

MEASURING TOOLS INDICATORS

Digimatic Indicators

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SMALL TOOLS

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Mitutoyo

ดิจิตอลอินดิเคเตอร์ - ใช้พลังงานแสง

ABSOLUTE Solar-Powered Digimatic Indicator ID-SS SERIES 543

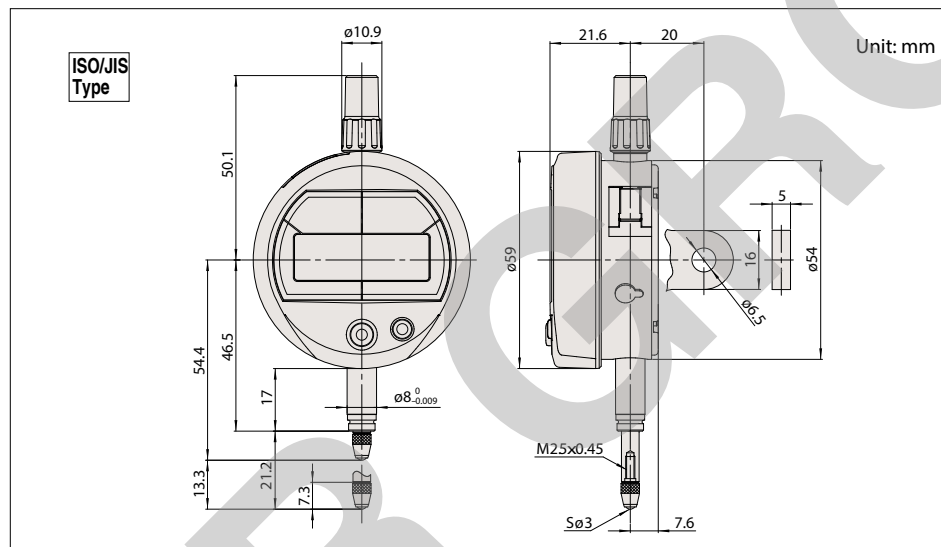


543-500

FEATURE

- Solar powered
An environmentally friendly measuring instrument that does not require batteries, eliminating the hassle and cost of battery replacement. Can operate down to a minimum light level of 40 lux – lower than the level in a warehouse.
- Built-in recharger
The large-capacity built-in reservoir capacitor allows you to use the indicator for long periods of time under light conditions below the minimum level.*
- User-friendly buttons
All functions can be accessed by using the two or three large buttons on the front of the indicator.
- Origin recorded even if display disappears.
The indicator includes an ABS (absolute) scale that allows the previously set origin to be restored even if the display disappears due to insufficient light, making it easy to resume measurement. This feature makes ID-SS ideal for long-time or multi-point measurement.
- Equipped with a data output port that enables incorporation into measurement networking and statistical process control systems (refer to page A-002).

DIMENSIONS



Note 1: Dimensions of the inch (ANSI/AGD Type) dial indicator partly differ from those of the metric (ISO/JIS Type) indicator.
Note 2: Inch (ANSI/AGD Type) dial indicators are provided with a stem of 3/8" dia. and #4-48UNF thread mount for the contact point.

Metric

Order No.	Range	Resolution	Accuracy*1			Remarks
			Overall*2	Hysteresis	Repeatability	
543-500	12.7mm	0.001mm	0.003mm	0.002mm	0.002mm	With lug
543-500B						Flat
543-505		0.01mm	0.02mm	0.02mm	0.01mm	With lug
543-505B						Flat

Inch / Metric

Order No.	Range	Resolution	Accuracy*1			Remarks
			Overall*2	Hysteresis	Repeatability	
543-501	0.5" / 12.7mm	.00005"/0.001mm	±.0001"/0.003mm	.0001"/0.002mm	.0001"/0.002mm	With lug
543-501B						Flat
543-502						With lug
543-502B						Flat
543-506		.0005"/0.01mm	±.0010"/0.02mm	.0010"/0.02mm	.005"/0.01mm	With lug
543-506B						Flat
543-507						With lug
543-507B						Flat

* Quantizing error of ±1 count is excluded.

MeasurLink[®] ENABLED
Data Management Software by Mitutoyo

ABSOLUTE[™]



Technical Data

- Display: 6-digit LCD, sign
- Measuring force: 1.5 N or less
- Usable positions: All
- Power supply: Solar battery (for indoor use)
- Minimum Operating light: 40 lux
Note: A built-in reservoir capacitor allows a fully charged ID-SS to be used for about 3.5 hours under light illumination below the minimum level.
The charging time differs depending on the environment, but it usually takes about 1.5 hours for a fully discharged ID-SS to fully recharge under light conditions of 500 lux.
- Maximum response speed: No limit (scan-type measurement is not supported)

Functions

- Origin set (Zero-setting)
- Direction switching
- Tolerance judgment
- Data output
- Error alarm display

Optional accessories

Lifting lever

Lifting knob



Lifting release



Optional Accessories

Lifting

- Lifting lever:
21EZA198 (12.7 mm/0.5 inch ISO/JIS type)
21EZA199 (12.7 mm/0.5 inch ASME/ANSI/AGD type)
- Lifting knob:
21EZA105 (12.7 mm/0.5 inch ISO/JIS type)*
21EZA150 (12.7 mm/0.5 inch ASME/ANSI/AGD type)*
21EZA197 (25.4 mm/1 inch models)
21EZA200 (50.8 mm/2 inch models)
- Lifting cable: 540774
Lifting lever: 137693 (for measuring range: 25.4 and 50.8 mm) (supplied with 25.4 mm and 50.8 mm models as standard.)
* Not available for low measuring force models.

- Auxiliary spindle spring:
02ACA571 (25.4 mm/1 inch models)**
02ACA773 (50.8 mm/2 inch models)**
**Required when orienting the indicator upside down.

- Lug-on-senter back:
101040 (25.4 mm/1 inch and 50.8 mm/2 inch, ISO/JIS type)
101306 (25.4 mm/1 inch and 50.8 mm/2 inch, ASME/ANSI/AGD type)

- Measuring stands (Refer to pages F-78 to F-85 for details.)
- ID-SS can be used in standard work environments.
The following is excerpted from JIS Z9110:2010 General rules of recommended lighting levels; 5.4 Factories:

Luminance (lux)	Location (permissible work)
1500	Very detailed visual work
750	Detailed visual work; design and drawing work
500	Regular visual work such as work carried out in a factory; monitoring work such as using instrument panels and control panels
300	Administrative work carried out in a warehouse
200	Control rooms, bathrooms, and places where manual light work is carried out
150	Work such as loading, unloading, and shifting loads
100	Hallways, corridors, entrances and exits, and warehouses
50	Indoor emergency staircases

ดิจิตอลอินดิเคเตอร์

ABSOLUTE Digimatic Indicator ID-SX
SERIES 543

ABSOLUTE™



Technical Data

- Display: 6-digit LCD, sign
- Usable orientation: All
- Scale type: ABSOLUTE electrostatic linear encoder
- Battery: SR44 (1 pc.), 938882 for initial operational checks (standard accessory)
- Maximum response speed: No limit (except for scanning measurement)

Functions

- Origin set (Zero-setting)
- Direction switching
- Data output
- Low battery voltage alarm display
- Error alarm display

Optional Accessories

- Lifting
Lifting lever **21EZA198** (ISO/JIS/DIN Type),
21EZA199 (ASME/ANSI/ AGD Type)
- Lifting knob **21EZA105** (ISO/JIS/DIN Type),
21EZA150 (ASME/ANSI/ AGD Type)
- Lifting cable **540774**
- SPC Cable:
905338 (1 m)
905409 (2 m)
- USB Input Tool Direct (2 m) : **06AFM380F**
*Please separately purchase **USB-ITPAK** since there is no data output switch on the measurement instrument.
Refer to pages A-011 to A-013 for details.
- Connecting Cables for U-WAVE-T (160 mm):
02AZD790F
For footswitch: **02AZE140F**
Refer to page F-60 for details.
- Digimatic Mini-Processor DP-1VA LOGGER: **264-505**
- Contact points for Mitutoyo's dial indicators
(Refer to pages K-045 to K-048 for details.)
Interchangeable backs for 2 series
(Refer to page K-056 for details.)
- Measuring stands
(Refer to pages M-002 to M-008 for details.)

IP53 dust/water protection level

Level 5: Dust protection

While complete protection against intrusion of dust is not provided, protection is adequate to prevent dust intrusion in amounts that would inhibit the prescribed operations and safety of the electronic equipment.

Level 3: Protection against spraying water

The product suffers no harmful effects when subjected to water sprayed at an angle of up to 60 degrees on both sides.

For details on the dust/water protection level test conditions, refer to IEC 60529:2001 and JIS C 0920:2003.

IP code is the degree of protection against the intrusion of solid foreign objects and water.

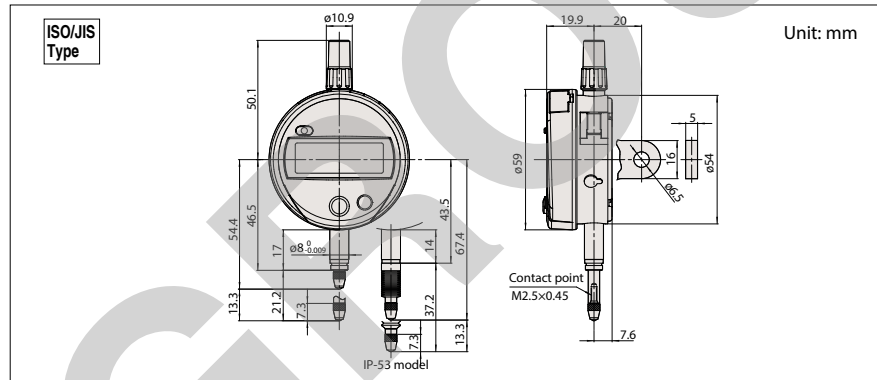
Mitutoyo offers a lineup of coolant proof, ID-N/B indicators that have excellent resistance to oil, water and dust and so are suitable for use in environments that include splashing cutting fluid.

FEATURE

- Cost-effective oriented design
ID-SX indicators use a button-type battery (SR44) and come with the minimum of functionality for ease of use. There is a choice of models in the lineup allowing selection of 0.01 mm, 0.001 mm or inch-based measurement resolutions.
- IP53 dust/water protection level
The models listed below also provide IP53 dust/water protection level specifications:
543-794/94B/95/95B/96/96B
- ABS (absolute) scale
These Digimatic indicators employ Mitutoyo's proprietary ABS (absolute) scale, which makes it possible to restore the origin point even if the power is turned off. This eliminates the need to perform origin restoration each time the power is turned on. Furthermore, this scale ensures that overspeed errors do not occur, which improves reliability.
- Equipped with a data output port that enables incorporation into measurement networking and statistical process control systems (refer to page A-002).



DIMENSIONS



Note 1: Dimensions of the inch (ANSI/AGD Type) dial indicator partly differ from those of the metric (ISO/JIS Type) indicator.
Note 2: Inch (ANSI/AGD Type) dial indicators are provided with a stem of 3/8" dia. and #4-48UNF thread mount for the contact point.

Metric

Order No.	Range	Resolution	Accuracy*1			Back type	Measuring force	Battery life*3 (continuous use)	Dust/Water protection level*4
			Overall*2	Hysteresis	Repeatability				
543-790	12.7mm	0.001mm	0.003mm	0.002mm	0.002mm	With lug	1.5N or less	18,000 hours (Continuous use) Approx. 5 years (Normal use)	IP42
543-790B						Flat			
543-794						With lug	2.5N or less	20,000 hours (Continuous use) Approx. 5 years (Normal use)	IP53
543-794B						Flat			
543-781	12.7mm	0.01mm	0.02mm	0.02mm	0.01mm	With lug	1.5N or less	20,000 hours (Continuous use) Approx. 5 years (Normal use)	IP42
543-781B						Flat			

Inch / Metric

Order No.	Range	Resolution	Accuracy*1			Back type	Measuring force	Battery life*3 (continuous use)	Dust/Water protection level*4			
			Overall*2	Hysteresis	Repeatability							
543-791	.5"/12.7 mm	.00005"/ 0.001mm	.0001"/ 0.003mm	.0001"/ 0.002mm	.0001"/ 0.002mm	With lug	1.5N or less	18,000 hours (Continuous use) Approx. 5 years (Normal use)	IP42			
543-791B						Flat						
543-792						With lug						
543-792B						Flat						
543-793		.0001"/ 0.001mm				With lug						
543-793B		Flat										
543-795		.00005"/ 0.001mm				.0001"/ 0.003mm	.0001"/ 0.002mm		.0001"/ 0.002mm	With lug	2.5N or less	IP53
543-795B										Flat		
543-796										With lug		
543-796B										Flat		
543-782		.0005"/ 0.01mm	.0010"/ 0.02mm	.0010"/ 0.02mm	.0005"/ 0.01mm	With lug	1.5N or less	20,000 hours (Continuous use) Approx. 5 years (Normal use)	IP42			
543-782B						Flat						
543-783						With lug						
543-783B						Flat						

*1 These values apply at 20°C, and do not include ± 1 count allowance for quantization error.

*2 Overall magnification and linearity.

*3 The battery life varies, depending on the number of times the Digimatic indicators are used as well as the way it is used. The values listed above are approximations.

*4 This is only valid when the data socket cover is in place. Does not apply if the cover is removed, a lifting accessory is attached, or a connecting cable is attached.

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Mitutoyo

ดิจิตอลอินดิเคเตอร์ - รุ่นมาตรฐาน

ABLOLUTE Digimatic Indicator ID-CX SERIES 543 — Standard Type

MeasurLink[®] ENABLED
Data Management Software by Mitutoyo

ABSOLUTE[™]



Measuring range 12.7mm **543-390B**
Low measuring force type **543-394B**
Measuring range 25.4mm **543-470B**
Measuring range 50.8mm **543-490B**

FEATURE

- The ABS (absolute) scale restores the last origin position automatically when the indicator is turned on.
Note: Regarding origin setting, refer to "Origin Setting of Digimatic Indicators" on page J-017.
- Thanks to Mitutoyo's ABSOLUTE Linear Encoder, reliability has been increased due to elimination of over-speed errors.
- Tolerance-judging measurement is available by setting upper and lower limit values.
- Battery life of approx. 7,000 hours in continuous use has been achieved with only one battery.
- Equipped with a data output port that enables incorporation into measurement networking and statistical process control systems (refer to page A-002).

• Large LCD

The large LCD incorporates 11mm characters giving 1.5 times the character area of conventional products (which display 8.5mm characters) making measurement values much easier to read.



Actual size

• Three large buttons

The popular three-large button design, which is used in products such as the ABS coolant proof Digimatic indicators ID-N/B, makes buttons easier to press and operations easier to perform.



- Power switch
- Data output (when connected to an external device)
- Data hold (when no external device is connected)

- Parameter setting mode
Count direction switching, tolerance judgment setting, resolution switching, scale factor setting, and function lock setting
- inch/mm conversion (inch/mm models)

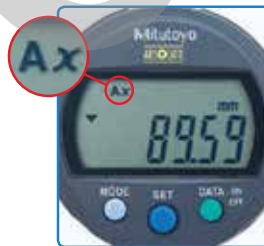
• 330° rotary display

The display can be rotated 330°, allowing use at a position where you can easily read the measurement value.



• Calculation: $f(x) = Ax$

Mounting the ID-CX on a measuring jig and setting the multiplying factor (to any practical value) allows direct indication of size (see example below) without using a conversion table and so improves measurement efficiency.



Usage example

Note: The measuring jig is not supplied with the ID-CX.

• Function locking

Ensures reliability of measurement by locking the settings to prevent preset function settings from being changed by mistake..



Technical Data

- Display: 6-digit LCD, sign
- Battery: SR44 (1 pc.), **938882** for initial operational checks (standard accessory)
- Battery life: Approx. 7,000 hours of continuous use. Approx. 1.2 years under normal use.
- *Depends on use of the indicator. The above values are reference values.
- Maximum response speed: No limit (except for scanning measurement)

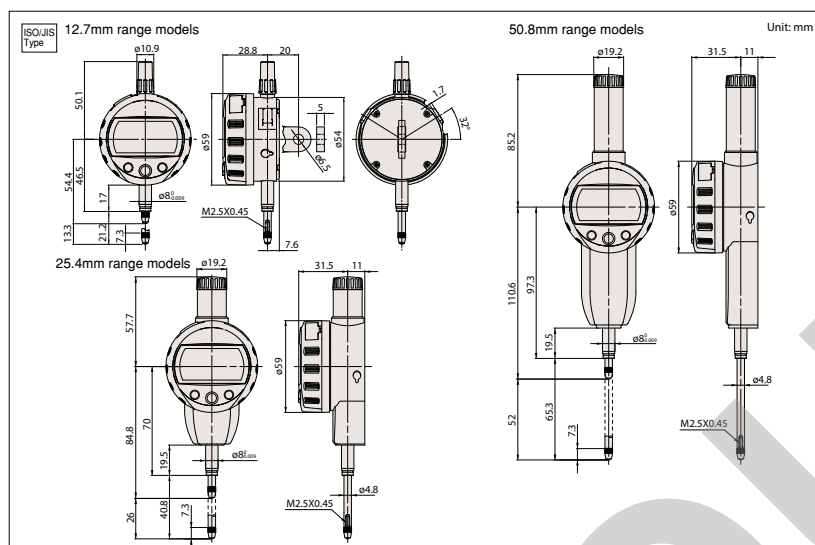
Functions

- Zero-setting (INC system)
- Presetting (ABS system)
- Direction switching
- Tolerance judgment
- Resolution switching (For 0.001 mm or 0.00005 inch resolution models)
- Calculation: $f(x) = Ax$
- Function locking
- Data output
- Display value holding (when no external device is connected)
- 330° rotary display
- Low battery/voltage

Optional Accessories

- Lifting lever:
21EZA198 (12.7 mm/0.5 inch ISO/JIS type)
21EZA199 (12.7 mm/0.5 inch ASME/ANSI/AGD type)
- Lifting knob:
21EZA105 (12.7 mm/0.5 inch ISO/JIS type)*
21EZA150 (12.7 mm/0.5 inch ASME/ANSI/AGD type)*
21EZA197 (25.4 mm/1 inch models)
21EZA200 (50.8 mm/2 inch models)
- Lifting cable: **540774**
Lifting lever: **137693** (for measuring range: 25.4 and 50.8 mm) (supplied with 25.4 mm and 50.8 mm models as standard.)
* Not available for low measuring force models.
- Auxiliary spindle spring:
02ACA571 (25.4 mm/1 inch models)**
02ACA773 (50.8 mm/2 inch models)**
**Required when orienting the indicator upside down.
- Center-lug back:
101040 (25.4 mm/1 inch and 50.8 mm/2 inch, ISO/JIS type)
101306 (25.4 mm/1 inch and 50.8 mm/2 inch, ASME/ANSI/AGD type)
- SPC Cable:
905338 (1 m)
905409 (2 m)
- USB Input Tool Direct (2 m): **06AFM380F**
- Input Tool Series
IT-016U (USB Keyboard Signal Conversion Type) : **264-016-10**
IT-007R (RS-232C Communication Conversion Type) : **264-007**
- Connecting Cables for U-WAVE-T (160 mm):
02AZD790F
- For footswitch: **02AZE140F**
- Digimatic Mini-Processor DP-1VA LOGGER: **264-505**
- Contact points for Mitutoyo's dial indicators (Refer to pages K045 to K-048 for details.)
Interchangeable backs for 2 series (Refer to page K-056 for details.)
- Measuring stands (Refer to pages M-002 to M-008 for details.)

DIMENSIONS



Note 1: Dimensions of the inch (ANSI/AGD Type) dial indicator partly differ from those of the metric (ISO/JIS Type) indicator.
 Note 2: Inch (ANSI/AGD Type) dial indicators are provided with a stem of 3/8" dia. and #4-48UNF thread mount for the contact point.
 Note 3: Products with an Order No. suffixed "B" have a plain back, and other models have a center lug back.
 Refer to page F-55 for details of the backs.

Setting measuring force on low measuring force models

• 543-404/404B/405/405B/406/406B

Spindle orientation	Spring	Weight (approximately 0.1N)	Maximum measuring force
Pointing vertically downward	Yes	Yes	0.5N or less
	Yes	No	0.4N or less
	No	Yes	0.3N or less
	No	No	0.2N or less
Horizontal	Yes	No	0.3N or less

Note) Operation using configurations other than shown above is not guaranteed.

• 543-394/394B/395/395B/396/396B

Spindle orientation	Spring	Weight (approximately 0.1N)	Maximum measuring force
Pointing vertically downward	Yes	Yes	0.7N or less
	Yes	No	0.6N or less
	No	Yes	0.4N or less
	No	No	Not guaranteed
Horizontal	Not guaranteed		

Note) Operation using configurations other than shown above is not guaranteed.

☐ ISO/JIS type

☐ ASME/ANSI/AGD type

Metric

Order No.	Range	Resolution	Overall accuracy*	Measuring force	Remarks
543-390	12.7mm	0.001mm	0.003mm	1.5N or less	-
543-394	25.4mm			0.4N - 0.7N	Low measuring force
-	50.8mm			1.8N or less	-
543-400	12.7mm	0.01mm	0.02mm	2.3N or less	-
543-404	25.4mm			0.9N or less	Low measuring force
-	50.8mm			1.8N or less	-

* Hysteresis: 0.002 mm (0.001/0.01 mm resolution type)
0.02 mm (0.01 mm resolution type)

* Repeatability: 0.002 mm (0.001/0.01 mm resolution type)
0.02 mm (0.01 mm resolution type)

Inch / Metric

Order No.	Range	Resolution	Overall accuracy*	Measuring force	Remarks
543-391	.5"	.0005" / .0001" / .00005" / .001mm / 0.01mm	.0001"	1.5N or less	-
543-392	1"			1.5N or less	-
543-395	2"			0.4N - 0.7N	Low measuring force
543-396	.5"	.0005" / .0001" / .00005" / .001mm / 0.01mm	.0001"	0.4N - 0.7N	Low measuring force
-	1"			1.8N or less**	-
-	2"			1.8N or less**	-
543-401	.5"	.0005" / .0001" / .00005" / .001mm / 0.01mm	.0001"	2.3N or less**	-
543-402	1"			2.3N or less**	-
543-405	2"			0.9N or less	-
543-406	.5"	.0005" / .0001" / .00005" / .001mm / 0.01mm	.0001"	0.9N or less	-
-	1"			0.2N - 0.5N	Low measuring force
-	2"			0.2N - 0.5N	Low measuring force
543-475B	.5"	.0005" / .0001" / .00005" / .001mm / 0.01mm	.0001"	1.8N or less**	-
543-476B	1"			1.8N or less**	-
543-495B	2"			2.3N or less**	-
543-496B	.5"	.0005" / .0001" / .00005" / .001mm / 0.01mm	.0001"	2.3N or less**	-
-	1"			2.3N or less**	-
-	2"			2.3N or less**	-

* Hysteresis: 0.0005 in/0.0001 in/0.0005 in/0.001 mm/0.01 mm
0.0001 in / 0.002 mm (0.0005/0.0001/0.00005 in / 0.01/0.001 mm resolution type)
0.001 in / 0.02 mm (0.0005 in / 0.01 mm resolution type)

* Quantizing error of ± 1 count is excluded

** Applies for a spindle orientation between the spindles

* Repeatability: 0.0001 in / 0.002 mm (0.0005/0.0001/0.00005 in / 0.01/0.001 mm resolution type)
0.001 in / 0.02 mm (0.0005 in / 0.01 mm resolution type)

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระดับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

ดิจิตอลอินดิเคเตอร์ - รุ่นป้องกันฝุ่นและน้ำ ตามมาตรฐาน IP66

ABSOLUTE Digimatic Indicator ID-N/B

SERIES 543 — with Dust/ Water Protection Conforming to IP66

MeasurLink[®] ENABLED
Data Management Software by Mitutoyo

ABSOLUTE[™]

543-575

543-585

IP66

IP66



Rated to IP66 water- and dust-proofing standard and oil resistance improved.



Body width 35mm



LCD readout reversal function

Functions

- Zero-setting (INC system)
- Presetting (ABS system)
- Direction switching
- Tolerance judgment
- LCD readout reversal (For 0.001 mm or 0.00005 inch resolution models)
- Resolution switching
- Data output
- Display value holding (when no external device is connected)
- Low battery voltage alarm display
- Error alarm display

Optional accessories

- SPC Cable: **90533B** (1 m) **905409** (2 m)
 - USB Input Tool Direct (2 m) : **06AFM380F**
 - Connecting Cables for U-WAVE-T (160 mm) : **02AZD790F**
 - For foot switch : **02AZE140F**
 - Digimatic Mini-Processor DP-1VA LOGGER: **264-505**
 - Lifting knob (only for ID-N)
 - 21EZA105** (ISO/JIS type)*
 - 21EZA150** (ASME/ANSI/AGD type)*
- Spindle can be manually lifted. Remove the spindle cap for ID-N and attach the lifting knob to the spindle. Note that water resistance is not maintained in this configuration.

Using the lifting knob



Lifting knob

- Lug **21EZA145** (ISO/JIS type)
- 21EZA146** (ASME/ANSI/AGD type)
- Arm for ID-B (made-to-order)
- Rubber boot
- For oil resistance (NBR) **02ACA376** (for ID-N)
- 125317** (for ID-B)
- 238774** (for ID-N)
- 21EAA212** (for ID-B)

- For durability (silicon)
- SPC cable: **21EAA194** (1 m) **21EAA190** (2 m)
 - USB Input Tool Direct (2 m) : **06AFM380G**
 - Input Tool Series
 - IT-016U (USB Keyboard Signal Conversion Type) : **264-016-10**
 - IT-007R (RS-232C Communication Conversion Type) : **264-007**
 - Connecting Cables for U-WAVE-T (160 mm)
 - 02AZD790G**
 - For footswitch: **02AZE140G**
 - Refer to page F-60 for details.
 - Digimatic Mini-Processor DP-1VA LOGGER: **264-505**
 - Bifurcated connecting cable with zero-setting terminal: **21EAA210** (1 m) **21EAA211** (2 m)
 - Two of the wires inside the cable are separated for zero setting without touching the SET switch on the main body.
 - Use these wires in combination with commercially available switches. Zero setting is performed by briefly connecting these two wires together (less than a second), and ABS preset & recall by connecting for a second or more.
 - Contact points for Mitutoyo's dial indicators. (Refer to pages K-045 to K-056 for details.)

FEATURE

- Our unique ABS scale restores the last origin position automatically when the indicator is turned on.
- The chance of overspeed errors has been eliminated thanks to the ABS scale.
- Rated to IP66: can be used satisfactorily even in adverse environments where the indicator is subject to splashing by cutting fluid or coolant.
- Slim body design (body width: only 35 mm) is advantageous in multipoint measurement situations where space is restricted. The LCD readout can also be rotated 180° to allow reading from the most convenient direction.
- Succeeded in digitalization of the Back Plunger type widely used for dial indicators for ID-B. A 5 mm-stroke plunger with a higher degree of accuracy has been implemented by adopting a direct reading scale for plunger displacement.
- Built-in tolerance judgment function provides OK, +NG, or -NG judgment of measurement with respect to the preset upper and lower limit values, indicating the status of a measurement with the appropriate symbol. The symbols can be displayed much larger.
- Equipped with a data output port that enables incorporation into measurement networking and statistical process control systems. (refer to page A-002).

Metric

Order No.	Range	Resolution	Accuracy*	Remarks
543-570	12.7mm	0.01mm	0.02mm	Slim type ID-N
543-580	5.0mm			Back plunger type ID-B
543-575	12.7mm	0.01mm / 0.001mm	0.01mm / 0.003mm	Slim type ID-N
543-585	5.0mm			Back plunger type ID-B

Inch / Metric

Order No.	Range	Resolution	Accuracy*	Remarks
543-571	.5"	.0005", 0.01mm	.001"	Slim type ID-N
543-581	.2"			Back plunger type ID-B
543-576	.5"	0.01mm / 0.001mm	.00012"	Slim type ID-N
543-586	.2"			Back plunger type ID-B

*Quantizing error of ±1 count is excluded

INDICATORS
อินดิเคเตอร์

Micrometer
ไมโครมิเตอร์

Inside
Measurement
เครื่องมือวัดภายใน

Calipers
คาลิเปอร์

Height Gages
เกจวัดความสูง

Linear Height
เครื่องมือวัดความสูง

Depth Gages
เกจวัดความลึก

Gauge Blocks
เกจบล็อก

Reference Gages
เครื่องมืออ้างอิง

Surface Plate
โต๊ะระดับ

Indicators
อินดิเคเตอร์

Stands
ขาตั้ง

Digimatic Indicators
ดิจิตอล อินดิเคเตอร์

Dial Indicators
ไดอัลอินดิเคเตอร์

Dial Test Indicators
ไดอัลเทสอินดิเคเตอร์

Dial Indicators
Applications
ไดอัลอินดิเคเตอร์อื่นๆ

Accessories
อุปกรณ์เสริม

Other
อุปกรณ์อื่นๆ

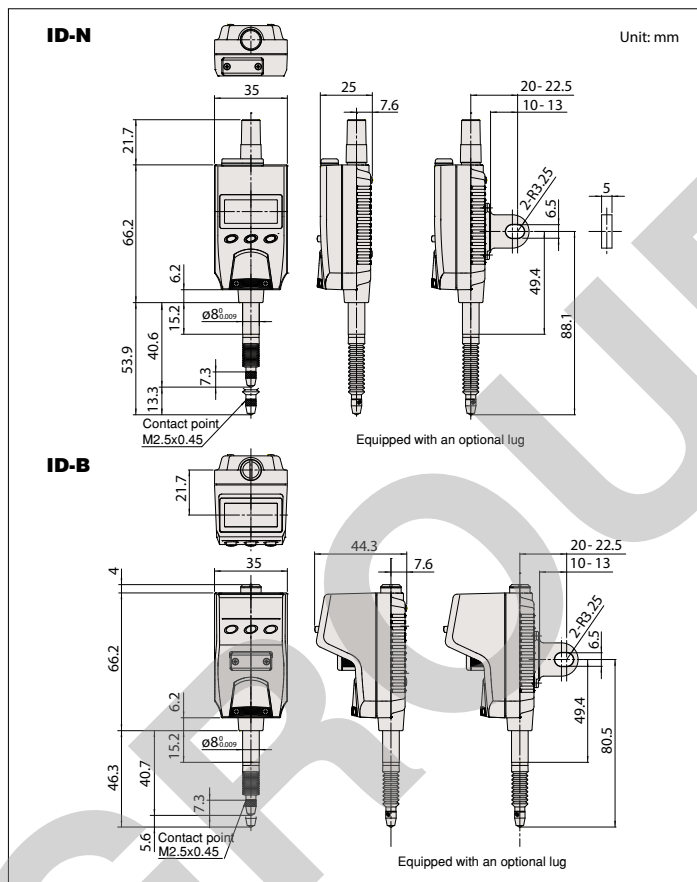
DIMENSIONS



SPC cable

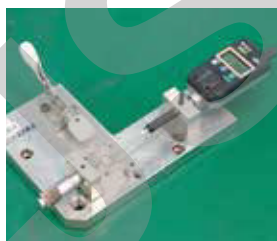


Bifurcated connecting cable with zero-setting terminal



Note 1: Dimensions of the inch (ANSI/AGD Type) dial indicator partly differ from those of the metric (ISO/JIS Type) indicator.
Note 2: Inch (ANSI/AGD Type) dial indicators are provided with a stem of 3/8" dia. and #4-48UNF thread mount for the contact point.

Usage examples



Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระดับ

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Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

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ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

ดิจิตอลอินดิเคเตอร์ - มีฟังก์ชันการคงค่าต่ำสุด-สูงสุด ABSOLUTE Digimatic Indicator ID-C SERIES 543 — Peak-Value Hold Type

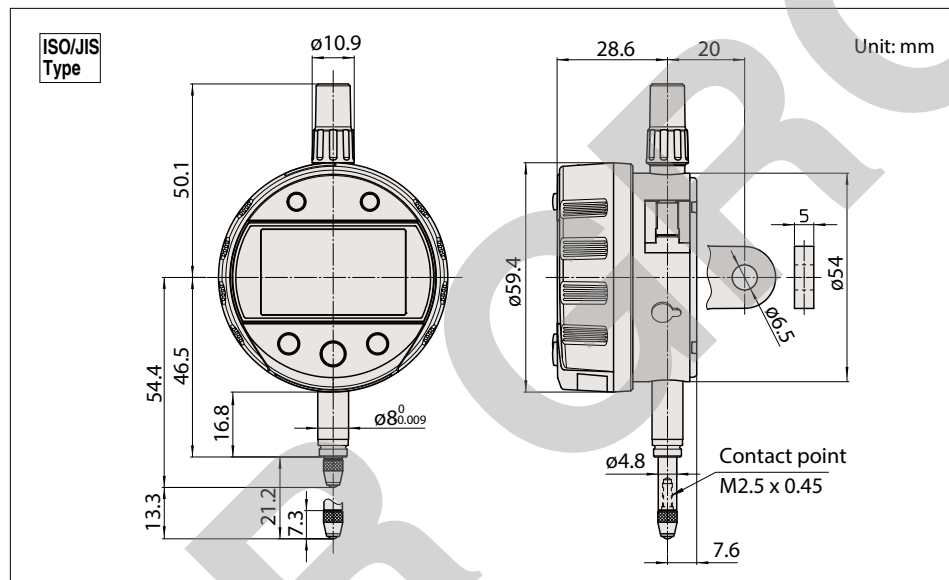


543-302 / 543-302B

FEATURE

- Run-out/MAX-MIN Hold function enables GO/±NG judgment for peak or difference values.
- Simple selection of many functions with five buttons and status icons.
- Wide LCD and new analog bar graph are now standard on all models.
- Sampling is performed fifty times per second for accurate detection of maximum and minimum values.
- The ABS (absolute) scale restores the last origin position automatically when the indicator is turned on, and realizes high reliability by eliminating over-speed errors.
- By using the parameter setup kit (optional) and the dedicated software, the functions and the parameters can be configured using a computer.
- Equipped with a data output port that enables incorporation into measurement networking and statistical process control systems (refer to page A-002).

DIMENSIONS



Note 1: Dimensions of the inch (ANSI/AGD Type) dial indicator partly differ from those of the metric (ISO/JIS Type) indicator.
Note 2: Inch (ANSI/AGD Type) dial indicators are provided with a stem of 3/8" dia. and #4-48UNF thread mount for the contact point.

Metric

Order No. (w/lug, flat-back)	Range	Resolution	Accuracy*1	Hysteresis*1	Repeatability*1	Power supply	Battery life (normal use)*2	Net weight
543-300	12.7mm	0.001/ 0.01mm	0.003mm	0.002mm	0.002mm	CR2032 x 1pc.	Approx. 1 year	180 g
543-300B								170 g

Inch / Metric

Order No. (w/lug, flat-back)	Range	Resolution	Accuracy*1	Hysteresis*1	Repeatability*1	Power supply	Battery life (normal use)*2	Net weight
543-301	.5"/	.00005/.0001/ .0005"/	±.00010"/	.00010"/	.00010"/	CR2032 x 1 pc.	Approx. 1 year	180 g
543-301B								170 g
543-302	12.7mm	0.001/0.01mm	0.003mm	0.002mm	0.002mm			195 g
543-302B								170 g

*1 Quantizing error of ±1 count is excluded. Valid for resolution set to 0.001 mm/0.0005 inch and coefficient A=1.

*2 Overall magnification and linearity.

*3 Applies only if not connected to a data processor. Battery life depends on use of the indicator. Use the above value as a guide only.

MeasurLinkTM ENABLED

Data Management Software by Mitutoyo

ABSOLUTETM



Functions

- Peak value hold (maximum and minimum value)
- Runout value Hold (difference between maximum/minimum values)
- Zeroset (INC system)
- Preset function (ABS system)
- Counting direction switching
- Tolerance judgment (P1, P2, P3, and INC can be stored)
- Resolution selection
- Simple calculation f(x)=Ax
- Analog bar resolution selection
- Key lock
- in/mm conversion (inch/mm models)
- Display hold (when external device is connected)
- Data output
- External PC setting input
- Display rotation (330°)
- Low battery voltage alarm display
- Error alarm display

Optional Accessories

- Lifting lever
- 21EZA198 (ISO/JIS/DIN Type).
- 21EZA199 (ASME/ANSI/ AGD Type)
- Lifting knob
- 21EZA105 (ISO/JIS/DIN Type).
- 21EZA150 (ASME/ANSI/ AGD Type)
- Lifting cable 540774
- SPC Cable:
 - 905338 (1 m)
 - 905409 (2 m)
- USB Input Tool Direct (2 m) : 06AFM380F
- Input Tool Series
 - IT-016U (USB Keyboard Signal Conversion Type) : 264-016-10
 - IT-007R (RS-232C Communication Conversion Type) : 264-007
- Connecting Cables for U-WAVE-T (160 mm): 02AZD790F
- For footswitch: 02AZE140F
- Refer to page F-60 for details.
- Digimatic Mini-Processor DP-1VA LOGGER: 264-505
- Parameter setup kit: 21EZA313

Note: Parameter setting software (can be downloaded for free from the Mitutoyo website) is also required.



Parameter setup kit

Parameter setting software



- Contact points for Mitutoyo's dial indicators (Refer to pages K-045 to K-048 for details.)
- Interchangeable backs for 2 series (Refer to page K-056 for details.)
- Measuring stands. (Refer to pages M-002 to M-008 for details.)

ดิจิตอลอินดิเคเตอร์ - รุ่นใช้งานร่วมกับชุดบอร์เกจ ABSOLUTE Digimatic Indicator ID-C SERIES 543 — Bore Gage Type

ABSOLUTE™



Functions

- Minimum value detection
- Preset (3 Preset values can be stored)
- Tolerance judgment (3 sets of upper and lower limits can be stored)
- Resolution selection
- Analog bar resolution selection
- Key lock
- Display hold (when external device is connected)
- Data saving/calling (when external device is connected)
- Data output
- External PC setting input
- Display rotation
- Low battery voltage alarm display
- Error alarm display

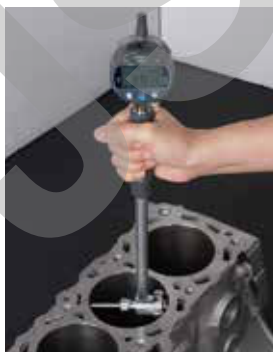
Optional Accessories

- SPC Cable: **905338** (1 m)
905409 (2 m)
 - USB Input Tool Direct (2 m) : 06AFM380F
 - Input Tool Series
IT-016U (USB Keyboard Signal Conversion Type) : **264-016-10**
IT-007R (RS-232C Communication Conversion Type) : **264-007**
 - Connecting Cables for U-WAVE-T (160 mm) : **02AZD790F**
For footswitch : **02AZE140F**
 - Digimatic Mini-Processor DP-1VA LOGGER: **264-505**
 - Parameter setup kit : **21EZA313**
- Note: Parameter setting software (can be downloaded for free from the Mitutoyo website) is also required.

The ABSOLUTE Digimatic Bore Gage



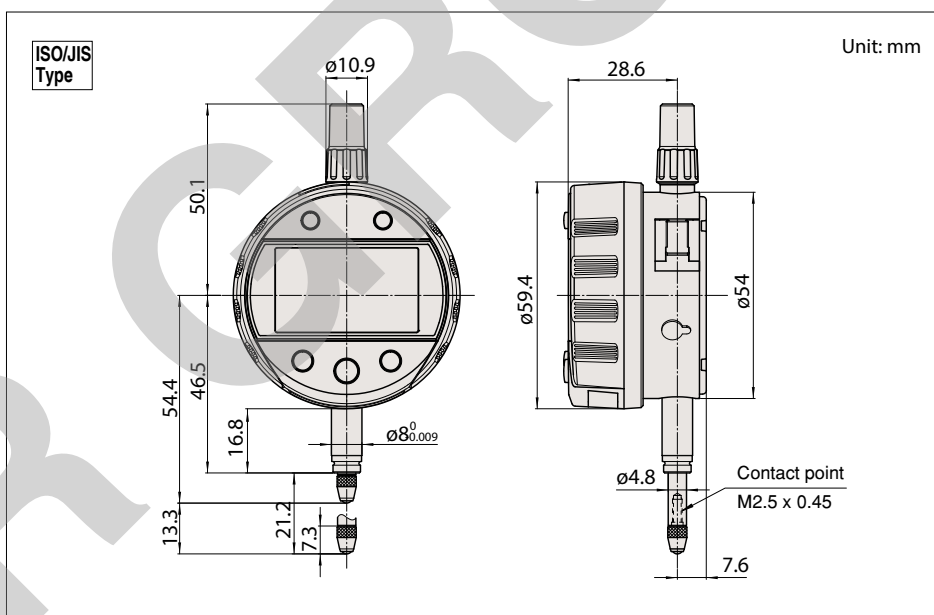
ABSOLUTE Digimatic Bore Gages, which integrate the display with a bore gage measuring unit, are also available.
Refer to pages C-042 and C-043 for details.



FEATURE

- Dedicated to inside measurement with minimum-value Hold and tolerance judgment functions.
- Measurement data memory function (9 measurement results can be stored)
- Simple operation of many functions with five buttons and status icons.
- Wide LCD and new analog bar graph are now standard on all models.
- The ABS (absolute) scale restores the last origin position automatically when the indicator is turned on, and realizes high reliability by eliminating over-speed errors.
- By using the parameter setup kit (optional) and the dedicated software, the functions and the parameters can be configured using a computer.
- Equipped with a data output port that enables incorporation into measurement networking and statistical process control systems (refer to page A-002).

DIMENSIONS



Note 1: Dimensions of the inch (ANSI/AGD Type) dial indicator partly differ from those of the metric (ISO/JIS Type) indicator.
Note 2: Inch (ANSI/AGD Type) dial indicators are provided with a stem of 3/8" dia. and #4-48UNF thread mount for the contact point.

Metric

Order No.*	Range	Resolution	Accuracy*1			Power supply	Battery life (normal use)*3	Net weight
			Overall*2	Hysteresis	Repeatability			
543-310B	12.7mm	0.001/0.01 mm	0.003mm	0.002mm	0.002mm	CR2032 x 1pc.	Approx. 1 year	170 g

*Flat back only

Inch / Metric

Order No.*	Range	Resolution	Accuracy*1			Power supply	Battery life (normal use)*2	Net weight
			Overall*2	Hysteresis	Repeatability			
543-311B	.5"/	.00005"/.0001"/.0005"	±.00010"/	.00010"/	.00010"/	CR2032	Approx. 1 year	170 g
543-312B	12.7mm	0.001/0.01mm	0.003mm	0.002mm	0.002mm	x 1 pc.	1 year	

*Flat back only

*1 Quantizing error of ±1 count is excluded. Valid for resolution set to 0.001 mm/0.00005 inch

*2 Overall magnification and linearity.

*3 Applies only if not connected to a data processor. Battery life depends on use of the indicator. Use the above value as a guide only.

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระบับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

ดิจิตอลอินดิเคเตอร์ - รุ่นมีฟังก์ชันการคำนวณ

ABSOLUTE Digimatic Indicator ID-C SERIES 543 — Calculation Type

MeasurLink[®] ENABLED

Data Management Software by Mitutoyo

ABSOLUTE™



543-342B

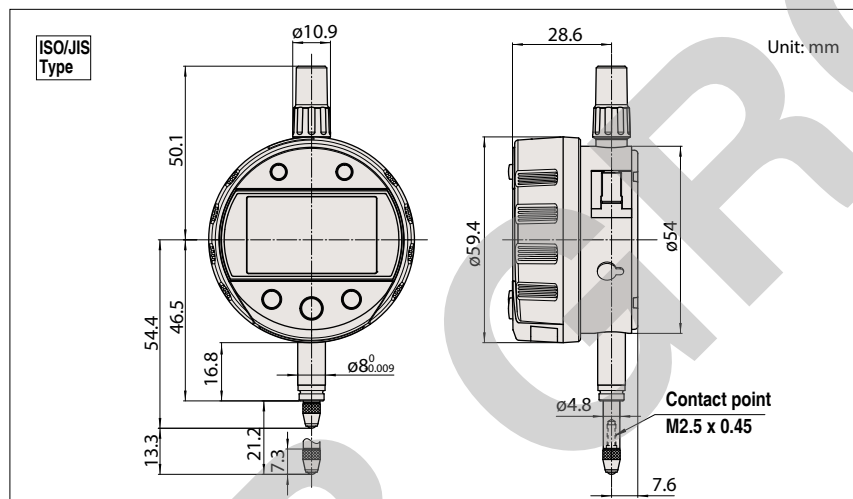
FEATURE

- Calculation function operates on spindle displacement.
- Entering the appropriate formula factors for a fixture dedicated to the application enables direct measurement readout, thereby eliminating any need for the conversion tables previously needed for those applications where fixtures are typically used.
- Peak-Value Run-out/MAX/MIN Hold enables GO/±NG judgment for peak value.
- Simple operation of many functions with five buttons and status icons.
- Wide LCD and new analog bar graph are now standard on all models.
- The ABS (absolute) scale restores the last origin position automatically when the indicator is turned on, and realizes high reliability by eliminating over-speed errors.

Functions

- Calculation $f(x') = Ax' + B + Cx'^{-1}$ ($x' = x + \text{offset}$)
- Peak detection (Max/Min)
- Runout value Hold (difference between max. and min. value)
- Peak detection sampling rate (Switchable)
10 times/s (FAST Mode OFF)
50 times/s (FAST Mode ON)
- Zero-setting (INC system)
- Preset (ABS system)
- Tolerance judgment
(P1, P2, P3, and INC can be stored)
- Analog bar resolution selectable
- Key lock
- Display hold (when external device is connected)
- Data output
- External PC setting input
- Display rotation (330°)
- Low battery voltage alarm display
- Error alarm display
- Resolution switching^{*5}

DIMENSIONS



Note 1: Dimensions of the inch (ANSI/AGD Type) dial indicator partly differ from those of the metric (ISO/JIS Type) indicator.
Note 2: Inch (ANSI/AGD Type) dial indicators are provided with a stem of 3/8" dia. and #4-48UNF thread mount for the contact point.

Metric

Order No.*	Range	Resolution (selectable)	Accuracy ^{*1}			Measuring force	Power supply	Battery life (normal use) ^{*2}	Net weight
			Overall ^{*2}	Hysteresis	Repeatability				
543-340B	12.7mm	12 step ^{*4}	0.003mm	0.002mm	0.002mm	1.5N or less	CR2032 x 1pc.	Approx. 1 year	170 g
543-590B	25.4mm		0.003mm			1.8N or less ^{*3}			190 g
543-595B	50.8mm		0.006mm			2.3N or less ^{*3}			260 g

*Flat back only

Inch / Metric

Order No.*	Range	Resolution (selectable)	Accuracy ^{*1}			Measuring force	Power supply	Battery life (normal use) ^{*2}	Net weight
			Overall ^{*2}	Hysteresis	Repeatability				
543-341B	.5"	12 step ^{*4}	±.0001"/0.003mm	.0001"/0.002mm	.0001"/0.002mm	1.5N or less	CR2032 x 1pc.	Approx. 1 year	170 g
543-342B	12.7mm		±.0001"/0.003mm			1.8N or less			190 g
543-591B	1"		±.0001"/0.003mm			1.8N or less			190 g
543-592B	25.4mm		±.00025"/0.006mm			2.3N or less			260g
543-596B	2"		±.00025"/0.006mm			2.3N or less			260g

*Flat back only

*1 Quantizing error of ±1 count is excluded. Valid for resolution set to 0.001 mm/0.00005 inch and coefficients A=1, B=0 and C=0.

*2 Overall magnification and linearity.

*3 Applies for a spindle orientation between the spindle pointing vertically downward to the spindle horizontal.

*4 Applies only if not connected to a data processor. Battery life depends on use of the indicator. Use the above value as a guide only.

Optional Accessories

- Lifting
 - Lifting lever **21EZA198** (ISO/JIS/DIN Type), **21EZA199** (ASME/ANSI/ AGD Type)
 - Lifting knob **21EZA105** (ISO/JIS/DIN Type), **21EZA150** (ASME/ANSI/ AGD Type)
- Lifting cable **540774**
- SPC Cable:
 - 905338** (1 m)
 - 905409** (2 m)
- USB Input Tool Direct (2 m) : **06AFM380F**
- Input Tool Series
 - IT-016U (USB Keyboard Signal Conversion Type) : **264-016-10**
 - IT-007R (RS-232C Communication Conversion Type) : **264-007**
- Refer to page F-60 for details.
- Connecting Cables for U-WAVE-T (160 mm) : **02AZD790F**
- For footswitch : **02AZE140F**
- Digimatic Mini-Processor DP-1VA LOGGER : **264-505**
- Parameter setup kit : **21EZA313**
- Note: Parameter setting software (can be downloaded for free from the Mitutoyo website) is also required.
- Contact points for Mitutoyo's dial indicators (Refer to pages K-045 to K-048 for details.)
- Measuring stands (Refer to pages M-002 to M-008 for details.)

Fixture examples

Ball diameter



Outside diameter



Outside radius



Countersink diameter



Examples of measuring various features

Item	D = Countersink diameter / Groove width; H = Countersink depth / Groove depth			R = Outside radius of round object	R = Inside radius of round object		R = Outside radius of round object		
Fixture type*									
Contact point	Cone	Ball	Cone	Flat or radius to suit feature					
x = Spindle displacement from ORIGIN set position (retraction is the positive-going direction)									
Calculation (x' = x + d)	D = Ax	D = Ax' + B	H = Ax' + B	D = Ax'	R = Ax'	R = Ax' + B + C/x'	R = A(x') + B + C/(x')		
Coefficient values	A	$-2 \tan \frac{\theta}{2}$	$-2 \tan \frac{\theta}{2}$	-1	$-2 \tan \frac{\theta}{2}$	$-\frac{\sin \frac{\theta}{2}}{1 - \sin \frac{\theta}{2}}$	$\frac{1}{2}$	$-\frac{1}{2}$	$\frac{1}{2}$
	B	0	$2r \left(\frac{1}{\cos \frac{\theta}{2}} - \tan \frac{\theta}{2} \right)$	$r \left(\frac{1}{\cos \frac{\theta}{2}} - 1 \right) - \frac{d}{2 \tan \frac{\theta}{2}}$	0	0	-r	r	-r
	C	0	0	0	0	0	$\frac{L^2}{2}$	$-\frac{L^2}{2}$	$\frac{L^2}{2}$
Origin offset value	d	0	0	0	0	0	0	0	0
ORIGIN-set position of spindle *									
Displayed measurement value at ORIGIN-set position of spindle	0	Value of coefficient B	0	0	0	Err 30 ** (Overflow error of Display value)	Depends on value of d ***		

* The spindle position at which the ORIGIN is set. This is when the contact point is touching either the reference plane or the calibrated artefact, as shown.

** The 'Err30' message shown in the display is extinguished when the spindle is moved into the measurement range.

*** The value of d is chosen to suit the radius range to be measured, the stroke of the indicator and the best spindle position for the ORIGIN. Note that the value of x' should not be allowed to approach zero as this is a highly non-linear region of the equation and measurement accuracy will deteriorate rapidly. A spreadsheet simulation will aid selection of the best value of d for particular r, L and R values.

Notes

1. Fixtures suited to individual workpieces can be made to order.
2. Measuring accuracy is subject to fixture accuracy and workpiece form accuracy.

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ติเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระบับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

ดิจิตอลอินดิเคเตอร์

ABSOLUTE Digimatic Indicator ID-C

SERIES 543 — Signal Output Function Type



543-350

IP54

FEATURE

- Enables a tolerance judgment to be output to external equipment for a measurement result against user-defined limits. Solid-state switching provides high reliability by avoiding metallic switch contacts.
- Output is enabled by directly connecting to external devices (sequencers, etc., for which a logical invert is available if required). The measurement and judgment results are displayed on the LCD. The judgment result is also indicated by 2 LEDs.
- A peak-detection function is equipped for measuring and judging peak values, such as runout.
- Measurements are absolute (ABS system) relative to an origin point*1 as set by the user, which holds indefinitely so does not require resetting at every power-on.
- Provided with a 4 m cable.
- External power supply required is 5-24VDC / 100mA (max).
- Dust-water protection level: Conforms to IP54.

