-based alloys, titanium-based alloys, copper-based alloys, molybdenum/tungsten-based alloys, aluminium-based alloys
2. comes with 288 commonly used alloy grades
3. can create your own grade database

- Fast and non-destructive test to identify alloy grade and composition
- For iron-based alloys (stainless steels, chromium/molybdenum alloys, low alloy steels, tool steels, seamless steels), nickel-based alloys, cobalt-based alloys, titanium-based alloys, copper-based alloys, high-temperature alloys (molybdenum/tungsten alloys), aluminium-based alloys

# Handheld XRF Alloy Analyzers (Advanced Type) HSM-S Series



CAN BE CUSTOMIZED

DATA OUTPUT

316 reference sample (included)



window protective film (included)



- Widely used in alloy identification, metal scrap recycling, and quality assurance/control processes within the metal manufacturing industry
- High accuracy, fast measurement speed, and intuitive display of alloy grades, element percentages (with up to 0.001% resolution), and ppm-level concentrations

Code	HSM-S110	HSM-S130	HSM-S620	HSM-S640
Analysis mode*	alloy analysis	alloy analysis plating analysis	alloy analysis	alloy analysis plating analysis
Detector	Si-PIN		SDD	
Elemental analysis range	Ti-U		Mg-U	
Target material	Ag target		Rh target	

\*can be customized according to user requirements: RoHS analysis mode, ore analysis mode

# Handheld Libs Spectrometer HLS-B410

- Widely used in metallurgy, casting, steel, non-ferrous metals and scrap metal recycling, etc.
- Ability to quickly analyze the metal elements of materials for quantitative characterization and grade differentiation

**EYE SAFE  
LASER**

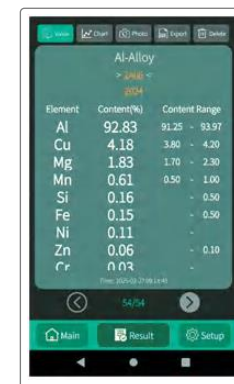
**LASER CLASS  
CLASS I**

**NO  
RADIATION**

**IP54  
WATERPROOF**



Test interface



Application

alloy analysis

can be used for almost all alloys, including scrap metal, high temperature alloys, alloy steel, stainless steel, tool steel, chromium molybdenum steel, aluminum alloys, nickel alloys, titanium alloys, cobalt alloys, copper alloys, precious metals, zinc alloys, anomalous alloys, zirconium alloys, mixed alloys, etc.

material properties identification (PMI)

can be used for quality control in the metal fabrication and processing industry to analyze material composition and identify alloy grades for a wide range of materials including critical components, raw materials, and welded seams

# XRF Plating Thickness Instrument

MANUAL  
ZOOM



XRF Plating Thickness Instrument  
XRF-PT230

AUTOMATIC MOBILE  
PLATFORM



Automatic XRF Plating Thickness Instrument  
XRF-FA350

VACUUM SYSTEM  
MANUAL ZOOM



Vacuum XRF Plating Thickness  
Instrument/Rohs Analyzer XRF-VF300



XRF Plating Thickness Instrument/Rohs  
Analyzer/Alloy Analyzer XRF-B210

# Spark Direct Reading Spectrometers

Spark Direct Reading Spectrometer (Basic Type) OES-T350



- Rowland circle of diameter : 350mm
- Wavelength range : 160-510nm
- Pixel resolution : 20pm
- Spark frequency : 100-1000hz

Portable Spark Direct Reading Spectrometer OES-P200



- Detector : high performance CMOS
- Optical system construction : paschen-runge double optical chamber structure
- Raster scribing : 3600 lines/mm
- Ultraviolet focal length : 298mm

# Handheld Raman Spectrometers

Handheld Raman Spectrometer (Basic Type) HHL-R240



- Excitation wavelength :  $785 \pm 0.5 \text{ nm}$
- Wavenumber range :  $200\text{-}4000 \text{ cm}^{-1}$
- Resolution :  $10 \text{ cm}^{-1}$

- Equipped with raman spectral recognition algorithms, including standard spectra of up to 10,000 kinds of substances

Handheld Raman Spectrometer (Advanced Type) HHL-S360



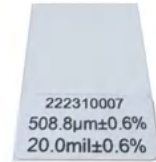
- Wavelength :  $1064 \text{ nm}$
- Wavenumber range :  $200\text{-}2500 \text{ cm}^{-1}$
- Resolution :  $14 \text{ cm}^{-1}$

- Widely used in industry, medicine, environmental protection, food, public security, defense, etc.
- For the qualitative identification of inorganic and organic substances in various forms

**Coating Thickness Gauges**



**Calibration Foils For Coating Thickness Gauges**



**XRF Plating Thickness Instruments**



**Surface Profile Gauges**



**Wet Film Gauges**



**Gloss Meters**



**Spectrophotometers**



**Color Assessment Cabinets**



**Holiday Detectors**



**Digital Adhesion Testers**



**Automatic Pencil Hardness Tester**



**Pencil Hardness Testers**



**Rotational Abrasion Testers**



**Cross Cut Adhesion Testers**



**Conical Mandrel Test Apparatus**



**Paint Film Flexibility Testers**



**Impact Testers**



**ISO Flow Cups**



**Rotational Viscometers**



# Coating Thickness Gauges



Coating Thickness Gauge  
(Standard Type) 9501-1200



Coating Thickness Gauge  
(Advanced Type) 5402-TC21



Coating Thickness Gauge  
(Basic Type) ISO-1000FN



Coating Thickness Gauge  
(Basic Type) ISO-1200FN



Double Screen Coating  
Thickness Gauge 5404-QM42

# Coating Thickness Gauges (Advanced Type)



Coating Thickness Gauges (Advanced Type) 5411



Coating Thickness Gauge (Advanced Type) 5413-TC31

5413-TC31-FN15 probe (included)