*1 Regarding origin setting, refer to "Origin Setting of Digimatic Indicators" on page J-017.

ABSOLUTE™



Functions

- Signal output (-NG/OK/+NG, N-ch open drain, logical invert is available)
- Remote control (peak start preset/zero-set)
- Peak detection (Max. / Min.)
- Zero-setting (INC system)
- Presetting (ABS system)
- Direction switching
- Tolerance judgment (3 pairs of ABS, INC memory function)
- Resolution switching
- Calculation: $f(x) = Ax$
- Key lock
- Calibration mode (Signal output in Digimatic code format)
- Error alarm display

Optional accessories

- Lifting*3
- Lifting lever **21EZA198** (ISO/JIS/DIN Type), **21EZA199** (ASME/ANSI/ AGD Type)
- Lifting knob **21EZA105** (ISO/JIS/DIN Type), **21EZA150** (ASME/ANSI/ AGD Type)
- Lifting cable **540774**
- Digimatic power supply unit: **21EZA345**
- Note: To denote your AC power cable add the following suffixes to the order No.: A for UL/CSA, D for CEE, DC for CCC, E for KC. No suffix is required for JIS/100VAC.
- Used in the calibration mode when executing automatic inspection using i-Checker IC2000.
- In such a case, purchase connecting cable **21EAA194** (1 m), or **21EAA190** (2 m).
- * It can't be used as a power supplier when using in the normal mode.
- * Contact points for Mitutoyo's dial indicators.*4
- * Interchangeable backs for Series 2 models. Dust-water protection is not guaranteed. Use the waterproof types of Series 2 for plain backs if required.*5
- * Measuring stands (Refer to pages M-002 to M008 for details.)
- *3 Dust-water protection is not guaranteed.
- *4 Refer to pages K-045 to K-048 for details.
- *5 Refer to pages K-056 for details.

Output signals and LCD display

Wire	-NG	OK	+NG	Composition error
Orange (-NG)	Low	High	High	High
Green (OK)	High	Low	High	High
Brown (+NG)	High	High	Low	High
LCD	◀	○	▶	"x.xx" indication

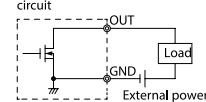
* Logical invert is available.

I/O Specifications

Wire	Signal	I/O	Description
Black	-V (GND)	-	Connected to minus (-) terminal
Red	+V	-	Power supply (5 - 24VDC)
Orange	-NG	O	Tolerance judgment result output: Only the terminal corresponding to a judgment result is set to the low level.
Green	OK	O	
Brown	+NG	O	
Yellow	PRESET, RECALL, ZERO	I	External input terminal: If the relevant terminal is set to the low level, its signal becomes true.
Blue	PEAK_START	I	
Shield	FG	-	Connected to GND (Earth)

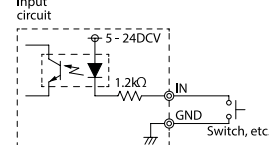
Note: Measurement data cannot be output.

Output circuit



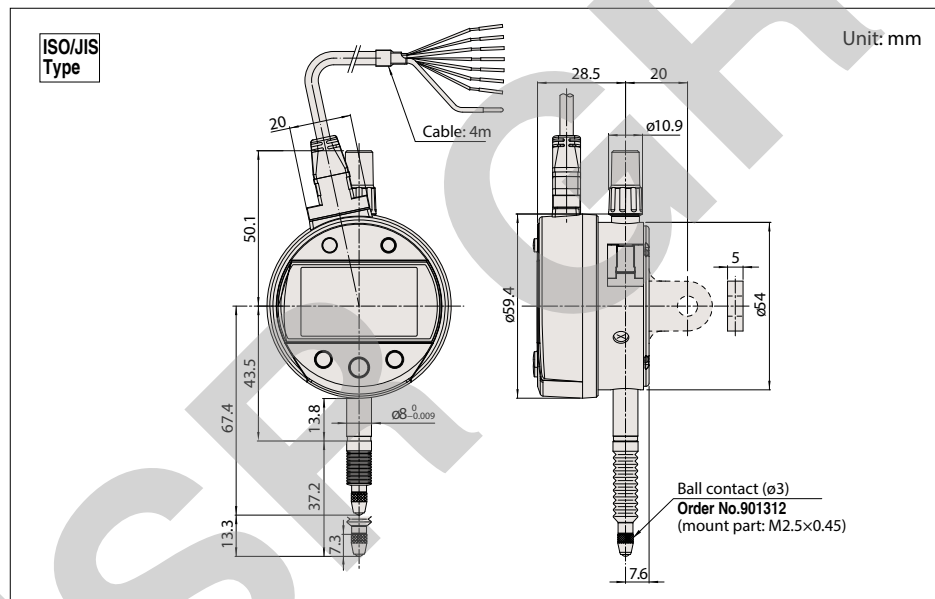
External power: 5 - 24VDC at 100mA max.

Input circuit



Input current: Max. 20mA

DIMENSIONS



Metric

Order No. (w/ lug, flat-back)		Range	Resolution	Accuracy*2			Measuring force
				Overall*3	Hysteresis	Repeatability	
543-350	543-350B	12.7mm	0.001/0.01 mm	0.003mm or less	0.002 mm	0.002 mm	2.5N or less

Inch / Metric

Order No. (w/ lug, flat-back)		Range	Resolution	Accuracy*2			Measuring force
				Overall*3	Hysteresis	Repeatability	
543-351	543-351B	.5" /	0.00005/0.0001/0.0005"	±0.00010"	0.0001 in	0.0001 in	2.5N or less
543-352	543-352B	12.7mm	/ 0.001/0.01 mm	/ 0.003 mm or less	/ 0.002 mm	/ 0.002 mm	

Notes:

1) LCD readout does not rotate.

2) Max./min. holding: sample rate is 100 readings/s; max. rate of change of reading is 100 m/s.

3) Products with an Order No. suffixed "B" have a flat back

4) Standard contact point: **901312** (ISO/JIS type), **21BZB005** (ANSI/AGD type)

*2 Quantizing error of ±1 count is excluded. Valid for resolution set to 0.001 mm/0.00005 inch and coefficient A=1.

*3 Overall magnification and linearity.

ดิจิตอลอินดิเคเตอร์

ABSOLUTE Digimatic Indicator ID-U
SERIES 575 — Slim and Economical Design

ABSOLUTE™



Technical Data

- Display: 5-digit LCD, sign
- Battery: SR44 (1 pc.), **938882** for initial operational checks (standard accessory)
- Battery life: Approx. 20,000 hours of continuous use. Approx. 5 years under normal use.
- Lifting lever: **137693**

Functions

- Origin set (Zero-setting)
- Direction switching
- Data output
- Low battery voltage alarm display
- Error alarm display

Optional Accessories

- Spindle lifting cable (stroke: 10 mm) : **540774**
- SPC Cable: **905338** (1 m)
905409 (2 m)
- USB Input Tool Direct (2 m) : 06AFM380F
*Please separately purchase USB-ITPAK since there is no data output switch on the measurement instrument. Refer to pages A-004, A-011 to A-013 for details.
- Input Tool Series
IT-016U (USB Keyboard Signal Conversion Type) : **264-016-10**
IT-007R (RS-232C Communication Conversion Type) : **264-007**
- Connecting Cables for U-WAVE-T (160 mm): **02AZD790F**
For footswitch : **02AZE140F**
- Digimatic Mini-Processor DP-1VA LOGGER: **264-505**
- Contact points for Mitutoyo's dial indicators (Refer to pages K-045 to K-056 for details.)
- Measuring stands (Refer to pages M-002 to M-008 for details.)

FEATURE

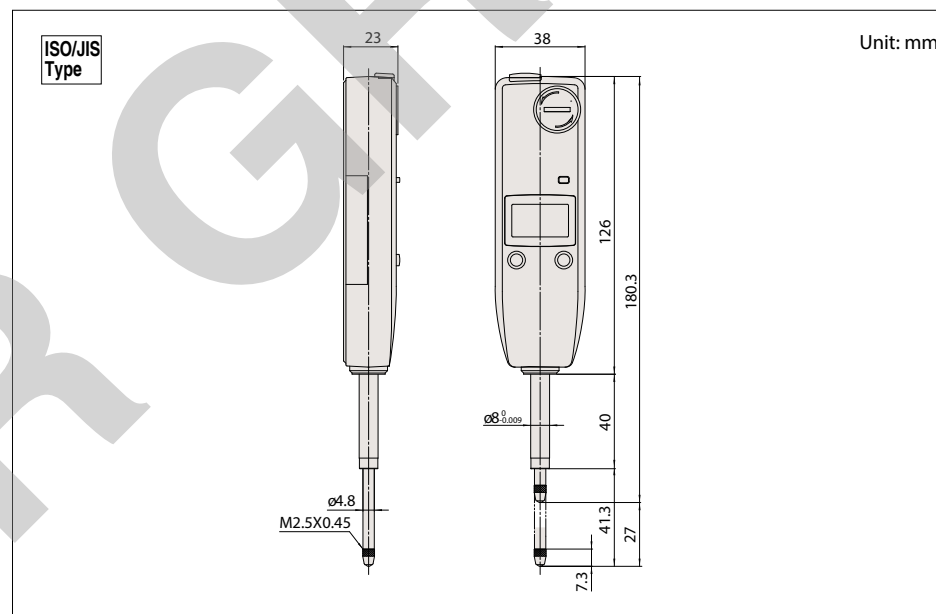
- General purpose indicator with the measuring range of 25.4 mm / 1 inch.
- Cost-effective and user-friendly type which is equipped with only the basic functions necessary.
- The ABS (absolute) scale restores the last origin position automatically when the indicator is turned on, and realizes high reliability by eliminating over-speed errors. Regarding origin setting, refer to "Origin Setting of Digimatic Indicators" on page J-017.
- Battery life of 20,000 hours in continuous use has been achieved.
- Easy-to-read large LCD readout with a character height of 8 mm.
- Equipped with a data output port that enables incorporation into measurement networking and statistical process control systems (refer to page A-002).

General-purpose type



575-121

DIMENSIONS



Unit: mm

Metric

ISO/JIS type

ASME/ANSI/AGD type

Order No. (w/ lug, flat-back)	Range	Resolution	Accuracy*	Measuring force
- 575-121	25.4mm	0.01mm	0.02mm	1.8N or less

Inch / Metric

Order No. (w/ lug, flat-back)	Range	Resolution	Accuracy*	Measuring force
- 575-122	1" / 25.4mm	0.0005" / 0.01mm	0.001" / 0.02mm	1.8N or less
- 575-123				

*Quantizing error of ± 1 count is excluded

*Flat back only

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระดับ

Indicators

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Stands

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Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

ดิจิตอลอินดิเคเตอร์

Digimatic Indicator ID-H

SERIES 543 — High Accuracy and High Functionality Type

MeasurLink⁺ ENABLED

Data Management Software by Mitutoyo



Remote controller (optional)

Technical Data

- Display: 7-digit LCD, sign, and analog bar with 2-color backlight
- Power supply: 6V DC (via AC adaptor) **06AEG180**
- To denote your AC power cable add the following suffixes to the order No.: **A** for UL/CSA, **D** for CEE, **DC** for CCC, **E** for BS, **K** for KC, **No suffix** is required for JIS/100V
- Positional detection method: Photoelectric-type reflection linear encoder
- Maximum response speed: 1000 mm/s
- Lifting lever: **137693**

Optional accessories

- Lifting knob : **21EZA101**
- Lifting cable : **540774** (stroke 30 mm)
- Lug-on-center back: **101040** (ISO/JIS type)
- **101306** (ASME/ANSI/AGD type)
- Remote controller : **21EZA099**
- RS-232 Connecting cable (2 m) : **21EAA131**
- SPC Cable: **936937** (1 m)
- **965014** (2 m)
- USB Input Tool Direct (2 m) : **06AFM380D**
- Connecting Cables for U-WAVE-T (160 mm) : **02AZD790D**
- For footswitch: **02AZE140D**
- Digimatic Mini-Processor DP-1VA LOGGER: **264-505**
- Contact points for Mitutoyo's dial indicators (Refer to pages K-045 to K-048 for details.)
- Granite comparator stand: **215-156-10**
- Comparator stand: **215-505-10**

FEATURE

- This new-generation digital indicator offers the excellent accuracy and functionality expected from the top class of indicator.
- Take advantage of its high accuracy backed up by 0.0005 mm / 0.00002 inch resolution, remote control functionality via a hand held controller (or an RS-232C interface) and easy runout measurements with the well-established analog bar display.
- Functionality meets the needs of diverse measurement applications.



- Measuring maximum value, minimum value and runout (difference between a maximum and a minimum value)

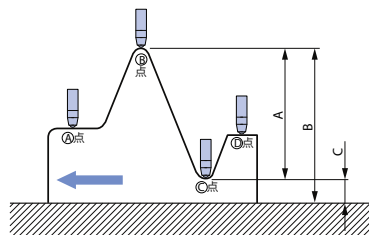
Maximum value / minimum value measurement



Difference/runout measurement



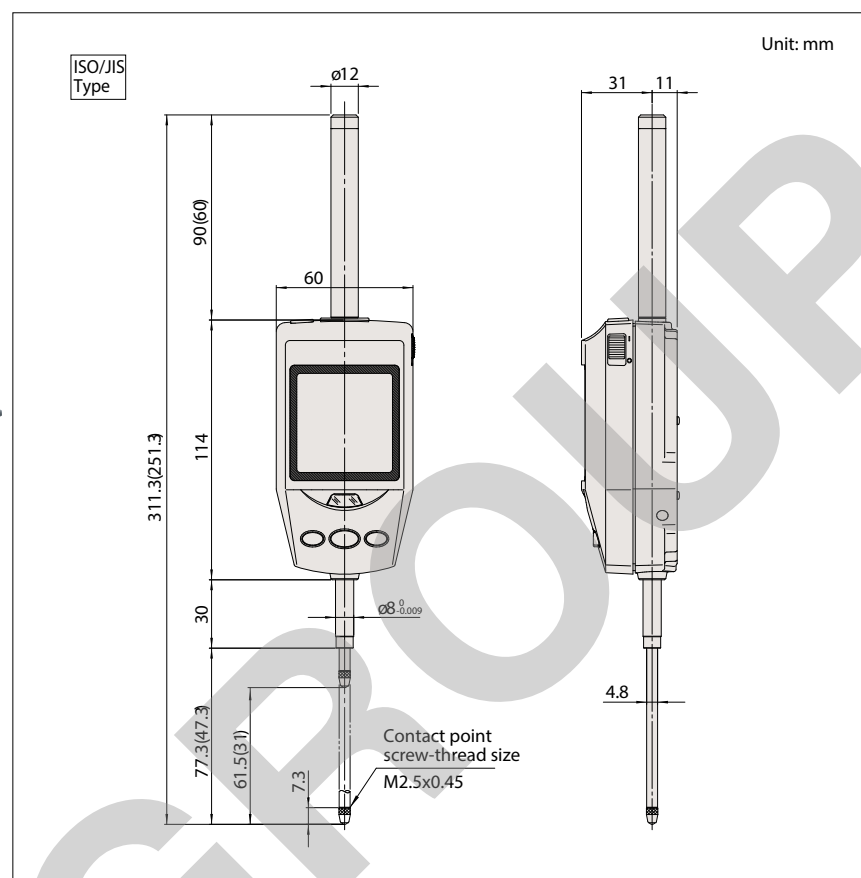
Example: Indicator traces between points <A> to <D>
Difference (or Total Runout) is displayed as <A>. Dimensions (maximum value) and <C> (minimum value) can be recalled from memory with a simple key sequence.



- With the optional remote controller, operations such as zero-setting and presetting can be made without touching the indicator body, thereby avoiding disturbance to the set-up.
- An advanced, remote control system can be implemented with the built-in RS-232 interface and a PC.
- Equipped with a data output port that enables incorporation into measurement networking and statistical process control systems. (refer to page A-002).



DIMENSIONS



Note 1: Dimensions of the inch (ANSI/AGD Type) dial indicator partly differ from those of the metric (ISO/JIS Type) indicator.
Note 2: Inch (ANSI/AGD Type) dial indicators are provided with a stem of 3/8 inch dia. and #4-48UNF thread mount for the contact point. Dimensions in parentheses () apply to the 30.4 mm range model

Metric

ISO/JIS type

ASME/ANSI/AGD type

Order No.*	Range	Resolution	Accuracy**
543-561	30.4mm	0.0005mm,	0.0015mm
543-563	60.9mm	0.001mm	0.0025mm

* To denote your AC power cable add the following suffixes to the order No.: **A** for UL/CSA, **D** for CEE, **DC** for CCC, **E** for BS, **K** for KC, **No suffix** is required for JIS/100V

** Quantizing error of ± 1 count is excluded.

Inch / Metric

Order No.*	Range	Resolution	Accuracy**
543-562	1.2" / 30.4mm	.00002", .00005", .0001"	.00006" / 0.0015mm
543-564	2.4" / 60.9mm	0.0005mm, 0.001mm	.0001" / 0.0025mm

* To denote your AC power cable add the following suffixes to the order No.: **A** for UL/CSA, **D** for CEE, **DC** for CCC, **E** for BS, **K** for KC, **No suffix** is required for JIS/100V

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

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Indicators

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Stands

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Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

ดิจิตอลอินดิเคเตอร์

ABSOLUTE Digimatic Indicator ID-F SERIES 543 — with Back-light LCD Screen

Multi-functional model



FEATURE

- GO/±NG judgment function: If a judgment result shows an out of tolerance condition, the display backlighting changes from green to red.
- An analog bar indicator has been integrated to make up per/lower limit and turnover point reading more comfortable.

Green indication for GO judgment



Red indication for ±NG judgment



- Equipped with a data output port that enables incorporation into measurement networking and statistical process control systems (refer to page A-002).
- Easy-to-read large LCD readout with the character height of 8.5mm.
- External power supply type: an AC adapter is a standard accessory.
- The resolution can be switched between 0.001mm /0.01mm (or .001" / .0005" / .0001" / .00005").
- Equipped with a data output port that enables incorporation into measurement networking and statistical process control systems.

MeasurLink[®] ENABLED

Data Management Software by Mitutoyo

ABSOLUTE™

Technical Data

- Display: 6-digit LCD, sign, and analog bar with 2-color backlight
- Power supply: 9V DC (via AC adaptor) **06AEG302***
- * To denote your AC power cable add the following suffixes to the order No.: A for UL/CSA, D for CEE, DC for CCC, E for BS, K for KC, No suffix is required for JIS/100V
- Lifting lever: **137693**

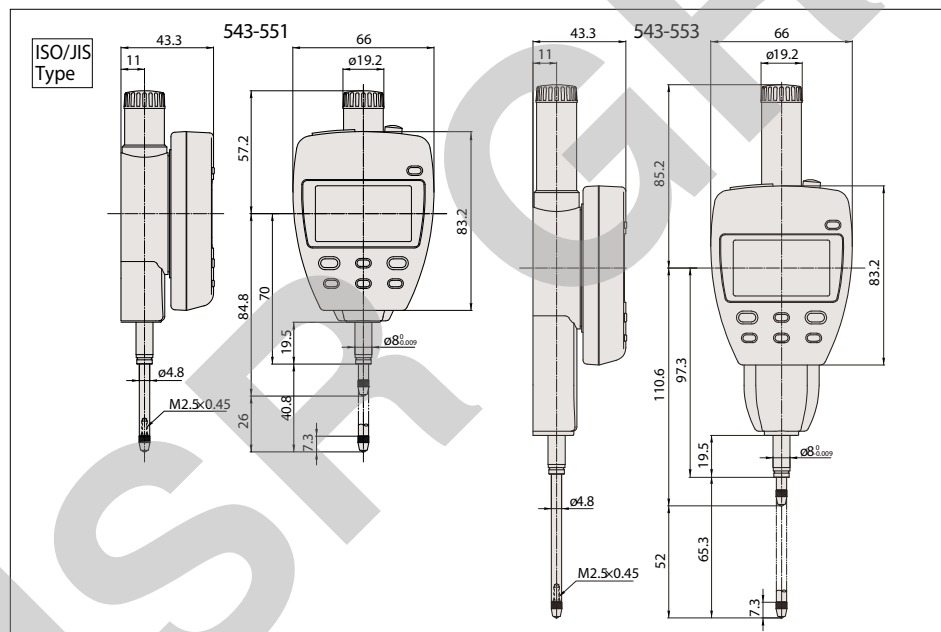
Functions

- Max/Min value hold
- Runout measurement
- Zero-setting (INC system)
- Presetting (ABS system)
- Direction switching
- Tolerance judgment
- Digital display switching (0.01 mm ↔ 0.001 mm)
- Analog resolution selection (±0.02, ±0.04, ±0.1, ±0.2, ±0.4 mm)
- Function locking
- Data output
- Low battery voltage alarm display
- Error alarm display

Optional accessories

- Lifting cable: **540774** (stroke 25.4 mm)
- Auxiliary spindle spring: **02ACA571** (25.4 mm/1 inch models)* **02ACA773** (50.8 mm/2 inch models)*
- * Required when orienting the indicator upside down.
- Lug-on-center back: **101040** (ISO/JIS type) **101306** (ASME/ANSI/AGD type)
- SPC cable: **936937** (1 m) **965014** (2 m)
- USB Input Tool Direct (2 m) : **06AFM380D**
- Input Tool Series
- IT-016U (USB Keyboard Signal Conversion Type) : **264-016-10**
- IT-007R (RS-232C Communication Conversion Type) : **264-007**
- Input Tool Series
- IT-016U (USB Keyboard Signal Conversion Type) : **264-016-10**
- IT-007R (RS-232C Communication Conversion Type) : **264-007**
- Connecting Cables for U-WAVE-T (160 mm) : **02AZD790D**
- For footswitch: **02AZE140D**
- Digimatic Mini-Processor DP-1VA LOGGER: **264-505**
- Contact points for Mitutoyo's dial indicators *4
- Interchangeable backs for Series 2 models*5
- Measuring stands
- * 4 Refer to pages K-045 to K-048 for details.
- * 5 Refer to page K-056 for details.

DIMENSIONS



Metric

Order No.*	Range	Resolution	Accuracy**
543-551	25mm	0.001mm, 0.01mm	0.003mm
543-557	50mm		0.003mm
543-553	50mm		0.006mm

* To denote your AC power cable add the following suffixes to the order No.: **A** for UL/CSA, **D** for CEE, **DC** for CCC, **E** for BS, **K** for KC, **No suffix** is required for JIS/100V

** Quantizing error of ±1 count is excluded.

Inch / Metric

Order No.*	Range	Resolution	Accuracy**
543-552	1" / 25.4mm	.00005", .0001"	.00012"/0.003mm
543-558	2" / 50.8mm	.0005", .001"	.00012"/0.003mm
543-554	2" / 50.8mm	0.001mm, 0.01mm	.00024"/0.006mm

* To denote your AC power cable add the following suffixes to the order No.: **A** for UL/CSA, **D** for CEE, **DC** for CCC, **E** for BS, **K** for KC, **No suffix** is required for JIS/100V

Application

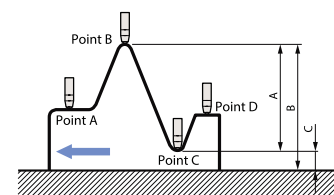
Difference/Runout measurement

Example: Indicator travel from points A to D

Difference (or Total Runout) is displayed as

A. Dimensions

B (maximum value) and C (minimum value) can be recalled from memory with a simple key sequence.



Supplemental information on Digimatic Indicators
Origin setting of Digimatic Indicators

The stability of measurement within 0.2mm from the start of spindle travel is not guaranteed, so this region should not be used during operation.

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

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Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระดับ

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อินดิเคเตอร์

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ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

เคาท์เตอร์

EC Counter

SERIES 542 — Low-cost, Modular Type Display Unit



542-007

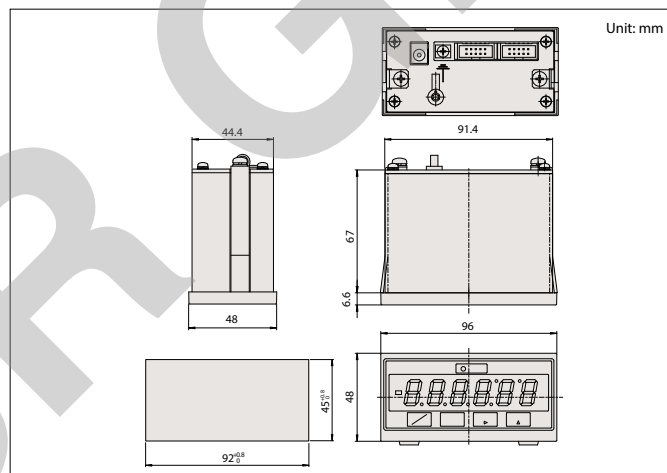
MeasurLink[®] ENABLED

Data Management Software by Mitutoyo

FEATURE

- -NG, OK and +NG tolerance judgment results can be displayed.
- Can be set to produce either tolerance judgment output or Digimatic output.
- Small size (96 x 48 mm) which conforms to DIN standards.

DIMENSIONS



Unit: mm

Order No.		542-007*
Quantizing error		±1 count
Resolution () indicates maximum display range		0.01 mm (±9999.99) / 0.0005 in (±99.9995 in) / 0.001 in (±999.999 in) 0.001 mm (±9999.999) / 0.00005 in (±9.99995 in) / 0.0001 in (±99.999 in) [automatic setting by gage]
Tolerance judgment display		LED display (3 steps: Amber, Green, Red)
External output (switching type)	Tolerance judgment output	-NG, OK, +NG (open-collector)
	Data output	Digimatic output
Control input		External PRESET, external HOLD
Operation temperature range		0 - 40°C (RH 20 to 80%, no condensation)
Storage temperature range		-10 to 50 °C (RH 20 to 80%, no condensation)
External dimensions		96 (W) X 48 (H) X 84.6 (D) mm
AC adapter / AC cable		AC adapter: (Japan/North America) 06AEG302JA / (EU) 06AEG302D / (Britain) 06AEG302E / (Korea) 06AEG302K / (China) 06AEG302DC
Mass		220 g

* To denote your AC power cable add the following suffixes to the order No.: A for UL/CSA, D for CEE, DC for CCC, E for BS, K for KC, C and No suffix are required for PSE.

SMALL TOOLS

เครื่องมือวัดละเอียด

TECLOCK

ดิจิตอลอินดิเคเตอร์

Electronic Digital Indicator (0.01 / 0.001mm), PC-Series

- Data output and statistics transaction can be easily made by using digital indicator.
- 0.01mm and 0.001mm resolution digital indicators are available.
- Standard models are equipped with preset function and conventional models deleting preset functions are available.

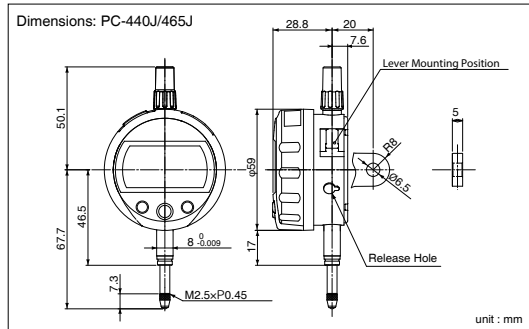
As compact as standard dial indicators and can be placed where dial indicator is used. Application can be enlarged like statistical calculation of measured value, comprising measuring system by output signal.

The photo shows connection sample that PC-440J is mounted to granite stand and SD-763P Digital Mini Printer.



ดิจิตอลอินดิเคเตอร์

Measuring Range 12.7mm Type / Standard Model



Supplied with Lug back as standard models.
Flat back and Lift lever are optional.

Order No.	PC-440J	PC-465J
Measuring Range	0~12.7mm	
Resolution	0.01mm	0.001mm
Accuracy	0.02mm*	0.003mm*
Maximum response speed	1000mm/sec	480mm/sec
Contact force	1.0N or less	1.5N or less
Display	LCD display (6-digital & minus)	
Operating temp	0~40 °C	
Functions	Preset, Zero-set, Power OM/OFF, Counting direction switching, Digimatic code output	
Power supply	SR44 (Button, Silver oxide cell)	
Battery life	Approx. 5,000hours in continuous service	
Contact Point	R=1.5mm (carbide)	
Contact point thread (ISO/JIS type)	M2.5 x P0.45mm	
Weight	170g	170g

* The quantising error is not included.

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระบับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

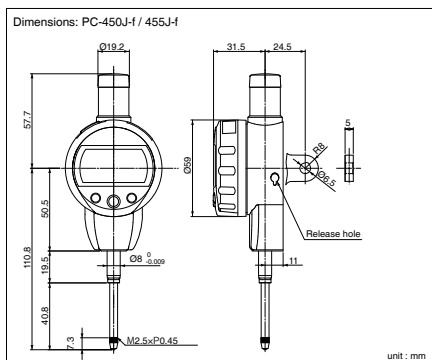
อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

ดิจิตอลอินดิเคเตอร์

Measuring Range 25.4mm Type / Standard Model



Supplied with Lug back as standard models.
Flat back and Lift lever are optional.



PC-450J-f

Graduation 0.01mm
Measuring Range 25.4mm



PC-455J-f

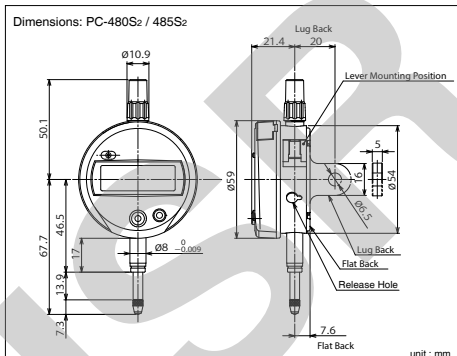
Graduation 0.001mm
Measuring Range 25.4mm

Order No.	PC-450J-f	PC-455J-f
Measuring Range	0~25.4mm	
Resolution	0.01mm	0.001mm
Accuracy	0.02mm or less	0.003mm
Maximum response speed	480mm/sec	480mm/sec
Contact force	1.8N or less*	
Display	LCD display (6-digital & minus)	
Operating temp	0~40 °C	
Functions	Preset, Zero-set, Power OM/OFF, Counting direction switching, Digimatic code output	
Power supply	SR44 (Button, Silver oxide cell)	
Battery life	Approx. 5,000hours in continuous service	
Contact Point	R=1.5mm (carbide)	
Contact point thread (ISO/JIS type)	M2.5 x P0.45mm	
Weight	186g	186g

* The quantising error is not included.

ดิจิตอลอินดิเคเตอร์

Measuring Range 12.7mm Type / Popular Model



Supplied with Lug back as standard models.
Flat back and Lift lever are optional.



PC-480S2

Graduation 0.01mm
Measuring Range 12.7mm



PC-485S2

Graduation 0.001mm
Measuring Range 12.7mm

Order No.	PC-480S2	PC-485S2
Measuring Range	0~12.7mm	
Resolution	0.01mm	0.001mm
Accuracy	0.02mm or less*	0.003mm or less*
Maximum response speed	Unlimited	
Contact force	2.0N or less*	
Display	LCD display (5-digital & minus)	LCD display (6-digital & minus)
Operating temp	0~40 °C	
Functions	Origin-set, Power ON/OFF, Counting direction Switching, Digimatic code output Display rotation(330°)	
Power supply	SR44 (Button, Silver oxide cell)	
Battery life	Approx. 20,000hours in continuous service	
Contact Point	R=1.5mm (carbide)	
Contact point thread (ISO/JIS type)	M2.5 x P0.45mm	
Weight	120g	150g

* The quantising error is not included.

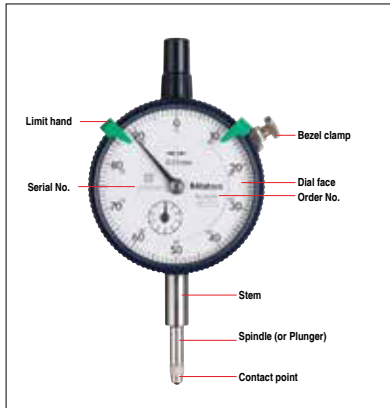
SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

Dial Indicators

Mitutoyo's dial indicators have long been used by many of our customers. In full recognition of their needs, we have devoted ourselves to the research and development necessary to produce high-quality and high-accuracy dial indicators. Due to the recent re-acknowledgement of the importance of measurement technologies, the demands on dial indicators are many and varied: installation in measuring jigs, mounting in countless types of precision equipment, etc. We offer numerous models with various types of dial faces, measuring ranges, graduation styles and environmental resistance ratings. The stems, which ensure the fixture reliability, and the spindles, which are the basis of accuracy, have excellent resistance against hard use thanks to the hardened stainless steel construction. 0.01 mm resolution dial indicators have a grand gear made of stainless steel with high resistance to wear and deformation. 0.001 mm graduation dial indicators employ a sector gear made of a special alloy in order to further increase the resistance to wear. S-type dial indicators employ an O-ring to ensure the air tightness between the outer frame and the crystal case in order to prevent water or oil penetration. Important factors in choosing a dial indicator: the size (bezel diameter), resolution (graduation) and measuring range. Use the table on the right to help choose a suitable model for your application.

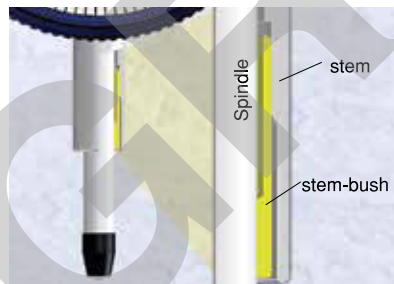


Parts of a dial indicator

FEATURES: S Series (Series 2, 3, 4)



- No through screw-holes on the frame for high oil- and dust-resistance. The bezel clamp can be attached either to the right or left side.
- Improved Impact- and oil-resistant materials are employed in the outer frame. Easier reading is due to the improved shape of the crystal face.



- Revolutionary stem-bush design for troublefree stem clamping (longer clamping range; maximum tightening torque at the clamping point with M5 screw: 150N-cm).



- The spindle lifting lever (optional: 21AZB149) can be attached to either the right or left side providing high operability and smooth movement. This lever can be easily installed and removed without tools.



- Limit markers (1) can be moved without interfering with the clamp (2).



- Greater rigidity in the bearing plate for reduced backlash error and 4-screw mounting for increased impact resistance.

Feature icons

Icon	Feature description
	Continuous scale
	Balanced scale
	Reverse reading type, Suitable for depth and step measurement.
	One revolution type for easy and error-free reading
	Double scale spacing type, easy-on-the-eyes
	Shockproof
	Waterproof (IP63)
	Waterproof (IP64)
	With damper at lowest rest point
	Jeweled bearing
	Peak retaining
	Dustproof
	With coaxial revolution counter
	Back plunger
	Adjustable hand

*Mitutoyo produces ASME-compatible products. Contact us for details.

ไดอัล อินดิเคเตอร์

SERIES 2 — Standard Type, 0.01mm Graduation



2046S

FEATURE

- Standard 0.01 mm graduation dial gages having a bezel with an outside diameter of 57 mm. All types come with limit markers and a bezel clamp as standard.
- The bezel clamp and lifting lever (optional) can be attached to either the right or left side. These parts can be easily installed and removed without tools.
- Secure adhesion between the bezel and crystal as well as the use of an O-ring prevents water or oil penetration.
- The spindle is made of high-strength quenchhardened stainless steel suitable for heavy duty use.
- A carbide contact point is used.
- The grand gear is made of stainless steel with high resistance to wear and deformation.
- Application of a hard coating on the surface of the crystal makes the gage highly scratch and chemical-resistant.



Continuous scale



Graduation: 0.01mm,
Measuring range: 10mm

2046S

2046S-09

Shockproof type



Balanced scale



Graduation: 0.01mm,
Measuring range: 10mm

2047S



Reverse reading type. Suitable for depth and step measurement.



Graduation: 0.01mm,
Measuring range: 10mm

2902S



Continuous scale



Graduation: 0.01mm,
Measuring range: 10mm

2310S-10

With coaxial revolution counter

Jeweled bearing type



Continuous scale



Graduation: 0.01mm,
Measuring range: 5mm

2044S

2044S-09

Shockproof



Balanced scale



Graduation: 0.01mm,
Measuring range: 5mm

2045S

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระดับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

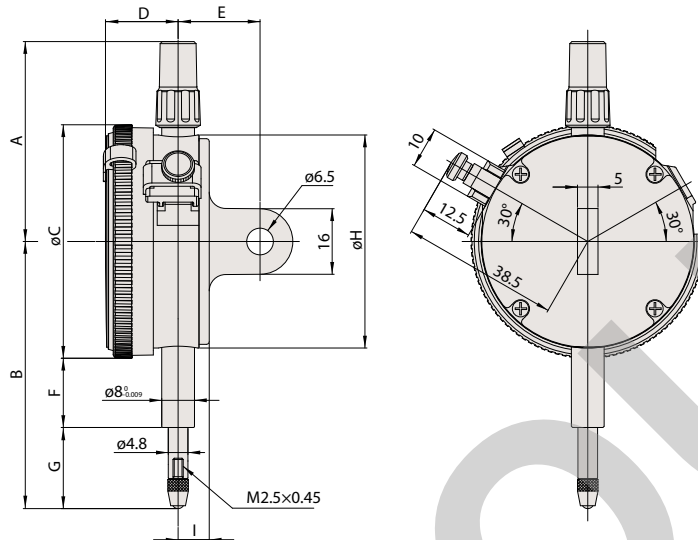
เครื่องมือวัดละเอียด

Mitutoyo

DIMENSIONS

ISO/JIS
Type

Unit: mm



Note 1: Dimensions of the inch (ANSI/AGD Type) dial indicator partly differ from those of the metric (ISO/JIS Type) indicator.

Note 2: Inch (ANSI/AGD Type) dial indicators are provided with a stem of 3/8" dia. and #4-48UNF thread mount for the contact point.

Order No.	A	B	C	D	E	F	G	H	I
2046S	48.8	65.2	57	17.7	20	16.9	19.8	52	7.6
2046S-09	48.8	65.2	57	17.7	20	16.9	19.8	52	7.6
2047S	48.8	65.2	57	17.7	20	16.9	19.8	52	7.6
2902S	48.8	65.2	57	17.7	20	16.9	19.8	52	7.6
2310S-10	48.8	65.2	57	17.7	20	16.9	19.8	52	7.6
2044S	48.8	65.2	57	17.7	20	16.9	19.8	52	7.6
2044S-09	48.8	65.2	57	17.7	20	16.9	19.8	52	7.6
2045S	48.8	65.2	57	17.7	20	16.9	19.8	52	7.6

FEATURE

Order No.									
w/ lug	Flat-back	90° 0 10	10 0 10	♀	♂	64	◇	⚖	
2046S	2046SB	✓	-	-	-	-	-	-	-
2046S-09	2046SB-09	✓	-	-	✓	-	-	-	-
2047S	2047SB	-	✓	-	-	-	-	-	-
2902S	2902SB	-	-	✓	-	-	-	-	-
2310S-10	2310SB-10	✓	-	-	-	-	✓	✓	✓
2044S	2044SB	✓	-	-	-	-	-	-	-
2044S-09	2044SB-09	✓	-	-	✓	-	-	-	-
2045S	2045SB	-	✓	-	-	-	-	-	-

Metric

ISO/JIS type

Order No.		Graduation	Range (range/rev)	Accuracy				Repeatability	Dial reading	Measuring force
w/ lug	Flat-back			Overall	Retrace	1/10 Rev	1 Rev			
2046S	2046SB	0.01mm	10mm (1mm)	13 μ m	3 μ m	5 μ m	10 μ m	3 μ m	± 0-100	1.4N or less
2046S-09	2046SB-09	0.01mm	10mm (1mm)	15 μ m	3 μ m	5 μ m	10 μ m	3 μ m	± 0-100	1.4N or less
2047S	2047SB	0.01mm	10mm (1mm)	13 μ m	3 μ m	5 μ m	10 μ m	3 μ m	0-50-0	1.4N or less
2902S	2902SB	0.01mm	10mm (1mm)	13 μ m	3 μ m	5 μ m	10 μ m	3 μ m	100-0	1.4N or less
2310S-10	2310SB-10	0.01mm	10mm (1mm)	15 μ m	3 μ m	5 μ m	10 μ m	3 μ m	± 0-100	1.4N or less
2044S	2044SB	0.01mm	5mm (1mm)	12 μ m	3 μ m	5 μ m	10 μ m	3 μ m	± 0-100	1.4N or less
2044S-09	2044SB-09	0.01mm	5mm (1mm)	12 μ m	3 μ m	5 μ m	10 μ m	3 μ m	± 0-100	1.4N or less
2045S	2045SB	0.01mm	5mm (1mm)	12 μ m	3 μ m	5 μ m	10 μ m	3 μ m	0-50-0	1.4N or less

* Completed products inspection is performed in the vertical position (contact point downward) and the stated accuracy is guaranteed.

ไดอัล อินดิเคเตอร์

SERIES 2 — Standard Type, 0.001mm & 0.005mm Graduation



FEATURE

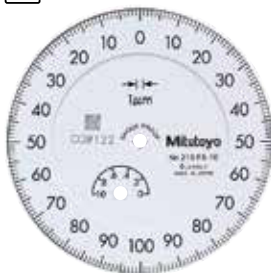
- Standard 0.001 mm and 0.005 mm graduation dial indicators having a bezel with an outside diameter of 57 mm. All types come with limit markers and a bezel clamp.
- The outer clamp and lifting lever (optional) can be attached to either the right or left side. These parts can be easily installed and removed without tools.
- Secure adhesion between the bezel and crystal as well as the use of an O-ring prevents water or oil penetration.
- The spindle is made of high-strength quenchhardened stainless steel which resists wear and deformation.
- A carbide contact point is used.
- A special alloy is used for the sector gears to provide improved wear resistance.
- The indicator uses jeweled bearings, providing excellent indication sensitivity and durability.
- Application of a hard coating on the surface of the crystal makes the gage highly scratch and chemical-resistant.



2109S-10



Balanced scale



Graduation: 0.001mm,
Measuring range: 1mm

2109S-10

- Shockproof type
- Jeweled bearing type



Continuous scale



Graduation: 0.001mm,
Measuring range: 1mm

2110S-10

- Double scale spacing type
- Shockproof type
- Jeweled bearing type



Balanced scale



Graduation: 0.001mm,
Measuring range: 2mm

2113S-10

- Shockproof type
- Jeweled bearing type



Continuous scale



Graduation: 0.001mm,
Measuring range: 5mm

2118S-10

- Jeweled bearing



Balanced scale



Graduation: 0.001mm,
Measuring range: 5mm

2119S-10

- Jeweled bearing



Continuous scale



Graduation: 0.005mm,
Measuring range: 5mm

2124S-10

- Jeweled bearing

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระบับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

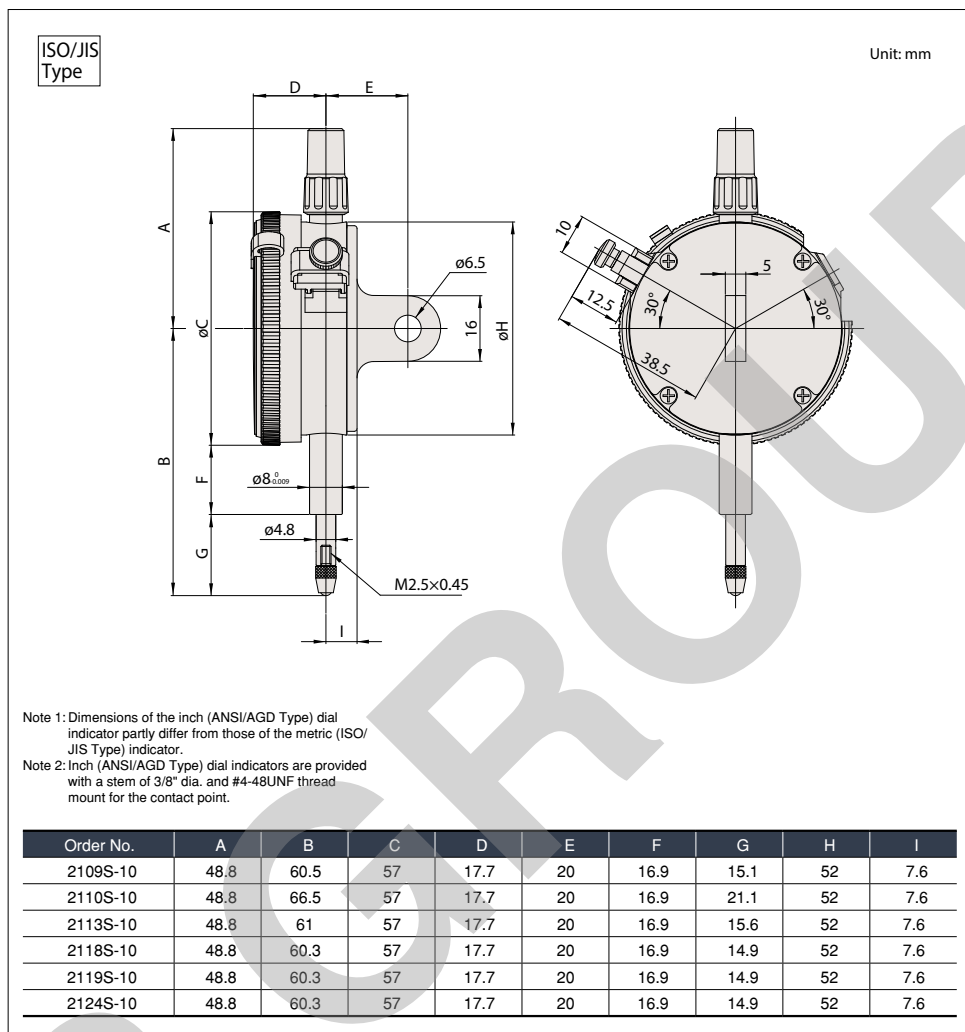
SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

INDICATORS
อินดิเคเตอร์

DIMENSIONS



FEATURE

Order No.							
w/ lug	Flat-back	90 0 10	10 0 10	3	64	64	64
2109S-10	2109SB-10	-	✓	✓	-	✓	-
2110S-10	2110SB-10	✓	-	✓	-	✓	✓
2113S-10	2113SB-10	-	✓	✓	-	✓	-
2118S-10	2118SB-10	✓	-	-	-	✓	-
2119S-10	2119SB-10	-	✓	-	-	✓	-
2124S-10	2124SB-10	✓	-	-	-	✓	-

Metric

ISO/JIS type

Order No.		Graduation	Range (range/rev)	Accuracy				Repeatability	Dial reading	Measuring force
w/ lug	Flat-back			Overall	Retrace	1/10 Rev	1 Rev			
2109S-10	2109SB-10	0.001 mm	1 mm (0.2mm)	5 µm	2 µm	2 µm	4 µm	0.5 µm	0-100-0	1.5N or less
2110S-10	2110SB-10	0.001 mm	1 mm (0.1mm)	5 µm	2 µm	2 µm	4 µm	0.5 µm	± 0-100	1.8N or less
2113S-10	2113SB-10	0.001 mm	2 mm (0.2mm)	7 µm	2 µm	2 µm	5 µm	0.5 µm	0-100-0	1.5N or less
2118S-10	2118SB-10	0.001 mm	5 mm (0.2mm)	10 µm	3 µm	3.5 µm	6 µm	1 µm	0-100-100	1.5N or less
2119S-10	2119SB-10	0.001 mm	5 mm (0.2mm)	10 µm	3 µm	3.5 µm	6 µm	1 µm	0-100-0	1.5N or less
2124S-10	2124SB-10	0.005 mm	5 mm (0.5mm)	12 µm	3 µm	5 µm	9 µm	3 µm	± 0-50	1.5N or less

* Completed products inspection is performed in the vertical position (contact point downward) and the stated accuracy is guaranteed.

ไดอัล อินดิเคเตอร์

SERIES 2 — Waterproof Type, 0.01mm & 0.001mm Graduation



FEATURE

- Waterproof type dial indicators having a bezel with an outside diameter of 57 mm. All types come with limit markers and a bezel clamp as standard.
- The bezel clamp can be attached to either the right or left side. These parts can be easily installed and removed without tools.
- The stem and spindle are made of highstrength quench-hardened stainless steel suitable for heavy-duty use.
- A carbide contact point is used.
- Application of a hard coating on the surface of the crystal makes the gage highly scratchand chemical-resistant.



Continuous scale



Graduation: 0.01mm,
Measuring range: 10mm

2046S-60

Waterproof



Continuous scale



Graduation: 0.01mm,
Measuring range: 5mm

2044S-60

Waterproof



Balanced scale



Graduation: 0.001mm,
Measuring range: 1mm

2109S-70

Waterproof

Shockproof

Jeweled bearing



Continuous scale



Graduation: 0.001mm,
Measuring range: 1mm

2110S-70

Waterproof

Double scale spacing

Shockproof

Jeweled bearing



2046S-60



2109S-70

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระบับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

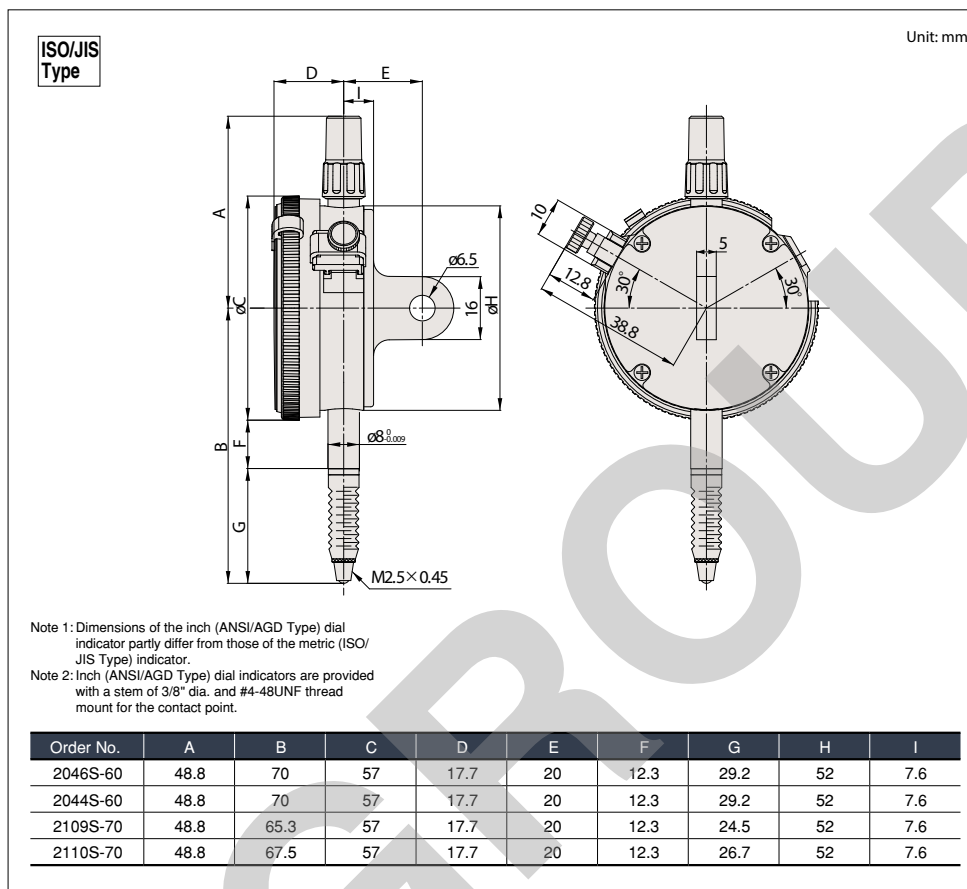
SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

INDICATORS
อินดิเคเตอร์

DIMENSIONS



FEATURE

Order No.								
w/ lug	Flat-back							
2046S-60	2046SB-60	✓	-	-	✓	-	-	-
2044S-60	2044SB-60	✓	-	-	✓	-	-	-
2109S-70	2109SB-70	-	✓	✓	✓	✓	-	-
2110S-70	2110SB-70	✓	-	✓	✓	✓	✓	✓

Metric

ISO/JIS type

Order No.		Graduation	Range (range/rev)	Accuracy				Repeatability	Dial reading	Measuring force
w/ lug	Flat-back			Overall	Retrace	1/10 Rev	1 Rev			
2046S-60	2046SB-60	0.01mm	10mm (1mm)	13 µm	3 µm	5 µm	10 µm	3 µm	± 0-100	2.5N or less
2044S-60	2044SB-60	0.01mm	5mm (1mm)	12 µm	3 µm	5 µm	10 µm	3 µm	± 0-100	2.5N or less
2109S-70	2109SB-70	0.001mm	1mm (0.2mm)	5 µm	2 µm	2 µm	4 µm	0.5 µm	0-100-0	2.0N or less
2110S-70	2110SB-70	0.001mm	1mm (0.1mm)	5 µm	2 µm	2 µm	4 µm	0.5 µm	± 0-100	2.0N or less

* Completed products inspection is performed in the vertical position (contact point downward) and the stated accuracy is guaranteed.

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

ไดอัล อินดิเคเตอร์

SERIES 2 — Standard One Revolution Type for Error-free Reading



One revolution type Back Plunger dial gages are also available.
(Refer to pages F-49 to F-50 for details.)



2990T-10

FEATURE

- Mitutoyo's unique shock-proof mechanism is incorporated, providing improved resistance to shock due to sudden spindle retraction caused by impact.
- This series has been developed to eliminate the possibility of reading errors due to miscounting multiple revolutions.
- All types come with limit markers and a bezel clamp.
- The outer clamp and lifting lever (optional) can be attached to either the right or left side. These parts can be easily installed and removed without tools.
- The stem and spindle are made of highstrength quench-hardened stainless steel which resists wear and deformation.
- A carbide contact point is used.
- A special alloy is used for the sector gears to provide improved wear resistance.
- Application of a hard coating on the surface of the crystal makes the gauge highly scratch- and chemical-resistant.
- The dead zone in red indicates "accuracy not guaranteed".



Balanced scale



Graduation: 0.001mm,
Measuring range: 0.08mm

2900S-10

- One revolution
- Shockproof
- Jeweled bearing

2900S-72

- One revolution
- Shockproof
- Dustproof
- Jeweled bearing



Balanced scale



Graduation: 0.001mm,
Measuring range: 0.16mm

2901S-10

- One revolution
- Shockproof
- Jeweled bearing



2900S-10



Balanced scale



Graduation: 0.1mm,
Measuring range: 4mm

2928S

- One revolution
- Shockproof



Balanced scale



Graduation: 0.01mm,
Measuring range: 0.8mm

2929S

- One revolution
- Shockproof
- 2929S-62
- One revolution
- Shockproof
- Dustproof



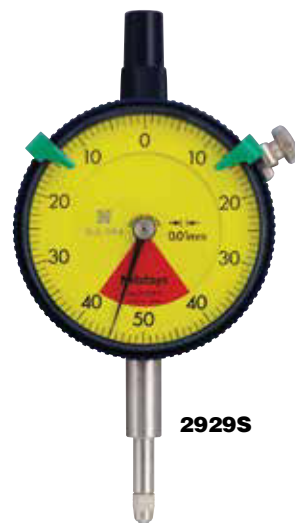
Balanced scale



Graduation: 0.01mm,
Measuring range: 1.6mm

2959S

- One revolution
- Shockproof



2929S

Micrometer

ไมคริเมตร

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

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ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

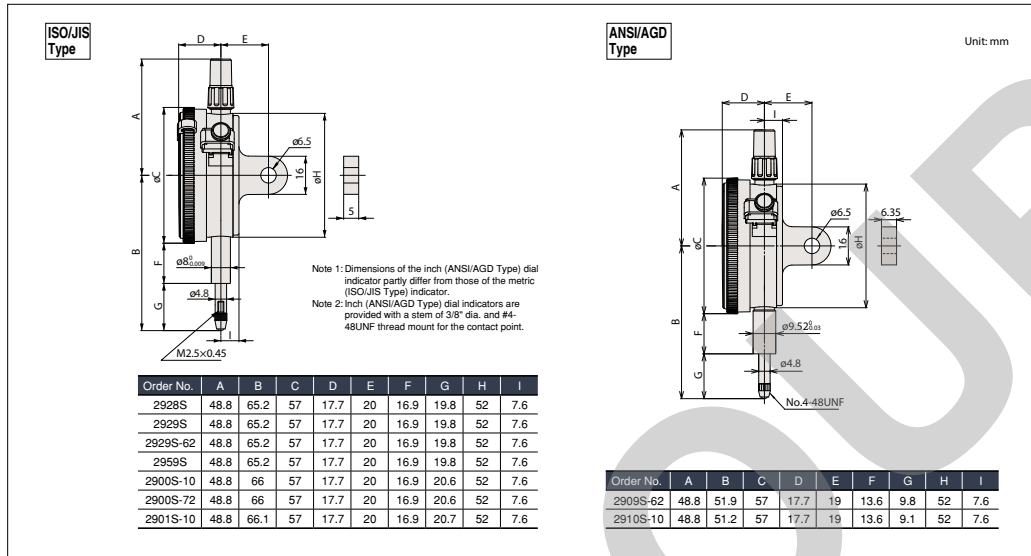
SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

INDICATORS
อินดิเคเตอร์

DIMENSIONS



FEATURE

Order No.							
w/ lug	Flat-back						
2928S	2928SB	✓	-	-	-	-	-
2929S	2929SB	✓	-	-	-	-	-
2929S-62	2929SB-62	✓	-	✓	-	-	-
2959S	2959SB	✓	-	-	-	-	-
2900S-10	2900SB-10	✓	-	-	✓	-	-
2900S-72	2900SB-72	✓	-	✓	✓	-	-
2901S-10	2901SB-10	✓	-	-	✓	-	-

Metric

ISO/JIS type

Order No.		Graduation	Range (range/rev)	Accuracy				Repeatability	Dial reading	Measuring force
w/ lug	Flat-back			Overall	Retrace	1/10 Rev	1 Rev			
2928S	2928SB	0.1mm	4mm (5mm)	40 μm	20 μm	20 μm	-	20 μm	2-0-2	1.4N or less
2929S	2929SB	0.01mm	0.8mm (1mm)	8 μm	3 μm	5 μm	-	3 μm	40-0-40	1.4N or less
2929S-62	2929SB-62	0.01mm	0.8mm (1mm)	8 μm	3 μm	5 μm	-	3 μm	40-0-40	2.0N or less
2959S	2959SB	0.01mm	1.6mm (2mm)	10 μm	3 μm	5 μm	-	3 μm	80-0-80	1.4N or less
2900S-10	2900SB-10	0.001mm	0.08mm (0.1mm)	3 μm	2 μm	2 μm	-	0.5 μm	40-0-40	1.5N or less
2900S-72	2900SB-72	0.001mm	0.08mm (0.1mm)	3 μm	2 μm	2 μm	-	0.5 μm	40-0-40	2.0N or less
2901S-10	2901SB-10	0.001mm	0.16mm (0.2mm)	4 μm	2 μm	2 μm	-	0.5 μm	80-0-80	1.5N or less

* Completed products inspection is performed in the vertical position (contact point downward) and the stated accuracy is guaranteed.

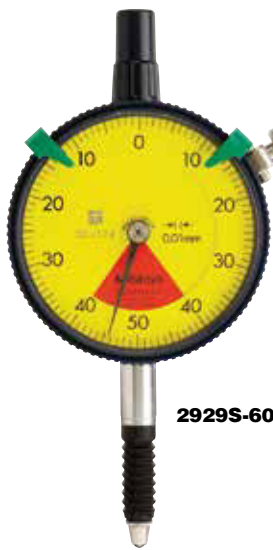
ไดอัล อินดิเคเตอร์

SERIES 2 — Standard One Revolution Type for Error-free Reading, Waterproof Type

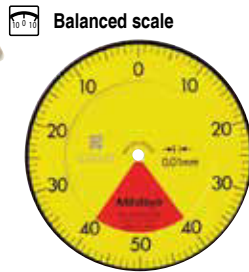


FEATURE

- Mitutoyo's unique shock-proof mechanism is incorporated, providing improved resistance to shock due to sudden spindle retraction caused by impact.
- This series has been developed to eliminate the possibility of reading errors due to miscounting multiple revolutions.
- All types come with limit markers and a bezel clamp.
- The outer clamp and lifting lever (optional) can be attached to either the right or left side. These parts can be easily installed and removed without tools.
- The stem and spindle are made of highstrength quench-hardened stainless steel which resists arduous use.
- A carbide contact point is used.
- A special alloy is used for the sector gears to provide improved wear resistance.
- Application of a hard coating on the surface of the crystal makes the gauge highly scratch- and chemical-resistant.
- The dead zone in red indicates "accuracy not guaranteed".



2929S-60

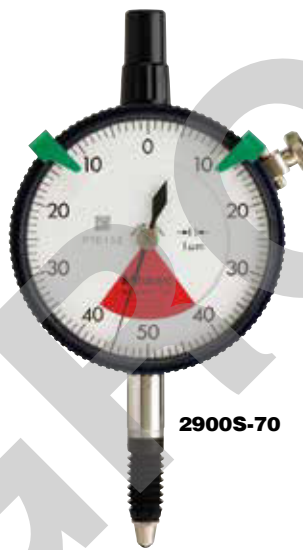


Balanced scale

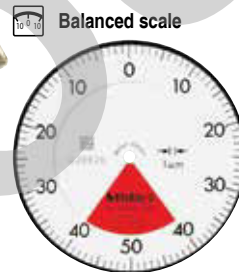
Graduation: 0.01mm,
Measuring range: 0.8mm

2929S-60

- One revolution
- Shockproof
- Waterproof



2900S-70



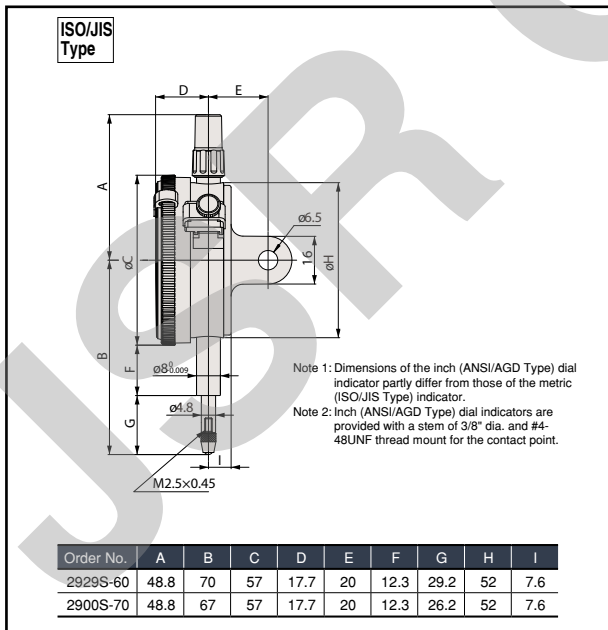
Balanced scale

Graduation: 0.001mm,
Measuring range: 0.08mm

2900S-70

- One revolution
- Shockproof
- Waterproof
- Jeweled bearing

DIMENSIONS



FEATURE

Order No.							
w/ lug	Flat-back						
2929S-60	2929SB-60	✓	✓	-	-	-	-
2900S-70	2900SB-70	✓	✓	-	✓	-	-

Metric

Order No.		Graduation	Range (range/rev)	Accuracy				Repeatability	Dial reading	Measuring force
w/ lug	Flat-back			Overall	Retrace	1/10 Rev	1 Rev			
2929S-60	2929SB-60	0.01 mm	0.8mm (1mm)	8 μm	3 μm	5 μm	-	3 μm	40-0-40	2.0 N or less
2929S-70	2929SB-70	0.001mm	0.08mm (0.1mm)	3 μm	2 μm	2 μm	-	0.5 μm	40-0-40	2.0 N or less

* Completed products inspection is performed in the vertical position (contact point downward) and the stated accuracy is guaranteed.

Micrometer

ไมคริเมตร

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

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Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

ไดอัล อินดิเคเตอร์

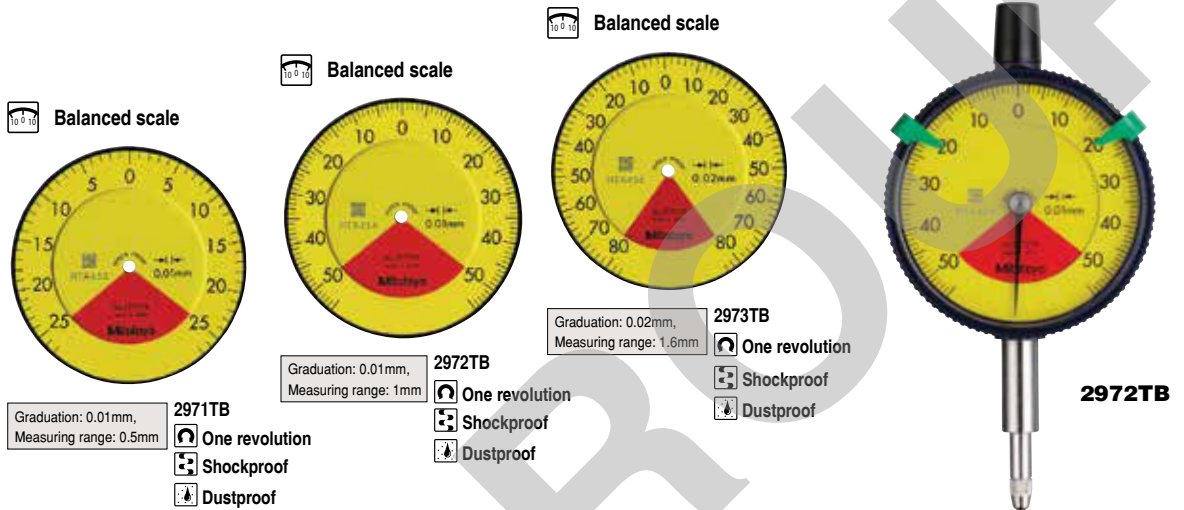
SERIES 2 — Standard One Revolution Type for Error-free Reading, Lightweight Type

FEATURE

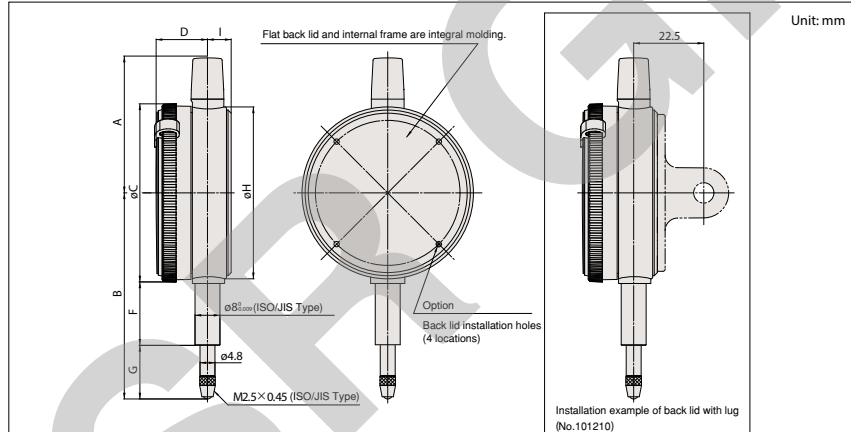
- Mitutoyo's unique shock-proof mechanism is incorporated, providing improved resistance to shock due to sudden spindle retraction caused by impact.
- This series has been developed to eliminate the possibility of reading errors due to miscounting multiple revolutions.
- The stem and spindle are made of highstrength quench-hardened stainless steel which resists arduous use.
- A carbide contact point is used.
- Lightweight type (70 g).
- The dead zone in red indicates "accuracy not guaranteed".



IP 43



DIMENSIONS



- * When installing an optional back (refer to page F-55 for details) separately prepare 4 fixing screws (546666: Self-tapping screw only for resin).
- Do not apply a tightening torque of more than 20N-cm in order to avoid stripping the screw threads.
- * An optional lifting lever, release or outer frame clamp cannot be installed.

Order No.	A	B	C	D	F	G	H	I
2971TB	43.2	65.6	57	16.5	21	16.8	55	7.6
2972TB	43.2	66	57	16.5	21	17.2	55	7.6
2973TB	43.2	66.3	57	16.5	21	17.5	55	7.6

*Refer to pages F-51 to F-54 for details of contact points.

FEATURE

Order No.		10 0 10	One revolution	Shockproof	Dustproof
w/ lug	Flat-back				
-	2971TB	✓	✓	✓	✓
-	2972TB	✓	✓	✓	✓
-	2973TB	✓	✓	✓	✓

Metric

Order No.		Graduation	Range (range/rev)	Accuracy				Repeatability	Dial reading	Measuring force
w/ lug	Flat-back			Overall	Retrace	1/10 Rev	1 Rev			
-	2971TB	0.01mm	0.5mm (0.7mm)	8 µm	3 µm	5 µm	-	3 µm	25-0-25	1.4N or less
-	2972TB	0.01mm	1mm (1.4mm)	8 µm	3 µm	5 µm	-	3 µm	50-0-50	1.4N or less
-	2973TB	0.02mm	1.6mm (2mm)	16 µm	6 µm	8 µm	-	5 µm	80-0-80	1.4N or less

* Completed products inspection is performed in the vertical position (contact point downward) and the stated accuracy is guaranteed.

ไดอัล อินดิเคเตอร์

SERIES 2 — Long Stroke Type



FEATURE

- Long stroke dial indicators with a $\phi 57$ mm outer frame. All the models are equipped with limit markers and a bezel clamp as standard. (inch models are exception)
- An O-ring is employed to ensure air-tightness between the outer frame and the crystal case to prevent water or oil penetration.
- The stem and the spindle are made of highstrength quench-hardened stainless steel suitable for heavy-duty use. • A carbide contact point is employed.
- The grand gear is made of stainless steel with high resistance to wear and deformation.
- Application of a hard coating on the surface of the crystal makes the gauge highly scratch- and chemical-resistant.
- The bezel clamp and lifting lever* (optional) can be attached to either the right or left side. These parts can be easily installed and removed without any tools.
- * Not available for waterproof type.

Continuous scale



Graduation: 0.01mm,
Measuring range: 20mm

2050S
 With damper at lowest rest point

- Shockproof
- Jeweled bearing
- With damper at lowest rest point

2050S-60
 Waterproof

Continuous scale



Graduation: 0.01mm,
Measuring range: 30mm

2052S
 With damper at lowest rest point

- Shockproof
- Jeweled bearing
- With damper at lowest rest point

Continuous scale



Graduation: 0.01mm,
Measuring range: 30mm

2330S-10
 With coaxial revolution counter

- With damper at lowest rest point
- Jeweled bearing



2050S

Continuous scale



Graduation: 0.01mm,
Measuring range: 20mm

2320S-10
 With coaxial revolution counter

- With damper at lowest rest point
- Jeweled bearing

Reverse reading



Graduation: 0.01mm,
Measuring range: 30mm

2952S
 With damper at lowest rest point



2050S-60

Micrometer

ไมคริเมตร

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

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Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

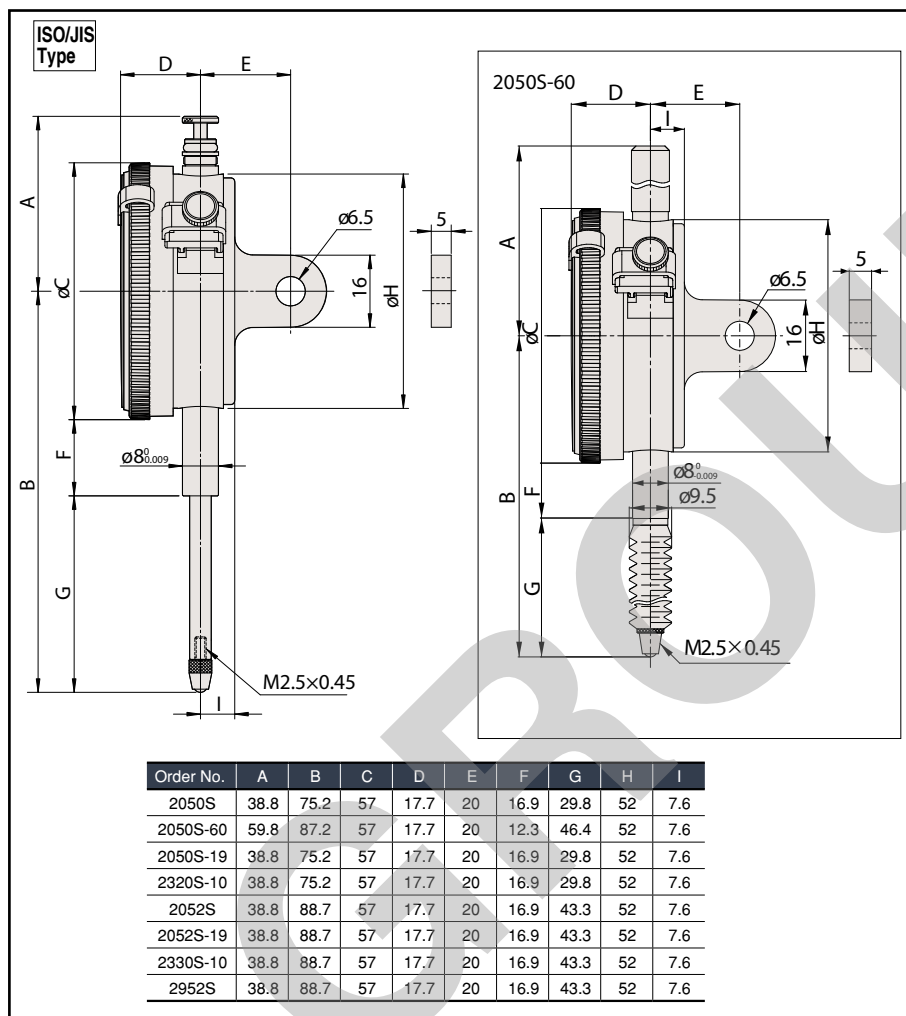
SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

INDICATORS
อินดิเคเตอร์

DIMENSIONS



FEATURE

Order No.									
w/ lug	Flat-back	90 0 10	10 0 10	90 0 10	10 0 10	64	90 0 10	10 0 10	90 0 10
2050S	2050SB	✓	-	-	-	-	✓	-	-
2050S-60	2050SB-60	✓	-	-	-	✓	-	-	-
2050S-19	2050SB-19	✓	-	-	✓	-	✓	✓	-
2320S-10	2320SB-10	✓	-	-	-	-	✓	✓	✓
2052S	2052SB	✓	-	-	-	-	✓	-	-
2052S-19	2052SB-19	✓	-	-	✓	-	✓	✓	-
2330S-10	2330SB-10	✓	-	-	-	-	✓	✓	✓
2952S	2952SB	-	-	✓	-	-	✓	-	-

Metric

Order No.		Graduation	Range (range/rev)	Accuracy				Repeatability	Dial reading	Measuring force
w/ lug	Flat-back			Overall	Retrace	1/10 Rev	1 Rev			
2050S	2050SB	0.01mm	20mm (1mm)	20 μm	5 μm	8 μm	15 μm	4 μm	± 0-100	2.0N or less
2050S-60	2050SB-60	0.01mm	20mm (1mm)	20 μm	5 μm	8 μm	15 μm	4 μm	± 0-100	2.5N or less
2050S-19	2050SB-19	0.01mm	20mm (1mm)	20 μm	5 μm	8 μm	15 μm	4 μm	± 0-100	2.0N or less
2320S-10	2320SB-10	0.01mm	20mm (1mm)	20 μm	5 μm	8 μm	15 μm	4 μm	± 0-100	2.0N or less
2052S	2052SB	0.01mm	30mm (1mm)	25 μm	7 μm	10 μm	15 μm	5 μm	± 0-100	2.5N or less
2052S-19	2052SB-19	0.01mm	30mm (1mm)	25 μm	7 μm	10 μm	15 μm	5 μm	± 0-100	2.5N or less
2330S-10	2330SB-10	0.01mm	30mm (1mm)	25 μm	7 μm	10 μm	15 μm	5 μm	± 0-100	2.5N or less
2952S	2952SB	0.01mm	30mm (1mm)	25 μm	7 μm	10 μm	15 μm	5 μm	100-0	2.5N or less

* Completed products inspection is performed in the vertical position (contact point downward) and the stated accuracy is guaranteed.

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ห้ามนำไปเผยแพร่ก่อนได้รับอนุญาตจากทางบริษัท

ไดอัล อินดิเคเตอร์

SERIES 1 — Compact Type, Small Diameter



FEATURE

- Compact dial indicators with bezel diameters of 31 or 36mm for restricted-space applications in gaging jigs.



1911T-10

Balanced scale



Graduation: 0.01mm,
Measuring range: 2.5mm

1911T-10

Jeweled bearing

Balanced scale



Graduation: 0.02mm,
Measuring range: 0.5mm

1913T-10

Jeweled bearing



1003T

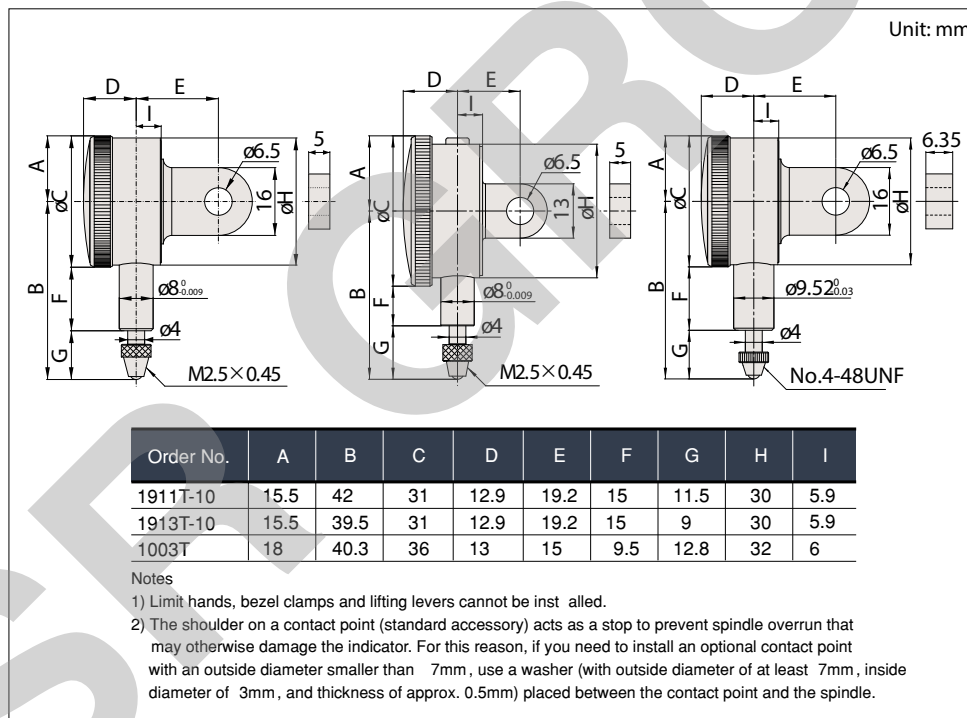
Balanced scale



Graduation: 0.01mm,
Measuring range: 4mm

1003T

DIMENSIONS



Metric

ISO/JIS type

w/ lug	Order No.	Graduation	Range (range/rev)	Accuracy				Repeatability	Dial reading	Measuring force
				Overall	Retrace	1/10 Rev	1 Rev			
	1911T-10	0.01mm	2.5mm (1mm)	12 μm	4 μm	8 μm	10 μm	3 μm	0-50-0	1.8N or less
	1913T-10	0.002mm	0.5mm (0.2mm)	6 μm	2.5 μm	2.5 μm	5 μm	1 μm	0-100-0	1.8N or less
	1003T	0.01mm	4mm (1mm)	13 μm	4 μm	8 μm	11 μm	3 μm	0-50-0	1.4N or less

* Completed products inspection is performed in the vertical position (contact point downward) and the stated accuracy is guaranteed.

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

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Indicators

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ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

ไดอัล อินดิเคเตอร์

SERIES 1 — Compact Type, Small Diameter

FEATURE

- Compact dial indicators with bezel diameters of 40 mm for restricted-space applications in gaging jigs.
- All models come with limit markers and a bezel clamp.
- Secure adhesion between the bezel and crystal as well as the use of an O-ring prevents water or oil penetration.
- The stem and spindle are made of highstrength quench-hardened stainless steel which resists arduous use.
- A carbide contact point is used.
- Application of a hard coating on the surface of the crystal makes the gauge highly scratch- and chemical-resistant.



Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

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Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ



Continuous scale



Graduation: 0.01mm, Measuring range: 3.5mm

1040S



Balanced scale



Graduation: 0.01mm, Measuring range: 3.5mm

1041S



Continuous scale



Graduation: 0.01mm, Measuring range: 5mm

1044S

1044S-15

Jeweled bearing

1044S



Balanced scale



Graduation: 0.01mm, Measuring range: 5mm

1045S



Balanced scale



Graduation: 0.001mm, Measuring range: 1mm

1109S-10

Shockproof
Jeweled bearing



Balanced scale



Graduation: 0.002mm, Measuring range: 1mm

1013S-10

Shockproof
Jeweled bearing



Continuous scale



Graduation: 0.005mm, Measuring range: 3.5mm

1124S



1109S-10



1044S-60



Continuous scale

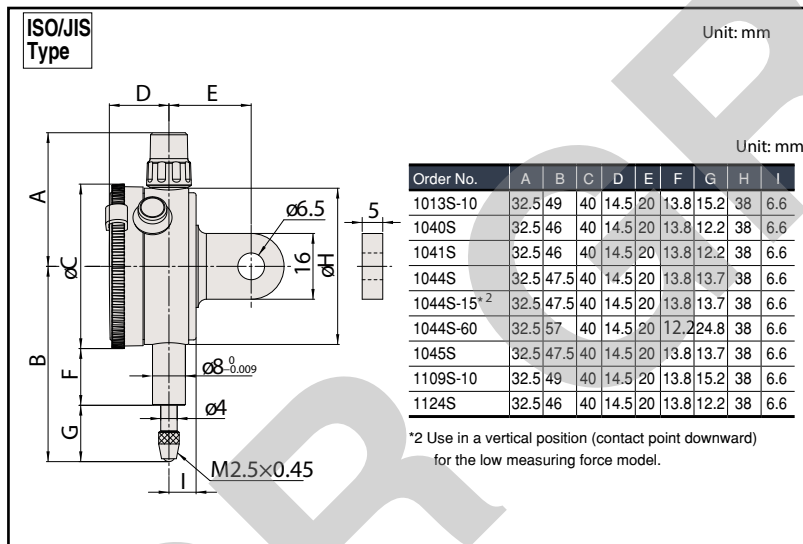


Graduation: 0.01mm,
Measuring range: 5mm

1044S-60

Waterproof

DIMENSIONS



FEATURE

Order No.				
w/ lug	Flat-back			
1013S-10	1013SB-10	-	✓	-
1040S	1040SB	✓	-	-
1041S	1041SB	✓	-	-
1044S	1044SB	-	-	-
1044S-15	1044SB-15	-	✓	-
1044S-60	1044SB-60	-	-	✓
1045S	1045SB	-	-	-
1109S-10	1109SB-10	-	✓	-
1124S	1124SB	-	-	-

Metric

Order No.		Graduation	Range (range/rev)	Accuracy				Repeatability	Dial reading	Measuring force
w/ lug	Flat-back			Overall	Retrace	1/10 Rev	1 Rev			
1013S-10	1013SB-10	0.002mm	1mm (0.2mm)	6 μm	2.5 μm	2.5 μm	5 μm	1 μm	0-100-0	1.5N or less
1040S	1040SB	0.01mm	3.5mm (0.5mm)	13 μm	4 μm	8 μm	11 μm	3 μm	± 0-50	1.4N or less
1041S	1041SB	0.01mm	3.5mm (0.5mm)	13 μm	4 μm	8 μm	11 μm	3 μm	0-25-0	1.4N or less
1044S	1044SB	0.01mm	5mm (1mm)	13 μm	4 μm	8 μm	11 μm	3 μm	± 0-100	1.4N or less
1044S-15	1044SB-15	0.01mm	5mm (1mm)	13 μm	4 μm	8 μm	11 μm	3 μm	± 0-100	0.4N or less
1044S-60	1044SB-60	0.01mm	5mm (1mm)	13 μm	4 μm	8 μm	11 μm	3 μm	± 0-100	2.0N or less
1045S	1045SB	0.01mm	5mm (1mm)	13 μm	4 μm	8 μm	11 μm	3 μm	0-50-0	1.4N or less
1109S-10	1109SB-10	0.001mm	1mm (0.2mm)	5 μm	2 μm	2.5 μm	4.5 μm	1 μm	0-100-0	1.5N or less
1124S	1124SB	0.005mm	3.5mm (0.5mm)	12 μm	3.5 μm	6 μm	10 μm	3 μm	± 0-50	1.4N or less

* Completed products inspection is performed in the vertical position (contact point downward) and the stated accuracy is guaranteed.

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

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ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

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ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

ไดอัล อินดิเคเตอร์

SERIES 1 — Compact One Revolution Type for Error-free Reading

FEATURE

- Mitutoyo's unique shock-proof mechanism is incorporated, providing improved resistance to shock due to sudden spindle retraction caused by impact.
- This series has been developed to eliminate the possibility of reading errors due to miscounting multiple revolutions.
- The dead zone in red indicates "accuracy not guaranteed".
- One revolution type Back Plunger dial gages are also available. (Refer to pages K-024 to K-025 for details.)
- All types come with limit markers and a bezel clamp.



Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

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Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ



1929S



Balanced scale



Graduation: 0.01mm,
Measuring range: 1mm

1929S

One revolution

Shockproof

1929S-62

One revolution

Shockproof

Dustproof



1900S-10



Balanced scale



Graduation: 0.001mm,
Measuring range: 0.1mm

1900S-10

One revolution

Shockproof

Jeweled bearing

1900S-72

One revolution

Shockproof

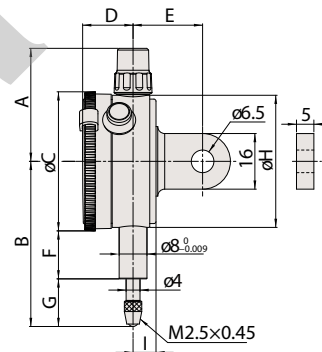
Dustproof

Jeweled bearing

DIMENSIONS

ISO/JIS
Type

Unit: mm



Note 1: Dimensions of the inch (ANSI/AGD Type) dial indicator partly differ from those of the metric (ISO/JIS Type) indicator.
Note 2: Inch (ANSI/AGD Type) dial indicators are provided with a stem of 3/8" dia. and #4-48UNF thread mount for the contact point.

Order No.	A	B	C	D	E	F	G	H	I
1929S	32.5	47.5	40	14.5	20	13.8	13.7	38	6.6
1929S-62	32.5	47.5	40	14.5	20	13.8	13.7	38	6.6
1900S-10	32.5	53.5	40	14.5	20	16.8	16.7	38	6.6
1900S-72	32.5	53.5	40	14.5	20	16.8	16.7	38	6.6

FEATURE

Order No.				
w/ lug	Flat-back			
1929S	1929SB	-	-	✓
1929S-62	1929SB-62	-	✓	✓
1900S-10	1900SB-10	✓	-	✓
1900S-72	1900SB-72	✓	✓	✓

Metric

ISO/JIS type

Order No.		Graduation	Range (range/rev)	Accuracy				Repeatability	Dial reading	Measuring force
w/ lug	Flat-back			Overall	Retrace	1/10 Rev	1 Rev			
1929S	1929SB	0.01mm	1mm (1.4mm)	11 μm	4 μm	7 μm	-	3 μm	50-0-50	1.4N or less
1929S-62	1929SB-62	0.01mm	1mm (1.4mm)	11 μm	4 μm	7 μm	-	3 μm	50-0-50	1.4N or less
1900S-10	1900SB-10	0.001mm	0.1mm (0.14mm)	5 μm	2 μm	2.5 μm	-	1 μm	50-0-50	1.5N or less
1900S-72	1900SB-72	0.001mm	0.1mm (0.14mm)	5 μm	2 μm	2.5 μm	-	1 μm	50-0-50	1.5N or less

* Completed products inspection is performed in the vertical position (contact point downward) and the stated accuracy is guaranteed.

ไดอัลอินดิเคเตอร์แบบพิเศษ

SERIES 2 — Special Dial Indicators



Adjustable hand dial gauge

- The hand position can be adjusted independently of the position of the spindle by rotating the top knob.



2048S-10



Continuous scale

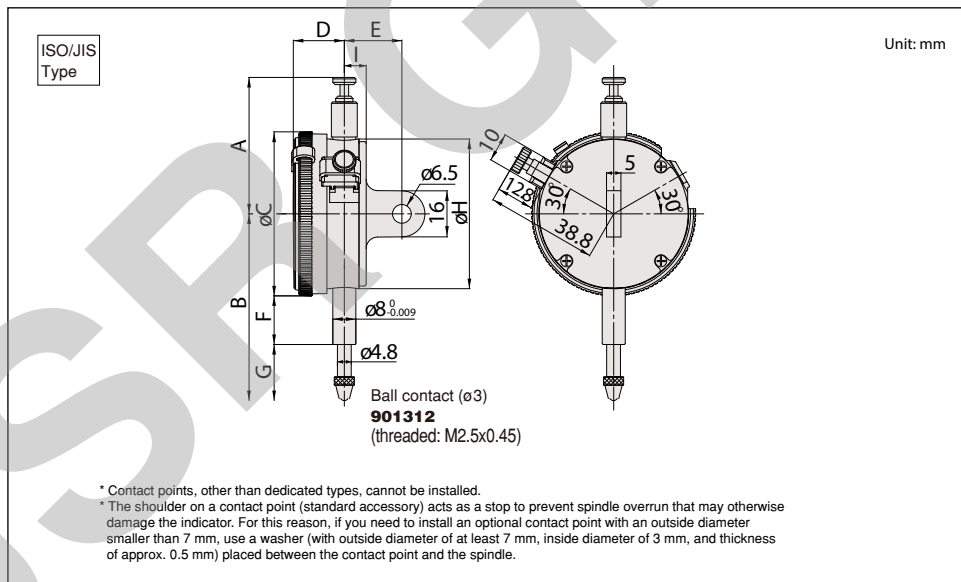


Graduation: 0.01 mm,
Measuring range: 10 mm

2048S-10

- With coaxial revolution counter
- Adjustable hand
- Jeweled bearing

DIMENSIONS



FEATURE

Order No.						-	-
w/ lug	Flat-back						
2048S-10	2048SB-10	✓	-	✓	-	-	-

Metric

Order No.		Graduation	Range (range/rev)	Accuracy				Repeatability	Dial reading	Measuring force
w/ lug	Flat-back			Overall	Retrace	1/10 Rev	1 Rev			
2048S-10	2048SB-10	0.01mm	10 mm (1mm)	15 µm	3 µm	5 µm	10 µm	3 µm	± 0-100	1.4N or less

* Completed products inspection is performed in the vertical position (contact point downward) and the stated accuracy is guaranteed.

Designed by JSR GROUP

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ทำขึ้นโดยไม่เผยแพร่ก่อนได้รับอนุญาตจากทางบริษัท

Micrometer
ไมโครมิเตอร์

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Measurement
เครื่องมือวัดภายใน

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Linear Height
เครื่องมือวัดความสูง

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อุปกรณ์เสริม

Other
อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

ไดอัลอินดิเคเตอร์แบบพิเศษ

SERIES 2 — Special Dial Indicators

Peak hold type dial gauge

- A mechanism holds the pointer and the spindle at the position of maximum depression and hence displays the maximum value.
- Clearance of peak hold: push the nut in the direction of the arrow indicated in the dimensional drawing below.



Continuous scale

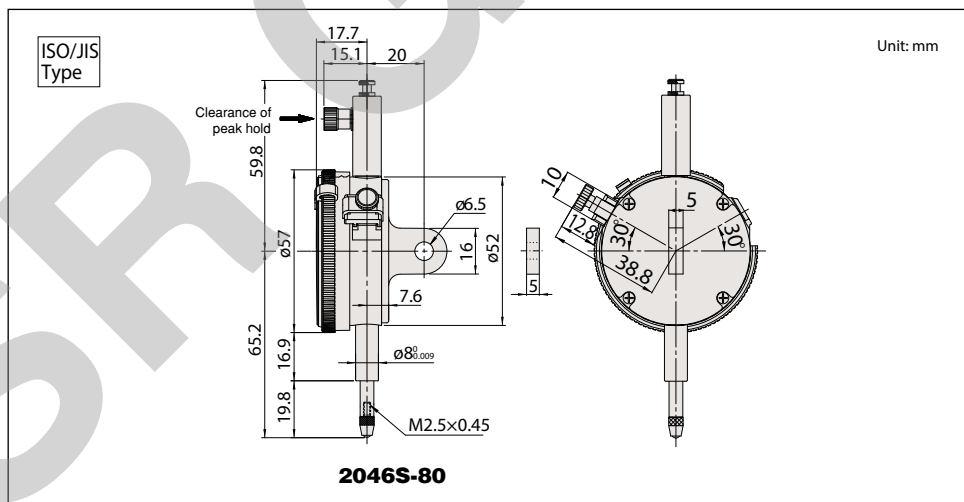


Graduation: 0.01 mm,
Measuring range: 10 mm

2046S-80

Peak retaining

DIMENSIONS



FEATURE

Order No.						
w/ lug	Flat-back				-	-
2046S-80	2046SB-80	-	✓	-	-	-

Metric

ISO/JIS type

Order No.		Graduation	Range (range/rev)	Accuracy				Repeatability	Dial reading	Measuring force
w/ lug	Flat-back			Overall	Retrace	1/10 Rev	1 Rev			
2046S-80	2046SB-80	0.01mm	10 mm (1mm)	15 μ m	-	5 μ m	10 μ m	-	$\pm$ 0-100	5.0N or less

* Completed products inspection is performed in the vertical position (contact point downward) and the stated accuracy is guaranteed.

ไดอัล อินดิเคเตอร์

SERIES 3, 4 — Long Stroke Type, Large Diameter



FEATURE

- Dial indicators with a large-diameter dial face for easy reading.
- Models with longer measuring ranges are also available.
- All types are supplied with limit markers and a bezel clamp as standard.
- Both the stem and the spindle are made of high-strength quench-hardened stainless steel suitable for heavy-duty use.
- The bezel clamp and lifting lever (optional)*1 can be attached to either the right or left side. These parts can be easily installed and removed without tools.

*1: Can be attached only to Code No.3046S, 3047S, 3050S, 3109S-10 and 4046S.



3058S-19

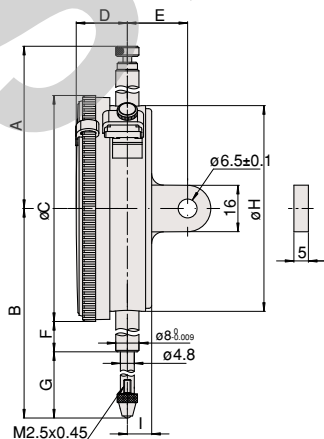


3109S-10



4046S

DIMENSIONS

ISO/JIS
Type

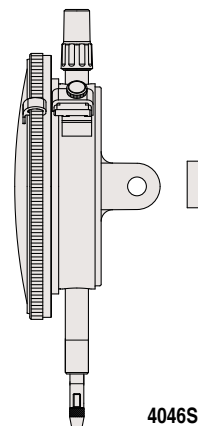
Unit: mm

Order No.	A	B	C	D	E	F	G	H	I
3046S	61.2	75.5	78	17.7	21	15.9	20.6	71	9
3047S	61.2	75.5	78	17.7	21	15.9	20.6	71	9
3050S	52.6	94	78	17.7	21	25.9	29.1	71	9
3052S-19*	72.9	104.3	78	17.7	21	25.9	39.4	71	9
3058S-19*	81.9	142.3	78	17.7	21	43.9	59.4	71	9
3060S-19*	120.9	202.3	78	17.7	21	73.9	89.4	71	9
3062S-19*	141.9	243.3	78	17.7	21	94.9	109.4	71	9
3109S-10	61.2	79	78	17.7	21	25.9	14.1	71	9
4046S	61.2	84	92	21.5	21	18.9	19.1	71	9

Note 1: Dimensions of the inch (ANSI/AGD Type) dial indicator partly differ from those of the metric (ISO/JIS Type) indicator.

Note 2: Inch (ANSI/AGD Type) dial indicators are provided with a stem of 3/8" dia. and #4-48UNF thread mount for the contact point.

* The shoulder on a contact point (standard accessory) acts as a stop to prevent spindle overrun that may otherwise damage the indicator. For this reason, if you need to install an optional contact point with an outside diameter smaller than 7mm, use a washer (with outside diameter of at least 7mm, inside diameter of 3mm, and thickness of approx. 0.5mm) placed between the contact point and the spindle.



4046S

Micrometer

ไมคริเมตร

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

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เครื่องมืออ้างอิง

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Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

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Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

INDICATORS

อินดิเคเตอร์

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

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Dial Test Indicators

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Dial Indicators

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Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

Continuous scale



Graduation: 0.01mm,
Measuring range: 10mm

Balanced scale



Graduation: 0.01mm,
Measuring range: 10mm

Continuous scale



Graduation: 0.01mm,
Measuring range: 20mm

Continuous scale



Graduation: 0.01mm,
Measuring range: 30mm

Continuous scale



Graduation: 0.01mm,
Measuring range: 50mm

Continuous scale



Graduation: 0.01mm,
Measuring range: 80mm

Continuous scale



Graduation: 0.01mm,
Measuring range: 100mm

Balanced scale



Graduation: 0.001mm,
Measuring range: 1mm

Continuous scale



Graduation: 0.01mm,
Measuring range: 10mm

FEATURE

Order No.							
w/ lug	Flat-back						
3046S	3046SB	-	-	-	-	-	-
3047S	3047SB	-	-	-	-	-	-
3050S	3050SB	-	✓	-	-	-	-
3052S-19	3052SB-19	✓	-	✓	✓	-	-
3058S-19	3058SB-19	✓	-	✓	✓	-	-
3060S-19*	3060SB-19*	✓	-	✓	✓	-	-
3062S-19*	3062SB-19*	✓	-	✓	✓	-	-
3109S-10	3109SB-10	✓	-	✓	-	-	-
4046S	4046SB	-	-	-	-	-	-

Metric

ISO/JIS type

Order No.		Graduation	Range (range/rev)	Accuracy				Repeatability	Dial reading	Measuring force
w/ lug	Flat-back			Overall	Retrace	1/10 Rev	1 Rev			
3046S	3046SB	0.01mm	10mm (1mm)	15 μ m	3 μ m	5 μ m	10 μ m	3 μ m	$\pm$ 0-100	1.4N or less
3047S	3047SB	0.01mm	10mm (1mm)	15 μ m	3 μ m	5 μ m	10 μ m	3 μ m	0-50-0	1.4N or less
3050S	3050SB	0.01mm	20mm (1mm)	20 μ m	5 μ m	8 μ m	15 μ m	4 μ m	$\pm$ 0-100	2.0N or less
3052S-19	3052SB-19	0.01mm	30mm (1mm)	25 μ m	7 μ m	10 μ m	15 μ m	5 μ m	$\pm$ 0-100	2.5N or less
3058S-19	3058SB-19	0.01mm	50mm (1mm)	30 μ m	8 μ m	10 μ m	15 μ m	5 μ m	$\pm$ 0-100	3.0N or less
3060S-19*	3060SB-19*	0.01mm	80mm (1mm)	45 μ m	9 μ m	12 μ m	20 μ m	5 μ m	$\pm$ 0-100	3.0N or less
3062S-19*	3062SB-19*	0.01mm	100mm (1mm)	50 μ m	9 μ m	12 μ m	20 μ m	5 μ m	$\pm$ 0-100	3.2N or less
3109S-10	3109SB-10	0.001mm	1mm (0.2mm)	5 μ m	2 μ m	2 μ m	4 μ m	0.5 μ m	0-100-0	1.5N or less
4046S	4046SB	0.01mm	10mm (1mm)	15 μ m	3 μ m	5 μ m	10 μ m	3 μ m	$\pm$ 100-0	1.4N or less

*1 Use in a vertical position (contact point downward) for the long stroke model.

*2 Completed products inspection is performed in the vertical position (contact point downward) and the stated accuracy is guaranteed.

SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

ไดอัล อินดิเคเตอร์

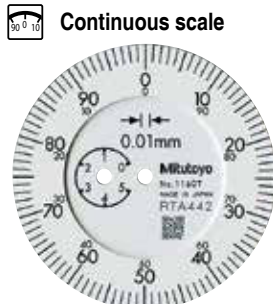
Back Plunger Type Dial Indicator SERIES 1

FEATURE

- Back plunger type dial gauges are suitable for mounting onto leveling machine tool tables or inspection jigs, and for use in situations where standard dial gauges are difficult to read.
- Model 1960T and 1961T, which uses Mitutoyo's proprietary shock-proofing mechanism, has excellent durability and shock resistance.



1160T



Graduation: 0.01mm,
Measuring range: 5mm

1160T
Back plunger



Graduation: 0.01mm,
Measuring range: 5mm

1162T
Back plunger



Holding bar

Holding bar (optional)

Order No.	øD	L
21AAA166	ø6mm	42mm
136567	ø6mm	81mm
124625	ø6.35mm	81mm
21AAA167	ø6.35mm	42mm
21AAA168	ø8mm	42mm
136568	ø8mm	81mm

* øD and L: detail shown in drawing below.

DIMENSIONS

Unit: mm

Holding bar (optional)

ISO/JIS Type

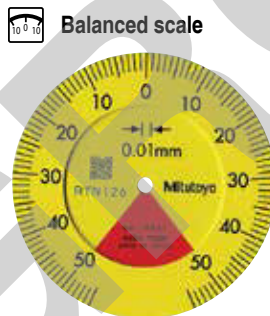
M2.5×0.45

Order No.	A	B	C	E	F	G	H
1160T	40	22.1	35.6	22.2	25	13.8	43.3
1162T	40	22.1	35.6	22.2	25	13.8	43.3
1960T	40	22.1	35.6	22.2	28.7	12.8	46

Note 1: Contact point (standard accessory) for all products in this page has a role as a top dead point stopper. For this reason, if you need to install an optional contact point with an outside diameter smaller than 7mm, use a washer (with outside diameter of at least 7mm, inside diameter of 3mm, and thickness of approx. 0.5mm) placed between the contact point and the spindle.

Note 2: Dimensions of the inch (ANSI/AGD Type) dial indicator partly differ from those of the metric (ISO/JIS Type) indicator.

Note 3: Inch (ANSI/AGD Type) dial indicators are provided with a stem of 3/8" dia. and #4-48UNF thread mount for the contact point.



Graduation: 0.01mm,
Measuring range: 1mm

1960T
One revolution
Shockproof
Back plunger

FEATURE

Order No.	One revolution	Shockproof	Back plunger	-	-	-
1960T	✓	✓	-	-	-	-
1160T	-	-	-	-	-	-
1162T	-	-	✓	-	-	-

Metric

Order No.	Graduation	Range (range/rev)	Accuracy				Repeatability	Dial reading	Measuring force
			Overall	Retrace	1/10 Rev	1 Rev			
1960T	0.01mm	1mm (1.27mm)	14 μm	4 μm	8 μm	-	3 μm	50-0-50	1.4N or less
1160T	0.01mm	5mm (1mm)	16 μm	4 μm	8 μm	14 μm	3 μm	± 0-100	1.4N or less
1162T	0.01mm	5mm (1mm)	16 μm	4 μm	8 μm	14 μm	3 μm	100-0	1.4N or less

* Completed products inspection is performed in the vertical position (contact point downward) and the stated accuracy is guaranteed.