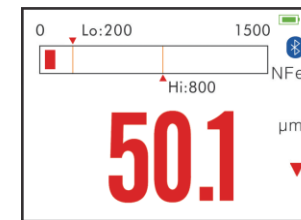
- Can measure the thickness of non-magnetic coating and non-metallic coating on magnetic metal substrate  
Substrate: iron, steel, magnetic stainless steel  
Coating: zinc, aluminum, copper, chrome, tin, plastic, powder, paint (not for nickel)
- Can measure the thickness of non-conductive coating on non-magnetic metal substrate  
Substrate: copper, aluminum, zinc, non-magnetic stainless steel  
Coating: plastic, powder, paint, anodizing (not for chrome and zinc plating)



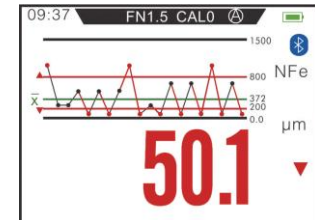
reading only



reading and statistics



reading and bar graph



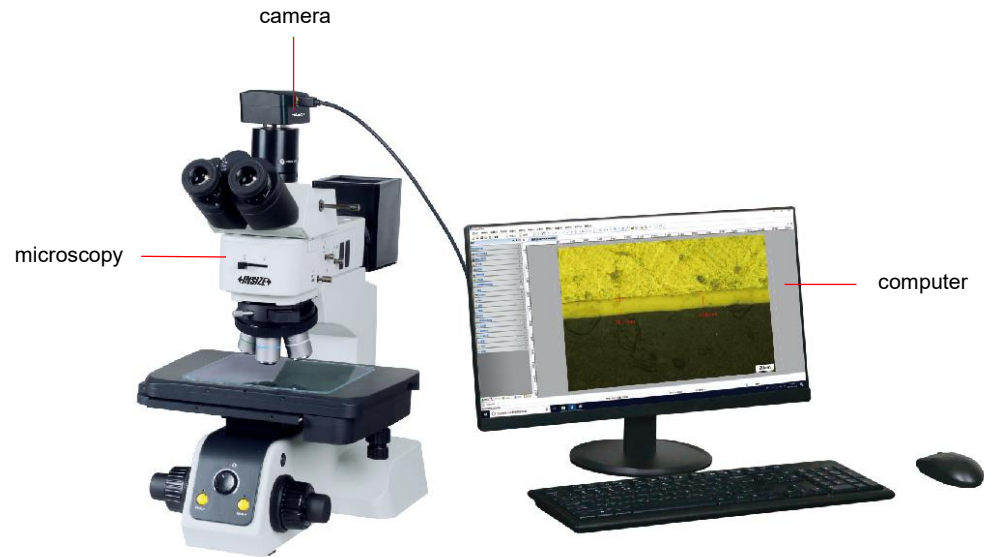
reading and run chart

Code	5413-TC31	5411-TC15	5411-TC30	5411-TF50
Measuring range	0~1500μm*	FE/NFE (auto recognition): 0~1500μm	FE/NFE (auto recognition): 0~3000μm	FE: 0~5000μm
Accuracy	$\pm(2\%L+1\mu\text{m}): \leq 1500\mu\text{m}$ $\pm(3\%L+1.5\mu\text{m}): >1500\mu\text{m}$ , L is measuring thickness in μm			

\* Interchangeable probes provide multiple ranges

# Coating/Film Thickness Measurement Systems

## MTF-Y430



### Image measurement software (included)

selectable resolution

histogram (quantify the distribution of color and brightness)

black balance (reduce color difference)

flat field correction (reduce brightness difference)

dark field correction (reduce thermal noise)

measurement items

- Suitable for measuring the thickness of various coatings or multi-layer composite films, with a wide measurement range
- Capable of analyzing the quality of coatings and identifying the causes of defects (such as pores, cracks, inclusions, peeling, etc.)

# Gloss Meters



Gloss Meters  
5702-DG8



60° Gloss Meter  
ISQ-DG6



Microporous Gloss Meter  
(Advanced Type) 5711-SG60



20°/60°/85° Gloss Meter  
ISQ-DG8

# Colorimeters



Colorimeter  
5700-LS35



Handheld Spectrophotometers  
5701-D40



Portable Spectrophotometer  
9710-30



Multi-angle Spectrophotometer  
5705-MS45



Spectrophotometer  
5706-DS01

# Digital Adhesion Tester SPT-AD21



Ø20mm dolly (included)



Cutting tool (included)



Glue gun and glue (included)



- Resolution : 0.01MPa (1psi)
- Accuracy : ±1% full scale
- Pull-off force : 0.7-20MPa

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## Other Instruments



**Parts Cleanliness Testing Cabinets**



**Automatic Cleanliness Analysis Systems**



**Bearing Radial Clearance Tester**



**Oil Testing**



# Parts Cleanliness Testing Systems



Parts Cleanliness Testing Cabinet  
OPP-GZ01



Automatic Cleanliness Analysis  
System (Advanced Type) OPP-OM53



Automatic Cleanliness Analysis  
System (standard Type) OPP-OS18

# Oil Testing



Online Oil Particle Counter  
PSC-ZX100



Portable Oil Particle Counter  
(Basic Type) PSC-BX200



Portable Oil Particle Counter  
(Standard Type) PSC-BX300



Oil Particle Counter (Standard Type)  
PSC-TX100

# THANKS!

Quality | Innovation | Service | Value