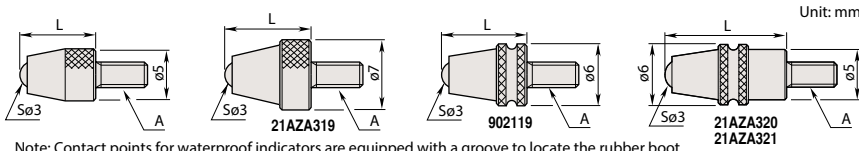
คอนแทค พ้อย

Contact Points

Optional Accessory for Digimatic and Dial Indicators and Linear Gages

Ball Point

Standard contact point



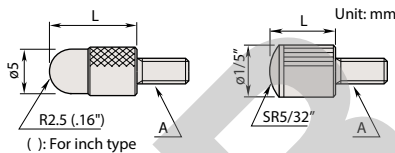
Note: Contact points for waterproof indicators are equipped with a groove to locate the rubber boot.

A: M2.5x0.45

L	Material	Carbide		Ruby	Plastic
		Without groove	With groove (waterproof type)	Without groove	Without groove
7.3		901312	-	120047	901994
8.3		21AZA319	902119	-	-
12.1		-	21AZA320	-	-
14		21JAA225	-	-	-
15		120049	-	120051	-
17		21JAA224	-	-	-
19.3		-	21AZA321	-	-
20		137391	-	137392	-
22		21JAA226	-	-	-
25		120053	-	120055	-
30		21AAA252	-	21AAA253	-

Shell Type Point

Contact point with a large radius.
Optimal for use on flat surfaces.

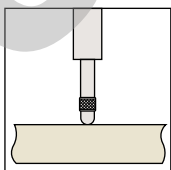


A: M2.5x0.45

Order No.	L
101386	5
101118	10
137393	15
101387	20
101388	25
21AAA254	30

A: M2.5x0.45

Order No.	L
193697	3/32"
101184	5/32"
21AAA031	1/4"
21AAA032	3/8"
101185	1/2"
21AAA033	5/8"
101186	3/4"
21AAA034	7/8"
101187	1"
21AAA035	1 1/4"
21AAA036	1 1/2"
21AAA037	1 3/4"
21AAA038	2"
21AAA039	2 1/4"
21AAA040	2 1/2"
21AAA041	2 3/4"
21AAA042	3"

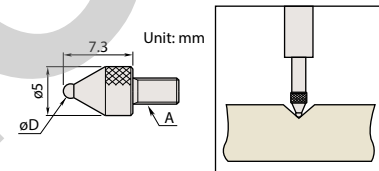


A: 4-48UNF

Material	Carbide	Plastic
1/4"	21BZB005	902018

Ball Point

Optimal for workpieces with deep indentations.

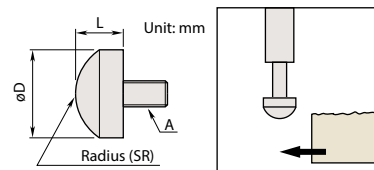


A: M2.5x0.45

Order No.	SoD	ød
21AAA349	1mm, carbide	5mm
21AAA350	1.5mm, carbide	5mm
101122	1.8mm, Steel	5mm
21AAA351	2.5mm, carbide	5mm
21AAA352	4mm, carbide	5mm

Spherical Point

A large radius makes this contact point optimal for use where the workpiece needs to slide from the side.



A: M2.5x0.45

Order No.	D	L	SR
111460	5.5	3	5
125258	7.9	5	5
101119	10	5	7

A: 4-48UNF

Order No.	D	L	SR
101205	1/2"	1/8"	.35"
101204	3/8"	3/32"	.28"

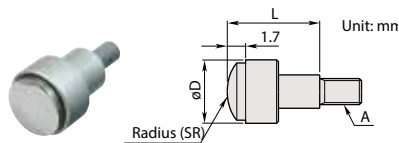
SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

Spherical Point (Carbide)

A large radius makes this contact point optimal for use where the workpiece needs to slide from the side.



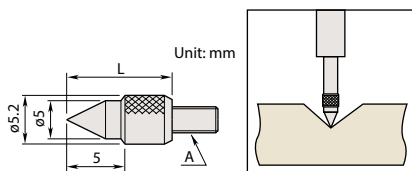
120059

A: M2.5x0.45

Order No.	D	L	SR
120058	5.2	5	5
120059	7.5	10	7
120060	10.5	10	10

Conical Point

Used for positioning the measurement point. Since it can damage a workpiece easily, it is not suitable for use on soft materials.



A: M2.5x0.45

Order No.	Tip angle	L
101120	60°	10

A: 4-48UNF

Order No.	L	A
101190	1 1/2"	.2"



101120



101385

A: M2.5x0.45

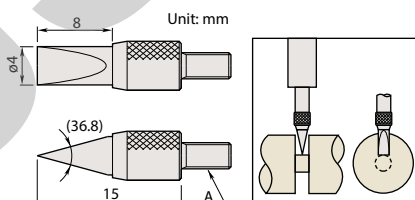
Order No.	Tip angle	L
101385	90°	5

A: 4-48UNF

Order No.	D	L
101191	.2"	1/4"

Knife Edge Point (Carbide)

Suitable for measuring narrow groove diameter, etc.



A: M2.5x0.45

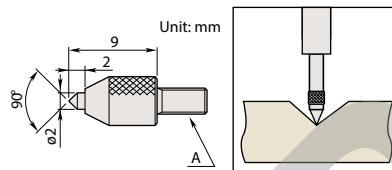
Order No.
120067



120067

Conical Point (Carbide)

Used for positioning the measurement point. Since it can damage a workpiece easily, it is not suitable for use on soft materials.



A: M2.5x0.45

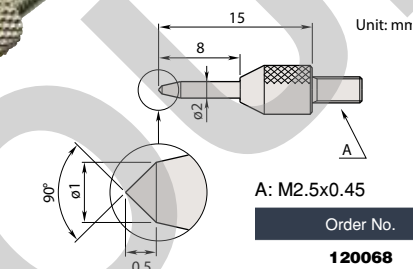
Order No.
120057



120057



120068

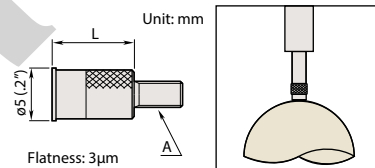


A: M2.5x0.45

Order No.
120068

Flat Point

Optimal for use on convex surfaces.



A: M2.5x0.45

Order No.	L
131365	8
21AAA340	10



131365

A: 4-48UNF

Order No.	L
133017	5/16"
21AAA043	1/2"
21AAA044	3/4"
21AAA045	1"

A: M2.5x0.45

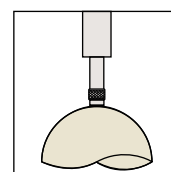
Order No.	L
101117	10
21AAA341	15
21AAA342	20
21AAA343	25
21AAA344	30



101117

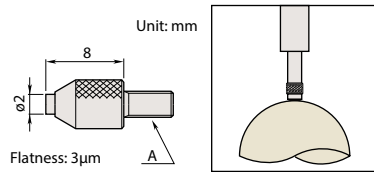
A: 4-48UNF

Order No.	L
101188	1/2"
101189	3/8"



Flat Point (Carbide)

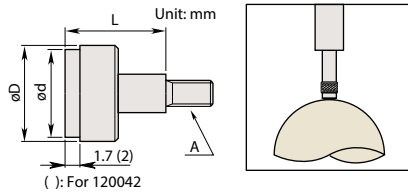
Optimal for use on convex surfaces.



A: M2.5x0.45

Order No.

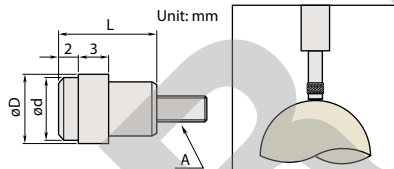
120056



A: M2.5x0.45

Order No.	D	L	L
120041	5.2	4.3*	5
120042	7	6.5*	10
120043	10.5	9.5*	10
21AAA345	17	15**	10
21AAA346	22	20**	10
21AAA347	27	25**	10
21AAA348	32	30**	10

Flatness: *3µm, **5µm

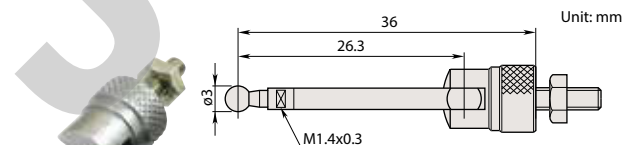


A: M2.5x0.45

Order No.	D	d	L
137255	7	6.4	10
137399	9	8	10

Lever Point

Suitable for use on perpendicular faces, such as those within mold cavities. Lever can be adjusted to the required angle.



90039

A: M2.5x0.45

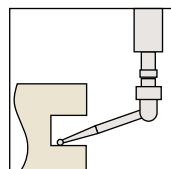
Order No.

900391

A: 4-48UNF

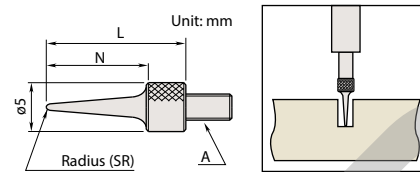
Order No.

900393



Needle Point

Suitable for probing the bottom of a groove or hole.



A: M2.5x0.45

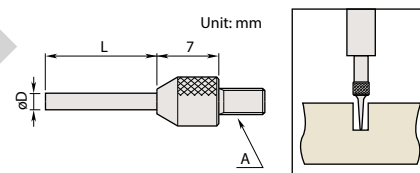
Order No.	N	L	SR
101121	11	15	0.4
137413	13	17	0.2
21AAA255	21	25	0.4
21AAA256	31	35	0.4

A: 4-48UNF

Order No.	L	SR
21AAA030	.6"	.016"
21AAA046	1"	.016"
21AAA047	1 1/2"	.016"
21AAA048	2"	.016"

Needle Point (Carbide)

Suitable for probing the bottom of a groove or hole.



A: M2.5x0.45

Order No.	D	L
120066	0.45	3
21AAA329	0.45	5
120065	1	3
21AAA330	1	5
21AAA331	1	8
21AAA332	1	10
21AAA333	1	20
21AAA334	1	40
21AAA335	1.5	5
21AAA336	1.5	10
120064	1.5	13
21AAA337	1.5	20
21AAA338	1.5	40
137257	2	8
21AAA257	2	18
21AAA258	2	28
21AAA339	2	40

Micrometer
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อุปกรณ์อื่นๆ

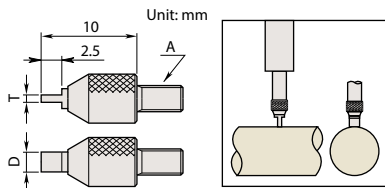
SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

Blade Point (Carbide)

Suitable for use on convex surfaces, especially those with shallow grooves.



A: M2.5x0.45

Order No.	T	D
120061	0.4	2
120062	0.6	2
120063	1	4



120062

Interchangeable Contact Point Set

This set consists of six types of popular contact point for extending the use of an indicator to many applications.



A: M2.5x0.45

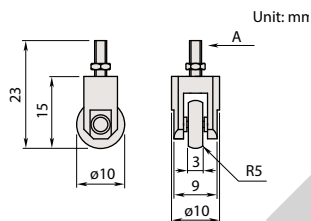
Order No.	L
7822	Flat Point (131365, ø5mm)
	Flat Point (101117, ø10mm)
	Needle Point (101121)
	Spherical Point (101119)
	Shell Type Point (101118)
	Shell Type Point (101387)

Roller Point

Suitable for use on a moving workpiece surface, or where the workpiece needs to slide from the side.



901954



A: M2.5x0.45

Order No.
901954

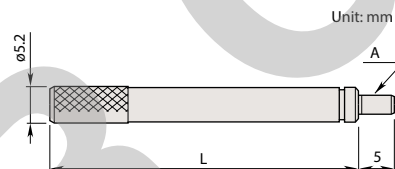
A: 4-48UNF

Order No.
901991

Extension Rod



303613

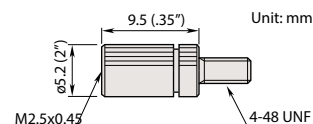


A: M2.5x0.45

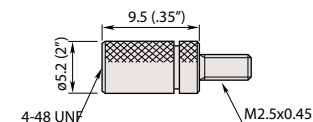
Order No.	L
303611	10
21AAA259A	15
303612	20
21AAA259B	25
303613	30
21AAA259C	35
21AAA259D	40
21AAA259E	45
21AAA259F	50
21AAA259G	55
304146	60
21AAA259H	65
21AAA259J	70
21AAA259L	75
21AAA259M	80
304147	90
303614	100

A: 4-48UNF

Order No.	L
139167	1/2"
301655	1"
301657	2"
301659	4"



Order No.
21AAA011

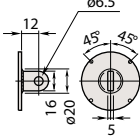
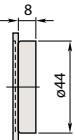
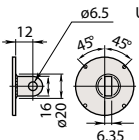
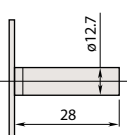
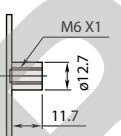
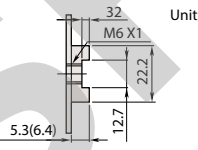
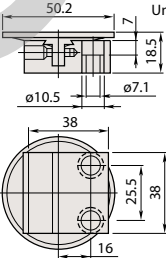


Order No.
21AAA012

อุปกรณ์เสริม

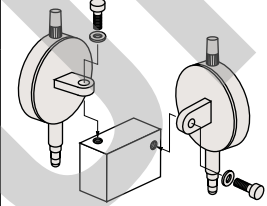
Interchangeable Backs

Optional Accessory for Digimatic and Dial Indicators

Description		Order No.		
		Series 1 (ø31, ø36, ø40mm)	Series 2 (ø57mm)	Series 3, 4 (ø78, 91mm)
Flat Back	 Unit: mm	101211 : a=2.2 136872 : for water-proof type 191559 : for 1911TB-10, 1913TB-10, 1921TB-10, 1923TB-10, 1925TB-10 137906 : for 1003TB	101039 : a=2.5 21AZB231 : for water-proof of S type 192910 : (F type waterproof model)	100836 : a=3.0
Lug-on-Center Back	 Unit: mm	101210 : metric type 101307 : inch type 190561 : for 1911T-10, 1913-10 190139 : 1921T-10, 1923T-10, 1925T-10 137905 : for 1003T	101040 : metric type 101306 : inch type 21AZB230 : for water-proof of S type (mm) 21BZB104 : for water-proof of S type (inch)	100691 : metric type 100797 : inch type
Magnetic Back	 Unit: mm	Special order	900928	900929
Back with Offset Lug	 Unit: mm	Special order	101167	100837
Back with Post	 Unit: mm	193172 : Custom made	101169	100839
Back with Screw Mount	 Unit: mm	193173 : M6x1, Custom made 193174 : #1/4-28UNF, Custom made	136023 : M6x1 101170 : #1/4-28UNF	136024 : M6x1 100840 : #1/4-28UNF
Adjustable Back	 Unit: mm	136025 : M6x1 129721 : #1/4-20UNC	136026 : M6x1 101168 : #1/4-20UNC	136027 : M6x1 100838 : #1/4-20UNC
Back with adjustable Bracket	 Unit: mm	-	901963	-

A dial or Digimatic indicator may be held in position by clamping on either the stem or the lug on the back of the indicator. The back of the indicator may need to be interchanged with another type for special applications. A wide variety of backs are available for Mitutoyo Digimatic and dial indicators.

Application



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SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

อุปกรณ์เสริม

Spindle Lifting Lever and Cable

Optional Accessories for Digimatic and Dial Indicators

Spindle Lifting Lever

The Spindle Lifting Lever is attached to the top end of the spindle for improved inspection efficiency when using a dial indicator mounted on a stand.

902100

Use for S type Series 1 and F type Series 2 (up to 10mm/.4" range) dial indicators.



21AZB149

Use for S type Series 2, 3, and 4 dial indicators (up to 10mm/.4").



21AZB150

Use for S type Series 2 and 3 dial indicators (from 10mm/.4" up to 20mm/.8").



21BZA205

Use for F type Series 1 dial indicators.



900527 : Lever
101171 : Screw

902011

Use for F type Series 2 dial indicators (up to 10mm/.4" range).



903424

Use for F type Series 2 dial indicators (up to 20mm/.8" range) and Series 3 and 4 dial indicators (up to 10mm/.4" range).



903307 : Lever
192686 : Screw

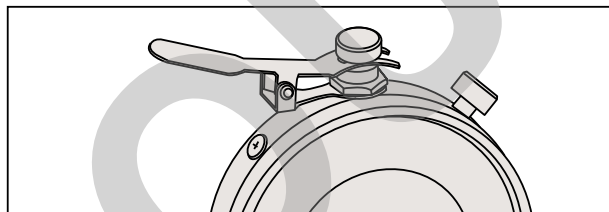
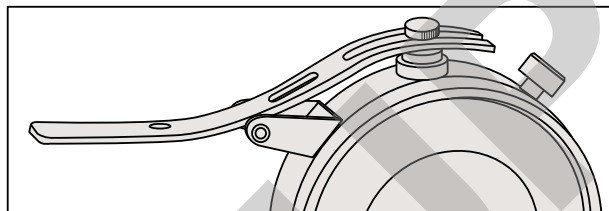
21EZA198

Use for ID-SS, ID-SX, ID-CX



21AZB149 : Lever
101171 : Screw

Application



Spindle Lifting Cable

901975: with auto-stop function (300 mm)
540774: without auto-stop function (500 mm)



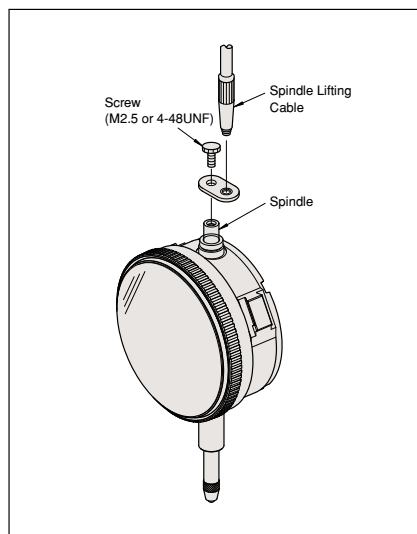
Note: This accessory is not applicable to range of 20mm or more, 2048S(B)-10, 2046S(B)-80, 1911T-10, 1913T-10, 1921T-10, 1923T-10, 1925T-10, and 2971TB to 2978TB.

Spindle Lifting Lever

137693: Suitable for 4.8mm spindle diameter.



Application



* If the spindle lifting lever is installed on a water/dustproof type, waterproof performance is not guaranteed.

Limit Stickers

- These are stuck onto the dial face or crystal of a Series 2 dial indicator (55.6mm or 57mm bezel diameter) to indicate tolerance limits.



No.136420
(10 sheets/set)



No.136421
(10 sheets/set)



No.136422
(10 sheets/set)

**Color-coded Spindle Caps**

- 9 color-coded spindle caps are available for dial indicators with a range of 10mm or less.



Color	Order No.	
	Standard	Waterproof
Black	193051	193595
White	193051W	193595W
Red	193051R	193595R
Green	193051G	193595G
Blue	193051B	193595B
Yellow	193051Y	193595Y
Orange	193051D	193595D
Pink	193051P	193595P
Navy	193051S	193595S

Note: This accessory is not applicable to 1003T 1911T-10 1913T-10 1921T-10 1923T-10 1925T-10 and 2971TB to 2978TB.

Note: When attaching to small dial indicators, the overall height will be 8mm taller.

Dial Indicator Crystal Setter**7000**

- Used for fitting a crystal on dial indicators (Series 1 and 2), dial test indicators, and dial calipers. (Integrated molded crystals are excluded.)
- 8 sizes of crystal setting pads are supplied as standard.
- Application examples
Nos. 2 and 3: Pocket-type dial test indicators
Nos. 3 and 4: Dial test indicators, universal-type test indicators, full-range of Series 1 dial indicators, full range of dial calipers
Nos. 7 and 8: full-range of Series 2 dial indicators, dial height gage with counter

- Size of crystal setting pads (mm)
(1) ϕ 19.5 (2) ϕ 22.5 (3) ϕ 25.5 (4) ϕ 28.5
(5) ϕ 32.5 (6) ϕ 35 (7) ϕ 38 (8) ϕ 50

- Crystal setting pads set (including No. 1 to No. 8): 21JAA032
Note: Crystal setting pads for large dial indicators (Series 3 and 4) are available by special order.

Replacing bezels and graduation plates

A bezel and graduation plate must be swaged together so that the graduation plate always rotates with the bezel. Assemblies comprised of a swaged bezel and graduation plate are available for some models.

Code No. of dial indicators	Code No. of swaged assemblies
2046S	21AZB132
2109S-10	21AZB138
2046F	903457
2109F	903464

**Micrometer**

ไมโครมิเตอร์

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Linear Height

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ไดอัลเทสอินดิเคเตอร์

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SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

Dial Indicator Repair Tool Kit



Set 7823EU - Set Configuration

- | | |
|------|---|
| (1) | Spindle rest (129730) |
| (2) | Pin remover (129732) |
| (3) | Punch (129733) |
| (4) | Bearing adjuster (129734) |
| (5) | Pinion set (129735) |
| (6) | Reamer $\phi 1$ (129736) |
| (7) | Reamer $\phi 0.6$ (193702) |
| (8) | Reamer for pointer ($\phi 0.5$: 1/20 taper) (21JAA273) |
| (9) | Pointer removing tool (126628) |
| (10) | Pliers (901180) |
| (11) | Nippers (901179) |
| (12) | Pin rest (129731) |
| (13) | Hammer (901178) |
| (14) | Stick (21JAA314) |
| (15) | Brush (901177) |
| (16) | Brush (901176) |
| (17) | Pin-vise (901175) |
| (18) | Screwdriver (Phillips/flat blade) (901174) |
| (19) | Tweezers (129729) |
| (20) | Screwdriver (Phillips) (901173) |
| (21) | Pointer removing tip ($\phi 0.8$) (126630) |
| (22) | Pointer removing tip ($\phi 0.5$) (12630B) |
| (23) | Pointer removing tip ($\phi 1.6$) (126630C) |
| (24) | Adjustable nut (100699) |
| (25) | Case (901182) |

Application examples

Remove the long hand

Position the pointer removing tool (No. 9) on the hole diameter of the minute hand. Push the pivot with the pointer removing tool to remove the long hand.

Remove the little hand

Remove the little hand with the nippers (No. 11).

Adjust a bearing

Press the steel or jeweled bearing into its housing using the bearing adjuster (No. 4).

Remove or replace a pin

Place the spindle on the groove of the spindle rest (No. 1). Remove the pin with the pin remover (No. 2) and the hammer (No. 13). Tap the pin directly with the hammer (No. 13) to replace the pin.

Replace the long or little hand

Screw the pinion rest (No. 5) into the pin rest (No. 12). Support the pinion with the fixed pinion rest, and replace the hand with the punch (No. 3) and hammer (No. 13). Reaming is necessary in order to use a new hand. Use the reamer $\phi 1$ (No. 6) or reamer $\phi 0.6$ (No. 7) for F-type dial indicators and dial test indicators.

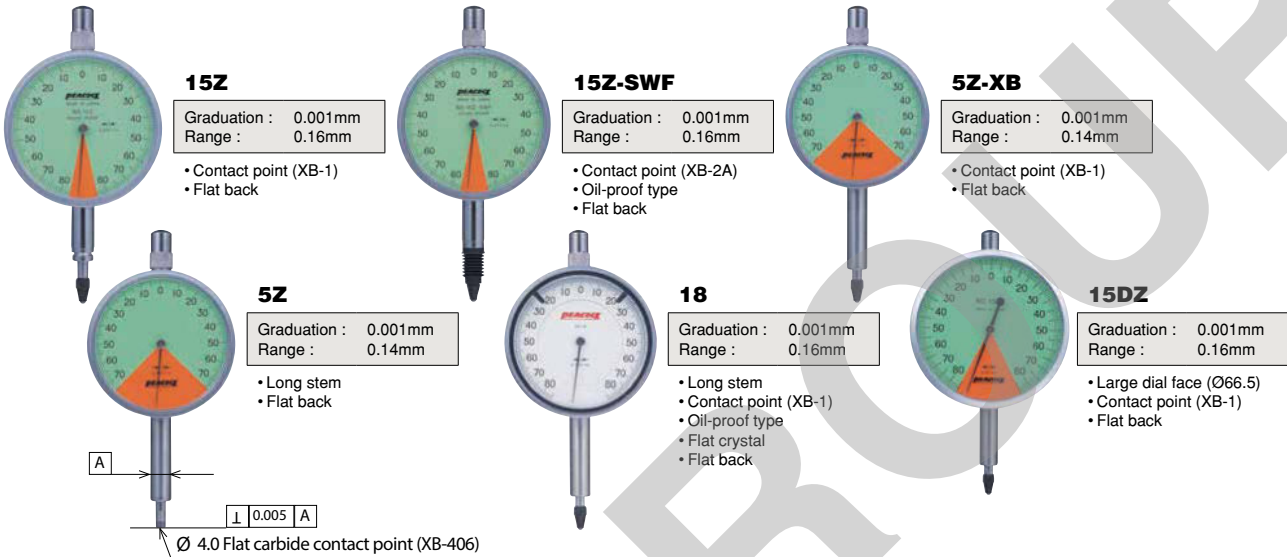
Use the reamer for pointer ($\phi 0.5$ 1/20 taper) (No.8) on S type and T type dial indicators.

ไดอัลเกจ

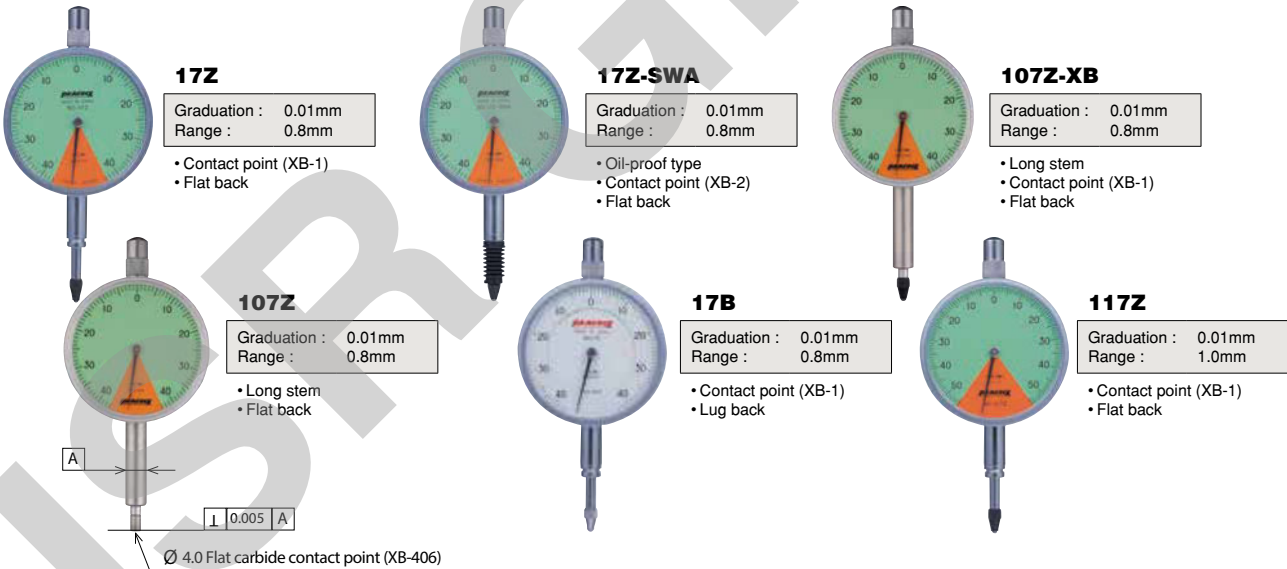
One Revolution Dial Gauges - 0.001mm and 0.01mm Z series

- These are high-accuracy dial gauges with the pointer giving less than a full turn that can resist rigorous continuous measurement. The long stem is made of stainless steel, is high in strength and is malfunction-free due to fastening.
- The dial faces except No. 18 and 17B are easy to read with green and orange (dead zone)

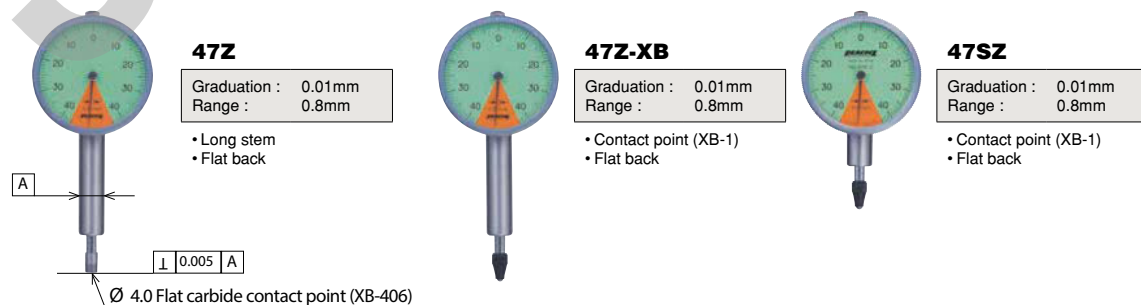
0.001mm Type



0.01mm Type



Miniature Type



Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

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Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

ไดอัลเกจ

Standard Dial Gauges - 0.001mm and 0.005mm

JIS B 7503

Dial Gauges are widely used manufacturing plants.

- The stem, made of SK quench hardened with strength, is malfunction-free due to fastening.
- The shock-proof mechanism prevents gears from damage due to shocks arisen by abruptly pushing up the spindle.
- The turning section of the outer frame sealed by the O-ring and the back inside sealed by the packing are waterproof and dust-proof in construction.
- The back is increased in strength by four screws, and the lug can be turned 90 degrees in the installation way.

<HG>

High Precision Type



5B-HG

Graduation : 0.001mm
Range : 0.8mm

- Indication error $\pm 3\mu\text{m}$
- Retrace error $2\mu\text{m}$
- Includes accuracy certification
- Lug back



5-DX

Graduation : 0.001mm
Range : 1mm

- Durable type (Spindle 5mm)
- Lug back



5B

Graduation : 0.001mm
Range : 1mm

- Lug back



5F

Graduation : 0.001mm
Range : 1mm

- Flat back



5-SWF

Graduation : 0.001mm
Range : 1mm

- Oil-proof type
- Contact point (X-2A)
- Lug back



25

Graduation : 0.001mm
Range : 2mm

- Lug back

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระดับ

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ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

SINCE 1916
PEACOCK

INDICATORS

อินดิเคเตอร์

Micrometer

ไมโครมิเตอร์

Inside
Measurement

เครื่องมือวัดภายใน

Calipers

คาลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระดับ

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อินดิเคเตอร์

Stands

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Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

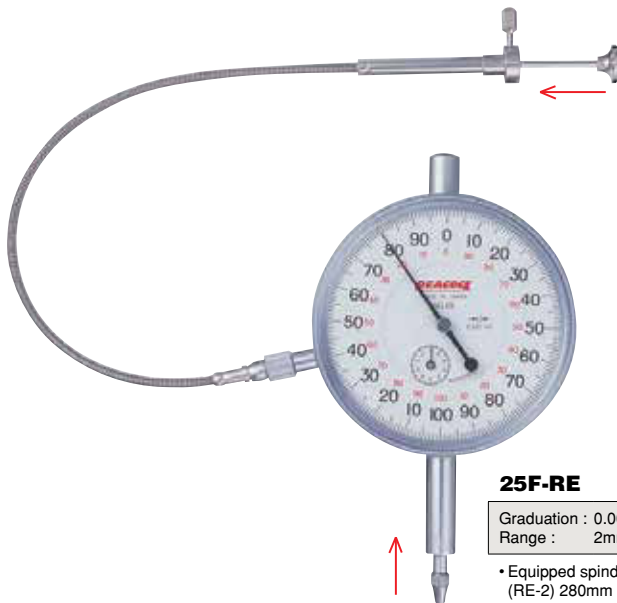
ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ



25F-RE

Graduation : 0.001mm
Range : 2mm

- Equipped spindle pull-up release (RE-2) 280mm long
- Flat back



25S

Graduation : 0.001mm
Range : 2mm

- Small dial face type (Ø55.7mm)
- Lug back



55

Graduation : 0.001mm
Range : 5mm

- Lug back



55-DX

Graduation : 0.001mm
Range : 5mm

- Small dial face type (Ø57mm)
- Lug back



56

Graduation : 0.005mm
Range : 5mm

- Lug back

(unit: μm)

Order No.	Graduation (mm)	Range (mm)	Reading	Indication error					Retrace error	Repeatability	Measuring force less than (N)
				1/10 revolution	1/2 revolution	One revolution	Two revolutions	Whole measuring range			
5B-HG	0.001	1	0 - 100 - 0	2	± 2	± 3	± 3	± 3	2	0.5	1.5
5-DX	0.001	1	0 - 100 - 0	2.5	± 3	± 4	± 4	± 5	3	0.5	1.5
5B	0.001	1	0 - 100 - 0	2.5	± 3	± 4	± 4	± 5	3	0.5	1.5
5F	0.001	1	0 - 100 - 0	2.5	± 3	± 4	± 4	± 5	3	0.5	1.5
5-SWF	0.001	1	0 - 100 - 0	2.5	± 3	± 4	± 4	± 5	3	0.5	1.5
25	0.001	2	$\pm 0 - 100 - 0$	4	± 5	± 6	± 6	± 7	5	0.5	1.5
25F-RE	0.001	2	$\pm 0 - 100 - 0$	4	± 5	± 6	± 6	± 7	5	0.5	1.5
25S	0.001	2	0 - 100 - 0	4	± 5	± 6	± 6	± 7	5	0.5	1.5
55	0.001	5	0 - 100 - 0	5	± 6	± 7	± 8	± 10	4	1	1.5
55-DX	0.001	5	0 - 100 - 0	5	± 6	± 7	± 8	± 10	4	1	1.5
56	0.005	5	0 - 25 - 50	6	± 10	± 10	± 12	± 12	5	5	1.5

ไดอัลเกจ

Standard Dial Gauges - 0.01mm

JIS B 7503

Dial Gauges are widely used manufacturing plants.

- The stem, made of SK quench hardened with strength, is malfunction-free due to fastening.
- The shock-proof mechanism prevents gears from damage due to shocks arisen by abruptly pushing up the spindle.
- The turning section of the outer frame sealed by the O-ring and the back inside sealed by the packing are waterproof and dust-proof in construction.
- The back is increased in strength by four screws, and the lug can be turned 90 degrees in the installation way.

<HG>

High Precision Type



107-HG

Graduation : 0.01mm
Range : 10mm

- Indication error $\pm 10\mu\text{m}$
- Retrace error $4\mu\text{m}$
- Includes accuracy certification
- Lug back



107-DX

Graduation : 0.01mm
Range : 10mm

- Durable type (Spindle $\varnothing 5\text{mm}$)
- Lug back



107

Graduation : 0.01mm
Range : 10mm

- Lug back



107F

Graduation : 0.01mm
Range : 10mm

- Flat back



107-SWA

Graduation : 0.01mm
Range : 10mm

- Oil-proof type
- Flat crystal
- Contact point (X-2A)
- Lug back



107-BL

Graduation : 0.01mm
Range : 10mm

- Spindle pull-up back lever
- Lug back



107F-RE

Graduation : 0.01mm
Range : 10mm

- Spindle pull-up release (RE-1) 280 mm long
- Flat back



107-LL

Graduation : 0.01mm
Range : 10mm

- Spindle lifting lever (LL-1)
- Lug back

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

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ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

SINCE 1916
PEACOCK

INDICATORS
อินดิเคเตอร์

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

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Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

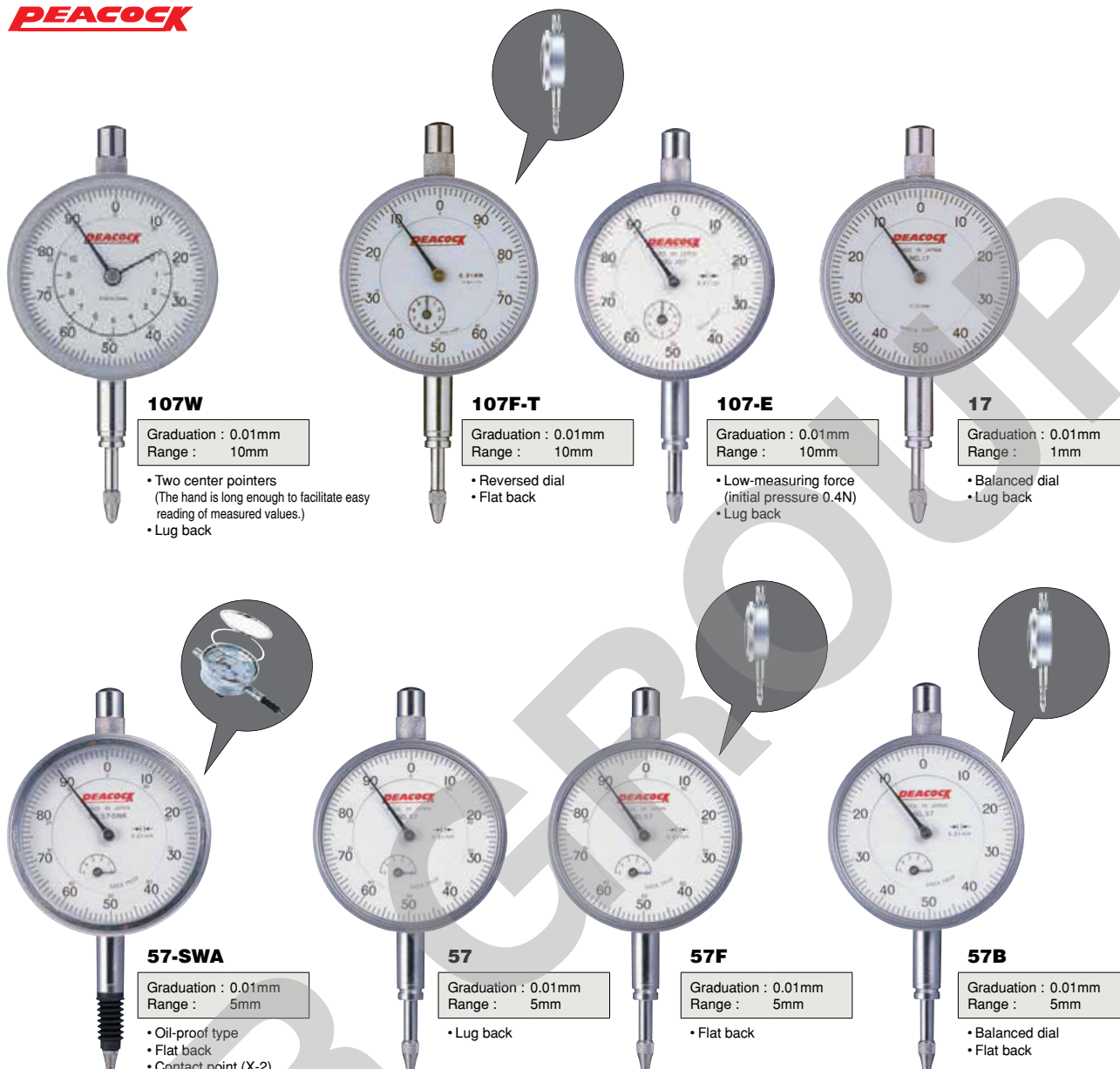
ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ



Order No.	Graduation (mm)	Range (mm)	Reading	Indication error					Retrace error	Repeatability	Measuring force less than (N)
				1/10 revolution	1/2 revolution	One revolution	Two revolutions	Whole measuring range			
107-HG	0.01	10	±0 - 50 - 100	6	±7	±8	±10	±10	4	5	1.4
107-DX	0.01	10	±0 - 50 - 100	8	±9	±10	±15	±15	5	5	1.4
107	0.01	10	±0 - 50 - 100	8	±9	±10	±15	±15	5	5	1.4
107F	0.01	10	±0 - 50 - 100	8	±9	±10	±15	±15	5	5	1.4
107-SWA	0.01	10	±0 - 50 - 100	8	±9	±10	±15	±15	5	5	1.4
107-BL	0.01	10	±0 - 50 - 100	8	±9	±10	±15	±15	5	5	1.4
107F-RE	0.01	10	±0 - 50 - 100	8	±9	±10	±15	±15	5	5	1.4
107-LL	0.01	10	±0 - 50 - 100	8	±9	±10	±15	±15	5	5	1.4
107W	0.01	10	±0 - 50 - 100	8	±9	±10	±15	±15	5	5	1.4
107F-T	0.01	10	±100 - 50 - 0	8	±9	±10	±15	±15	5	5	1.4
107-E	0.01	10	±0 - 50 - 100	8	±9	±10	±15	±15	5	5	initial pressure 0.4
17	0.01	1	0 - 50 - 0	8	±9	±10	-	-	5	5	1.4
57-SWA	0.01	5	±0 - 50 - 100	8	±9	±10	±15	±15	5	5	1.4
57	0.01	5	±0 - 50 - 100	8	±9	±10	±15	±15	5	5	1.4
57F	0.01	5	±0 - 50 - 100	8	±9	±10	±15	±15	5	5	1.4
57B	0.01	5	0 - 50 - 0	8	±9	±10	±15	±15	5	5	1.4

(unit: μm)

ไดอัลเกจ

Long Travel Dial Gauges - 0.01mm, 0.05mm and 0.1mm

JMAS 2001

Dial Gauges are widely used manufacturing plants.

- The stem, made of SK quench hardened with strength, is malfunction-free due to fastening.
- The shock-proof mechanism prevents gears from damage due to shocks arisen by abruptly pushing up the spindle.
- The turning section of the outer frame sealed by the O-ring and the back inside sealed by the packing are water-proof and dust-proof in construction.
- The back is increased in strength by four screws, and the lug can be turned 90 degrees in the installation way.

The position of the lever can be installed either right or left.



207

Graduation : 0.01mm
Range : 20mm

- Lug back



207F-PL

Graduation : 0.01mm
Range : 20mm

- Pump type spindle lifting lever
- Flat back



207F-T

Graduation : 0.01mm
Range : 20mm

- Reversed dial
- Flat back



207S-LL

Graduation : 0.01mm
Range : 20mm

- Spindle lifting lever (LL-1)
- Small dial face type (Ø53mm)
- Lug back



207S

Graduation : 0.01mm
Range : 20mm

- Small dial face type (Ø53mm)
- Lug back



207W

Graduation : 0.01mm
Range : 20mm

- Two center pointers (The hand is long enough to facilitate easy reading of measured values.)
- Lug back



207WF-T

Graduation : 0.01mm
Range : 20mm

- Two center pointers (The hand is long enough to facilitate easy reading of measured values.)
- Reversed dial
- Flat back



307S

Graduation : 0.01mm
Range : 30mm

- Small dial face type (Ø57mm)
- Contact point (X-2)
- Lug back

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

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Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

SINCE 1916
PEACOCK

INDICATORS

อินดิเคเตอร์

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

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Stands

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Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

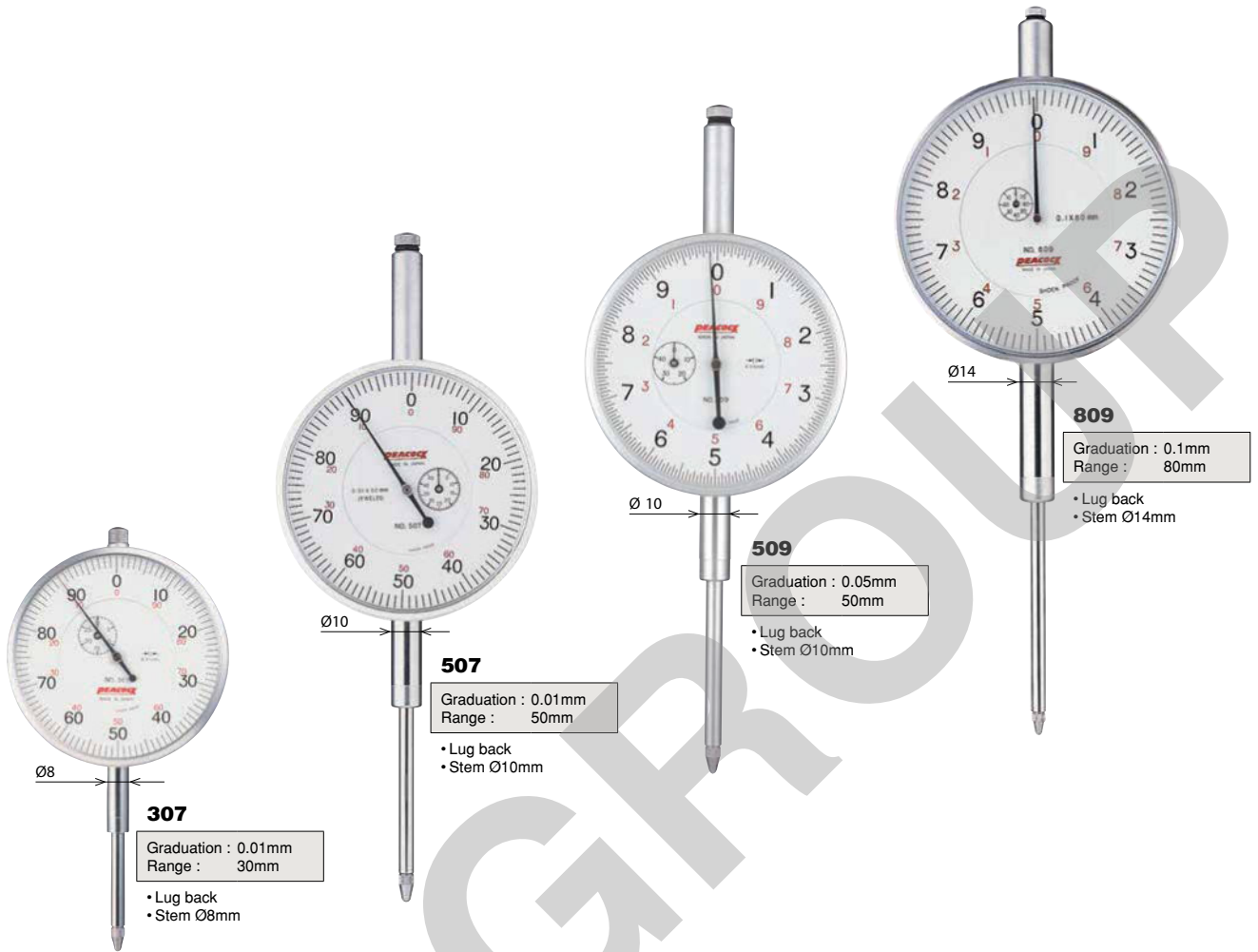
ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ



(unit: μm)

Order No.	Graduation (mm)	Range (mm)	Reading	Indication error					Retrace error	Repeatability	Measuring force less than (N)
				1/10 revolution	1/2 revolution	One revolution	Two revolutions	Whole measuring range			
207	0.01	20	$\pm 0 - 50 - 100$	10	-	± 15	-	± 20	7	5	2.0
207F-PL	0.01	20	$\pm 0 - 50 - 100$	10	-	± 15	-	± 20	7	5	2.0
207F-T	0.01	20	$\pm 100 - 50 - 0$	10	-	± 15	-	± 20	7	5	2.0
207S-LL	0.01	20	$\pm 0 - 50 - 100$	10	-	± 15	-	± 20	7	5	2.0
207S	0.01	20	$\pm 0 - 50 - 100$	10	-	± 15	-	± 20	7	5	2.0
207W	0.01	20	$\pm 0 - 50 - 100$	10	-	± 15	-	± 20	7	5	2.0
207WF-T	0.01	20	$\pm 100 - 50 - 0$	10	-	± 15	-	± 20	7	5	2.0
307S	0.01	30	$\pm 0 - 50 - 100$	14	-	± 18	-	± 25	7	5	2.2
307	0.01	30	$\pm 0 - 50 - 100$	14	-	± 18	-	± 25	7	5	2.2
507	0.01	50	$\pm 0 - 50 - 100$	15	-	± 20	-	± 35	9	5	2.5
509	0.05	50	$\pm 0 - 5 - 10$	30	-	± 100	-	± 100	10	20	2.5
809	0.1	50	$\pm 0 - 5 - 10$	50	-	± 100	-	± 100	-	35	2.5

ไดอัลเกจ

Miniature Dial Gauges - 0.001mm, 0.005mm and 0.01mm

JMAS 2003

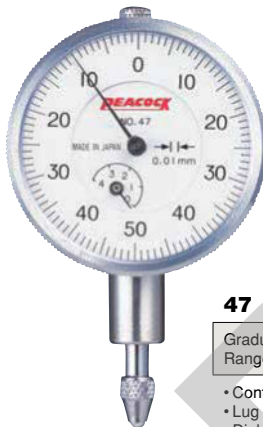
- These compact size dial gauges are equipped with small dial faces. They are especially useful for measuring jigs, in restricted areas.



5S

Graduation : 0.001mm
Range : 1mm

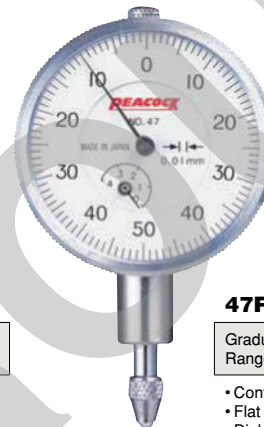
- Contact point (X-107)
- Flat back
- Dial dia. Ø40.8mm



47

Graduation : 0.01mm
Range : 4mm

- Contact point (X-107)
- Lug back
- Dial dia. Ø36mm



47F

Graduation : 0.01mm
Range : 4mm

- Contact point (X-107)
- Flat back
- Dial dia. Ø36mm



57S

Graduation : 0.01mm
Range : 5mm

- Contact point (X-105)
- Lug back
- Dial dia. Ø39mm



36A

Graduation : 0.005mm
Range : 3mm

- Contact point (X-107)
- Lug back
- Dial dia. Ø40.8mm



36B

Graduation : 0.01mm
Range : 3mm

- Contact point (X-107)
- Lug back
- Dial dia. Ø40.8mm

(unit: μm)

Order No.	Graduation (mm)	Range (mm)	Reading	Indication error					Retrace error	Repeatability	Measuring force less than (N)
				1/10 revolution	1/2 revolution	One revolution	Two revolutions	Whole measuring range			
5S	0.001	1	±0 - 100 - 100	5	±6	±7	±8	±10	4	5	1.5
47	0.01	4	0 - 50 - 0	9	-	±13	-	±15	6	5	1.4
47F	0.01	4	0 - 50 - 0	9	-	±13	-	±15	6	5	1.4
57S	0.01	5	±0 - 50 - 100	9	-	±13	-	±15	6	5	1.4
36A	0.005	3	±0 - 25 - 50	9	-	±13	-	±15	6	5	1.4
36B	0.01	3	0 - 25 - 50	9	-	±13	-	±15	6	5	1.4

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระดับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

SINCE 1916
PEACOCK

ไดอัลเกจ

Back Plunger Type Dial Gauges - 0.01mm

- The back plunger dial gauge is characterized with easy handling since the spindle having the contact point moves in the direction perpendicular to the dial face and the gauge is more compact.
- The dial gauge of this type is convenient for use in achieving a parallelism of the table of the machine tool, with measuring jigs, in restricted areas and on locations where scale reading is difficult.

Micrometer
ไมโครมิเตอร์

Inside
Measurement
เครื่องมือวัดภายใน

Calipers
คาลิเปอร์

Height Gages
เกจวัดความสูง

Linear Height
เครื่องมือวัดความสูง

Depth Gages
เกจวัดความลึก

Gauge Blocks
เกจบล็อก

Reference Gages
เครื่องมืออ้างอิง

Surface Plate
โต๊ะระบับ

Indicators
อินดิเคเตอร์

Stands
ขาตั้ง

Digimatic Indicators
ดิจิตอล อินดิเคเตอร์

Dial Indicators
ไดอัลอินดิเคเตอร์

Dial Test Indicators
ไดอัลเทสอินดิเคเตอร์

Dial Indicators
Applications
ไดอัลอินดิเคเตอร์อื่นๆ

Accessories
อุปกรณ์เสริม

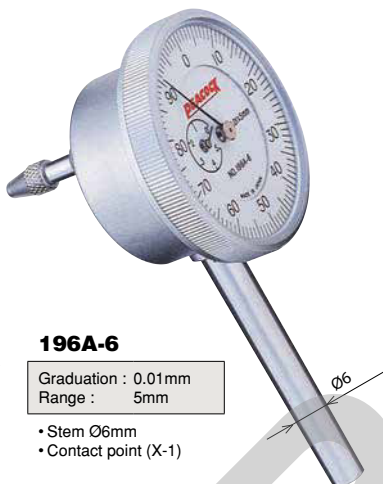
Other
อุปกรณ์อื่นๆ



196A

Graduation : 0.01mm
Range : 5mm

- Stem Ø6.35mm
- Contact point (X-1)



196A-6

Graduation : 0.01mm
Range : 5mm

- Stem Ø6mm
- Contact point (X-1)



196Z

Graduation : 0.01mm
Range : 0.8mm

- Stem Ø8mm
- Pointer giving less than one revolution
- Contact point (X-112)



196B

Graduation : 0.01mm
Range : 5mm

- Stem Ø8mm
- Contact point (X-112)

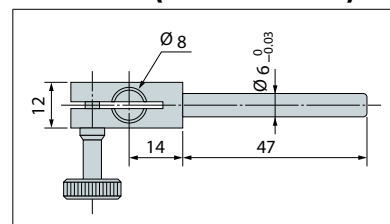


196B-T

Graduation : 0.01mm
Range : 5mm

- Stem Ø8mm
- Reversed dial
- Contact point (X-112)

Dimensions (Holder for 196B)



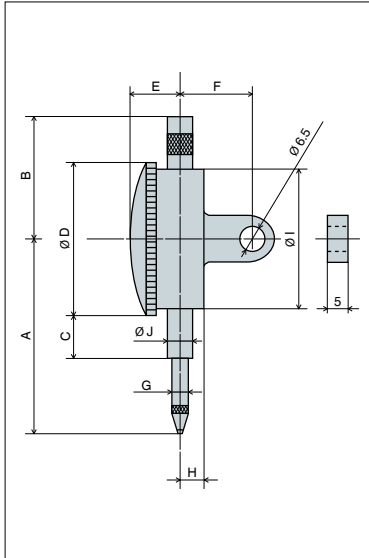
(unit: μm)

Order No.	Graduation (mm)	Range (mm)	Reading	Indication error					Retrace error	Repeatability	Measuring force less than (N)
				1/10 revolution	1/2 revolution	One revolution	Two revolutions	Whole measuring range			
196A	0.01	5	0 - 50 - 100	10	± 12	± 15	± 20	± 20	6	5	1.4
196A-6	0.01	5	0 - 50 - 100	10	± 12	± 15	± 20	± 20	6	5	1.4
196Z	0.01	0.8	40 - 0 - 40	10	± 12	± 15	-	-	6	5	1.4
196B	0.01	5	0 - 50 - 100	10	± 12	± 15	± 20	± 20	6	5	1.4
196B-T	0.01	5	100 - 50 - 0	10	± 12	± 15	± 20	± 20	6	5	1.4

※ Dial dia. Ø38mm (All Back Plunger type Dial Gauges)

ไดอัลเกจ

Dimensions of Dial Gauges



Standard 0.001mm 0.005mm

(mm)

Order No.	A	B	C	D	E	F	G	H	I	J
5B-HG	60	41.5	18.5	53	14.5	20	4	6.5	49	8.0 ⁰ _{-0.022}
5-DX	60	42.6	17	55.7	14.5	20	5	7	52	8.0 ⁰ _{-0.03}
5B	60	41.5	18.5	53	14.5	20	4	6.5	49	8.0 ⁰ _{-0.022}
5F	60	41.5	18.5	53	14.5	-	4	6.5	49	8.0 ⁰ _{-0.022}
5-SWF	63	41.5	17.5	55	15	20	4	6.5	49	8.0 ⁰ _{-0.022}
25	72	42	25	66.5	14.5	20	4	7.5	62.5	8.0 ⁰ _{-0.03}
25F-RE	72	41	25	66.5	14.5	-	4	7.5	62.5	8.0 ⁰ _{-0.03}
25S	60	42.6	17	55.7	14.5	20	5	7	52	8.0 ⁰ _{-0.03}
55	73	52	25	66	17	20	4.5	7	62.5	8.0 ⁰ _{-0.03}
55-DX	62	44.5	17	57	17	19.5	4.5	6.5	52	8.0 ⁰ _{-0.03}
56	62	44.5	17	57	17	19.5	4.5	6.5	52	8.0 ⁰ _{-0.03}

Standard 0.01mm

(mm)

Order No.	A	B	C	D	E	F	G	H	I	J
107-HG	65	41.5	18.5	53	14.5	20	4	6.5	49	8.0 ⁰ _{-0.03}
107-DX	65	50.7	17	55.7	14.5	20	5	7	52	8.0 ⁰ _{-0.03}
107	65	41.5	18.5	53	14.5	20	4	6.5	49	8.0 ⁰ _{-0.03}
107F	65	41.5	18.5	53	14.5	-	4	6.5	49	8.0 ⁰ _{-0.03}
107-SWA	65	41.5	17.5	53	15	20	4	6.5	49	8.0 ⁰ _{-0.03}
107-BL	65	41.5	18.5	53	14.5	-	4	6.5	49	8.0 ⁰ _{-0.03}
107F-RE	65	41.5	18.5	53	14.5	20	4	6.5	49	8.0 ⁰ _{-0.03}
107-LL	65	-	18.5	53	14.5	20	4	6.5	49	8.0 ⁰ _{-0.03}
107W	65	41.5	17.5	53	17	20	4	6.5	49	8.0 ⁰ _{-0.03}
107F-T	65	41.5	18.5	53	14.5	-	4	6.5	49	8.0 ⁰ _{-0.03}
107-E	65	41.5	18.5	53	14.5	20	4	6.5	49	8.0 ⁰ _{-0.03}
17	65	41.5	18.5	53	14.5	20	4	6.5	49	8.0 ⁰ _{-0.03}
57-SWA	65	41.5	18.5	53	15	20	4	6.5	49	8.0 ⁰ _{-0.03}
57	65	41.5	18.5	53	14.5	20	4	6.5	49	8.0 ⁰ _{-0.03}
57F	65	41.5	18.5	53	14.5	-	4	6.5	49	8.0 ⁰ _{-0.03}
57B	65	41.5	18.5	53	14.5	-	4	6.5	49	8.0 ⁰ _{-0.03}

Long Travel 0.01mm 0.005mm 0.1mm

(mm)

Order No.	A	B	C	D	E	F	G	H	I	J
207	90	41	25	66.5	14.5	20	5	7.5	62.5	8.0 ⁰ _{-0.03}
207F-PL	90	41	25	66.5	14.5	-	5	7.5	62.5	8.0 ⁰ _{-0.03}
207F-T	90	41	25	66.5	14.5	-	5	7.5	62.5	8.0 ⁰ _{-0.03}
207S-LL	75	50.5	18.5	53	14.5	20	4	6.5	49	8.0 ⁰ _{-0.03}
207S	75	50.5	18.5	53	14.5	20	4	6.5	49	8.0 ⁰ _{-0.03}
207W	75	50.5	17.5	55	17	20	4	6.5	49	8.0 ⁰ _{-0.03}
207WF-T	75	50.5	17.5	55	17	-	4	6.5	49	8.0 ⁰ _{-0.03}
307S	107	89	22	57	17.5	20	5	7	52	8.0 ⁰ _{-0.03}
307	102	46	22.8	75.5	17.5	21	5	8	72.5	8.0 ⁰ _{-0.03}
507	128	81.5	26.7	81.5	17.5	21.5	5.5	8.5	78.5	10.0 ⁰ _{-0.03}
509	128	81.5	26.7	81.5	17.5	21.5	5.5	8.5	78.5	10.0 ⁰ _{-0.03}
809	201.5	86.5	54	112	24	22.5	6	10	108	14.0 ⁰ _{-0.03}

Miniature 0.01mm 0.005mm

(mm)

Order No.	A	B	C	D	E	F	G	H	I	J
5S	43.2	30.5	12.9	40.8	12.5	-	4	5.1	37	8.0 ⁰ _{-0.03}
47	39.6	20	9.7	36	13	15	3.5	5.8	32	8.0 ⁰ _{-0.03}
47F	39.6	20	9.7	36	13	-	3.5	5.8	32	8.0 ⁰ _{-0.03}
57S	41.3	27.4	10	39	14	19	4	5.1	36.5	8.0 ⁰ _{-0.03}
36A	46.2	30.5	12.9	40.8	12.5	19	4	5.1	37	8.0 ⁰ _{-0.03}
36B	46.2	30.5	12.9	40.8	12.5	19	4	5.1	37	8.0 ⁰ _{-0.03}

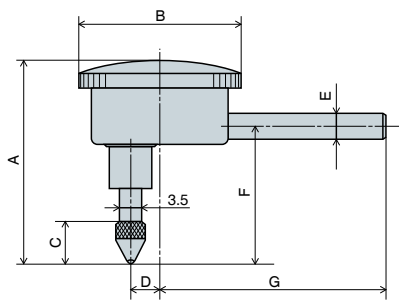
Micrometer
ไมโครมิเตอร์Inside
Measurement
เครื่องมือวัดภายในCalipers
คาร์ลิเปอร์Height Gages
เกจวัดความสูงLinear Height
เครื่องมือวัดความสูงDepth Gages
เกจวัดความลึกGauge Blocks
เกจบล็อกReference Gages
เครื่องมืออ้างอิงSurface Plate
โต๊ะระบับIndicators
อินดิเคเตอร์Stands
ขาตั้งDigimatic Indicators
ดิจิตอล อินดิเคเตอร์Dial Indicators
ไดอัลอินดิเคเตอร์Dial Test Indicators
ไดอัลเทสอินดิเคเตอร์Dial Indicators
Applications
ไดอัลอินดิเคเตอร์อื่นๆAccessories
อุปกรณ์เสริมOther
อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

SINCE 1916
PEACOCK

196A Type

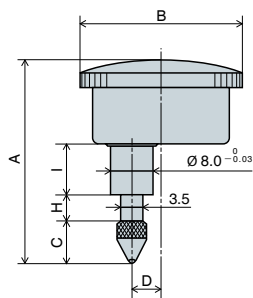


Back Plugger 0.01mm

(mm)

Order No.	A	B	C	D	E	F	G
196A	44	38	9	4.5	6.35	28.1	57
196A-6	44	38	9	4.5	6	28.1	57

196B Type



Back Plugger 0.01mm

(mm)

Order No.	A	B	C	D	E	F	G	H	I
196B	58.5	38	12.5	4.5	-	-	-	5.5	16.5
196B-T	58.5	38	12.5	4.5	-	-	-	5.5	16.5
196Z	58.5	38	12.5	4.5	-	-	-	5.5	16.5

INDICATORS
อินดิเคเตอร์

Micrometer
ไมโครมิเตอร์

Inside
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Calipers
คาลิเปอร์

Height Gages
เกจวัดความสูง

Linear Height
เครื่องมือวัดความสูง

Depth Gages
เกจวัดความลึก

Gauge Blocks
เกจบล็อก

Reference Gages
เครื่องมืออ้างอิง

Surface Plate
โต๊ะระบับ

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ขาตั้ง

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ดิจิตอล อินดิเคเตอร์

Dial Indicators
ไดอัลอินดิเคเตอร์

Dial Test Indicators
ไดอัลเทสอินดิเคเตอร์

Dial Indicators
Applications
ไดอัลอินดิเคเตอร์อื่นๆ

Accessories
อุปกรณ์เสริม

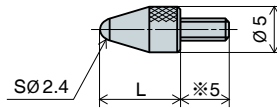
Other
อุปกรณ์อื่นๆ

ไดอัลเกจ

Replaceable Contact Point (Screw pitch M2.5 x 0.45mm) for Dial Indicators and Linear Gauges

● Ball Contact Point

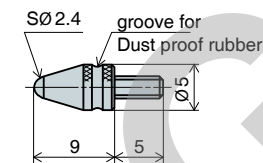
X-1



Order No.	L (mm)	Material
X-1	9	Steel
X-103	3.5	Steel
X-105	5	Steel
X-107	7.5	Steel
X-112	12.5	Steel
X-125	25	Steel
XB-1	9	Carbide
XB-115	15	Carbide
XB-125	25	Carbide
XB-130	30	Carbide
XC-1	9	Ruby
XC-125	25	Ruby

● Ball Contact Point for Oil Proof type

X-2



Order No.	L (mm)	Material
X-2	9	Steel
XB-2	9	Carbide
XC-2	9	Ruby
X-2A	12	Steel
XB-2A	12	Carbide

● Special Contact Point

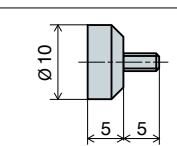
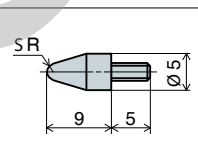
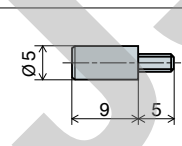
X-3



X-4 ~ 6



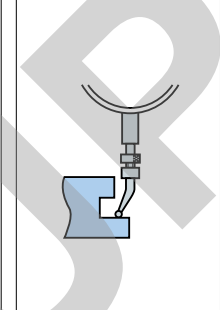
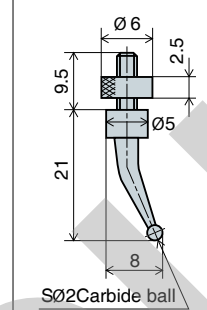
X-7



Order No.	Material
X-3	NSB
X-4	Copper
X-5	Bakelite
X-6	Teflon
X-7	Teflon

● Offset Contact Point

X-8



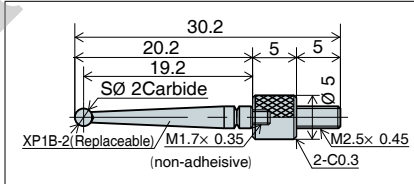
Order No.	Material
X-8	Carbide

● Special Contact Point

X-12



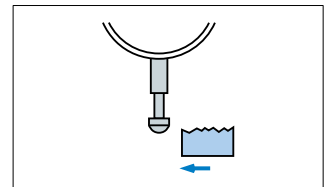
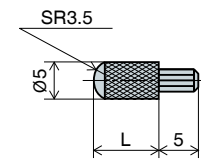
• Replaceable for Contact Point for Pic Test Indicator



Order No.	Material
X-12	Carbide

● Spherical Contact Point

XS-1



XS-1 series

Order No.	L (mm)	Material
XS-1	8	SKS3
XS-105	5	SKS3
XS-110	10	SKS3
XS-115	5	SKS3
XS-120	20	SKS3
XS-125	25	SKS3
XS-130	30	SKS3

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

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Accessories

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Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

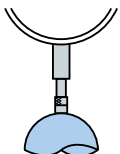
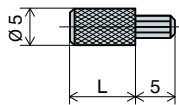
SINCE 1916
PEACOCK

INDICATORS

อินดิเคเตอร์

● Flat Contact Point

XS-2

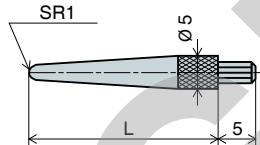


XS-2series

Order No.	L (mm)	Material
XS-2	8	SKS3
XS-205	5	SKS3
XS-210	10	SKS3
XS-215	5	SKS3
XS-220	20	SKS3
XS-225	25	SKS3
XS-230	30	SKS3

● Taper Contact Point

XS-3

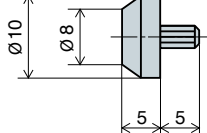


XS-3series

Order No.	L (mm)	Material
XS-3	25	SKS3
XS-310	10	SKS3
XS-315	15	SKS3
XS-320	20	SKS3
XS-330	30	SKS3

● Plain Contact Point

XS-4

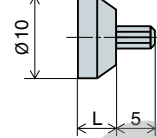


XS-4series

Order No.	Material
XS-4	SKS3

● Flat Contact Point

XS-5



XS-5series

Order No.	L (mm)	Material
XS-3	5	SKS3
XS-	10	SKS3

● Button type Contact Point

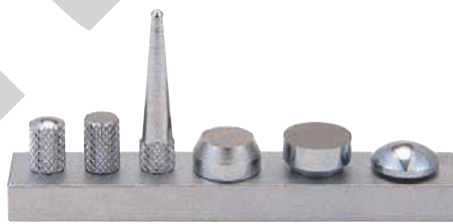
XS-6



XS-6series

Order No.	Material
XS-6	SKS3

● Contact Point set XS

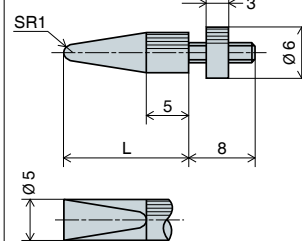


※XS is provided with setting table for XS-1 to XS-6 contact points, and a case.
Each type sold separately.

Order No.	Material
XS	SKS3

● Knife-edge Contact Point

XS-710



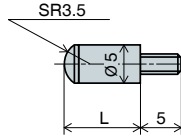
Order No.	L (mm)	Material
XS-710	10	SKS3
XS-715	15	SKS3
XS-720	20	SKS3
XS-725	25	SKS3
XS-730	30	SKS3

ไดอัลเกจ

Replaceable Contact Point (Screw pitch M2.5 x 0.45mm) for Dial Indicators and Linear Gauges

● Carbide Spherical Contact Point

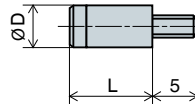
XB-308



Order No.	L (mm)	Material
XB-305	5	Carbide
XB-308	8	Carbide

● Carbide Flat Contact Point

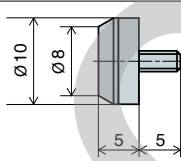
XB-408



Order No.	ØD (mm)	L (mm)	Material
XB-405	5	5	Carbide
XB-406	4	6	Carbide
XB-408	5	8	Carbide

● Carbide Plain Contact Point

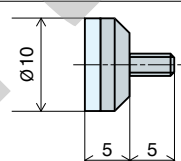
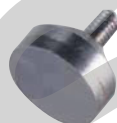
XB-505



Order No.	Material
XB-405	Carbide

● Carbide Flat Contact Point

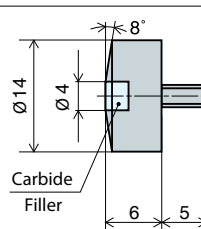
XB-605



Order No.	Material
XB-605	Carbide

● Carbide Plain Contact Point

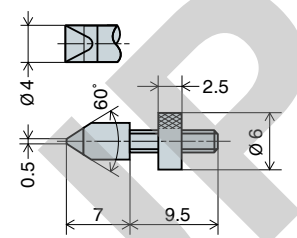
XB-506



Order No.	Material
XB-506	Carbide

● Carbide Knife-edge Contact Point

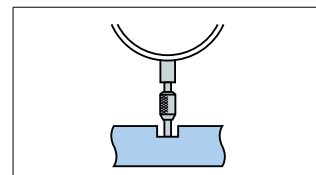
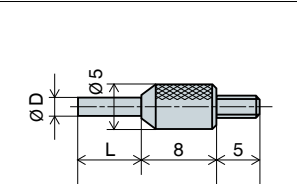
XB-707



Order No.	Material
XB-707	Carbide

● Needle Type Contact Point

XB-801



Order No.	ØD (mm)	L (mm)	Material
XB-800	1	2	Carbide
XB-801	1.5	12	Carbide
XB-802	2	7	Carbide
XB-803	2	12	Carbide
XB-804	1	20	Carbide
XB-805	1.5	20	Carbide
XB-806	2	20	Carbide
XB-807	1	40	Carbide
XB-808	1.5	40	Carbide
XB-809	2	40	Carbide

Order No.	ØD (mm)	L (mm)	Material
XB-800	1	2	SKS3
XB-801	1.5	12	SKS3
XB-802	2	7	SKS3
XB-803	2	12	SKS3
XB-804	1	20	SKH
XB-805	1.5	20	SKH
XB-806	2	20	SKH
XB-807	1	40	SKH
XB-808	1.5	40	SKH
XB-809	2	40	SKH

Micrometer

ไมโครมิเตอร์

Inside

Measurement
เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระบับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

SINCE 1916
PEACOCK

● Needle Contact Point

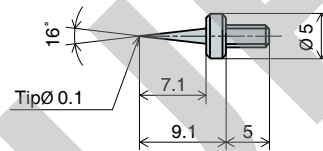
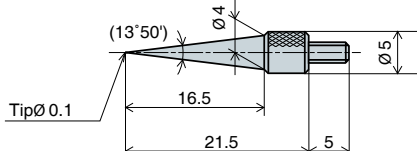
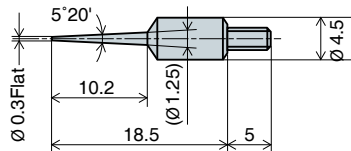
XT-2C



XT-3



XT-4



Order No.

Material

XT-2C

SK3

Order No.

Material

XT-3

SK3

Order No.

Material

XT-4

SK3

● Needle Contact Point

XT-5

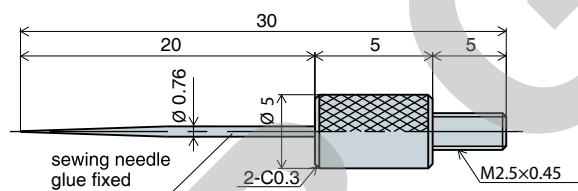


Order No.

Material

XT-5

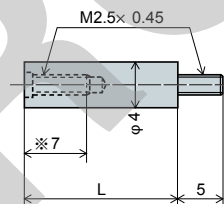
sewing needle



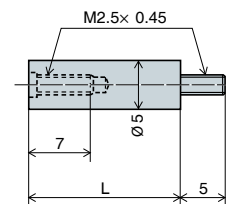
● Contact Point Joint

To extend the contact point, simply add the contact point joint.

Ø4 type



Ø5 type



※Length of the thread screw of XJ-406 is 5mm.

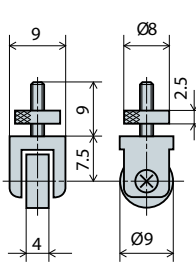
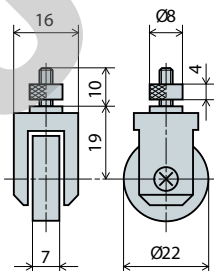
L (mm)	Ø 4 type	Ø 5 type
6	XJ-406	
10	XJ-410	XJ-510
15	XJ-415	
20	XJ-420	XJ-520
25	XJ-425	
30	XJ-430	XJ-530
35	XJ-435	
40	XJ-440	XJ-540
45	XJ-445	
50	XJ-450	XJ-550
55	XJ-455	
60	XJ-460	XJ-560
65	XJ-465	
70	XJ-470	
75	XJ-475	
80	XJ-480	
90	XJ-490	
100	XJ-400	

● Roller Contact Point

X-8



X-8



Order No.

Material

SH-1

SUJ2

Order No.

Material

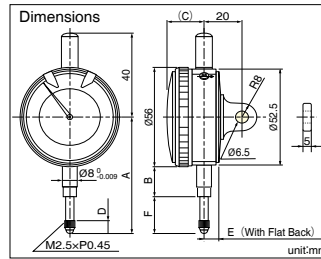
SH-2

SUJ2

ไดอัล อินดิเคเตอร์

Dial Indicator - 0.001mm Dial Indicator

- Standard type dial indicators of graduation 0.001mm and bezel diameter 56mm.
- Durability is pursued by protecting mechanical parts like gears with shock absorbing mechanism (Teclock unique shock proof mechanism).
- Jeweled bearing is applied for improving durability.
- Stable repeatability accuracy is realized with lever enlargement mechanism built-in.
- Tolerance hand is provided as standard accessory for all models for positive tolerance setting.
- Lifting lever (Option) can be mounted.
- Bezel clamp (Option) can be mounted (except for TM-1201PW).
- Measuring ability can be changed.
- In case that flat back is required, add suffix "F" to the end of model number (example =TM-1201F).



Dimensions Table

Unit : mm

Model	A	B	C	D	E	F
TM-1201	62	18	15	7.5	8	16
TM-1201PW	65.5	(18)	13.5	11	8.5	(19.5)
TM-1251	62	18	15	7.5	8	16
TM-1202	62	18	15	7.5	8	16
TM-1205	62	19	15.5	7.5	8	16

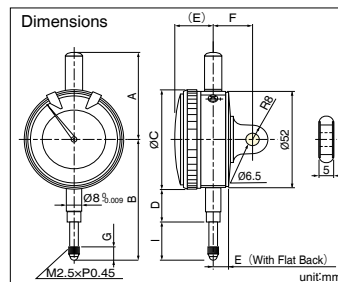


Order No.	Graduation (mm)	Measuring Range (Free Stroke) (mm)	Repeatability (μm)	Indication Error (μm)					Hysteresis (μm)	Standard Contact Point	Measuring Force (N)	Weight (g)
				Adjacent Error	1/2 Revolution	1 Revolution	2 Revolution	Total Range				
TM-1201	0.001	1(3)	0.5	2.5	±3	±4	±4	±5	3	ZS-017	1.5 or less	170
TM-1201PW	0.001	1(3)	0.5	2.5	±3	±4	±4	±5	3	ZS-028	1.5 or less	180
TM-1251	0.001	1(3)	0.8	2.5	±3	±4	±4	±5	3	ZS-017	1.5 or less	170
TM-1202	0.001	2(2)	0.5	4	±5	±6	±6	±7	3	ZS-017	1.5 or less	170
TM-1205	0.001	5(-)	1	5	±6	±7	±8	±10	4	ZS-017	1.5 or less	170

ไดอัล อินดิเคเตอร์

Dial Indicator - 0.01mm Dial Indicator

- This is the most standard type dial indicator of graduation 0.01mm.
- The model can be selected out of stainless stem, coaxial revolution pointer, oil discharge function and analog function depending on usage.
- These are standard series with high durability and high accuracy by pursuing parts accuracy.
- Lifting lever (Option) can be mounted.
- Bezel clamp (Option) can be mounted (except for TM-110PW / TM-110G).
- Measuring ability can be changed.
- In case that flat back is required, add suffix "F" to the end of model number (example =TM-110F).



Dimensions Table

Unit : mm

Model	A	B	C	D	E	F	G	H	I
TM-110	48	65	55	18	15.5	20	7.5	7.8	19.5
TM-110R	48	65	55	18	15.5	20	7.5	7.8	19.5
TM-110D	48	65	55	18	17.6	20	7.5	7.8	19.5
TM-110-4A	48	65	55	18	15.5	20	7.5	7.8	19.5
TM-110PW	44.5	68.5	56	(17.5)	14.5	20	11	8.3	23.0
TM-110P	48	65	55	18	15.5	20	7.5	7.8	19.5
TM-105	48	65	55	18	15.5	*	7.5	7.8	19.5
TW-105W*	48	65	55	18	15.5	20	7.5	7.8	19.5
TW-5106	48	65	55	19	15.5	20	7.5	7.8	19.5
TM-5105	48	65	55	19	15.5	20	7.5	7.8	19.5

*Indicator is supplied with Flat Back.

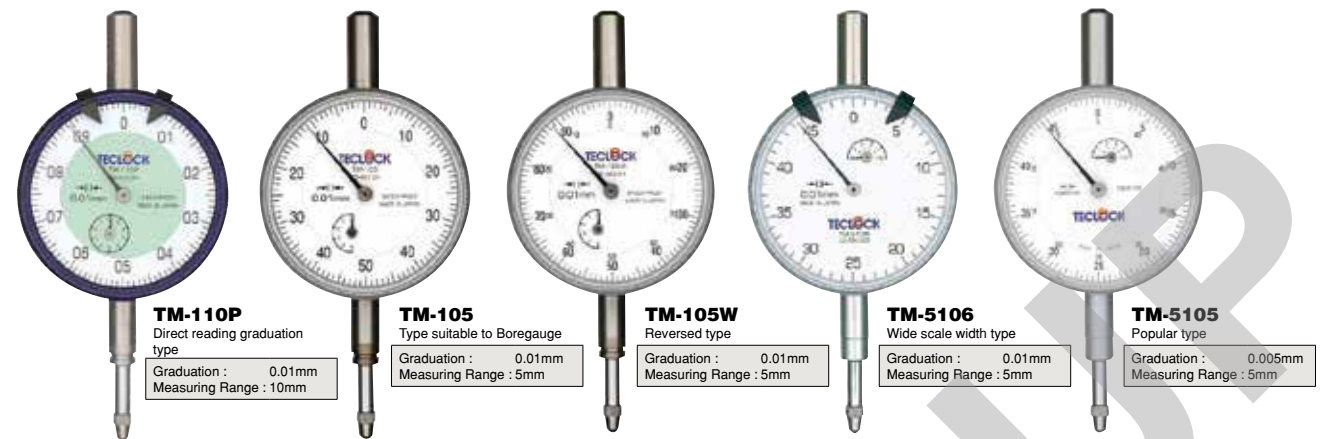


SMALL TOOLS

เครื่องมือวัดละเอียด

TECLOCK

INDICATORS
อินดิเคเตอร์



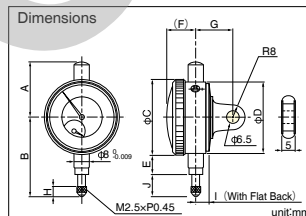
Order No.	Graduation (mm)	Measuring Range (mm)	Repeatability (μm)	Indication Error (μm)					Hysteresis (μm)	Standard Contact Point	Measuring Force (N)	Weight (g)
				Adjacent Error	1/2 Revolution	1 Revolution	2 Revolution	Total Range				
TM-110	0.01	10	5	8	±9	±10	±15	±15	5	ZS-017	1.4 or less	165
TM-110R	0.01	10	5	8	±9	±10	±15	±15	5	ZS-017	1.4 or less	165
TM-110D	0.01	10	5	8	±9	±10	±15	±15	5	ZS-017	1.4 or less	165
TW-110-4A	0.01	10	5	8	±9	±10	±15	±15	5	ZS-017	1.4 or less	165
TW-110PW	0.01	10	5	8	±9	±10	±15	±15	5	ZS-028	1.4 or less	165
TW-110P	0.01	10	5	8	±9	±10	±15	±15	5	ZS-017	1.4 or less	145
TW-105	0.01	5	5	8	±9	±10	±12	±12	5	ZS-017	1.4 or less	145
TW-105W	0.01	5	5	8	±9	±10	±12	±12	5	ZS-017	1.4 or less	145
TM-5106	0.01	5	3	7	±8	±9	±10	±12	5	ZS-017	1.4 or less	145
TW-5105	0.005	5	3	7	±8	±9	±10	±12	5	ZS-017	1.4 or less	145

*In case flat back is required, please add suffix "F" to the end of model number. (example=TM-1201F)

ไดอัล อินดิเคเตอร์

Dial Indicator - Small Dial Indicator

- As bezel diameter is small (minimum diameter=36mm), these are suitable to measure at the narrow setting space of production lines and many measuring points by being mounted to the machine.
- Lifting lever (Option) can be mounted (except for TM-34).
- In case that flat back is required, add suffix "F" to the end of model number (example =TM-35f).
- Measuring range 3.5mm, 4mm, 5mm, and 10mm are available in spite of small size.
- Bezel clamp (Option) can be mounted.
- Measuring ability can be changed.

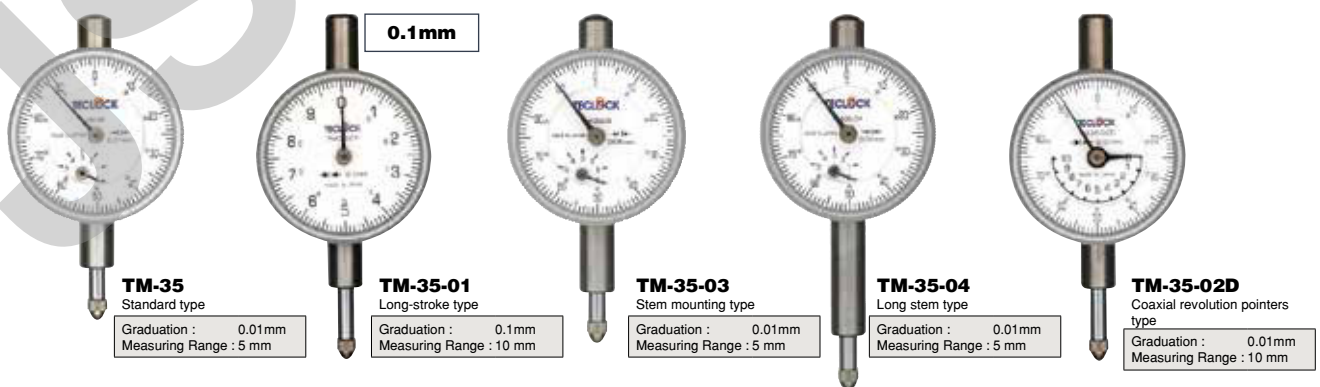


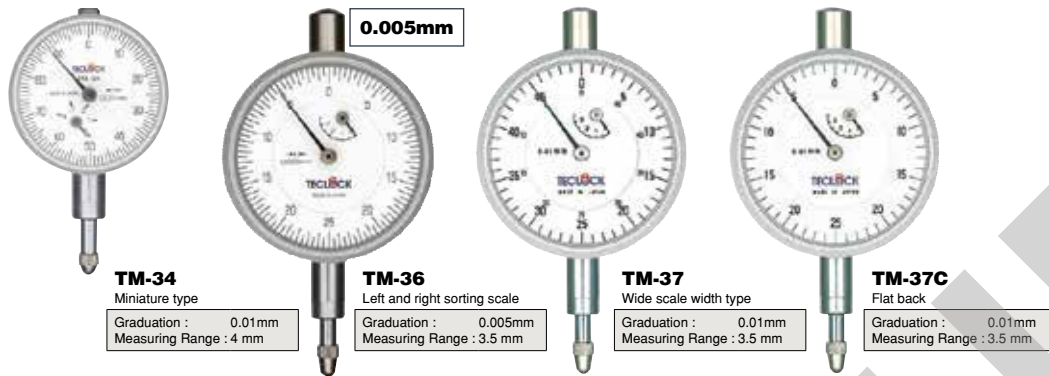
Dimensions Table

Unit : mm

Model	A	B	C	D	E	F	G	H	I	J
TM-35	27.4	41.3	39	36.5	10	14.5	19	5	6.2	11.8
TM-35-01	32.5	46	39	36.5	10	14.5	19	5	6.2	16.5
TM-35-03	27.4	46	39	36.5	15	14.5	19	5	6.2	11.5
TM-35-04	27.4	58	39	36.5	26	14.5	19	5	6.2	12.5
TM-35-02D	32.5	46	39	36.5	10	16.5	19	5	6.2	16.5
TM-34	20	39.5	35	32	10	13	19	5	6.5	12
TM-36	33.5	50	47	44	13	15.5	19.7	7.5	7	13.5
TM-37	33.5	50	47	44	13	15.5	19.7	7.5	7	13.5
TM-37C*	33.5	50	47	44	13	15.5	※	7.5	7	13.5

*Indicator is supplied with Flat back.





TM-34
Miniature type

Graduation : 0.01mm
Measuring Range : 4 mm

TM-36

Left and right sorting scale

Graduation : 0.005mm
Measuring Range : 3.5 mm

TM-37

Wide scale width type

Graduation : 0.01mm
Measuring Range : 3.5 mm

TM-37C

Flat back

Graduation : 0.01mm
Measuring Range : 3.5 mm

Order No.	Graduation (mm)	Measuring Range (mm)	Repeatability (μm)	Indication Error (μm)			Hysteresis (μm)	Standard Contact Point	Measuring Force (N)	Weight (g)
				Adjacent Error	1 Revolution	Total Range				
TM-35	0.01	5	5	9	±13	±15	6	ZS-014	1.3 or less	70
TM-35-01	0.1	10	-	-	-	±50	-	ZS-014	1.5 or less	70
TM-35-03	0.01	5	5	9	±13	±15	6	ZS-014	1.3 or less	72
TM-35-04	0.01	5	5	9	±13	±15	6	ZS-014	1.3 or less	75
TW-35-02D	0.01	10	5	9	±13	±18	7	ZS-014	1.6 or less	75
TW-34	0.01	4	5	8	±11	±15	6	ZS-014	1.0 or less	60
TW-36	0.005	3.5	5	8	±10	±12	5	ZS-017	1.2 or less	115
TW-37	0.01	3.5	5	8	±10	±12	6	ZS-017	1.2 or less	115
TW-37C	0.01	3.5	5	8	±10	±12	6	ZS-017	1.2 or less	115

*In case flat back is required, please add suffix "f" to the end of model number. (example=TM-1201f)

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระดับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

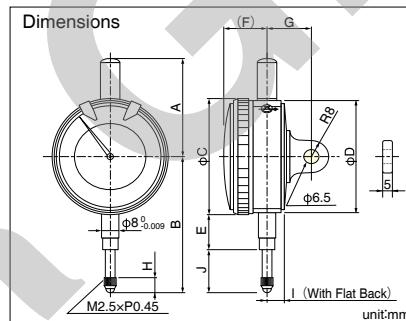
Other

อุปกรณ์อื่นๆ

ไดอัล อินดิเคเตอร์

Dial Indicator - 0.01mm Long Stroke Dial Indicator

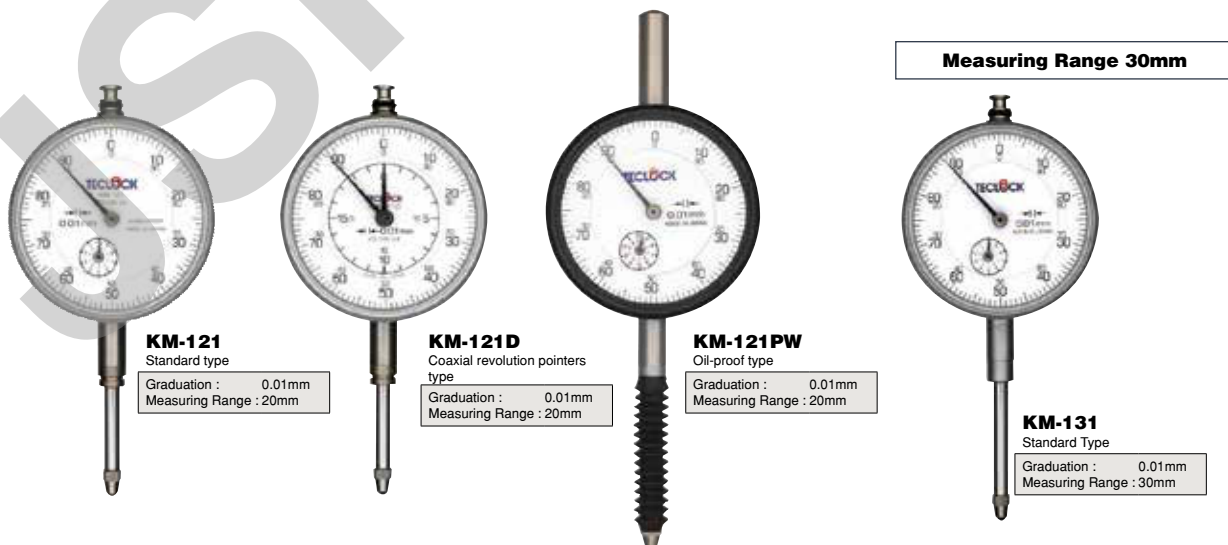
- 20mm, 30mm long stroke dial indicators are available.
- Teclock unique shock proof mechanism is built-in to all models.
- Lifting lever (Option) can be mounted (except for KM-121PW).
- Bezel clamp (Option) can be mounted (except for KM-121PW).
- In case that flat back is required, add suffix "f" to the end of model number (example =KM-121f).



Dimensions Table

Unit : mm

Model	A	B	C	D	E	F	G	H	I	J
KM-121	36	75	55	52	18	15.5	20	7.5	7.8	29.5
KM-121D	36	75	55	52	18	17.6	20	7.5	7.8	29.5
KM-121PW	55	89	56	52	(17.5)	14.5	20	11	8.3	(43.5)
KM-131	36	86	55	52	19	15.5	20	7.5	8	39.5
KM-132D	36	86	55	52	19	17.3	20	7.5	8	39.5
KM-130	38.5	92	59	54.5	22.7	17.5	22	7.5	9.6	39.8
KM-130R	38.5	92	59	54.5	22.7	17.5	22	7.5	9.6	39.8
KM-130D	38.5	92	59	54.5	22.7	19.5	22	7.5	9.6	39.8



KM-121

Standard type

Graduation : 0.01mm
Measuring Range : 20mm

KM-121D

Coaxial revolution pointers type

Graduation : 0.01mm
Measuring Range : 20mm

KM-121PW

Oil-proof type

Graduation : 0.01mm
Measuring Range : 20mm

Measuring Range 30mm

KM-131

Standard Type

Graduation : 0.01mm
Measuring Range : 30mm

เครื่องมื่อวัดละเอียด

INDICATORS



Measuring Range 30mm

**KM-132D**

Coaxial revolution pointers
type

Graduation :	0.01mm
Measuring Range :	30mm

**KM-130**

KM-130
High accurate type

Graduation :	0.01mm
Measuring Range :	30mm

**KM-130R**

Oil-proof type

Graduation :	0.01mm
Measuring Range :	30mm

**KM-130D**

KM-130B
Coaxial revolution pointers
type in the high accuracy

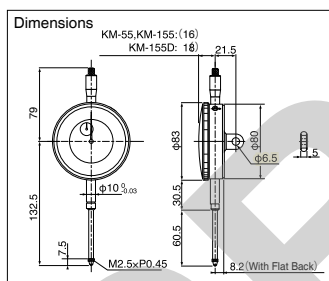
Graduation : 0.01mm
Measuring Range : 30mm

Order No.	Graduation (mm)	Measuring Range (mm)	Repeatability (μm)	Indication Error (μm)			Hysteresis (μm)	Standard Contact Point	Measuring Force (N)	Weight (g)
				Adjacent Error	1 Revolution	Total Range				
KM-121	0.01	20	5	10	±15	±20	7	ZS-017	2.2 or less	145
KM-121D	0.01	20	5	10	±15	±20	7	ZS-017	2.2 or less	150
KM-121PW	0.01	20	5	10	±15	±20	7	ZS-028	2.2 or less	165
KM-131	0.01	30	5	14	±18	±35	8	ZS-017	2.5 or less	150
KM-132D	0.01	30	5	14	±18	±35	8	ZS-017	2.5 or less	150
KM-130	0.01	30	5	14	±18	±25	7	ZS-017	2.2 or less	200
KM-130R	0.01	30	5	14	±18	±25	7	ZS-017	2.2 or less	200
KM-130D	0.01	30	5	14	±18	±25	7	ZS-017	2.2 or less	200

*In case flat back is required, please add suffix "f" to the end of model number.

ไต่อัล อินติเคเตอร์

Dial Indicator - Long Stroke Dial Indicator



- 50mm, 100mm, 150mm long stroke dial indicators with a large graduation plates are available.
- Measuring up to 150mm is materialized with highest precision components of high durability and Teclock original and unique enlargement mechanism is built-in.
- Bezel clamp (Option) can be mounted (except for KM-05100 / KM-05150).
- Long stroke dial Indicator is widely used for construction, civil engineering industries etc.
- In case that flat back is required, add suffix "f" to the end of model number (example =KM-155f) (except for KM-05100 /KM-05150).

**KM-55**

KM-55
Durability emphasis type

Graduation :	0.05mm
Measuring Range :	50mm

**KM-155**

KM-133
Wide graduation width type

Graduation : 0.01mm
Measuring Range : 50mm

**KM-155D**

KM-133D

Coaxial revolution pointers

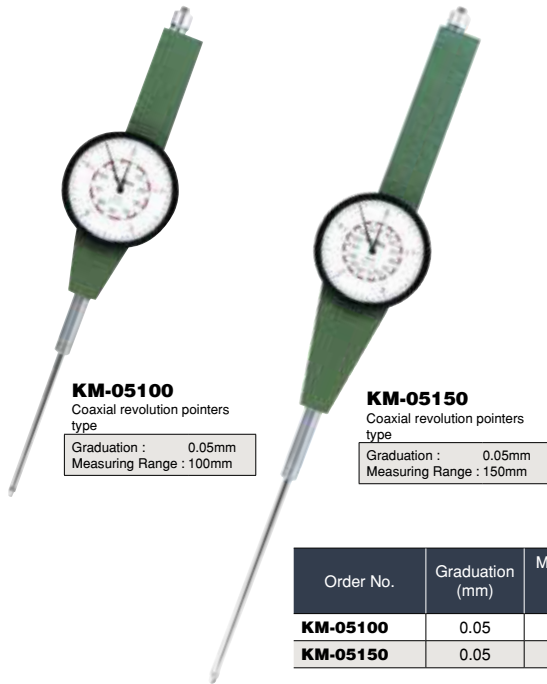
Graduation :	0.01mm
Measuring Range :	50mm

Order No.	Graduation (mm)	Measuring Range (mm)	Repeatability (μm)	Indication Error (μm)			Hysteresis (μm)	Standard Contact Point	Measuring Force (N)	Weight (g)
				Adjacent Error	1 Revolution	Total Range				
KM-55	0.05	50	20	30	± 50	± 100	15	ZS-017	2.5 or less	285
KM-155	0.01	50	5	15	± 20	± 35	9	ZS-017	2.5 or less	285
KM-155D	0.01	50	5	15	± 20	± 35	9	ZS-017	2.5 or less	285

*In case flat back is required, please add suffix "f" to the end of model number.

ไดอัล อินดิเคเตอร์

Dial Indicator - Long Stroke Dial Indicator



KM-05100

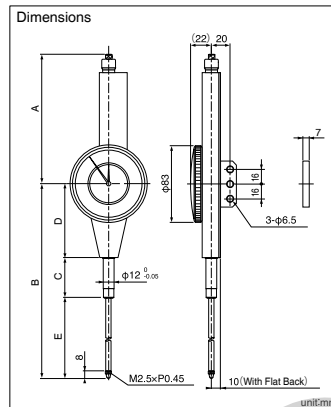
Coaxial revolution pointers type

Graduation : 0.05mm
Measuring Range : 100mm

KM-05150

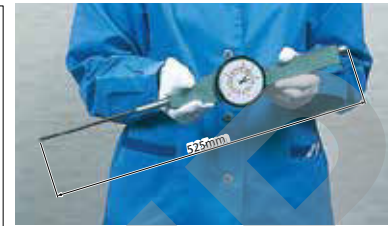
Coaxial revolution pointers type

Graduation : 0.05mm
Measuring Range : 150mm



Dimensions Table

Model	A	B	C	D	E
KM-05100	140	235	44	80	111
KM-05150	190	335	55	120	160



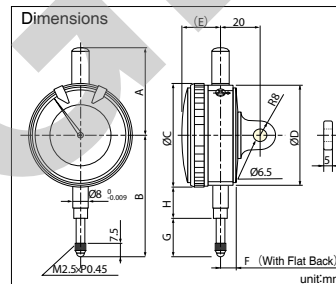
The longest mechanical type model: KM-05150

Order No.	Graduation (mm)	Measuring Range (mm)	Repeatability (μm)	Total Range Indication Error (μm)	Hysteresis (μm)	Standard Contact Point	Measuring Force (N)	Weight (g)
KM-05100	0.05	100	30	±100	15	ZS-018	2.5 or less	550
KM-05150	0.05	150	30	±150	15	ZS-018	3.0 or less	680

ไดอัล อินดิเคเตอร์

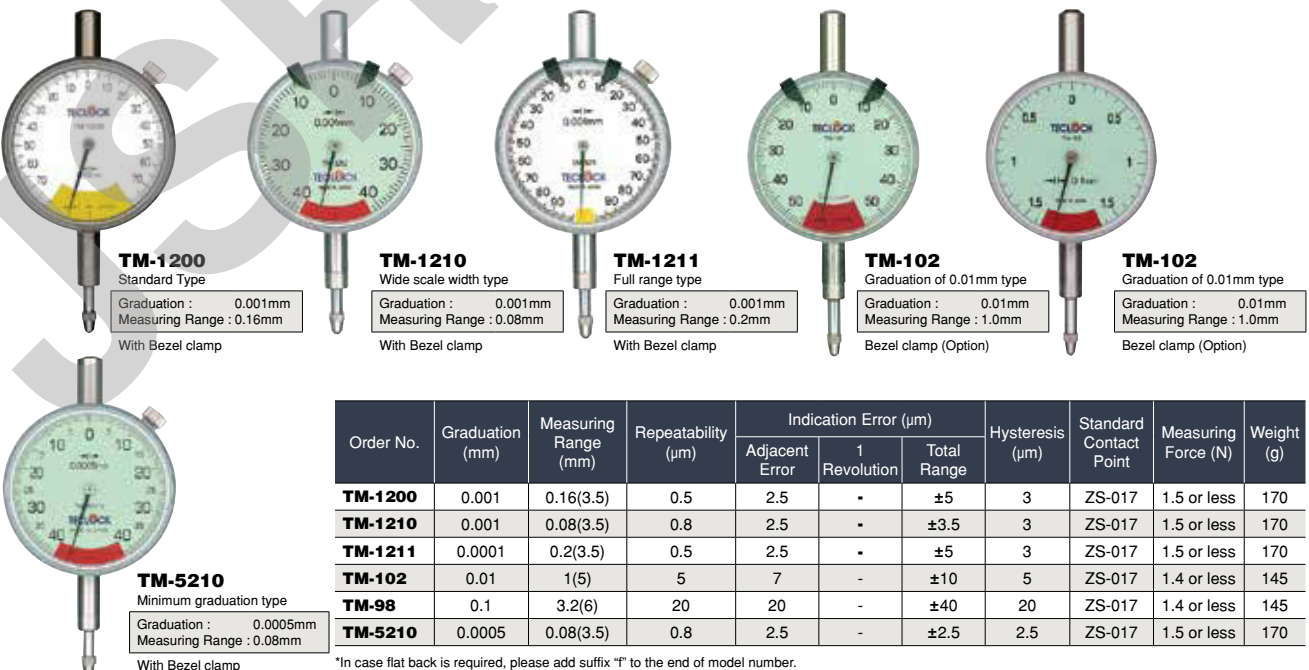
One Revolution Dial Indicator

- These are indicators that are effective for comparative measurement with 0.0005mm, 0.001mm, and 0.01mm.
- High durability is realized with Teclock original and unique enlargement mechanism is built-in.
- Limiter is mounted as standard.
- Measuring ranges are subdivided to 0.08mm, 0.16mm, 0.2mm and 1.0mm.
- Clump is attached to 0.001mm model.
- Lifting lever (Option) can be mounted.
- In case that flat back is required, add suffix "F" to the end of model number (example =TM-1200 f).



Dimensions Table

Model	A	B	C	D	E	F	G	H
TM-1200	44.5	62	56	52.5	15	8	16	18
TM-1210	44.5	62	56	52.5	15	8	16	18
TM-1211	44.5	62	56	52.5	15	8	16	18
TM-102	48	65	55	52	15.8	8	19	18.5
TM-98	48	65	55	52	15.8	7.8	19	18.5
TM-5210	44.5	62	56	52.5	15	8	16	18



TM-1200

Standard Type

Graduation : 0.001mm
Measuring Range : 0.16mm

With Bezel clamp

TM-1210

Wide scale width type

Graduation : 0.001mm
Measuring Range : 0.08mm

With Bezel clamp

TM-1211

Full range type

Graduation : 0.001mm
Measuring Range : 0.2mm

With Bezel clamp

TM-102

Graduation of 0.01mm type

Graduation : 0.01mm
Measuring Range : 1.0mm

Bezel clamp (Option)

TM-102

Graduation of 0.01mm type

Graduation : 0.01mm
Measuring Range : 1.0mm

Bezel clamp (Option)

TM-5210

Minimum graduation type

Graduation : 0.0005mm
Measuring Range : 0.08mm

With Bezel clamp

Order No.	Graduation (mm)	Measuring Range (mm)	Repeatability (μm)	Indication Error (μm)			Hysteresis (μm)	Standard Contact Point	Measuring Force (N)	Weight (g)
				Adjacent Error	1 Revolution	Total Range				
TM-1200	0.001	0.16(3.5)	0.5	2.5	-	±5	3	ZS-017	1.5 or less	170
TM-1210	0.001	0.08(3.5)	0.8	2.5	-	±3.5	3	ZS-017	1.5 or less	170
TM-1211	0.0001	0.2(3.5)	0.5	2.5	-	±5	3	ZS-017	1.5 or less	170
TM-102	0.01	1(5)	5	7	-	±10	5	ZS-017	1.4 or less	145
TM-98	0.1	3.2(6)	20	20	-	±40	20	ZS-017	1.4 or less	145
TM-5210	0.0005	0.08(3.5)	0.8	2.5	-	±2.5	2.5	ZS-017	1.5 or less	170

*In case flat back is required, please add suffix "F" to the end of model number.

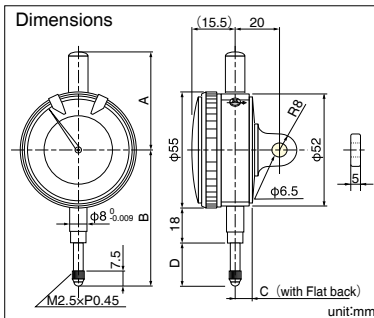
SMALL TOOLS

เครื่องมือวัดละเอียด

TECLOCK

ไดอัล อินดิเคเตอร์

0.1mm Dial Indicator



Dimensions Table Unit : mm

Model	A	B	C	D
TM-91	48	65	7.8	19.5
TM-91R	48	65	7.8	19.5
TM-92	36	75	7.8	29.5
TM-93	36	85	7.8	39.5



- These are 0.1mm graduation dial indicators.
- 3 types of 10mm, 20mm and 30mm are available depending on measuring ranges.
- Lifting lever (Option) can be mounted.
- This is used to measure approximate dimensional judgment for woodwork and leather goods etc. and also applicable for measurement of judge deviation dimension.
- Lifting lever (Option) can be mounted.
- Measuring ability can be changed.
- In case that flat back is required, add suffix "f" to the end of model number (example =TM-91f).



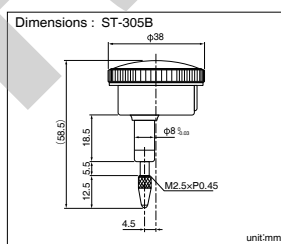
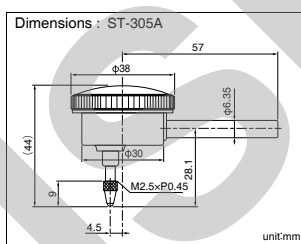
Order No.	Graduation (mm)	Measuring Range (mm)	Repeatability (μm)	Indication Error (μm)		Hysteresis (μm)	Standard Contact Point	Measuring Force (N)	Weight (g)
				1 Revolution	Total Range				
TM-91	0.1	10	35	-	±50	-	ZS-017	1.4 or less	140
TM-91R	0.1	10	35	-	±50	-	ZS-017	1.4 or less	140
TM-92	0.1	20	35	±50	±60	-	ZS-017	2.2 or less	145
TM-93	0.1	30	35	±50	±70	-	ZS-017	2.5 or less	145

*In case flat back is required, please add suffix "f" to the end of model number.

ไดอัล อินดิเคเตอร์

Back Plunger Dial Indicator

- These are different from general indicators, of which graduation plate can be set in parallel to measuring face. It is suitable for leveling smooth surface and reading from the front of measuring point.



ST-305B
Stem type
Graduation : 0.01mm
Measuring Range : 5mm



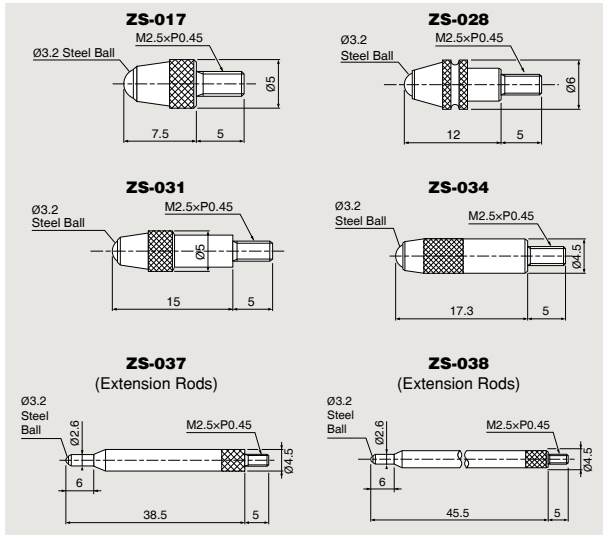
Displacement of can be read from above.

Order No.	Graduation (mm)	Measuring Range (mm)	Repeatability (μm)	Indication Error (μm)					Hysteresis (μm)	Measuring Force (N)	Weight (g)
				Adjacent Error	1/2 Revolution	1 Revolution	2 Revolution	Total Range			
ST-305A	0.01	5	5	10	±12	±15	±20	±20	6	1.4 or less	80
ST-305B	0.01	5	5	10	±12	±15	±20	±20	6	1.4 or less	80

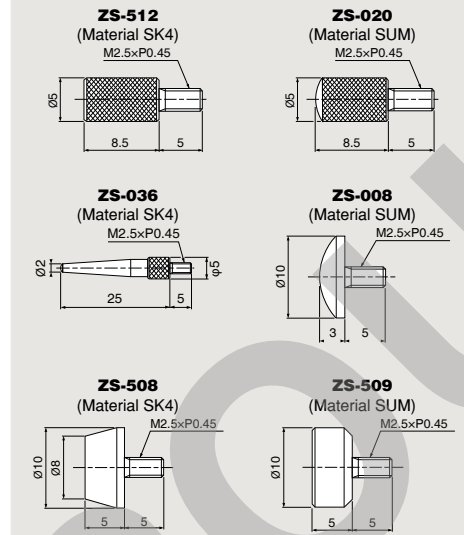
ไดอัลเกจ

Part & Accessories - Contact Point

Steel Ball Contact Point



Contact Point Set



ZS-900



Micrometer

ไมโครมิเตอร์

Inside

Measurement

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Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

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เกจบล็อก

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Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

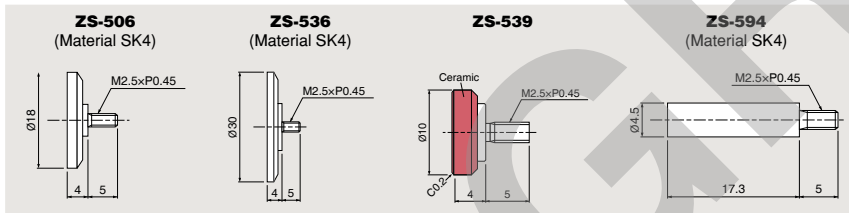
Accessories

อุปกรณ์เสริม

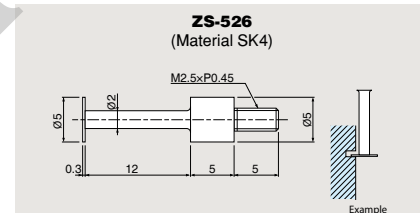
Other

อุปกรณ์อื่นๆ

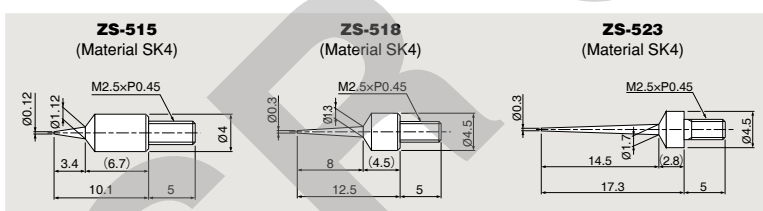
Flat Contact Point



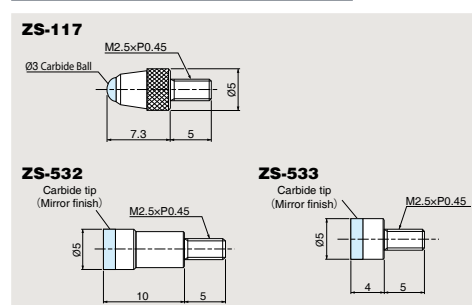
T-shape Contact Point



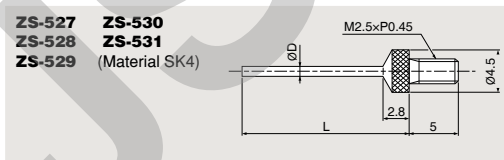
Needle Contact Point



Carbide Contact Point

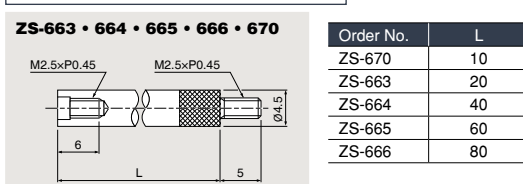


Flat Needle Contact Point



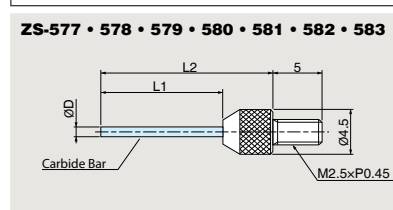
Order No.	D	L
ZS-527	1.0	17.3
ZS-528	1.5	17.3
ZS-529	1.5	27.3
ZS-530	2.0	17.3
ZS-531	2.0	27.3

Extension Rods



Order No.	L
ZS-670	10
ZS-663	20
ZS-664	40
ZS-665	60
ZS-666	80

Carbide Flat Needle Contact Point



Order No.	D	L1	L2
ZS-577	0.5	12	18.3
ZS-578	0.8	12	18.3
ZS-579	1.0	12	18.3
ZS-580	1.5	12	18.3
ZS-581	1.5	22	28.3
ZS-582	2.0	12	18.3
ZS-583	2.0	22	28.3

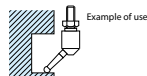
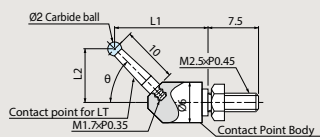
SMALL TOOLS

เครื่องมือวัดละเอียด

TECLOCK

Special Contact Point

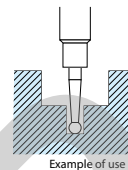
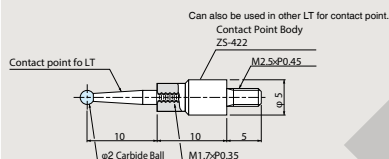
ZS-907 • 908 • 909
(Offset Contact Point with ZS-713)



Order No.	Contact point body	θ	L1	L2
ZS-577	ZS-419	30°	17.1	7
ZS-578	ZS-420	45°	15.1	9.1
ZS-579	ZS-421	60°	12.3	10.7

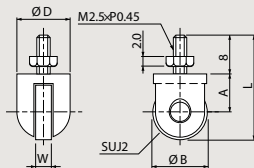
Can also be used in other LT for contact point.

ZS-910
(for Deep Hole with ZS-713)



Roller Point

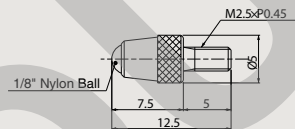
ZS-802 • 803 • 804
(Material SUJ2)



Order No.	A	B	D	L	W
ZS-802	5.5	6	6	16.5	2.6
ZS-803	8	11	11	21.5	4
ZS-804	13.5	22	14	32.5	7

Nylon Ball Point

ZS-054

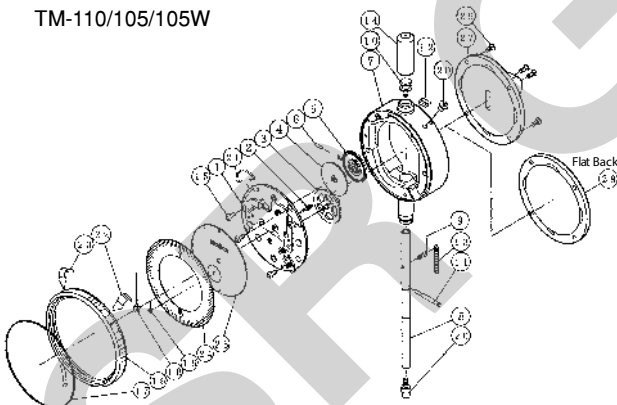


ไดอัลเกจ

Part & Accessories - Part List

0.01mm Dial Indicator

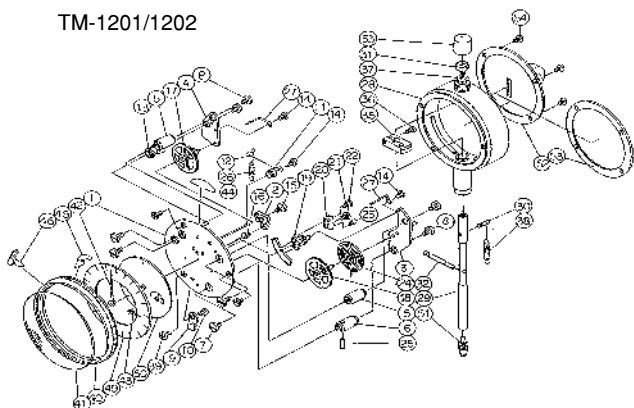
TM-110/105/105W



Key No.	Order No.	TM-110	TM-105	TM-105W
	Product No.	00-465-04	00-461-04	00-463-03
	Part Name			
1	Bottom Plate Assy		DG-110501S	
2	Center Pinion		DG-110009S	
3	#1 Gear Assy		DG-110511S	
4	#2 Gear Assy		DG-110514P	
5	Hair Spring		DG-110516	
6	Hair Spring Pin		DG-921018	
7	Case		DG-110541S	
8	Spindle	DG-110046S		DG-105046S
9	Stop Screw		DG-110047	
10	Top Point		DG-110048S	
11	Slide Pin		DG-110049S	
12	Shock Pillow		DG-110056S	
13	Spring		DG-110067	
14	Cap		ZY-006	
15	Bottom Plate Screw		001523	
16	Bezel	DG-110081S		DG-121081S
17	Dial Cover		DG-110088	
18	Pointer		DG-110584	
19	Counter Hand		DG-110586	
20	#0 Screw		021033	
21	Bezel Spring		DG-110090S	
22	Tolerance Hand R		DG-110092	
23	Tolerance Hand L		DG-110093	
24	Dial Plate	T-5101	T-62	T-5101
25	Counter Hand Dial Plate	T-5262	T-5271	T-5269
26	Contact Point		ZS-017	
27	Lug Back	ZL-010	-	ZL-010
28	Flat Back	-	ZL-066	-
29	#0 Screw		001328	

0.001mm Dial Indicator

TM-1201/1202



Key No.	Part Name	TM-1201	TM-1202
1	Bottom Plate	Bottom Plate Assy. DG-1201501	
2	Center Bearing		
3	#1 Upper Plate		
4	#2 Upper Plate		
5	#1 Post		
6	#2 Post		
7	Upper Plate Screw A		
8	Upper Plate Screw B		
9	Bezel Clamp		
10	Bezel Clamp Screw		
11	Lever Statto		
12	Spring Lever		
13	#3 Post		
14	Spring Lever Screw	001308	
15	#0 Screw	001308	
16	Center Pinion	DG-1201009	DG-1202009
17	#1 Gear Assy.	DG-1201511	DG-1202511
18	#2 Gear Assy.	DG-1201514	
19	Sector Gear Assy.	DG-1201323	
20	Bracket	DG-1201331	
21	Bracket Screw A	DG-1201032	
22	Bracket Screw B	DG-1201033	
23	Cam	DG-1201034	
24	Hair Spring	DG-121516	
25	Hair Spring Pin	DG-131018	
26	Spring B	DG-1201037	
27	Stopper	DG-1201038	
28	Case	DG-1201641	
29	Spindle	DG-1201046	
30	Stop Screw	DG-1201047	
31	Top Screw	DG-36048	
32	Slide Pin	DG-1201049	
33	Cap	ZY-012	
35	Contacting Point Assy.	DG-1201554	
36	Contacting Screw	DG-1201056	
37	Top Washer	DG-1201058	
38	Spring	DG-1201067	
39	Base Plate Screw	001314	
40	Bezel	DG-1201081	
41	Dial Cover	DG-1201088	
42	Pointer	DG-1201584	
43	Counter Hand	DG-1201586	
44	Bezel Spring	DG-110090	
45	Tolerance Hand R	DG-110092	
46	Tolerance Hand L	DG-110093	
49	Dial Plate	T-5304B	
50	Counter Hand Dial Plate	T-5004B	T-5005B
51	Contact Point	ZS-017	
52	Lug Back	ZL-010	
54	Lag Back Screw	001314	

Micrometer

ไมโครมิเตอร์

Inside

Measurement

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เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

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ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

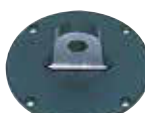
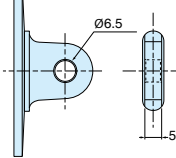
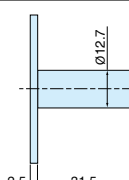
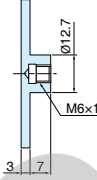
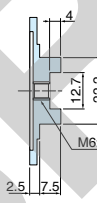
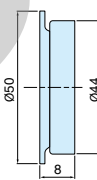
SMALL TOOLS

เครื่องมือวัดละเอียด

TECLOCK

อุปกรณ์เสริม

Part & Accessories - Back

Back		Order No.	Applicable Models
Lug Back Bezel clamping by nipping lug back part.	 	ZL-010	TM-1200, TM-1201, TM-1201PW, TM-1202, TM-1251, TM-102, TM-98, TM-5210, TM-110, TM-110, TM-110D, TM-110-4A, TM-110PW, TM-110G, TM-110P, TM-105, TM-105W, TM-5105, TM-5106, TM-91, TM-91R, KM-92, KM-93, KM-121, KM-121D, KM-121PW, KM-131, KM-132D, TM-1210, TM-1211
		ZL-021	TM-34
		ZL-024	TM-35, TM-35-01, TM-35-02D, TM-35-03, TM-35-04
		ZL-007	TM-36, TM-37, TM-37C
		ZL-012	TM-1205
		ZL-013	KM-130, KM-130D, KM-130R
		ZL-017	KM-55, KM-155, KM-155D
Flat Back It can not be clamping by using back lid.	 	ZL-066 (t=2.3mm) (Plastic)	TM-110, TM-110R, TM-110G, TM-110P, TM-105, TM-105W, TM-5105, TM-5106, TM-102, TM-91, TM-91R, KM-92, KM-93, KM-121, KM-121D, KM-121PW, KM-131, KM-132D, TM-98, TM-110D, TM-110-4A
		ZL-067 (t=2mm) (Alumi)	TM-1200, TM-1201, TM-1201PW, TM-1202 , TM-5210, TM-1210, TM-1211, TM-1251, TM-110PW
		ZL-060 (t=1.5mm)	TM-34
		ZL-062 (t=1.5mm)	TM-35, TM-35-01, TM-35-02D, TM-35-03, TM-35-04
		ZL-063 (t=1.5mm)	TM-36, TM-37, TM-37C
		ZL-073 (t=2mm)	TM-1205
		ZL-076 (t=2mm)	KM-130, KM-130D, KM-130R
		ZL-072 (t=2mm)	KM-55, KM-155, KM-155D
Post Back (Make to order) Used by clamping post.	 	ZL-120	TM-1200, TM-1201, TM-1201PW, TM-1202, TM-1251, TM-102, TM-5210, TM-110, TM-110R, TM-110D, TM-110-4A, TM-110PW, TM-110G, TM-105, TM-105W, TM-5105, TM-5106, TM-91, TM-91R, TM-98, KM-92, KM-93, KM-121, KM-121D, KM-121PW, KM-131, KM-132D, TM-1210, TM-1211
		ZL-121	TM-35, TM-35-01, TM-35-02D, TM-35-03, TM-35-04
		ZL-122	TM-36, TM-37, TM-37C
		ZL-123	KM-130, KM-130D, KM-130R
		ZL-124	KM-55, KM-155, KM-155D
Screw Post Back (Make to order) Used with screw as guide and clamping this with screw.	 	ZL-130	TM-1200, TM-1201, TM-1201PW, TM-1202, TM-1251, TM-102, TM-5210, TM-110, TM-110R, TM-110D, TM-110-4A, TM-110PW, TM-110G, TM-110P, TM-105, TM-105W, TM-5105, TM-5106, TM-91, TM-91R, TM-98, KM-92, KM-93, KM-121, KM-121D, KM-121PW, KM-131, KM-132D, TM-1210, TM-1211
		ZL-131	TM-35, TM-35-01, TM-35-02D, TM-35-03, TM-35-04
		ZL-132	TM-36, TM-37, TM-37C
		ZL-133	KM-130, KM-130D, KM-130R
		ZL-134	KM-55, KM-155, KM-155D
Adjustable Bracket Back (Make to order) Can be slide with gutter as guide. Clamped by screw.	 	ZL-140	TM-1200, TM-1201, TM-1201PW, TM-1202, TM-1251, TM-102, TM-5210, TM-110, TM-110R, TM-110D, TM-110-4A, TM-110PW, TM-110G, TM-105, TM-110P, TM-105W, TM-5105, TM-5106, TM-91, TM-91R, TM-98, KM-92, KM-93, KM-121, KM-121D, KM-121PW, KM-131, KM-132D, TM-1210, TM-1211
		ZL-142	TM-35, TM-35-01, TM-35-02D, TM-35-03, TM-35-04
		ZL-141	TM-36, TM-37, TM-37C
		ZL-143	KM-55, KM-155, KM-155D
Magnetic Back (Make to order) Can be easily installed with magnet on iron Plates or machinery.	 	ZL-900	TM-1200, TM-1201, TM-1201PW, TM-1202, TM-1251, TM-102, TM-5210, TM-110, TM-110R, TM-110D, TM-110-4A, TM-110PW, TM-110G, TM-105, TM-110P, TM-105W, TM-5105, TM-5106, TM-91, TM-91R, TM-98, KM-92, KM-93, KM-121, KM-121D, KM-121PW, KM-131, KM-132D, TM-1210, TM-1211

ไดอัลเทสอินดิเคเตอร์

SERIES 513 — Lever-Type Dial Indicators

Feature icons

Icon	Feature description
	With revolution counter
	Long stylus
	Jeweled bearing
	Double scale spacing type, easy on the eyes
	Compact
	Dustproof
	Anti-magnetic

- Designed to probe surfaces that cannot be reached with a normal dial gauge. Useful both for alignment and for measurement purposes.
- Mitutoyo's proprietary new design permits smooth pointer operation.
- Strong frame provides excellent rigidity and durability.
- Non-magnetic pointer and contact point permit reliable operation even in magnetic environments.
- Clear and concise wide dial face allows excellent visibility.
- The surface of the crystal is hard-coated for excellent scratch resistance.
- Flat crystal makes graduations easy to read. Moreover, the O-ring sealing method used for the bezel prevents water or oil penetration. (Note that this type is NOT waterproof.)

- Six types are available: horizontal, horizontal (20° tilted face), vertical, parallel, universal, and pocket, allowing users to select the model most suited to their needs.
- Horizontal: Standard
- Horizontal (20° Tilted Face): Dial face inclined 20° compared with the vertical type, allows easy reading.
- Vertical: Best suited for centering holes under the spindle of a machine tool.
- Parallel: The scale can be read from the front, with the stylus pivoting in a plane parallel to that of the dial face.
- Universal: The direction of the probe movement can be freely changed.
- Pocket: Compact type.



Old design: Stylus bearing screw held in frame.



New design: Stylus bearing screw held in sub-plate provides smoother tracking action.

Naming of parts



Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระบับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

ไดอัลเทสอินดิเคเตอร์

Dial Test Indicator

SERIES 513 — Horizontal Type

FEATURE

- Provides easy access to shrouded surfaces that cannot be reached with conventional dial indicators.
- No-clutch structure for automatic reversal of measuring direction.
- Resistant to water and dust thanks to the one-piece bezel and O-ring seal for the crystal.
- The glare-free flat crystal face has a scratch-resistant coating.
- High sensitivity and quick response due to low-friction jeweled bearings.

Micrometer

ไมโครมิเตอร์

Inside Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระบับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

แอปพลิเคชัน

Accessories

อุปกรณ์เสริม

Other

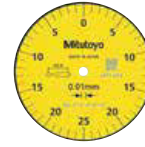
อุปกรณ์อื่นๆ



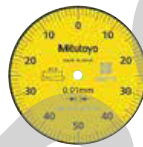
513-404-10E/513-404-10A/
513-404-10T/513-404-10C



513-424-10E/513-424-10A/
513-424-10T



513-414-10E/513-414-10A/
513-414-10T



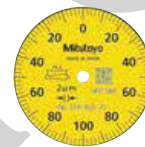
513-415-10E/513-415-10A/
513-415-10T



513-405-10E/513-405-10A/
513-405-10T



513-425-10E/513-425-10A



513-465-10E



513-401-10E



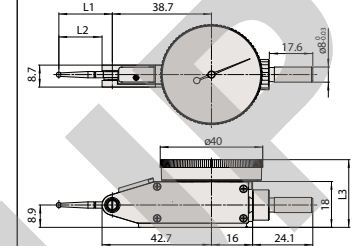
513-402-10E/513-402-10T



513-403-10E/513-403-10T

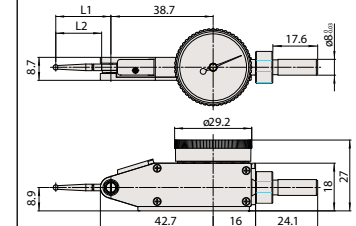
DIMENSIONS

HORIZONTAL



Order No.	L1	L2	L3
513-401-10E			
513-471-10E	14.7	11.2	27
513-405-10E/A/T			
513-475-10E	18.7	15.2	28
513-425-10E/A			
513-404-10E/A/T	20.9	17.4	27
513-474-10E			
513-424-10E/A/T	22.2	18.7	28
513-426-10E/A			
513-478-10E			
513-414-10E/A/T	37.4	33.9	27
513-415-10E/A/T	44.5	41.0	
513-477-10E			

COMPACT



Type	Order No.	L1	L2
Compact	513-465-10E	18.7	15.2
	513-464-10E	20.9	17.4
	513-466-10E	22.2	18.7

Note: A slight difference may occur depending on the center of the contact point, graduation plate, and stem fixing position, etc.

Special Set : No.513-908-10E (Metric)

- 513-404-10E : Dial test indicator
- 7014-10 : Mini magnetic stand
- No.513-907-10E (Inch)
- 513-402-10E : Dial test indicator
- 7014E-10 : Mini magnetic stand

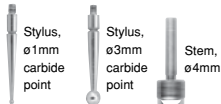


Set Configuration: Metric and Metric/
Inch

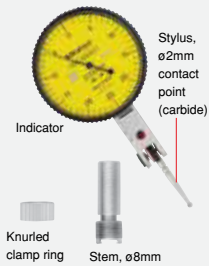
Full set



Plus set



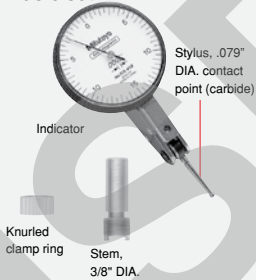
Basic set

Set Configuration: Inch and Inch/
Metric

Full set



Basic set



Metric

Order No.			Graduation	Dial reading	Range	Accuracy				Mass	Measuring force	High accuracy	With revolution counter	Long stylus	Standard	Double scale spacing	Compact	Carbide contact point (slightly magnetic)	Ruby contact point (nonmagnetic)
Basic set	Plus set	Full set				Measuring range	One rev.	10 scale division	Hysteresis	Repeatability									
513-424-10E	513-424-10A	513-424-10T																	
513-478-10E	-	-			0.5mm	6 μm	-		4 μm	45g	0.3N or less				✓			✓	
513-466-10E	-	-		0-25-0		10 μm				41g							✓	✓	
513-414-10E	513-414-10A	513-414-10T							5 μm		0.2N or less			✓				✓	
513-426-10E	513-426-10A	-			1.5mm	16 μm	10 μm	5 μm		45g	0.4N or less	✓						✓	
513-404-10E	513-404-10A	513-404-10T							3 μm						✓				✓
513-474-10E	-	-		0-40-0	0.8mm	9 μm			4 μm		0.3N or less				✓				✓
513-464-10E	-	-								41g							✓	✓	
513-415-10E	513-415-10A	513-415-10T		0-50-0	1.0mm	10 μm	-		5 μm		0.2N or less			✓				✓	
513-477-10E	-	-								45g				✓					✓
513-405-10E	513-405-10A	513-405-10T									0.3N or less				✓			✓	
513-475-10E	-	-		0-100-0	0.2mm	4 μm			3 μm						✓			✓	
513-465-10H	-	-								41g							✓	✓	
513-425-10E	513-425-10A	-			0.6mm	7 μm	5 μm	2 μm	4 μm	1 μm	0.4N or less	✓						✓	
513-401-10E	-	-							3 μm	45g	0.3N or less	✓						✓	
513-471-10E	-	-		0-70-0	0.14mm	4 μm	-					✓							✓

Metric/Inch

Order No.			Graduation	Dial reading	Range	Accuracy				Mass	Measuring force	High accuracy	With revolution counter	Long stylus	Standard	Double scale spacing	Compact	Carbide contact point (slightly magnetic)	Ruby contact point (nonmagnetic)
Basic set	Plus set	Full set				Measuring range	10 scale division	Hysteresis	Repeatability										
513-409-10E	-	513-409-10T	0.002 mm /0.0001"	0-10-0 /0-38-0	0.2 mm /0.0078"	4 μm	2 μm	3 μm	1 μm	45g	0.3 N or less							✓	

Inch/Metric

Order No.			Graduation	Dial reading	Range	Accuracy			Mass	Measuring force								
Basic set	Plus set	Full set				Measuring range	Hysteresis	Repeatability										
513-406-10E	-	513-406-10T	0.0005 in /0.01 mm	0-15-0 /0-35-0	0.03" /0.7 mm	±0.0005"	0.0002"	±0.0002"	45g	0.3N or less								

Note 1: Stem with 8 dovetail groove is not included in the mass.

Note 2: Be sure to perform calibration with a reference gage after exchanging the contact point. The inside parts may be damaged when the contact point is exchanged due to the breakage. In the case the of the significant deterioration in the operation, repair is required.

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิปเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระดับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

ไดอัลเทสอินดิเคเตอร์

Dial Test Indicator

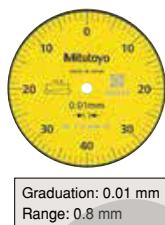
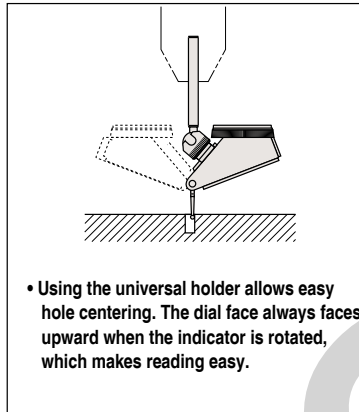
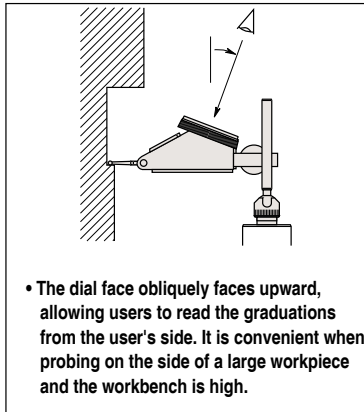
SERIES 513 — Horizontal (20° Tilted Face), Vertical, and Parallel Types

FEATURE

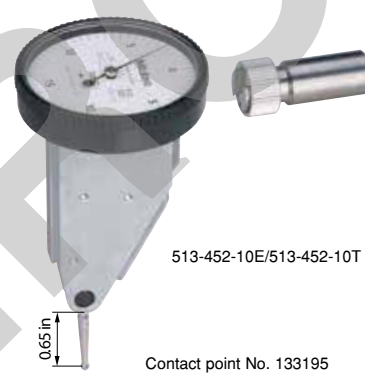
- Specially designed for easy viewing of dial.

Optional Accessories

- : Swivel clamps (See page L-023.)
- : Holding bars (See page L-023.)
- : Stems (See page L-023.)
- : Styli (See page L-023.)



☒ Carbide contact point (Slightly magnetic)



☒ Carbide contact point (Slightly magnetic)



☒ With revolution counter
☒ Carbide contact point (Slightly magnetic)



☒ With revolution counter
☒ Carbide contact point (Slightly magnetic)



☒ Carbide contact point (Slightly magnetic)



☒ Carbide contact point (Slightly magnetic)

SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

ไดอัลเทสอินดิเคเตอร์

Dial Test Indicator

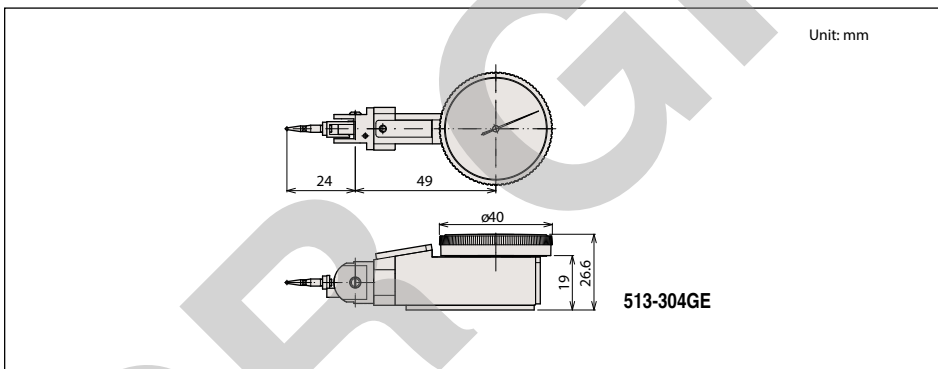
SERIES 513 — Universal Type

FEATURE

- Universal application to all directions. (Not only the direction of the measuring point, but also the direction of measurement itself can be adjusted 360 degrees without moving the indicator.)



DIMENSIONS



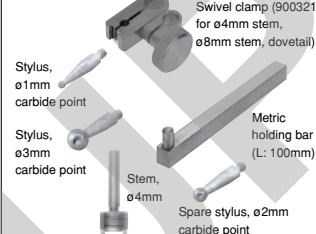
Jeweled bearing

Metric

Order No.		Graduation	Range	Accuracy	Dial reading	Measuring force					
Basic set	Full set										
513-304GE	513-304GT	0.01mm	0.8mm	8 μ m	0-40-0	0.3N or less	√	-	-	-	-

Set Configuration: Metric

Full set

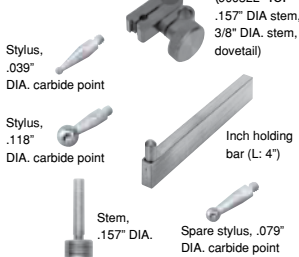


Basic set

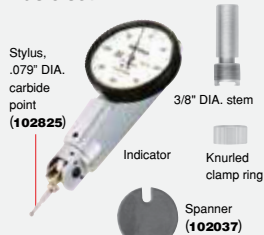


Set Configuration: Inch

Full set



Basic set



Optional Accessories

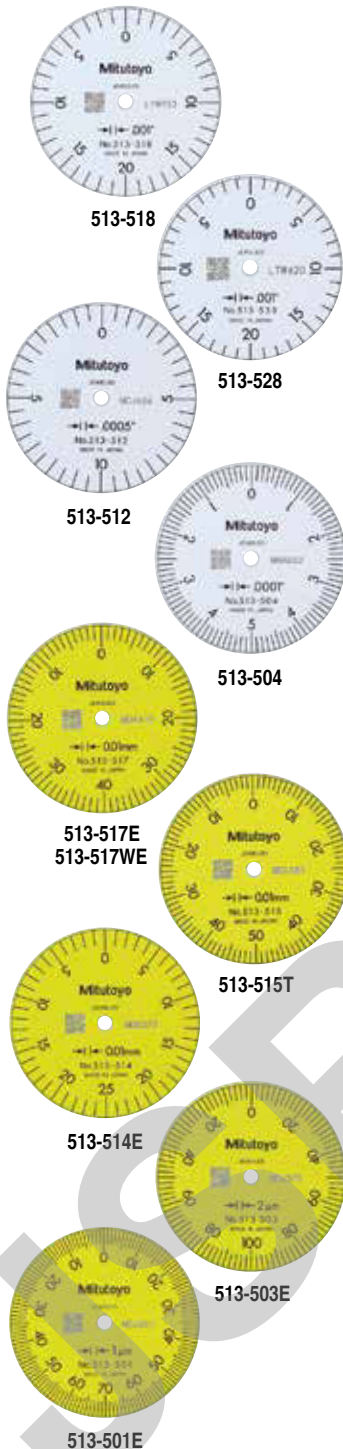
- : Swivel clamps (See page L-023)
- : Holding bars (See page L-023)
- : Stems (See page L-023)
- 102824: Stylus, 1 mm ball contact (carbide)
- 102825: Stylus, 2 mm ball contact (carbide)
- 102826: Stylus, 3 mm ball contact (carbide)

ไดอัลเทสอินดิเคเตอร์

Pocket Type Dial Test Indicator SERIES 513

FEATURE

- Jeweled bearings assure higher sensitivity and accuracy.
- Indicator can be mounted by clamping the stem or the body (except for 513-517WE and 513-517WT).
- Reversible measuring direction (Clutch type).
- Two holding bars are supplied. (Full sets only.)
- Fully adjustable bezel/dial face.
- Stylus is adjustable within 220°.
- Bezel is sealed with an O-ring to keep out water and oil.



Optional Accessories

- : Swivel clamps (See page L-023)
- : Holding bars (See page L-023.)
- : Stems (See page L-023.)
- : Stylus (See page L-023)

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระดับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo



Long stylus



Jeweled bearing

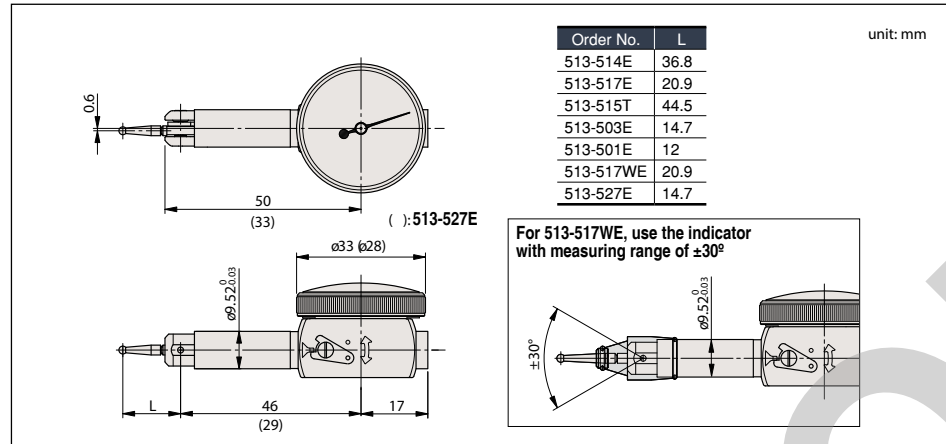


Dustproof



Compact

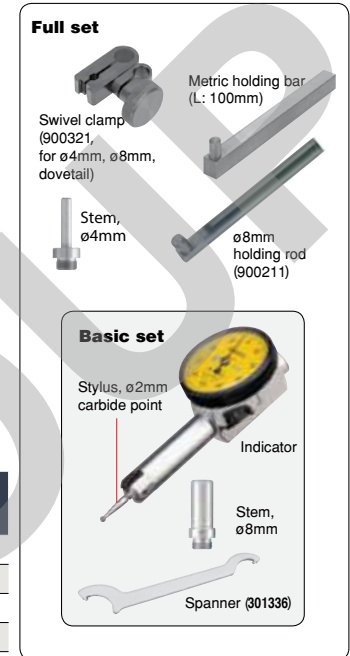
DIMENSIONS



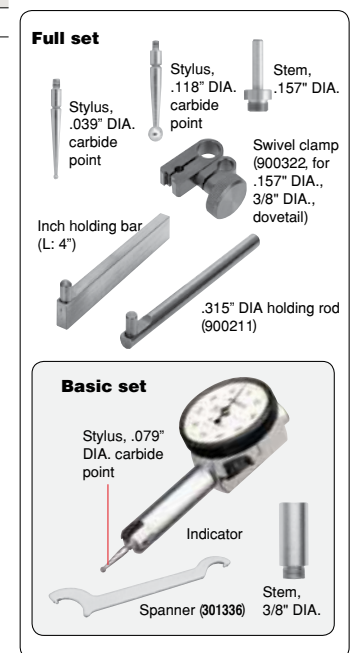
Metric

	Order No.		Graduation	Range	Accuracy	Dial reading	Measuring force						
	Basic set	Full set											
513-514E	513-514T	0.01mm	0.5mm	10 μ m	0-25-0	0.3N or less	✓	✓	-	-	-	-	-
513-517E	513-517T	0.01mm	0.8mm	8 μ m	0-40-0	0.3N or less	-	✓	-	-	-	-	-
513-517WE	513-517WT	0.01mm	0.8mm	8 μ m	0-40-0	0.3N or less	-	✓	-	✓	-	-	-
513-527E	513-527T	0.01mm	0.8mm	8 μ m	0-40-0	0.3N or less	-	✓	✓	-	-	-	-
-	513-515T	0.01mm	1mm	10 μ m	0-50-0	0.3N or less	✓	✓	-	-	-	-	-
513-503E	513-503T	0.002mm	0.2mm	3 μ m	0-100-0	0.3N or less	-	✓	-	-	-	-	-
513-304E	513-501T	0.001mm	0.14mm	3 μ m	0-40-0	0.4N or less	-	✓	-	-	-	-	-

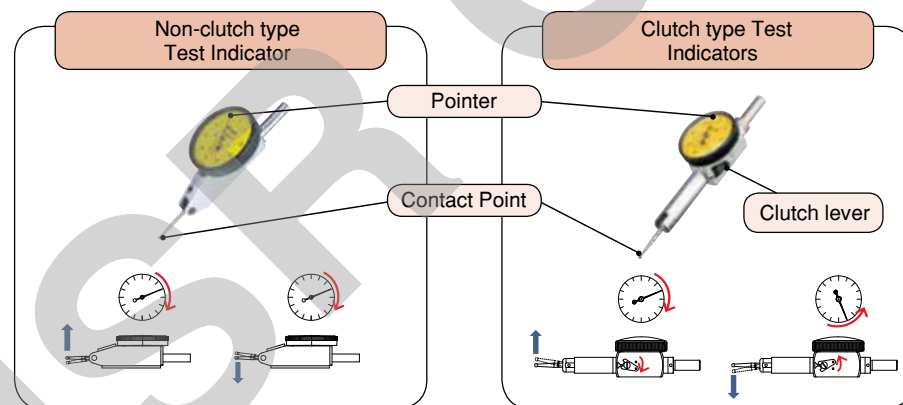
Set Configuration: Metric



Set Configuration: Inch



There are two types of Mitutoyo Dial Test Indicator:
The non-clutch type (without a clutch lever) and the clutch type (with a two-position clutch lever)



In the non-clutch type, although the contact point may move either in the upward or downward direction, the pointer always rotates clockwise.

In the clutch type, if the clutch lever is set in one position the contact point moves in the upward direction and the pointer rotates clockwise. Conversely, if the lever is set in the other position the contact point moves in the downward direction and the pointer rotates counterclockwise.

อุปกรณ์เสริม - ไดอัลเทสอินดิเคเตอร์

Styli, Stems and Holders

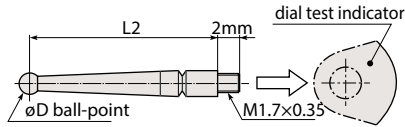
Optional Accessories for Dial Test Indicators

Styli

(for Metric Models Only*)

* Except for universal type dial test indicator (513-304G).

• Stylus length affects the scale factor of an indicator. The styli provided as standard give a scale factor of unity.



ø0.5mm ball-point



190547 (L2=11.2 mm)
21CAB109 (L2=15.2 mm)
190549 (L2=17.4 mm)
190654 (L2=18.7 mm)
21CAB111 (L2=33.9 mm)
190656 (L2=41.0 mm)

ø1mm ball-point (Carbide)



103017 (L2=11.2 mm)
131314 (L2=15.2 mm)
103013 (L2=17.4 mm)
137558 (L2=18.7 mm)
131316 (L2=33.9 mm)
136235 (L2=41.0 mm)

ø2mm ball-point (Ruby)



21CZA209 (L2=11.2 mm)
21CZB068 (L2=15.2 mm)
21CZA201 (L2=17.4 mm)
21CZA210 (L2=18.7 mm)
21CZA211 (L2=41.0 mm)

ø0.7mm ball-point



190548 (L2=11.2 mm)
21CAB110 (L2=15.2 mm)
190550 (L2=17.4 mm)
190653 (L2=18.7 mm)
21CAB112 (L2=33.9 mm)
190655 (L2=41.0 mm)

ø2mm ball-point (Carbide)



103010 (L2=11.2 mm)
103011 (L2=15.2 mm)
103006 (L2=17.4 mm)
137557 (L2=18.7 mm)
131324 (L2=33.9 mm)
136013 (L2=41.0 mm)

ø3mm ball-point (Ruby)



103018 (L2=11.2 mm)
131315 (L2=15.2 mm)
103014 (L2=17.4 mm)
137559 (L2=18.7 mm)
131317 (L2=33.9 mm)
136236 (L2=41.0 mm)

Spanner



102037

Stems with Knurled Clamp Ring



21CZB131

21CZB129

21CZB130

Swivel Clamps

• Can be used with Holding Bars.

For ø6mm stem, ø8mm stem, and dovetail



902053

For ø4mm stem, ø8mm stem, and dovetail



900321

For .157" DIA. stem, 3/8" DIA. stem, and dovetail



900322

Holding Bars

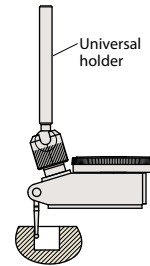


Universal Holder

• Allows the indicator to be set at the desired attitude to the workpiece.



21CZA233 (ø8mm stem)
21CZA231 (.25" DIA. stem)
21CZA229 (ø6mm stem)

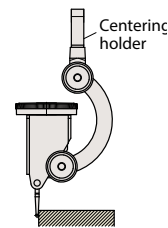


Centering Holder

• Allows large diameter cylinders or holes to be centered on a machine tool.



901959 (ø8mm stem)
901997 (.25" DIA. stem)



Micrometer
ไมโครมิเตอร์

Inside Measurement
เครื่องมือวัดภายใน

Calipers
คาร์ลิปเปอร์

Height Gages
เกจวัดความสูง

Linear Height
เครื่องมือวัดความสูง

Depth Gages
เกจวัดความลึก

Gauge Blocks
เกจบล็อก

Reference Gages
เครื่องมืออ้างอิง

Surface Plate
โต๊ะระบับ

Indicators
อินดิเคเตอร์

Stands
ขาตั้ง

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ดิจิตอล อินดิเคเตอร์

Dial Indicators
ไดอัลอินดิเคเตอร์

Dial Test Indicators
ไดอัลเทสอินดิเคเตอร์

Dial Indicators
Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories
อุปกรณ์เสริม

Other
อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

INDICATORS

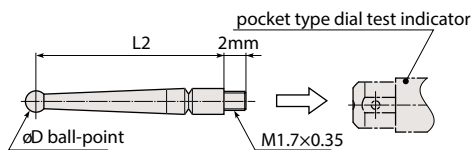
อินดิเคเตอร์

Styli

(for Metric Models Only*)

* Except for universal type dial test indicator (513-304G).

• Stylus length affects the scale factor of an indicator. The styli provided as standard give a scale factor of unity.



Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระดั

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ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

Ø0.5mm ball-point



190547 (L2=11.2 mm)
190549 (L2=17.4 mm)
190656 (L2=41.0 mm)

Ø0.7mm ball-point



190548 (L2=11.2 mm)
190550 (L2=17.4 mm)
190655 (L2=41.0 mm)

Ø1mm ball-point (Carbide)



136756 (L2=8.6 mm)
103017 (L2=11.2 mm)
103013 (L2=17.4 mm)
137746 (L2=33.3 mm)
136235 (L2=41.0 mm)

Ø2mm ball-point (Carbide)



136104 (L2=8.6 mm)
103010 (L2=11.2 mm)
103006 (L2=17.4 mm)
129949 (L2=33.3 mm)
136013 (L2=41.0 mm)

Ø2mm ball-point (Ruby)



21CZA209 (L2=11.2 mm)
21CZA201 (L2=17.4 mm)
21CZA211 (L2=41.0 mm)

Ø3mm ball-point (Ruby)



136758 (L2=8.6 mm)
103018 (L2=11.2 mm)
103014 (L2=17.4 mm)
137747 (L2=33.3 mm)
136236 (L2=41.0 mm)

Stems

Ø4mm (.157" DIA.) Ø8mm 3/8" DIA.



102036



102822



102081

Swivel Clamps

• Can be used with Holding Bars.

For Ø6mm stem, Ø8mm stem, and dovetail



902053

For Ø4mm stem, Ø8mm stem, and dovetail



900321

For .157" DIA. stem, 3/8" DIA. stem, and dovetail



900322

Holding Bars



9 x 9mm

900209 (Length: 100mm)



Ø8mm (.315" DIA)

900211 (Length: 115mm)



.25" x .5"

953639 (Length: 2")
900306 (Length: 4")

Spanner



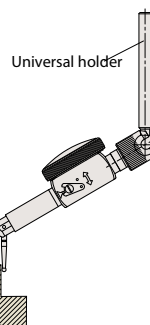
301336

Centering Holder

• Allows large diameter cylinders or holes to be centered on a machine tool.



21CZA234 (Ø8mm stem)
21CZA232 (.25" DIA. stem)
21CZA230 (Ø6mm stem)



Universal holder

พิกลทดสอบ

Lever Type Dial Indicators NEW PIC TEST - Without change lever PCNseries

The New Pic Test is a lever type dial indicators used in all over the world.

It is a measuring instrument used for measurements of restricted areas, and the outside/inside, groove width and centering with the dial gauge installed to the lathe or the milling cutting machine for measurements with the gauges held on the height gauges.

• Without change lever (Automatic inverse type)

The lever type dial gauge of this type has no change lever, the contact point inverses automatically in normal or reverse direction as desired and pointer turns always CW to improve the measuring efficiency.

• Miniature Bearing Used

The miniature bearing used as a bearing at the pivot of the contact point to show good indication stability without any effect by rod play.

• O-ring used

Oil resistance is enhanced by seating the O-ring in the turning section of the outer frame.



PCN-0

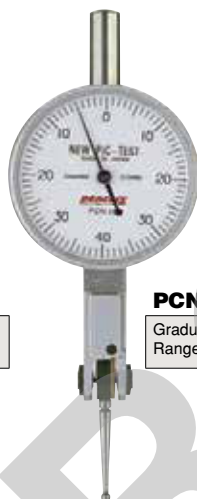
Graduation : 0.01mm
Range : 0.5mm

• Small dial face (Ø29)



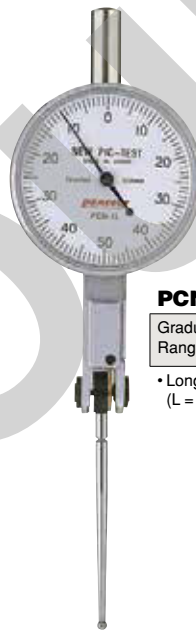
PCN-1A

Graduation : 0.01mm
Range : 0.5mm



PCN-1B

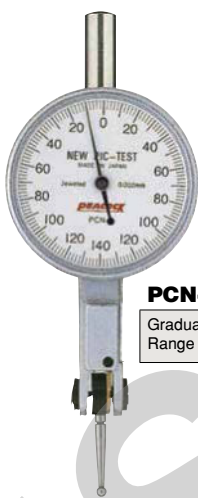
Graduation : 0.01mm
Range : 0.8mm



PCN-1L

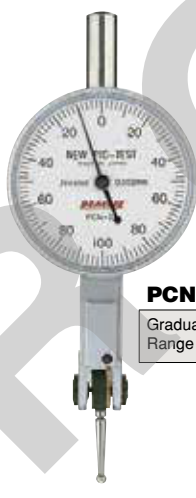
Graduation : 0.01mm
Range : 1.0mm

• Long contact point
(L = 42.8mm)



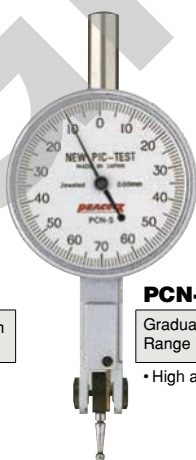
PCN-2

Graduation : 0.002mm
Range : 0.28mm



PCN-2B

Graduation : 0.002mm
Range : 0.2mm



PCN-S

Graduation : 0.001mm
Range : 0.14mm

• High accuracy



PCN-7A

Graduation : 0.01mm
Range : 1.5mm

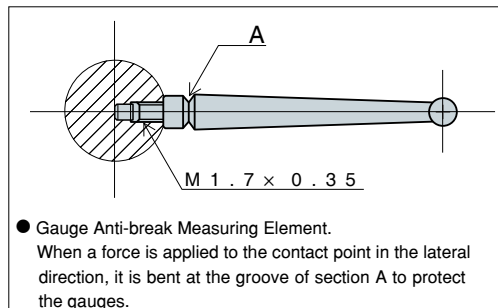
• Wide measuring range
• with Shorter Pointer



PCN-7C

Graduation : 0.002mm
Range : 0.6mm

• Wide measuring range
• with Shorter Pointer



※ The contact point can simply replaced

Micrometer

ไมคริเมตร

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

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ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

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Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

SINCE 1916
PEACOCK

INDICATORS
อินดิเคเตอร์

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

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ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

Vertical



PCN-5

Graduation : 0.01mm
Range : 0.5mm

Vertical



PCN-6

Graduation : 0.002mm
Range : 0.28mm

Vertical



PCN-6S

Graduation : 0.001mm
Range : 0.14mm

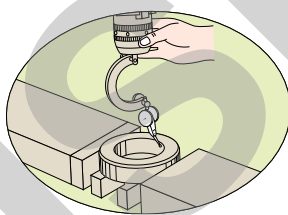
Order No.	Graduation (mm)	Range (mm)	Reading	Indication error			Measuring force less than (N)
				Wide-range forward accuracy	Adjacent error	Backward error	
PCN-0	0.01	0.5	0 - 25 - 0	5	5	3	0.3
PCN-1A	0.01	0.5	0 - 25 - 0	5	5	3	0.3
PCN-1B	0.01	0.8	0 - 40 - 0	8	5	3	0.3
PCN-1L	0.01	1.0	0 - 50 - 0	10	5	4	0.3
PCN-2	0.002	0.28	0 - 140 - 0	3	2	2	0.3
PCN-2B	0.002	0.2	0 - 100 - 0	3	2	2	0.3
PCN-S	0.001	0.14	0 - 70 - 0	3	2	2	0.3
PCN-7A	0.01	1.5	0 - 25 - 0	8	5	3	0.3
PCN-7C	0.002	0.6	0 - 100 - 0	6	2	3	0.3
PCN-5	0.01	0.5	0 - 25 - 0	5	5	3	0.3
PCN-6	0.002	0.28	0 - 140 - 0	3	2	2	0.3
PCN-6S	0.001	0.14	0 - 70 - 0	3	2	2	0.3

ไดอัลเทสอินดิเคเตอร์

Special Type Test Indicators - Double Dial Type W series

- The conventional lever type dial gauge used to have some unreadable points when aligning with it, which has made it impossible to do the accurate aligning till now. The double dial type Pic Test has two dials at both sides, making it possible to cover said unreadable points by conventional Pic Tests.

Alignment work



With Dual dial type, readings can be made easily even if gauges is turned 180 deg.



PC-1BW

Graduation : 0.01mm
Range : 0.8mm

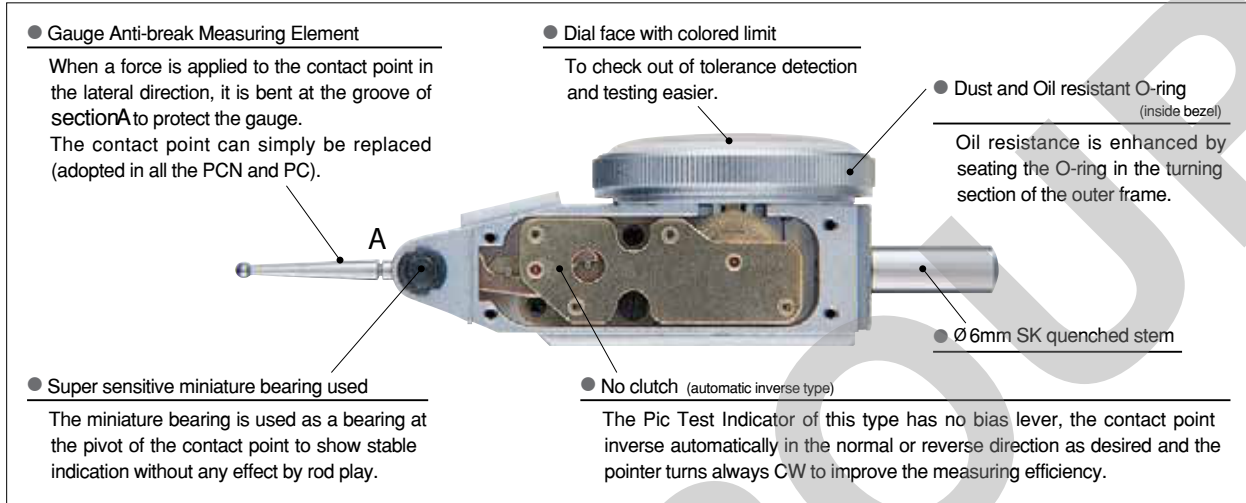
• Change lever type

Order No.	Graduation (mm)	Range (mm)	Reading	Indication error			Measuring force less than (N)
				Wide-range forward accuracy	Adjacent error	Backward error	
PC-1BW	0.01	0.8	0 - 40 - 0	8	5	4	0.4

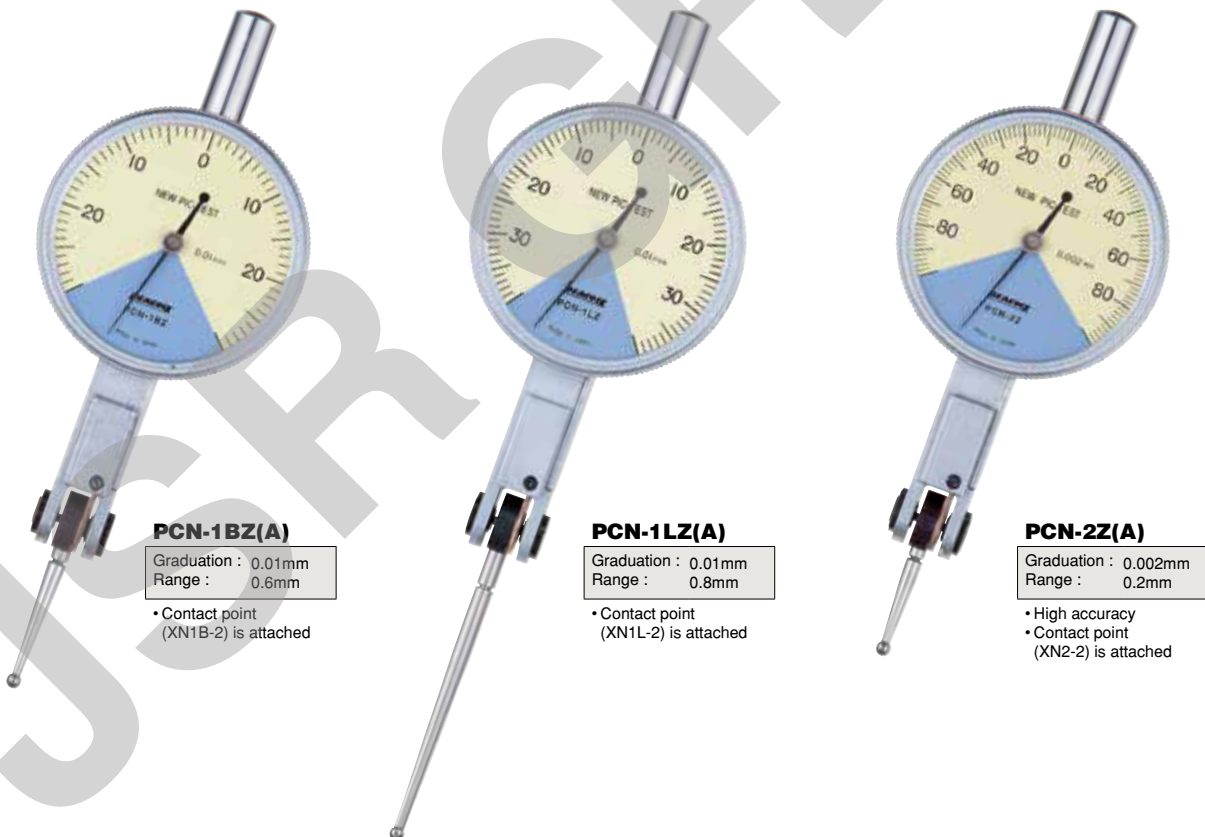
ไดอัลเทสอินดิเคเตอร์

Special Type Test Indicators - One Revolution Z series (without change lever type)

The dial face is easy to read with light yellow and blue (dead zone)



“A” type Downward



Order No.	Graduation (mm)	Range (mm)	Movable Range (mm)	Indication error			Measuring force less than (N)
				Whole measuring range	Adjacent error	Backward error	
PCN-1BZ(A)	0.01	0.6	0.7	8	5	3	0.3
PCN-1LZ(A)	0.01	0.8	0.9	10	5	4	0.3
PCN-2Z(A)	0.002	0.2	0.24	3	2	2	0.3

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิปเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

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ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

SINCE 1916
PEACOCK

“B” type Upward

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระบับ

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Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

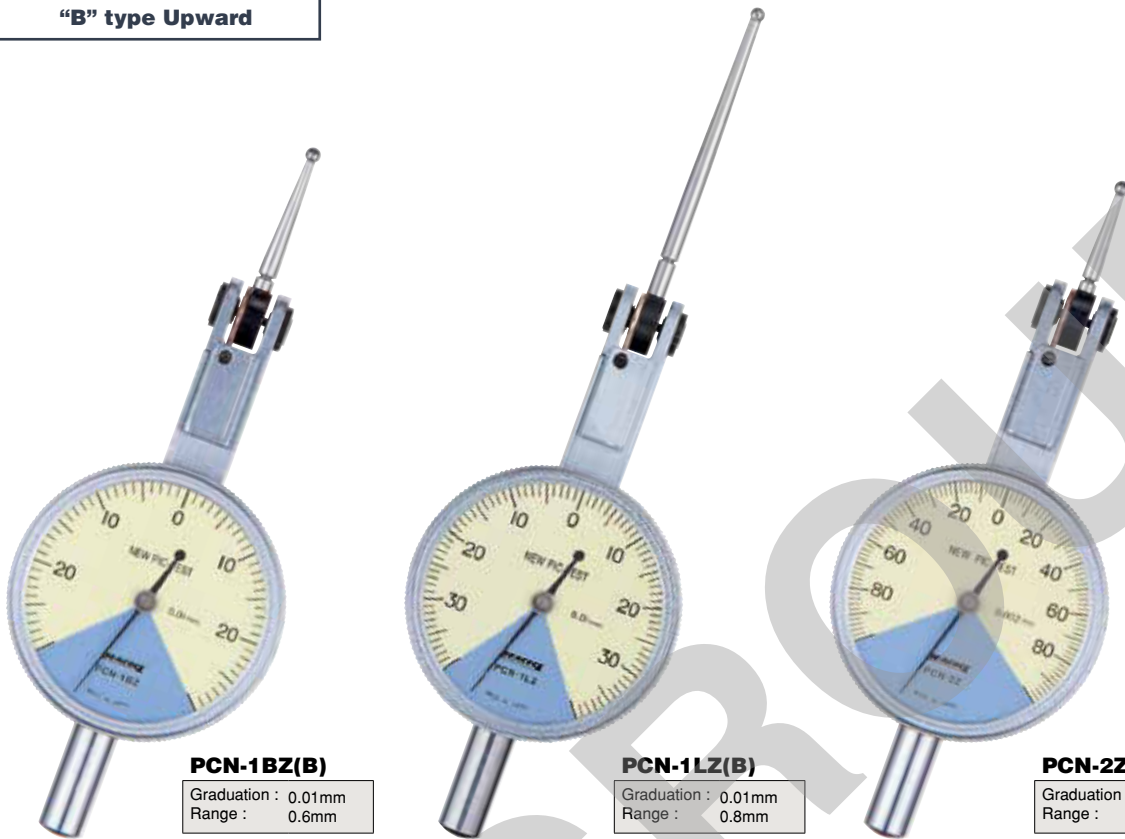
ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ



PCN-1BZ(B)

Graduation : 0.01mm
Range : 0.6mm

- Contact point (XN1B-2) is attached

PCN-1LZ(B)

Graduation : 0.01mm
Range : 0.8mm

- Contact point (XN1L-2) is attached

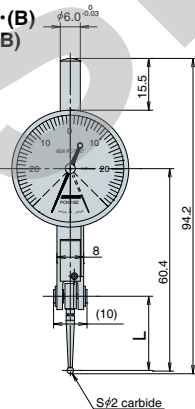
PCN-2Z(B)

Graduation : 0.002mm
Range : 0.2mm

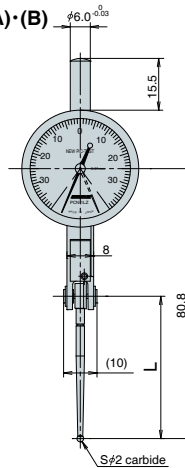
- High accuracy
- Contact point (XN2-2) is attached

Order No.	Graduation (mm)	Range (mm)	Movable Range (mm)	Indication error			Measuring force less than (N)
				Whole measuring range	Adjacent error	Backward error	
PCN-1BZ(B)	0.01	0.6	0.7	8	5	3	0.3
PCN-1LZ(B)	0.01	0.8	0.9	10	5	4	0.3
PCN-2Z(B)	0.002	0.2	0.24	3	2	2	0.3

PCN-1BZ (A)·(B)
PCN-2Z (A)·(B)



PCN-1LZ (A)·(B)



● Length of Contact Point

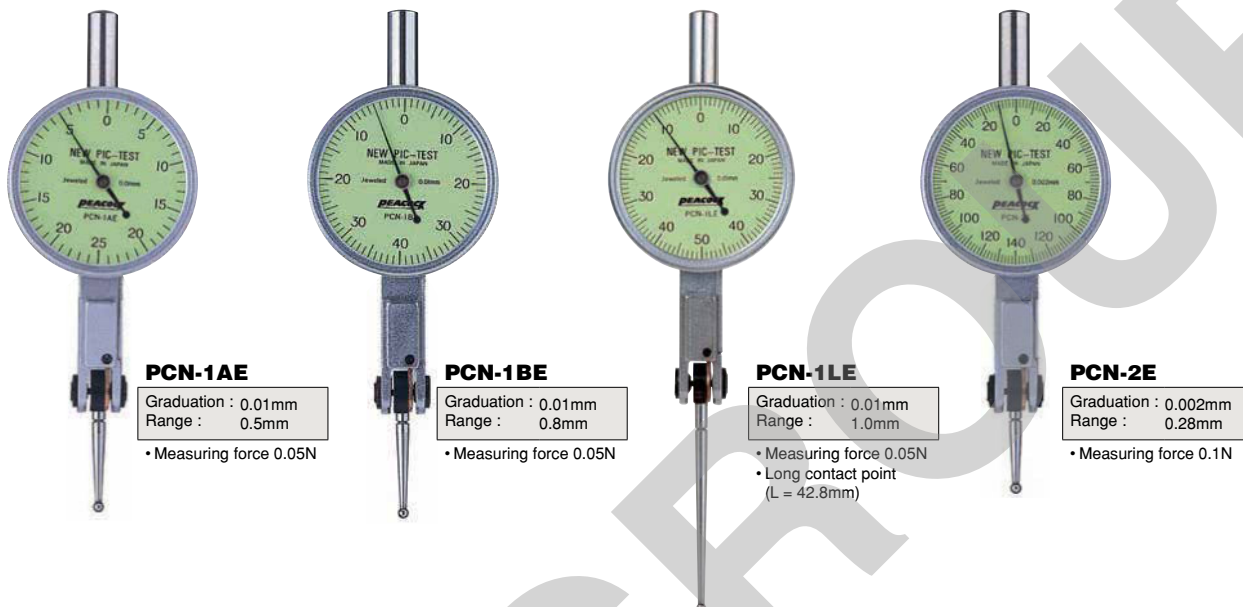
Order No.	L (mm)
PCN-1BZ(A) PCN-1BZ(B)	22.2
PCN-2Z(A) PCN-2Z(B)	17.94
PCN-1LZ(A) PCN-1LZ(B)	42.8

ไดอัลเทสอินดิเคเตอร์

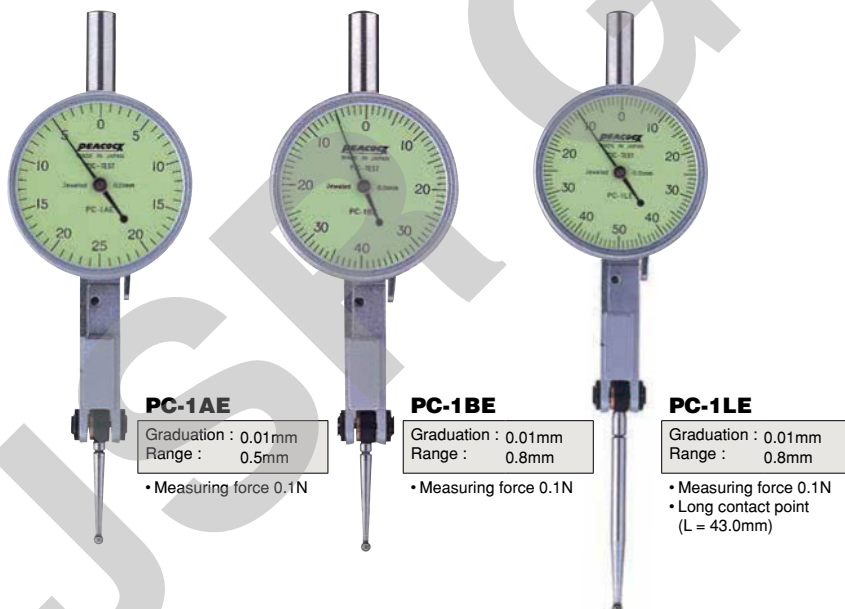
Special Type Test Indicators - Super low measuring force E series

Lever dial gauge that is suitable for flaw-free measure of an object under measurement and for measurement of plastic products with a low measuring force. A measuring force is 0.05N, 0.1N or less that is lower than a 0.4N measuring force in the conventional dial gauges. Specifications and outer dimensions are the same as those of standard PC and PCN types, except a measuring force.

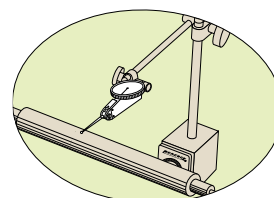
Without change lever type (CW rotation only)



Change lever type



Measuring of deviation on rubber roller



With extra low measuring force, work piece can be measured without deforming it.

Order No.	Graduation (mm)	Range (mm)	Reading	Indication error			Measuring force less than (N)
				Wide-range forward accuracy	Adjacent error	Backward error	
PCN-1AE	0.01	0.5	0 - 25 - 0	5	5	3	0.05
PCN-1BE	0.01	0.8	0 - 40 - 0	8	5	3	0.05
PCN-1LE	0.01	1.0	0 - 50 - 0	10	5	4	0.05
PCN-2E	0.002	0.28	0 - 140 - 0	3	2	2	0.1
PC-1AE	0.01	0.5	0 - 25 - 0	5	5	3	0.1
PC-1BE	0.01	0.8	0 - 40 - 0	8	5	3	0.1
PC-1LE	0.01	1.0	0 - 50 - 0	10	5	4	0.1

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระดับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

SINCE 1916
PEACOCK

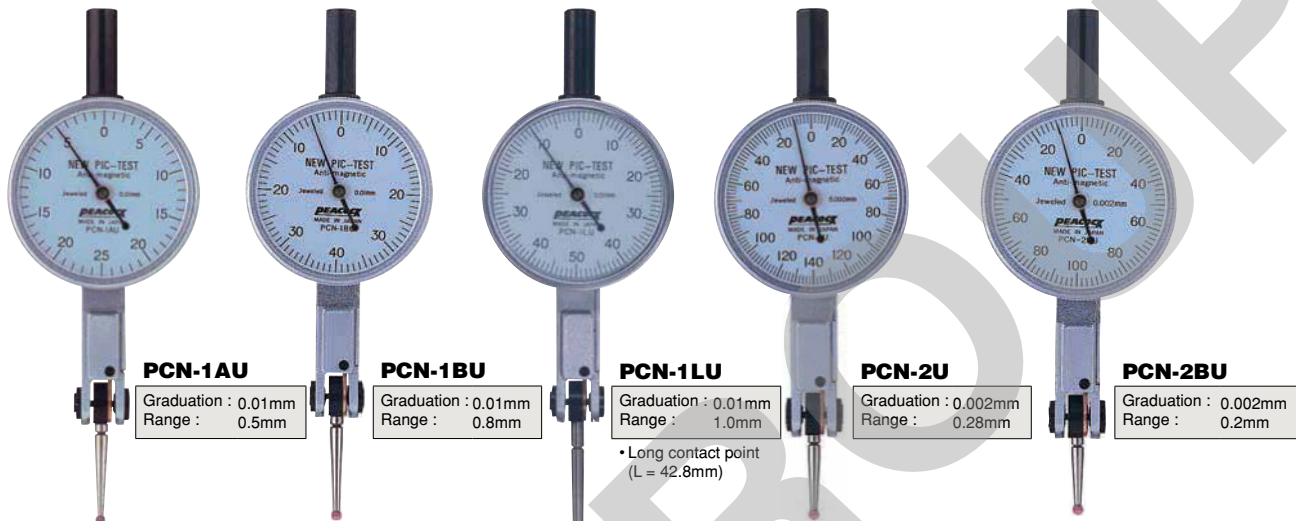
ไดอัลเทสอินดิเคเตอร์

Special Type Test Indicators - Non-electrifying & Complete Anti-magnetic U series

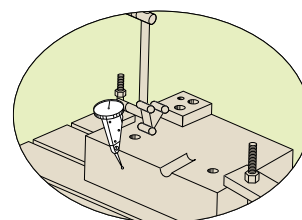
When non-electrifying type of Pic Test or New Pic Test is used, electric flow is blocked at the ceramic stem, even of a magnetic stand is electrified. Thus, you can continue your work without any problem.

The dial face is light blue color and easy to read. Specifications and outer dimensions are the same as those of standard PCN types, except the portion of stems.

Without change lever type (CW rotation only)



Electric discharge machining



Ceramic stem is supported by a magnetic stand. Electric current is isolated by the ceramic stem. It is thus possible to measure the work piece without electrifying it.

Order No.	Graduation (mm)	Range (mm)	Reading	Indication error			Measuring force less than (N)
				Wide-range forward accuracy	Adjacent error	Backward error	
PCN-1AU	0.01	0.5	0 - 25 - 0	5	5	3	0.3
PCN-1BU	0.01	0.8	0 - 40 - 0	8	5	3	0.3
PCN-1LU	0.01	1.0	0 - 50 - 0	10	5	4	0.3
PCN-2U	0.002	0.28	0 - 140 - 0	3	2	2	0.3
PCN-2BU	0.002	0.2	0 - 100 - 0	3	2	2	0.3
PCN-SU	0.001	0.14	0 - 70 - 0	3	2	2	0.3
PCN-5U	0.01	0.5	0 - 25 - 0	5	5	3	0.3
PCN-6U	0.002	0.28	0 - 140 - 0	3	2	2	0.3

ไดอัลเทสอินดิเคเตอร์

Special Type Test Indicators - Large dial face D series

The dial plate size of PCN-1A, PCN-1L, PCN-2B, and PCN-S models has been enlarged, with easy reading due to the larger scale spacing, as a result. Screw type long stems are standard for these large dial face test indicators.

Without change lever type (CW rotation only)



PCN-1AD

Graduation : 0.01mm
Range : 0.5mm



PCN-1LD

Graduation : 0.01mm
Range : 1mm

• Long contact point
(L=42.8mm)



PCN-2BD

Graduation : 0.002mm
Range : 0.2mm

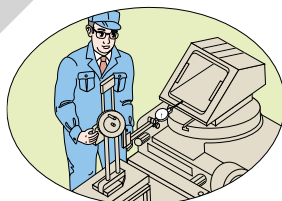


PCN-SD

Graduation : 0.001mm
Range : 0.2mm

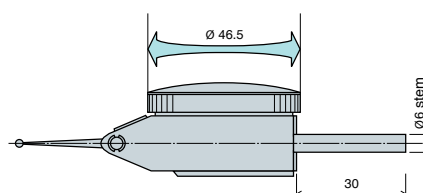
• High accuracy

Easy to read



An enlarge dial face with bigger scale intervals enables easy reading by user of all ages.

Large Size Dial Face



Order No.	Graduation (mm)	Range (mm)	Reading	Indication error			Measuring force less than (N)
				Wide-range forward accuracy	Adjacent error	Backward error	
PCN-1AD	0.01	0.5	0 - 25 - 0	5	5	3	0.3
PCN-1LD	0.01	1.0	0 - 50 - 0	10	5	4	0.3
PCN-2BD	0.002	0.2	0 - 100 - 0	3	2	2	0.3
PCN-SD	0.001	0.2	0 - 100 - 0	3	2	2	0.3

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิปเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระบับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

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ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

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PEACOCK

ไดอัลเทสอินดิเคเตอร์

Lever Type Dial Indicators PIC TEST - Change lever type PC series

• Miniature Bearing Used

The miniature bearing used as a bearing at the pivot of the contact point to show good indication stability without any effect by rod play.

• O-ring used

Oil resistance is enhanced by seating the O-ring in the turning section of the outer frame.



Order No.	Graduation (mm)	Range (mm)	Reading	Indication error			Measuring force less than (N)
				Wide-range forward accuracy	Adjacent error	Backward error	
PC-1A	0.01	0.5	0 - 25 - 0	5	5	3	0.4
PC-1B	0.01	0.8	0 - 40 - 0	8	5	3	0.4
PC-1L	0.01	1.0	0 - 50 - 0	10	5	4	0.4
PC-2	0.002	0.28	0 - 140 - 0	3	2	2	0.4
PC-3	0.01	0.5	0 - 25 - 0	5	5	3	0.4
PC-3L	0.01	1.0	0 - 50 - 0	10	5	4	0.4
PC-4	0.002	0.28	0 - 140 - 0	3	2	2	0.4

ไดอัลเทสอินดิเคเตอร์

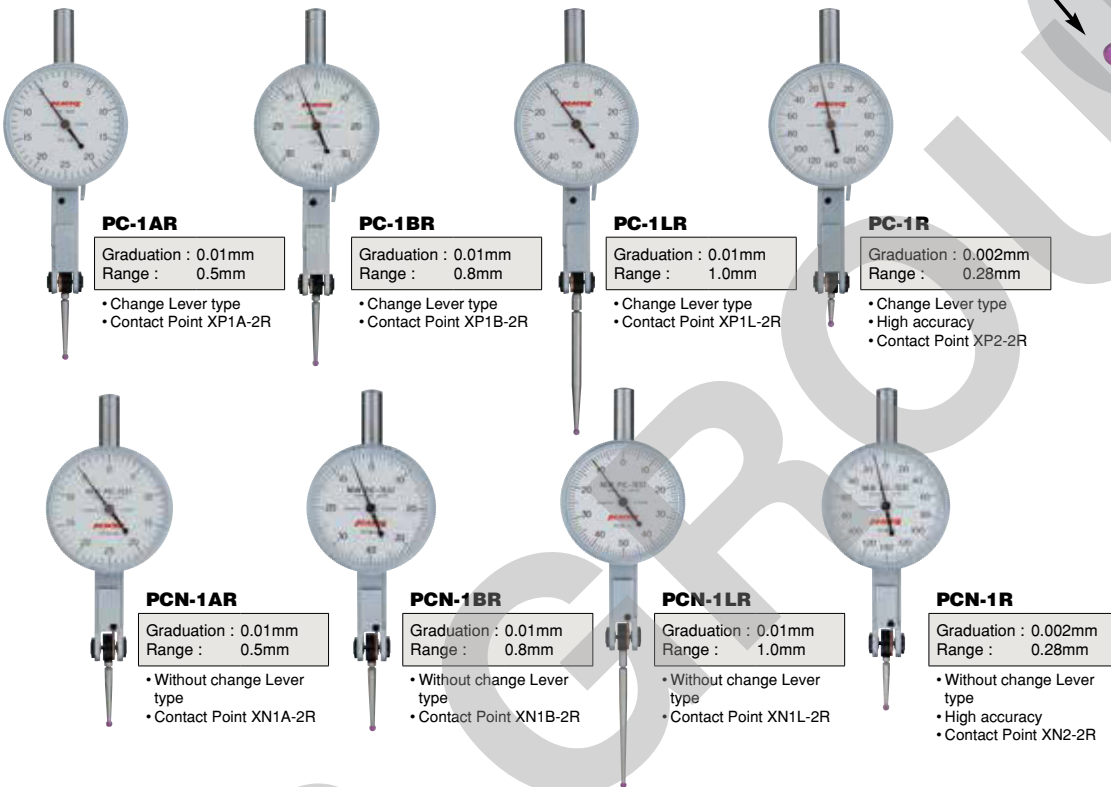
PIC TEST/NEW PIC TEST PC • PCN

PIC TEST/NEW PIC TEST with Ruby ball Contact Point "R" series

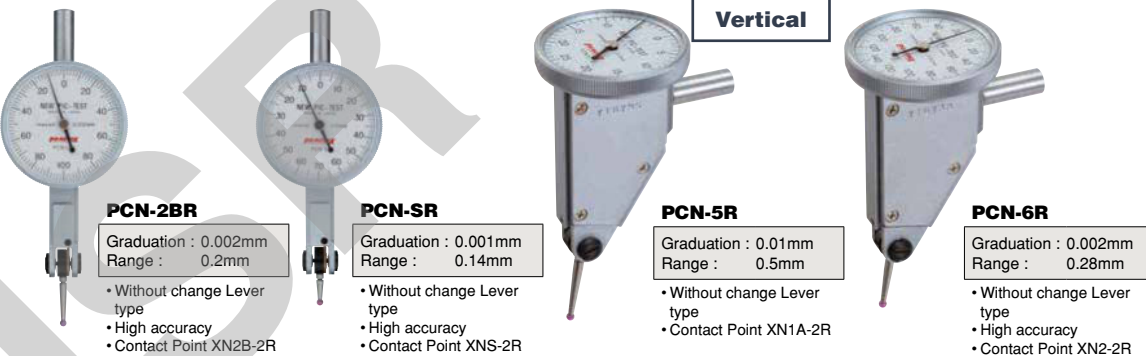
(Contact Point ball dia. 2mm Only)

- Excellent wear resistance
- Non-electrifying and Anti-magnetic
- Can be used on Electrical Discharge Machine

Horizontal



Vertical



Order No.	Graduation (mm)	Range (mm)	Reading	Indication error			Measuring force less than (N)
				Wide-range forward accuracy	Adjacent error	Backward error	
PC-1AR	0.01	0.5	0 - 25 - 0	5	5	3	0.4
PC-1BR	0.01	0.8	0 - 40 - 0	8	5	3	0.4
PC-1LR	0.01	1.0	0 - 50 - 0	10	5	4	0.4
PC-2R	0.002	0.28	0 - 140 - 0	3	2	2	0.4
PCN-1AR	0.01	0.5	0 - 25 - 0	5	5	3	0.3
PCN-1BR	0.01	0.8	0 - 40 - 0	8	5	3	0.3
PCN-1LR	0.01	1.0	0 - 50 - 0	10	5	4	0.3
PCN-2R	0.002	0.28	0 - 140 - 0	3	2	2	0.3
PCN-2BR	0.002	0.2	0 - 100 - 0	3	2	2	0.3
PCN-SR	0.001	0.14	0 - 70 - 0	3	2	2	0.3
PCN-5R	0.01	0.5	0 - 25 - 0	5	5	3	0.3
PCN-6R	0.002	0.28	0 - 140 - 0	3	2	2	0.3

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

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ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

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ไดอัลเทสอินดิเคเตอร์ “DS8V” series

• We can provide all of our PIC TEST/NEW PIC TEST with 8mm Dovetail Stem to meet with your holding device.
(except Model PC-1BW, PC-1LW)



PC-1B-DS8V

Graduation : 0.01mm
Range : 0.8mm



PC-IL-DS8V

Graduation : 0.01mm
Range : 1.0mm



PC-4-DS8V

Graduation : 0.002mm
Range : 0.28mm



PCN-1B-DS8V

Graduation : 0.01mm
Range : 0.8mm



PCN-2-DS8V

Graduation : 0.002mm
Range : 0.28mm



PCN-S-DS8V

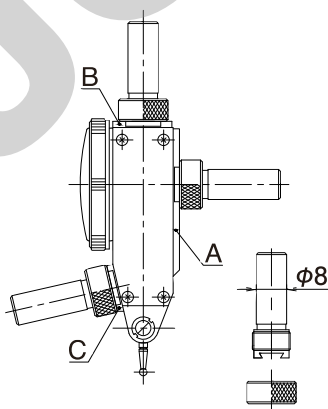
Graduation : 0.001mm
Range : 0.14mm

Set in cass



Example

Devetail A. B. C



A



B



C



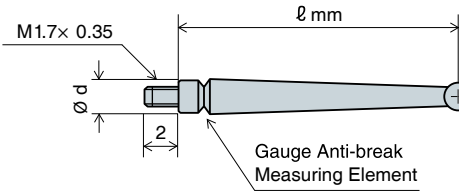
SMALL TOOLS

เครื่องมือวัดละเอียด

SINCE 1916
PEACOCK

อุปกรณ์เสริม

Replaceable Contact Points (M1.7 x 0.35)



Contact points with 2mm dia, super-hard are attached to all Pic-Test and New Pic-Test indicators. SØ3.0, 1.0mm, 0.8mm and 0.5mm dia, contact points are also stock items.

SØ2.0 dia, Ruby ball is also available

For Pic Test (Change lever type)

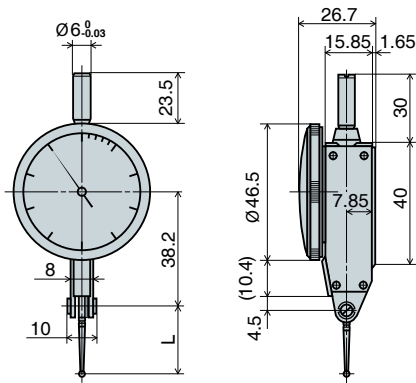
Order No.	l (mm)	Ø ball (mm)	Ø d (mm)	Applicable Indicator
XP1A-3	18.2	3	2.5	PC-1A PC-1AE PC-3
XP1A-2	18.2	2	2.5	PC-1A PC-1AE PC-3
XP1A-2R (ruby ball)	18.2	2	2.5	PC-1A PC-1AE PC-3
XP1A-1	18.2	1	2.5	PC-1A PC-1AE PC-3
XP1A-08	18.2	0.8	2.5	PC-1A PC-1AE PC-3
XP1A-05	18.2	0.5	2.5	PC-1A PC-1AE PC-3
XP1B-3	19.24	3	2.5	PC-1B PC-1BE PC-1BW
XP1B-2	19.24	2	2.5	PC-1B PC-1BE PC-1BW
XP1B-2R (ruby ball)	19.24	2	2.5	PC-1B PC-1BE PC-1BW
XP1B-1	19.24	1	2.5	PC-1B PC-1BE PC-1BW
XP1B-08	19.24	0.8	2.5	PC-1B PC-1BE PC-1BW
XP1B-05	19.24	0.5	2.5	PC-1B PC-1BE PC-1BW
XP1L-3	39.72	3	3.0	PC-1L PC-1LE PC-3L
XP1L-2	39.72	2	3.0	PC-1L PC-1LE PC-3L
XP1L-2R (ruby ball)	39.72	2	3.0	PC-1L PC-1LE PC-3L
XP1L-1	39.72	1	3.0	PC-1L PC-1LE PC-3L
XP1L-08	39.72	0.8	3.0	PC-1L PC-1LE PC-3L
XP1L-05	39.72	0.5	3.0	PC-1L PC-1LE PC-3L
XP2-3	8.80	3	2.2	PC-2 PC-4
XP2-2	8.80	2	2.2	PC-2 PC-4
XP2-2R (ruby ball)	8.80	2	2.2	PC-2 PC-4
XP2-1	8.80	1	2.2	PC-2 PC-4
XP2-08	8.80	0.8	2.2	PC-2 PC-4
XP2-05	8.80	0.5	2.2	PC-2 PC-4

For New Pic Test (without Change lever type)

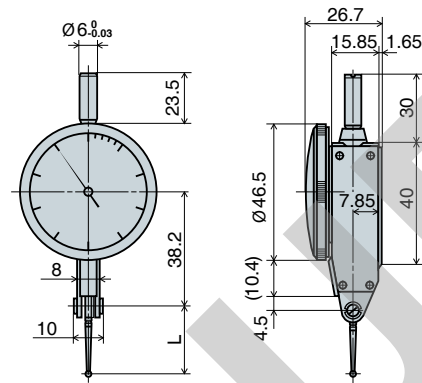
Order No.	l (mm)	Ø ball (mm)	Ø d (mm)	Applicable Indicator
XN1A-3	17.74	3	2.5	PCN-1A PCN-0 PCN-1AE PCN-1AD PCN-5 PCN-7A
XN1A-2	17.74	2	2.5	PCN-1A PCN-0 PCN-1AE PCN-1AD PCN-5 PCN-7A
XN1A-2R (ruby ball)	17.74	2	2.5	PCN-1A PCN-0 PCN-1AE PCN-1AD PCN-5 PCN-7A PCN-1AU PCN-5U
XN1A-1	17.74	1	2.5	PCN-1A PCN-0 PCN-1AE PCN-1AD PCN-5 PCN-7A
XN1A-08	17.74	0.8	2.5	PCN-1A PCN-0 PCN-1AE PCN-1AD PCN-5 PCN-7A
XN1A-05	17.74	0.5	2.5	PCN-1A PCN-0 PCN-1AE PCN-1AD PCN-5 PCN-7A
XN1B-3	18.63	3	2.5	PCN-1B PCN-1BE PCN-1BZ (A)~(B)
XN1B-2	18.63	2	2.5	PCN-1B PCN-1BE PCN-1BZ (A)~(B)
XN1B-2R (ruby ball)	18.63	2	2.5	PCN-1B PCN-1BE PCN-1BU PCN-1BZ (A)~(B)
XN1B-1	18.63	1	2.5	PCN-1B PCN-1BE PCN-1BZ (A)~(B)
XN1B-08	18.63	0.8	2.5	PCN-1B PCN-1BE PCN-1BZ (A)~(B)
XN1B-05	18.63	0.5	2.5	PCN-1B PCN-1BE PCN-1BZ (A)~(B)
XN1L-3	39.00	3	2.5	PCN-1L PCN-1LE PCN-1LD PCN-1LZ (A)~(B)
XN1L-2	39.00	2	2.5	PCN-1L PCN-1LE PCN-1LD PCN-1LZ (A)~(B)
XN1L-2R (ruby ball)	39.00	2	2.5	PCN-1L PCN-1LE PCN-1LD PCN-1LU PCN-1LZ (A)~(B)
XN1L-1	39.00	1	2.5	PCN-1L PCN-1LE PCN-1LD PCN-1LZ (A)~(B)
XN1L-08	39.00	0.8	2.5	PCN-1L PCN-1LE PCN-1LD PCN-1LZ (A)~(B)
XN1L-05	39.00	0.5	2.5	PCN-1L PCN-1LE PCN-1LD PCN-1LZ (A)~(B)
XN2-3	14.33	3	2.2	PCN-2 PCN-2E PCN-6 PCN-2Z (A)~(B)
XN2-2	14.33	2	2.2	PCN-2 PCN-2E PCN-6 PCN-2Z (A)~(B)
XN2-2R (ruby ball)	14.33	2	2.2	PCN-2 PCN-2E PCN-6 PCN-2U PCN-6U PCN-2Z (A)~(B)
XN2-1	14.33	1	2.2	PCN-2 PCN-2E PCN-6 PCN-2Z (A)~(B)
XN2-08	14.33	0.8	2.2	PCN-2 PCN-2E PCN-6 PCN-2Z (A)~(B)
XN2-05	14.33	0.5	2.2	PCN-2 PCN-2E PCN-6 PCN-2Z (A)~(B)
XN2B-3	13.00	3	2.2	PCN-2B PCN-2BD PCN-7C PCN-SD
XN2B-2	13.00	2	2.2	PCN-2B PCN-2BD PCN-7C PCN-SD
XN2B-2R (ruby ball)	13.00	2	2.2	PCN-2B PCN-2BD PCN-7C PCN-SD PCN-2BU
XN2B-1	13.00	1	2.2	PCN-2B PCN-2BD PCN-7C PCN-SD
XN2B-08	13.00	0.8	2.2	PCN-2B PCN-2BD PCN-7C PCN-SD
XN2B-05	13.00	0.5	2.2	PCN-2B PCN-2BD PCN-7C PCN-SD
XNS-3	8.13	3	2.2	PCN-S
XNS-2	8.13	2	2.2	PCN-S
XNS-2R (ruby ball)	8.13	2	2.2	PCN-S PCN-SU
XNS-1	8.13	1	2.2	PCN-S
XNS-08	8.13	0.8	2.2	PCN-S
XNS-05	8.13	0.5	2.2	PCN-S

อุปกรณ์เสริม

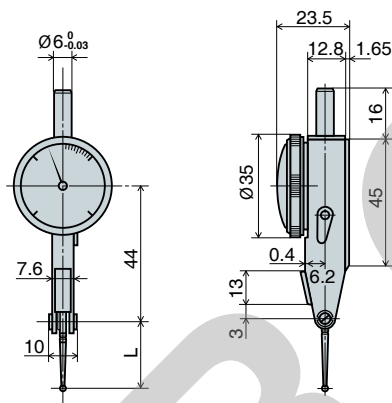
Dimensions of Lever Type Dial Indicators - Contact Points Length and Types



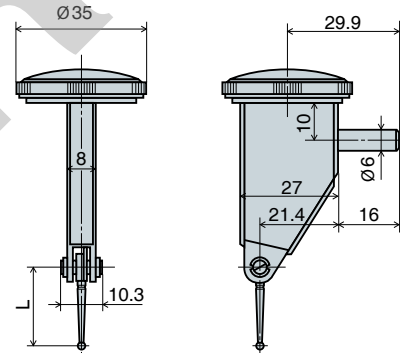
Order No.	L (mm)
PCN-1A . PCN-1AE . PCN-1AU . PCN-7A	21.3
PCN-1B . PCN-1BE . PCN-1BU . PCN-1BZ(A)(B)	22.2
PCN-1L . PCN-1LE . PCN-1LU . PCN-1LZ(A)(B)	42.8
PCN-2 . PCN-2E . PCN-2U . PCN-2Z(A)(B)	17.94
PCN-2B . PCN-2BU	16.6
PCN-S	11.7
PCN-7C	16.6



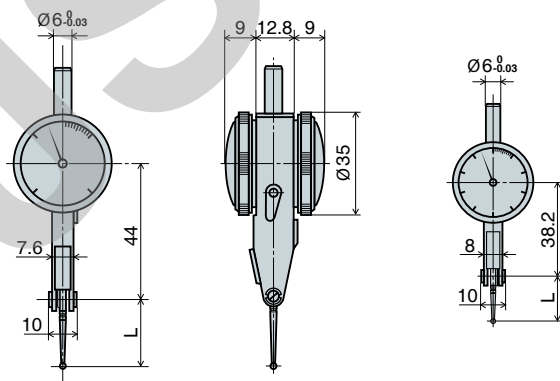
Order No.	L (mm)
PCN-1AD	21.3
PCN-2BD . PCN-SD	16.6
PCN-1LD	42.8



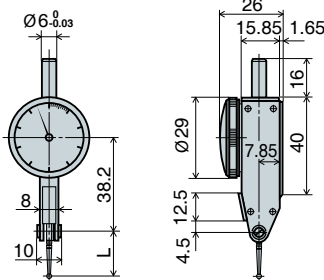
Order No.	L (mm)
PC-1A . PC-1AE	21.4
PC-1B . PC-1BE	22.4
PC-1L . PC-1LE	43.0
PC-2	12.0



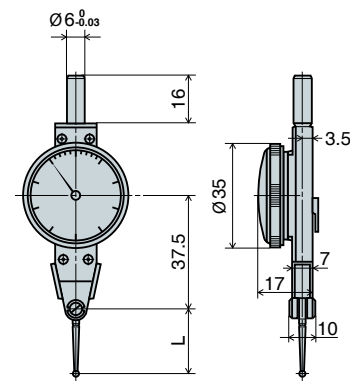
Order No.	L (mm)
PCN-5 . PCN-5U	21.3
CN-6 . PCN-6U	17.94



Order No.	L (mm)
PC-1BW	22.4



Order No.	L (mm)
PCN-0	21.3



Order No.	L (mm)
PC-3	21.4
PC-4	12.0
PC-3L	43.0

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระบับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

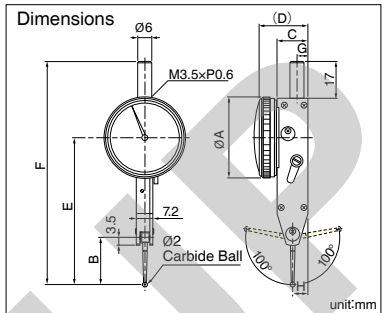
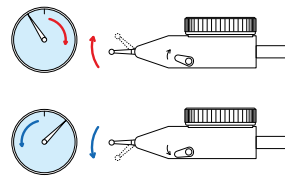
TECLOCK

ไดอัลเทสอินดิเคเตอร์

Test Indicator - Lever Type Test Indicator

- Measuring direction can be changed with change lever.
- Main bearings are jeweled for all models.
- A carbide ball stylus is provided for less abrasion.
- Stylus is made of 2mm stainless steel and it is unique threaded type which can be changed easily.
- Stylus and pointer are anti-magnetic and not affected by magnetism.
- Due to the low measuring force, this is suitable for measurement of thin work piece as well.

Measuring direction is changed by Change Lever.



Dimensions Table

Unit : mm

Model	A	B	C	D	E	F	G	H
LT-310	28.4	15.3	14	22.4	47.3	79.3	5	7
LT-311	35	15.3	14	23.3	47.3	79.3	5	7
LT-314	35	21.5	13.5	23	64.3	98.5	4.8	6.8
LT-315	35	20.1	13.5	23	63.1	97.1	4.8	6.8
LT-316	35	42.9	13.5	23	85.9	120	4.8	6.8
LT-370	38.4	12	13.5	23.2	55	89	4.8	6.8



LT-310

Small and standard type

Graduation : 0.01mm
Measuring Range : 0.8mm

LT-311

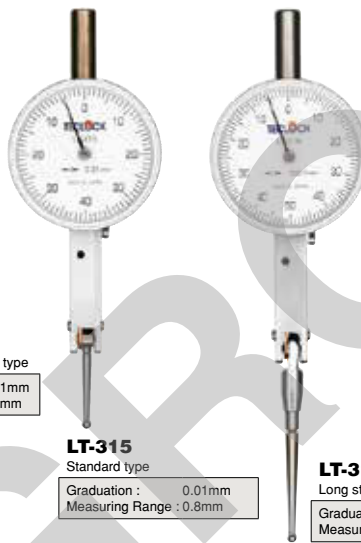
Small and large face type

Graduation : 0.01mm
Measuring Range : 0.8mm

LT-314

Graduation width large type

Graduation : 0.01mm
Measuring Range : 0.5mm



LT-315

Standard type

Graduation : 0.01mm
Measuring Range : 0.8mm

LT-316

Long stylus type

Graduation : 0.01mm
Measuring Range : 1.0mm



LT-370

High precision type

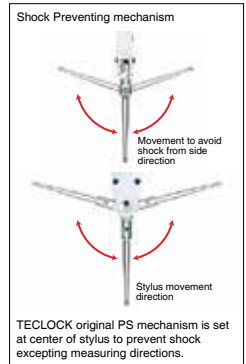
Graduation : 0.002mm
Measuring Range : 0.28mm

Order No.	Graduation (mm)	Measuring Range (mm)	Dial Reading	Measuring Force	Repeatability (μm)	Adjacent Error (μm)	Accuracy on full range (μm)	Hysteresis (μm)	Standard Stylus	Weight (g)
LT-310	0.01	0.8	0-40-0	0.4 or less	3	5	8	3	ZS-700	50
LT-311	0.01	0.8	0-40-0	0.4 or less	3	5	8	3	ZS-700	60
LT-314	0.01	0.5	0-25-0	0.4 or less	3	5	5	3	ZS-701	70
LT-315	0.01	0.8	0-40-0	0.4 or less	3	5	8	3	ZS-702	70
LT-316	0.01	1.0	0-50-0	0.4 or less	3	5	10	4	ZS-704	70
LT-370	0.002	0.28	0-140-0	0.4 or less	1	2	3	2	ZS-713	75

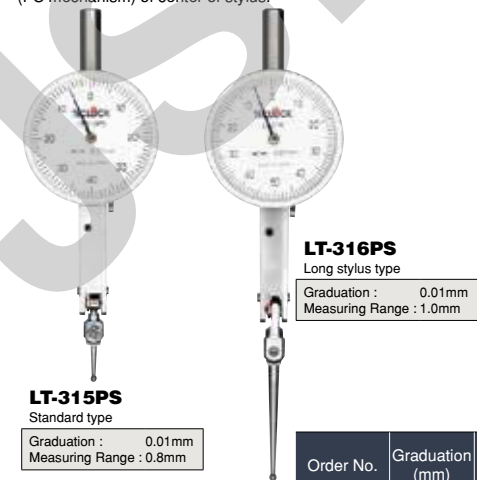
ไดอัลเทสอินดิเคเตอร์

Test Indicator - PS Type Test Indicator

- Shock from the angle excepting measuring direction can be avoided and body is protected by Teclock original shock preventing mechanism (PS mechanism) of center of stylus.



TECLOCK original PS mechanism is set at center of stylus to prevent shock excepting measuring directions.



LT-315PS

Standard type

Graduation : 0.01mm
Measuring Range : 0.8mm

LT-316PS

Long stylus type

Graduation : 0.01mm
Measuring Range : 1.0mm

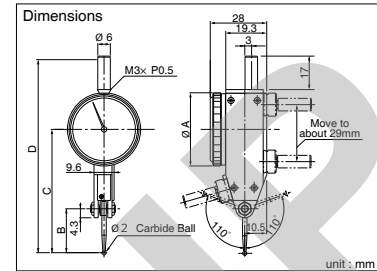
Order No.	Graduation (mm)	Measuring Range (mm)	Dial Reading	Measuring Force	Repeatability (μm)	Adjacent Error (μm)	Accuracy on full range (μm)	Hysteresis (μm)	Standard Stylus	Weight (g)
LT-315PS	0.01	0.8	0-40-0	0.4 or less	3	5	8	3	ZS-703	70
LT-316PS	0.01	1.0	0-50-0	0.4 or less	3	5	10	4	ZS-705	70

Major dimension is equal to LT-315 and LT-316.

ไดอัลเทสอินดิเคเตอร์

Test Indicator - Auto-Clutch Test Indicator

- As miniature bearing (pivot ball bearing) is used for stylus revolution bearing. It is not affected by shaft looseness and indication is stable.
- Measuring direction is automatically changed for proper and opposite by auto-clutch mechanism without changing lever. It is always read accurately in any case, as stylus rotates in clockwise direction..
- Stylus can be set at any desired position of angle of 220° circle.
- Stem with dovetail groove (Option) can be mounted to 2 points of front and back part.
- A carbide ball stylus is provided for less abrasion and stylus is made of stainless steel..
- Stylus and pointer are anti-magnetic and not affected by magnetism.



Dimensions Table

Model	A	B	C	D
LT-352	35	21	59	95
LT-353	35	40.6	78.6	114.6
LT-354	35	25.4	63.4	99.4
LT-355	38.4	18	56	92
LT-358	38.4	15	53	89

Unit : mm

LT-532

Standard type

Graduation : 0.01mm
Measuring Range : 0.8mm

LT-353

Long stylus type

Graduation : 0.01mm
Measuring Range : 0.8mm

LT-354

Graduation width large type

Graduation : 0.01mm
Measuring Range : 0.5mm

LT-355

High precision type

Graduation : 0.002mm
Measuring Range : 0.28mm



LT-358

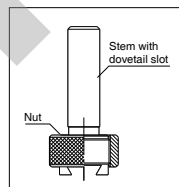
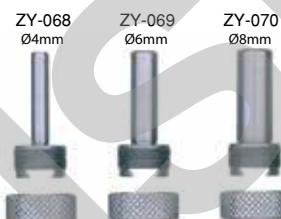
Ultra precision type

Graduation : 0.001mm
Measuring Range : 0.2mm

Order No.	Graduation (mm)	Measuring Range (mm)	Dial Reading	Measuring Force	Repeatability (μm)	Adjacent Error (μm)	Accuracy on full range (μm)	Hysteresis (μm)	Standard Stylus	Weight (g)
LT-352	0.01	0.8	0-40-0	0.2 or less	3	5	8	3	ZS-709	75
LT-353	0.01	0.8	0-40-0	0.2 or less	3	5	8	4	ZS-710	75
LT-354	0.01	0.5	0-25-0	0.2 or less	3	5	5	3	ZS-799	75
LT-355	0.01	0.28	0-140-0	0.25 or less	1	2	3	2	ZS-711	75
LT-358	0.01	0.2	0-100-0	0.25 or less	1	2	3	2	ZS-712	75

Stems with dovetail slot for Auto-Clutch Test indicator (Option)

Standard stem diameter is 6mm but Ø4mm and Ø8mm are also available on request



Applicable for LT-352, LT-353, LT-354, LT-355, LT-358

Leveling, parallelism and center run out of work piece are measured by fixing lever test with holder or chuck and moving work piece. Above photo shows that leveling is measured by installing test indicator to electric discharge machine machining center.



Micrometer

ไมคริเมตร

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระดับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

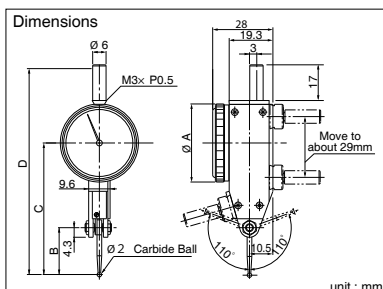
เครื่องมื่อวัดละเอียด

INDICATORS



ไดอัลเทสอินดิเคเตอร์

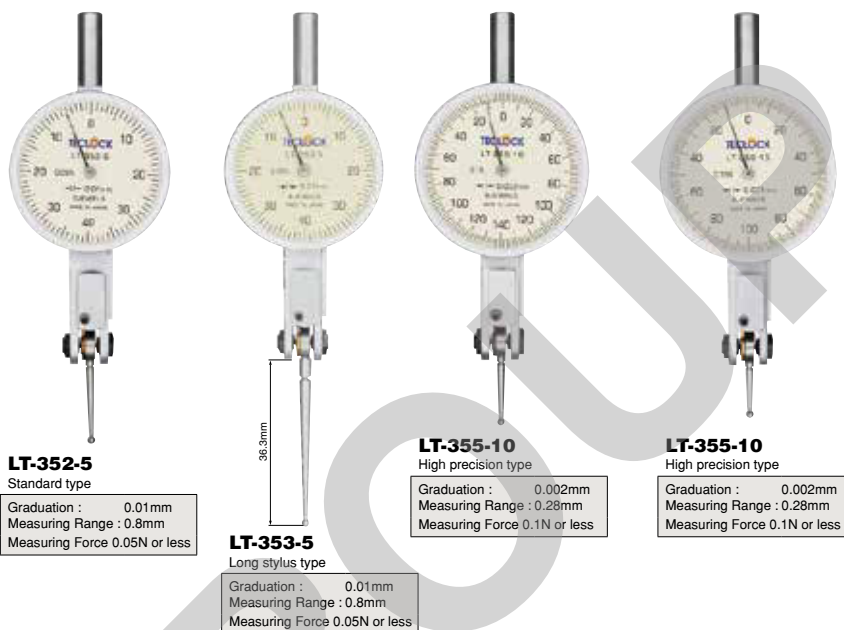
Auto-Clutch Test Indicator (Low measuring force)



Dimensions Table

Unit : mm

Model	A	B	C	D
LT-352-5	35	21	59	95
LT-353-5	35	40.6	78.6	114.6
LT-355-10	38.4	18	56	92
LT-358-15	38.4	15	53	89



Order No.	Graduation (mm)	Measuring Range (mm)	Dial Reading	Measuring Force	Repeatability (μm)	Adjacent Error (μm)	Accuracy on full range (μm)	Hysteresis (μm)	Standard Stylus	Weight (g)
LT-352-5	0.01	0.8	0-40-0	0.05 or less	3	5	8	3	ZS-709	75
LT-353-5	0.01	0.8	0-40-0	0.05 or less	3	5	8	4	ZS-710	75
LT-355-10	0.002	0.28	0-140-0	0.1 or less	1	2	3	2	ZS-711	75
LT-358-15	0.001	0.2	0-100-0	0.15 or less	1	2	3	2	ZS-712	75

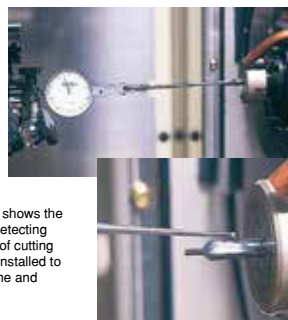
ไดอัลเทสอินดิเคเตอร์

Lever Test Indicator for Deflection

LR-316 Stylus (With Fixing Nut)

Order No.	Shape of stylus	L(mm)	Dimension (mm)
ZS-777	Spherical shape	25.8	
ZS-782		68.7	
ZS-778	Half Spherical Shape	25.8	
ZS-783		68.7	
ZS-779	Fan Shape	25.8	
ZS-784		68.7	
ZS-780	Square Shape	25.8	
ZS-785		68.7	
ZS-781	Round Bar Shape	25.8	
ZS-786		68.7	

- This is the special indicator to check deflection level not deflection volume.
- Deflection which can not be measured with standard type can be checked by installing stylus depending on the shape of work piece.
- Unit is not available for gradation line. (Calibration certificate can not be issued.)
- Standard price of LR-316 does not include stylus. Select the stylus from the list below and use indicator by combining it.



The photo shows the scene of detecting deflection of cutting tool edge installed to the machine and deflection.

Order No.	Weight (g)
LR-316	70



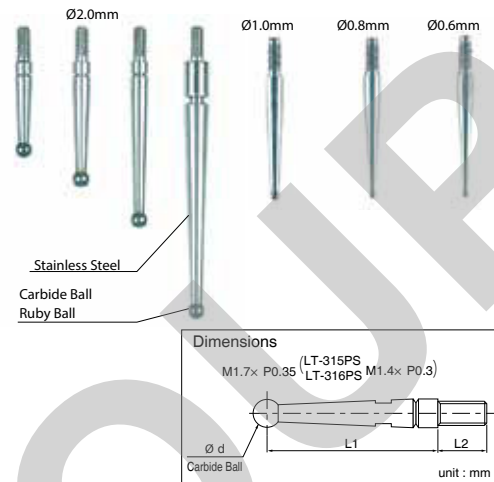
LR-316
for Run-out (TIR)
measurement

อุปกรณ์เสริม

Parts & Accessories - Stylus

Table for applicable Stylus and Parts

Order No.	L1 (mm)	L2 (mm)	Ød (mm)				
			Ø0.6	Ø0.8	Ø1.0	Ø2.0 (Standard)	Ø2.0 (Ruby ball)
LT-310	13.30	4.00	ZS-744	ZS-755	ZS-766	ZS-700	ZS-787
LT-311	13.30	4.00	ZS-744	ZS-755	ZS-766	ZS-700	ZS-787
LT-314	19.45	4.00	ZS-745	ZS-756	ZS-767	ZS-701	ZS-788
LT-315	18.10	4.00	ZS-746	ZS-757	ZS-768	ZS-702	ZS-789
LT-316	28.40	4.00	ZS-748	ZS-759	ZS-770	ZS-704	ZS-790
LT-370	10.00	4.00	ZS-754	ZS-765	ZS-776	ZS-713	ZS-795
LT-352	17.80	4.00	ZS-750	ZS-761	ZS-772	ZS-709	ZS-791
LT-353	37.38	4.00	ZS-751	ZS-762	ZS-773	ZS-710	ZS-792
LT-354	22.16	4.00	ZS-811	ZS-812	ZS-813	ZS-799	ZS-815
LT-355	14.80	4.00	ZS-752	ZS-763	ZS-774	ZS-711	ZS-793
LT-358	11.80	4.00	ZS-753	ZS-764	ZS-775	ZS-712	ZS-794
LT-315PS	8.65	1.80	ZS-747	ZS-758	ZS-769	ZS-703	ZS-796
LT-316PS	28.40	1.80	ZS-749	ZS-760	ZS-771	ZS-705	ZS-797



Micrometer

ไมโครมิเตอร์

Inside

Measurement
เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระบับ

Indicators

อินดิเคเตอร์

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ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications
ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

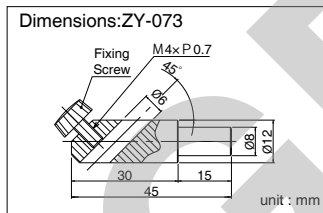
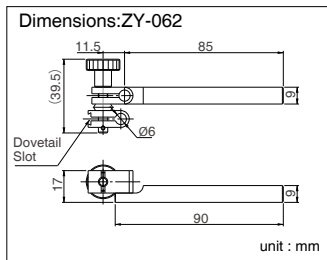
อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

ไดอัลเกจ

Parts & Accessories - Lever Test Holder



ZY-062



ZY-073



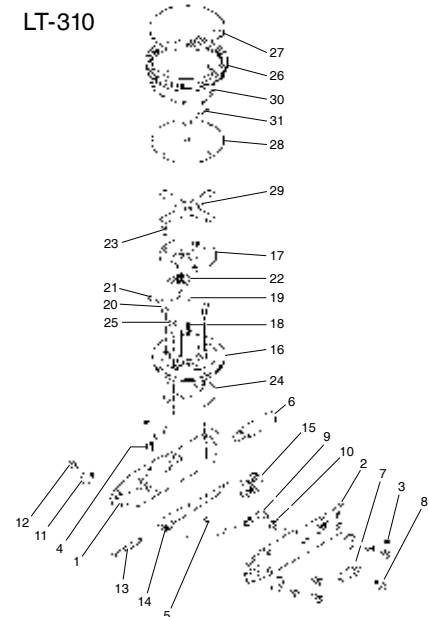
Order No.	Specification
ZY-062	Dovetail slot or Ø6mm stem
ZY-073	Ø6mm Stem (Setting angle 45°)

อุปกรณ์เสริม

Parts List

Key No.	Part No.	Parts name	Key No.	Part No.	Parts name
1	DG-310001	Frame	17	DG-310032	Upper Plate Ass'y
2	DG-310002	Frame Cover	18	DG-310033	Center Pinion
3	002301	Frame Cover Screw	19	DG-310535	2# Gear Ass'y
4	DG-310008	Stop Screw A	20	DG-310037	Received Hair Spring
5	DG-310009	Stop Screw B	21	DG-310038	Hair Spring Pin
6	ZY-030	Stem	22	DG-310539	Hair Spring
7	DG-310011	Lever	23	002301	Upper Plate Screw
8	DG-310012	Lever Screw	24	DG-310042	Cover
9	DG-310515	Stopper Ass'y	25	001315	Base Plate Screw
10	DG-310016	Washer	26	DG-310045	Bezel
11	DG-310017	Fulcrum Cover	27	DG-310046	Dial Cover
12	001329	Fulcrum Cover Screw	28	T-5400B	Dial Plate
13	ZS-700	Contact Point	29	DG-310048	Dial Plate Spring
14	DG-310522	1# Fulcrum Ass'y	30	DG-310049	Bezel Spring
15	DG-310525	Crown Gear Ass'y	31	DG-310551	Pointer
16	DG-310031	Base Plate Ass'y			

LT-310



SMALL TOOLS

เครื่องมือวัดละเอียด

SK Mitutoyo Seiki

อุปกรณ์เสริม

S-LINE DIGITAL TEST INDICATOR (IP65)

IP65 rating electronic digital test indicator, can be used in cutting fluid environment. Has both digital and analog display for easy reading.



DET-234S1

DET-234S2



Display rotates 360° for setting zero

- IP rating for electrical equipment is defined based on IEC standard for water and solid body protection
- IP indication

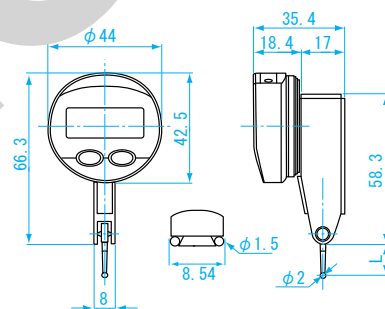
IP 6 5

2nd digit : water proof rating

1st digit : direct contact-protection for ingress of solid foreign object

Degrees of protection against solid foreign objects			
1st digit	Description	Definition	Testing for
6	Solid	No ingress of dust allowed	Complete protection against contact
Degrees of protection against water			
2nd digit	Description	Definition	Testing for
5	Protected against low pressure water jet	No harmful effects from direct jet of water from any direction	Spray rotating equipment with 12.5L/min flow for at least 3 min. at distance of 2.5~3m

DIMENSIONS



Units : mm

Order No.	L
DET-234S1	12.5
DET-234S2	36

USE

- Lever type digital test indicator
- Measuring surface flatness, checking tool setup, axial runout, checking squareness

MATERIAL

- Probe: Carbide

FEATURES

- IP65 rating electronic digital test indicator. Electronics are protected against dust and water.
- The display has both digital and analog display for easy reading
- Display rotates 360° for setting zero
- MIN, MAX measurement function
- Measuring direction (+/ -) switching function
- Preset function
- Auto power off function (after approx. 2 hrs.)
- Selectable minimum reading display : 0.01mm/0.001mm

POWER

- One CR2032 (Lithium) battery included for testing

ACCESSORIES

- Ø8mm dove tail stem

※ Replacement probes are also available

■ Probe for S-line test indicator

Order No.	Model No.	Applicable Model No.
DET-234S1-S	151718	DET-234S1
DET-234S2-S	151719	DET-234S2

※ Requires calibration with standard when replacing probe

※ Quantization Error (± 1 digit) not included

Order No.	Model No.	Measuring Range (mm)	Resolution (mm)	Minimum Reading Display (mm)	Maximum Error* (mm)	Backlash Error (μm)	Measuring Force (N)	Repeatability (μm)	Weight
DET-234S1	151728	0 ~ 0.8	0.001	0.01/0.001	10	4	Less than 0.2	3	73g
DET-234S2	151729	0 ~ 0.5		(switchable)		5			75g

เกจวัดความหนา

Thickness Gages SERIES 547, 7

Technical Data

- Display: 6-digit LCD, sign
- Battery: SR44 (1 pc.), 938882 for initial operational checks (standard accessory)
- Battery life: Approx. 7,000 hours of continuous use
- Maximum response speed: Not restricted (except for scanning measurement)

Functions

- Zero-setting (INC system)
- Presetting (ABS system)
- Direction switching
- Tolerance judgment
- Resolution switching (For 0.001 mm or 0.00005 inch resolution models)
- Calculation: $f(x) = Ax$
- Function locking
- Data output
- Display value holding (when no external device is connected)
- 330° rotary display
- Low battery voltage alarm display
- Error alarm display

Optional Accessories

- SPC Cable:
905338 (1 m)
905409 (2 m)
- USB Input Tool Direct (2 m) : 06AFM380F
- Connecting Cables for U-WAVE-T (160 mm) :
02AZD790F
- For foot switch : 02AZE140F
- Digimatic Mini-Processor DP-1VA LOGGER: 264-505

FEATURE

- Dial thickness gages can quickly measure the thickness of thin products such as paper and felt.
- Contact point and anvil are both made of ceramic: rust-free (547-401 is excluded.)
- Integrated molding of the bezel and crystal ensures protection against water and oil penetration via the front face.

Standard Type



547-301



547-321

High Accuracy Type



547-401

Standard Type



7301

Lightweight Type (integrated molding of the bezel)

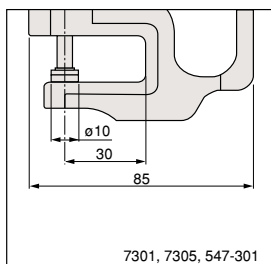


7331S

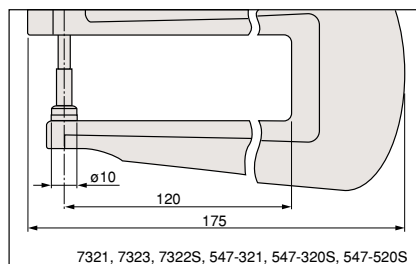


7321

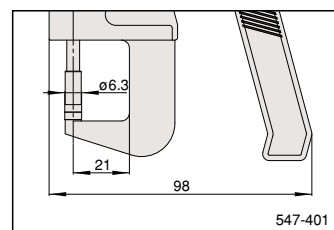
DIMENSIONS



7301, 7305, 547-301



7321, 7323, 7322S, 547-321, 547-320S, 547-520S



547-401

Micrometer

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SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

Standard Lens thickness measurement

- Thickness of concave-convex lenses and surfaces can be measured.
- Anvils and contact points are interchangeable to enable concave surfaces to be measured.
- Provided with a ball point.

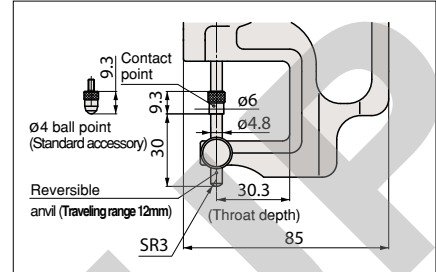


547-313

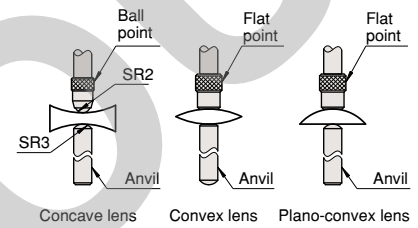


7313

DIMENSIONS



Application examples



Tube thickness measurement

- Pipe wall thickness, thickness of curved boards can be measured.

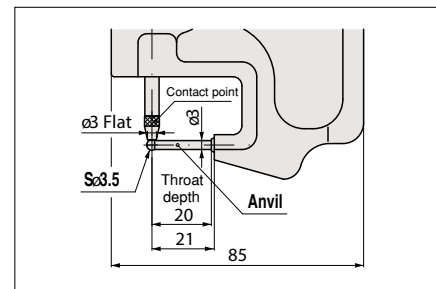


547-360



7360

DIMENSIONS



Groove depth measurement

- Suitable for measuring narrow grooves.
- Measuring face of the contact point and anvil are blade-shaped (thickness: 1mm).

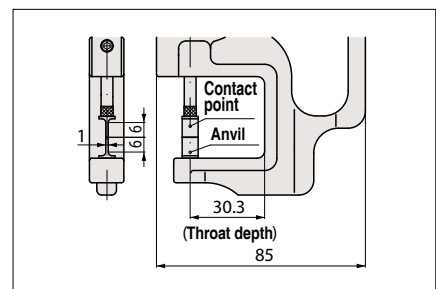


547-315



7315

DIMENSIONS



Metric

Order No.	Range	Resolution	Accuracy	Measuring force	Remarks
547-401	0-12mm	0.001mm	±3µm	3.5N or less	High accuracy, carbide point anvil
547-301	0-10mm	0.01mm	±20µm	1.5N or less	Standard, ceramic point/anvil
547-321	0-10mm	0.01mm	±20µm	1.5N or less	Deep throat, ceramic point/anvil
547-313	0-10mm	0.01mm	±20µm	1.5N or less	Lens thickness
547-315	0-10mm	0.01mm	±20µm	1.5N or less	Groove depth
547-360	0-10mm	0.01mm	±20µm	1.5N or less	Tube thickness

Inch / Metric

Order No.	Range	Resolution	Accuracy	Measuring force	Remarks
547-400S/ -	0-.47"	.00005"/0.001mm	±.0001"/±3µm	3.5N or less	High accuracy, carbide point anvil
- / 547-526S*	0-.47"	.0001"/0.001mm	±.0002"/±5µm	1.5N or less	Standard, ceramic point/anvil
547-300S / 547-500S*	0-.4" / 0-.47**	.0005"/0.01mm	±.001"/±20µm	1.5N or less	Standard, ceramic point/anvil
547-320S / 547-520S*	0-.4" / 0-.47**	.0005"/0.01mm	±.001"/±20µm	1.5N or less	Deep throat, ceramic point/anvil
547-312S / 547-512S*	0-.4" / 0-.47**	.0005"/0.01mm	±.001"/±20µm	1.5N or less	Lens thickness
547-316S / 547-516S*	0-.4" / 0-.47**	.0005"/0.01mm	±.001"/±20µm	1.5N or less	Groove depth
547-361S / 547-561S*	0-.4" / 0-.47**	.0005"/0.01mm	±.001"/±20µm	1.5N or less	Tube thickness

* using ID-SX Digimatic indicator.

Metric

Order No.	Range	Resolution	Accuracy	Measuring force	Remarks
7327	0-1mm	0.001mm	±5µm	1.4N or less	Fine dial reading, ceramic point/anvil
7301	0-10mm	0.01mm	±15µm	1.4N or less	Standard, ceramic point/anvil
7305	0-20mm	0.01mm	±20µm	2.0N or less	Standard, ceramic point/anvil
7321	0-10mm	0.01mm	±15µm	1.4N or less	Deep throat, ceramic point/anvil
7323	0-20mm	0.01mm	±22µm	2.0N or less	Deep throat, ceramic point/anvil
7313	0-10mm	0.01mm	±15µm	1.4N or less	Lens thickness
7315	0-10mm	0.01mm	±15µm	1.4N or less	Groove depth
7360	0-10mm	0.01mm	±15µm	1.4N or less	Tube thickness
7331S (lightweight type)	0-10mm	0.01mm	±20µm	1.4N or less	Integrated molded bezel

Micrometer

ไมโครมิเตอร์

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SMALL TOOLS

เครื่องมือวัดละเอียด

INDICATORS
อินดิเคเตอร์

SINCE 1916
PEACOCK

เกจวัดความหนา

Dial Thickness Gauges - 0.01mm type

These thickness gauges are especially handy for measuring thickness of small parts, metal, rubber, vinyl, paper, foil and other sheet material.

- The objects to be measured is clamped by simple lever operation. The measured values are read directly on the dial gauge.
- Since the anvil and the contact point are adjusted for parallelism, accurate measured values are obtained.

Micrometer

ไมโครมิเตอร์

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อุปกรณ์อื่นๆ



G

Graduation : 0.01mm
Range : 0-10mm

- Ø10mm flat contact point and anvil (Ceramic)



G-0.4N

Graduation : 0.01mm
Range : 0-10mm

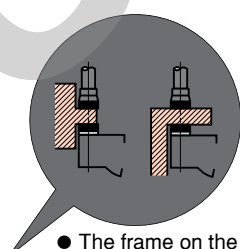
- Measuring force initial pressure 0.4N



G-2.4N

Graduation : 0.01mm
Range : 0-10mm

- Measuring force initial pressure 2.4N



- The frame on the anvil side is cut, which to be flush contact point, anvil and frame.



G-20

Graduation : 0.01mm
Range : 0-10mm

- Ø20mm flat contact point and anvil (Metal)



G-30

Graduation : 0.01mm
Range : 0-10mm

- Ø30mm flat contact point and anvil (Metal)



G-1A

Graduation : 0.01mm
Range : 0-10mm

- Ø5mm flat contact point and anvil (Metal)



G-1M

Graduation : 0.01mm
Range : 0-10mm

- Ø6mm flat contact point and anvil (Ceramic)



G-2

Graduation : 0.01mm
Range : 0-20mm

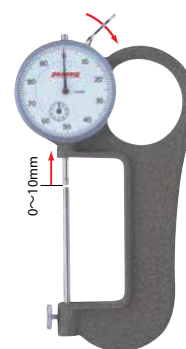
- Ø10mm flat contact point and anvil (Ceramic)



G-3

Graduation : 0.01mm
Range : 30mm

- Ø10mm flat contact point and anvil (Ceramic)
- Anvil side is adjustable
- More than 10mm range is comparative measurement.



G-4

Graduation : 0.01mm
Range : 65mm

- Spherical contact point
- Anvil side is adjustable
- More than 10mm range is comparative measurement.

SMALL TOOLS

เครื่องมือวัดละเอียด

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PEACOCK

INDICATORS
อินดิเคเตอร์



H

Graduation : 0.01mm
Range : 0-10mm

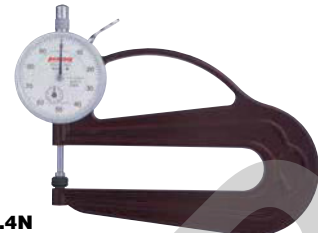
- Ø10mm flat contact point and anvil (Ceramic)



H-0.4N

Graduation : 0.01mm
Range : 0-10mm

- Measuring force initial pressure 0.4N



H-2.4N

Graduation : 0.01mm
Range : 0-10mm

- Measuring force initial pressure 2.4N



H-20

Graduation : 0.01mm
Range : 0-10mm

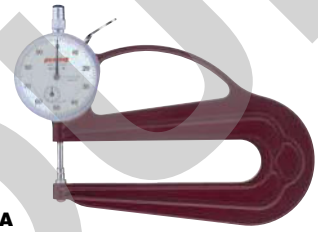
- Ø20mm flat contact point and anvil (Metal)



H-30

Graduation : 0.01mm
Range : 0-10mm

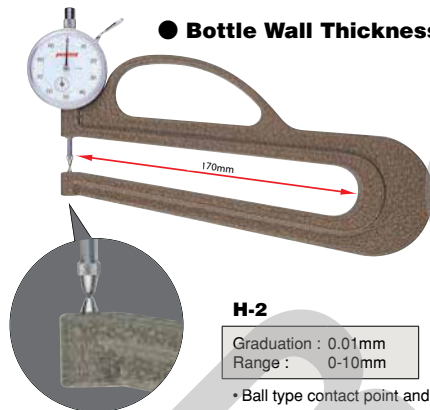
- Ø30mm flat contact point and anvil (Metal)



H-1A

Graduation : 0.01mm
Range : 0-10mm

- Ø5mm flat contact point and anvil (Metal)

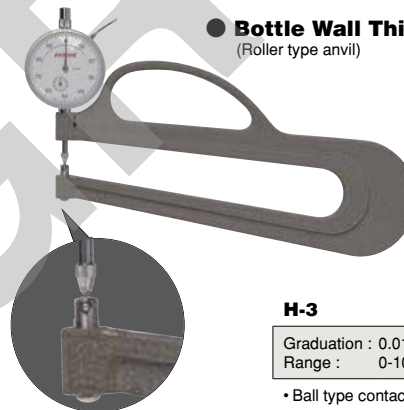


● **Bottle Wall Thickness Gauge**

H-2

Graduation : 0.01mm
Range : 0-10mm

- Ball type contact point and anvil



● **Bottle Wall Thickness Gauge**
(Roller type anvil)

H-3

Graduation : 0.01mm
Range : 0-10mm

- Ball type contact point and roller type anvil

Order No.	Graduation (mm)	Range (mm)	Throat depth (mm)	Accuracy (μm)	Contact Point		Measuring force less than(N)
					Dia (mm)	Parallelism (μm)	
G	0.01	0 ~ 10	20	±20	10	5	1.8
G-0.4N	0.01	0 ~ 10	20	±20	10	5	Initial pressure 0.4N
G-2.4N	0.01	0 ~ 10	20	±20	10	5	Final pressure 2.4N
G-MT	0.01	0 ~ 10	20	±20	10 (Metal)	5	1.8
G-1A	0.01	0 ~ 10	20	±20	5	5	1.8
G-1M	0.01	0 ~ 10	20	±20	6	5	1.8
G-2	0.01	0 ~ 20	33	±20	10	5	2.0
G-3 ※	0.01	30	20	±20	10	5	1.8
G-4 ※	0.01	65	30	±20	Spherical	-	1.8
G-20	0.01	0 ~ 10	20	±20	20 (Metal)	15	1.8
G-30	0.01	0 ~ 10	20	±20	30 (Metal)	20	1.8
H	0.01	0 ~ 10	120	±20	10	5	1.8
H-0.4N	0.01	0 ~ 10	120	±20	10	5	Initial pressure 0.4N
H-2.4N	0.01	0 ~ 10	120	±20	10	5	Final pressure 2.4N
H-MT	0.01	0 ~ 10	120	±20	10 (Metal)	5	1.8
H-1A	0.01	0 ~ 10	120	±20	5	5	1.8
H-2	0.01	0 ~ 10	170	±20	Ball type	-	1.8
H-3	0.01	0 ~ 10	170	±20	Ball type	-	1.8
H-20	0.01	0 ~ 10	120	±20	20 (Metal)	15	1.8
H-30	0.01	0 ~ 10	120	±20	30 (Metal)	20	1.8

※ G-3/G-4 : Measuring range of dial gauge is 10mm.

Micrometer

ไมโครมิเตอร์

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SMALL TOOLS

เครื่องมือวัดละเอียด

SINCE 1916
PEACOCK

เกจวัดความหนา

Dial Thickness Gauges - 0.001mm type PAT. No. 3052674

- New thickness gauges with 0.001mm graduations.
- Newly developed special frame minimizes inspecting errors resulting from thermal changes. Zero reference point will remain accurate even after many hours of use or extreme swings in temperature.



G-6C

Graduation : 0.01mm
Range : 0-10mm

• Ø5mm flat contact point and anvil (Metal)



G-7C

Graduation : 0.01mm
Range : 0-5mm

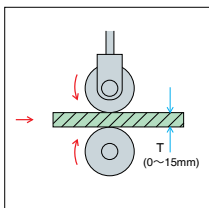
• Ø5mm flat contact point and anvil (Metal)

Order No.	Graduation (mm)	Range (mm)	Throat depth (mm)	Accuracy (μm)	Contact Point		Measuring force less than(N)
					Dia (mm)	Parallelism (μm)	
G-6C	0.001	0 ~ 1	20	±5	5	3	1.8
G-7C	0.001	0 ~ 5	20	±10	5	3	1.8

เกจวัดความหนา

Dial Thickness Gauge Roller type

Special gauges for measuring of horizontally sliding a gauge with an object to be in inspected laid since the contact point and anvil are made with the roller. Convenient to continuously measuring thickness of thin objects, paper, rubber and film etc.



HR-1

Order No.	Graduation (mm)	Range (mm)	Throat depth (mm)	Accuracy (μm)	Roller contact points			Measuring force less than(N)
					OD (mm)	Width (mm)	Parallelism (μm)	
HR-1	0.01	0 ~ 15	70	±22	22	7	10	2.0

เกจวัดความหนา

Dial Thickness Gauges (Large type)

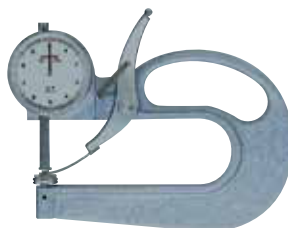
These large thickness gauges having extended throat depth to measure at the center of wide sheets.



J-A

Graduation : 0.01mm
Range : 0-20mm

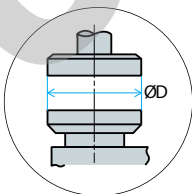
• The gauge sits by stand
• Ø10mm flat contact point and Ø20mm anvil (Metal)



J-B

Graduation : 0.05mm
Range : 0-35mm

• Ø20mm flat contact point and Ø20mm anvil (Metal)



Custom order available

Optional Ø30,40 and 50mm contact points and anvils are available. Please specify material for contact point and anvil, either Metal (SK) material or aluminum (AL).

Order No.	Graduation (mm)	Range (mm)	Throat depth (mm)	Accuracy (μm)	Contact Point		Measuring force less than(N)
					Dia (mm)	Parallelism (μm)	
J-A	0.01	0 ~ 20	150	±22	10	5	2.0
J-B	0.05	0 ~ 35	140	±100	20	25	3.0

เกจวัดความหนา

Dial Thickness Gauge

- Suitable for measuring thickness and diameter of metal, lens, rubber, plastic, paper, felt, hair, pearl etc. in actual dimension.
- Ceramic contact point and anvil feature are superior for anti-abrasion and rust. In addition, there are steel FE type and AT type which rarely adheres with adhesion tape.
- As to shape of contact point and anvil, there are standard type and other various kinds.
- Measuring force of standard type is not more than 2.5N as final pressure, low measuring force type of which final pressure is about 0.4N (about 40gf) is also available.



SM-112
Standard type

Graduation : 0.01mm
Measuring Range : 10mm

SM-112P
(Direct Reading Graduation)

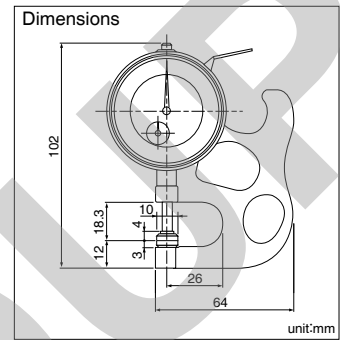


1.17mm reading example

SM-112D
(Coaxial Revolution Pointer)



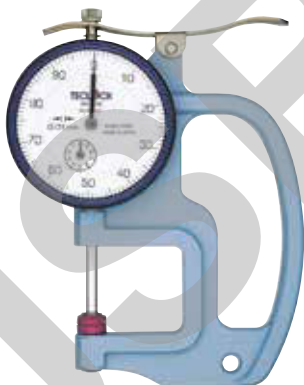
Measuring metal work piece.
The photo shows 5.98mm.



Specifications SM-112 Series

Order No.	Graduation (mm)	Measuring Range (mm)	Accuracy (μm)	Parallelism (μm)	Dial Reading	Measuring Force (N)	Contact Point Form (mm)	Anvil Form (mm)	Weight (g)
SM-112	0.01	10	±15	5	0-50-100	2.5 or less	Ø 10 Flat	Ø 10 Flat	145
SM-112LS	0.01	10	±15	-	0-50-100	2.5 or less	Ø 3.2 Ball	Ø 10 Flat	145
SM-112LW	0.01	10	±15	-	0-50-100	2.5 or less	Ø 3.2 Ball	Ø 3.2 Ball	145
SM-112-3A	0.01	10	±15	5	0-50-100	2.5 or less	Ø 5 Flat	Ø 5 Flat	145
SM-112-80g	0.01	10	±15	5	0-50-100	Stop Point Measuring Forced 0.8±0.05	Ø 10 Flat	Ø 10 Flat	145
SM-112P	0.01	10	±15	5	0-0.5-1	2.5 or less	Ø 10 Flat	Ø 10 Flat	145
SM-112FE	0.01	10	±15	5	0-50-100	2.5 or less	Ø 10 Flat	Ø 10 Flat	145
SM-112AT	0.01	10	±15	8	0-50-100	0.8 or less	Ø 10 Flat	Ø 10 Flat	145
SM-112D	0.01	10	±15	5	0-50-100	2.5 or less	Ø 10 Flat	Ø 10 Flat	145

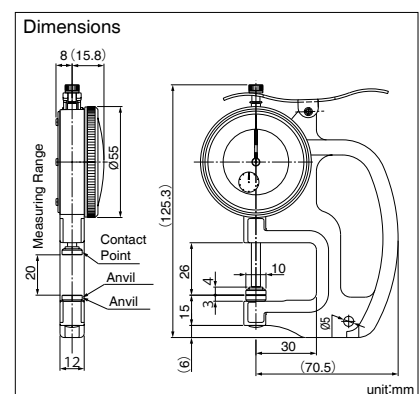
LS, LW, 3A For more information about the see (P**)



SM-528

Measurement of up to 20mm thick

Graduation : 0.01mm
Measuring Range : 20mm



Specifications SM-528 Series

Order No.	Graduation (mm)	Measuring Range (mm)	Accuracy (μm)	Parallelism (μm)	Dial Reading	Measuring Force (N)	Contact Point Form (mm)	Anvil Form (mm)	Weight (g)
SM-528	0.01	20	±20	5	0-50-100	3.5 or less	Ø 10 Flat	Ø 10 Flat	200
SM-528LS	0.01	20	±20	-	0-50-100	3.5 or less	Ø 3.2 Ball	Ø 10 Flat	200
SM-528LW	0.01	20	±20	-	0-50-100	3.5 or less	Ø 3.2 Ball	Ø 3.2 Ball	200
SM-528-3A	0.01	20	±20	5	0-50-100	3.5 or less	Ø 5 Flat	Ø 5 Flat	200
SM-528-80g	0.01	20	±20	5	0-50-100	Stop Point Measuring Forced 0.8±0.05	Ø 10 Flat	Ø 10 Flat	200
SM-528FE	0.01	20	±20	5	0-50-100	3.5 or less	Ø 10 Flat	Ø 10 Flat	200

LS, LW, 3A For more information about the see (P**)

Micrometer

ไมคริเมตร

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ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

TECLOCK

เกจวัดความหนาแบบดิจิตอล

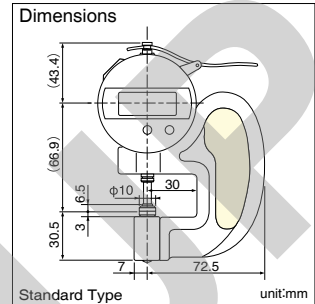
Conventional Digital Thickness Gauge

- Digital display for error-free reading



SMD-540S2

Graduation : 0.01mm
Measuring Range : 12mm



Order No.	Graduation (mm)	Measuring Range (mm)	Accuracy (μm)	Parallelism (μm)	Measuring Force (N)	Contact Point Form (mm)	Anvil Form (mm)	Weight (g)
SMD-540S2	0.01	12	±20	5	2.0 or less	Ø 10 Flat	Ø 10 Flat	250
SMD-540S2-LS	0.01	12	±20	-	2.0 or less	Ø 3.2 Ball	Ø 10 Flat	250
SMD-540S2-LW	0.01	12	±20	-	2.0 or less	Ø 3.2 Ball	Ø 3.2 Ball	250
SMD-540S2-3A	0.01	12	±20	5	2.0 or less	Ø 5 Flat	Ø 5 Flat	250

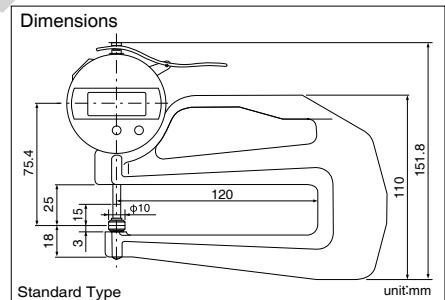
LS, LW, 3A For more information about the see (P**)

* The quantizing error is not included.



SMD-550S2

Graduation : 0.01mm
Measuring Range : 12mm



Order No.	Graduation (mm)	Measuring Range (mm)	Accuracy (μm)	Parallelism (μm)	Measuring Force (N)	Contact Point Form (mm)	Anvil Form (mm)	Weight (g)
SMD-550S2	0.01	12	±20	5	2.0 or less	Ø 10 Flat	Ø 10 Flat	400
SMD-550S2-LS	0.01	12	±20	-	2.0 or less	Ø 3.2 Ball	Ø 10 Flat	400
SMD-550S2-LW	0.01	12	±20	-	2.0 or less	Ø 3.2 Ball	Ø 3.2 Ball	400
SMD-550S2-3A	0.01	12	±20	5	2.0 or less	Ø 5 Flat	Ø 5 Flat	400

LS, LW, 3A For more information about the see (P**)

* The quantizing error is not included.

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

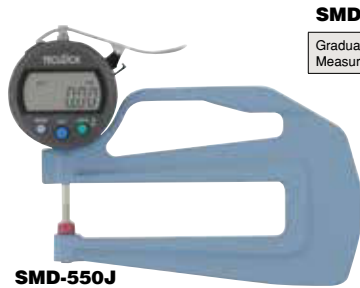
Other

อุปกรณ์อื่นๆ

เกจวัดความหนาแบบดิจิตอล

Standard Digital Thickness Gauge

- 0.01mm and 0.001mm graduation are available.
- 0.001mm model which can measure up to 15mm thickness as maximum by lifting anvil.

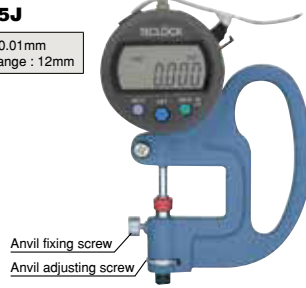


SMD-550J

Graduation : 0.01 mm
Measuring Range : 12mm

SMD-565J

Graduation : 0.01 mm
Measuring Range : 12mm



Anvil fixing screw
Anvil adjusting screw

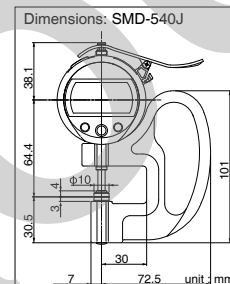
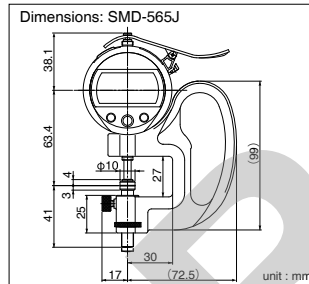
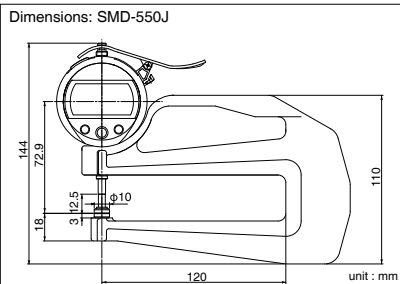
SMD-540J

Graduation : 0.01 mm
Measuring Range : 12mm



PRINTER (Option)

Printer for Digital Thickness Gauges
Digital Mini-Printer SD-763P and
connecting cable ZE-018.



Order No.	Graduation (mm)	Measuring Range (mm) () : Indicating Range*1	Accuracy*2 (μm)	Parallelism (μm)	Measuring Force (N)	Contact Point Form / Anvil Form (mm)	Weight (g)
SMD-540J	0.01	12	±20	5	1.0 or less	Ø 10 Flat	290
SMD-550J	0.01	12	±20	5	1.0 or less	Ø 10 Flat	440
SMD-565J	0.001	15 (12)	±3	3	1.5 or less	Ø 10 Flat	470

*1 Indicating value in () is a measuring range of digital sensor. *2 The quantizing error is not included.

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิปเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระดับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

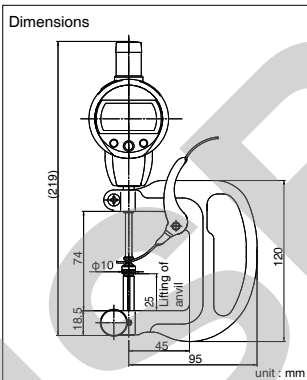
ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

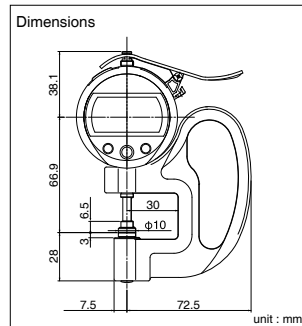
Other

อุปกรณ์อื่นๆ



SMD-130J

Long stroke digital
Thickness Gauge.
Resolution 0.01mm
Measuring Range 50mm
Indication Range 25mm
(Lifting of anvil)



SMD-565J-L

Conversional type of
Model : SMD-565J but
without Anvil Adjustment.
Resolution 0.001mm
Measuring Range 12mm



Order No.	Graduation (mm)	Measuring Range (mm) () : Indicating Range*1	Accuracy*2 (μm)	Parallelism (μm)	Measuring Force (N)	Contact Point Form (mm)	Anvil Form (mm)	Weight (g)
SMD-565J-L	0.001	12	±3	5	1.5 or less	Ø 10 Flat	Ø 10 Flat	410
SMD-130J	0.01	50 (25)	±20	5	2.0 or less	Ø 10 Flat	Ø 10 Flat	610

*1 Indicating value in () is a measuring range of digital sensor. *2 The quantizing error is not included.

SMALL TOOLS

เครื่องมือวัดละเอียด

TECLOCK

เกจวัดความหนาแบบดัดจัตอล

Constant Pressured Thickness Measuring Instrument

PG Series stand type

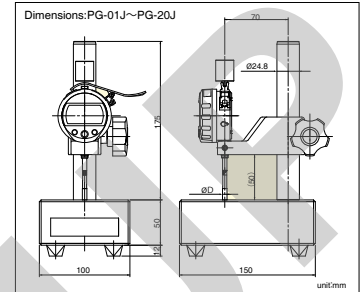
PG-20J

JIS K 6250 Method A

PG-20 is the thickness measuring instrument compliant with A Law for measuring thickness which is standardized in JIS K 6250 (ruled in physical test method general rule of rubber for vulcanized rubber and thermoplastic rubber.)

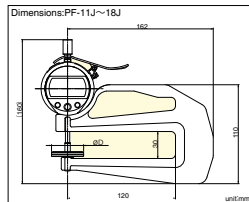
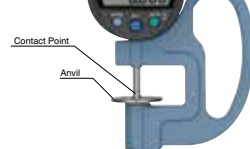
This is sheet block compatible type which can measure both thickness of test piece hardness IRHD below 35 and over 35 by this one unit.

Contact point is diameter 5mm and pressure can be changed by only attaching and detaching weights.

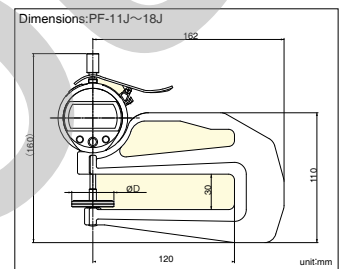


PF Series frame type

PF-02J



PF-11J

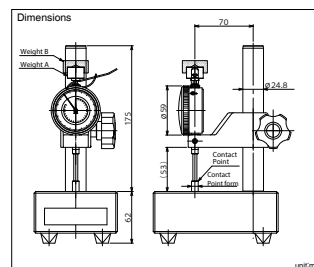


Reference Gages เครื่องมืออ้างอิง	Order No.		Reference Standard		Resolution (mm)	Measuring Range (mm)	Load (Measuring Force)	Contact Point Ød (mm)	Measured Pressure
	Stand-type	Frame-type	JIS	Measured Item					
Surface Plate โต๊ะระดับ	PG-01J	PF-01J	K6732-1996	Poly Vinyl Chloride Films For Agriculture	0.001	12	0.8N (80gf) or less	Ø5	
			K6783-1994	Ethylene / Vinyl Acetate Copolymer Films For Agriculture			1.22±0.14mN (125gf±15gf)		
Indicators อินดิเคเตอร์	PG-02J	PF-02J	Z1702-1994	Polyethylene Films For Packaging	0.001	12	1226±143mN (125gf±15gf)	Ø5	
			Z1709-1995	Heat Shrinkable Plastic Films For Packaging					
Stands ขาตั้ง	PG-11J	PF-11J	K6400-1997	Flexible Polyurethane Foam	0.01	12	0.363N (37gf)	Ø35.7	0.363kPa (3.7gf/cm²)
	PG-12J	PF-12J	K6301-1995	Vulcanized Rubber	0.01	12	0.785N (80gf)	Ø5	
Digimatic Indicators ดิจิตอล อินดิเคเตอร์	PG-13J	PF-13J	K6328-1999	Rubber Coated Fabrics	0.01	12	0.785N (80gf)	Ø10	
			K6250-2006	Rubber / For A Method (Less Than Irhd 35)					
Dial Indicators ไดอัลอินดิเคเตอร์	PG-14J	PF-14J	L1086-2007	Fusible Interlining Fabrics (Non Woven Textile)	0.01	12	0.394N (40gf)	Ø16	2kPa (20gf/cm²)
			L1086-1999	Fusible Interlining Fabrics (Ordinary Textile)					
Dial Test Indicators ไดอัลเทสอินดิเคเตอร์	PG-15J	PF-15J	L1096-2007	Woven Fabrics (Ordinary Textile)	0.01	12	2.35N (240gf)	Ø11.3	23.5kPa (240gf/cm²)
			L1018-1999	Knitted Fabrics (Ordinary Knit)					
	PG-16J	PF-16J	L1086-2007	Fusible Interlining Fabrics (Ordinary Knitting Fabric)	0.01	12	0.343N (35gf)	Ø25.5	0.7kPa (7gf/cm²)
			L1096-1999	Woven Fabrics (Crinose Textile)					
	PG-17J	PF-17J	K6505-1995	Man-made Upper Material Of Shoes	0.01	12	3.85±0.1N (390gf±10gf)	Ø10	49.03±1.177kPa (500±12gf/cm²)
			K6550-1994	Leathers					
	PG-18J	PF-18J	K6250-2006	Rubber / A Method (35 Irhd And Over)	0.01	13	0.431N (44±10gf)	Ø5	(35 IRHD and over) 22±5kPa (2.24±0.51gf/mm²)
	PG-20J		K6250-2006	Rubber / A Method For Both (Less Than 35 Irhd, 35 Irhd And Over)	0.01	13	0.196±0.038N (20±3.9gf)	Ø5	(Less than 35 IRHD) 10±2kPa (1.02±0.20gf/mm²)
							0.431±0.098N (44±10gf)		(35 IRHD and over) 22±5kPa (2.24±0.51gf/mm²)

Aluminium alloy is used for material of contact point (including anvil) of PG-11J and PF-11J. Contact point for other model are all stainless steel.
PG-13 and PF-13 can be also used for IRHD below 35 of JIS K 6250 A law.

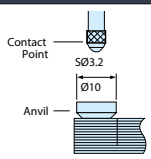
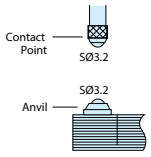
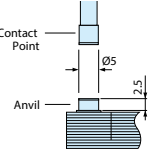
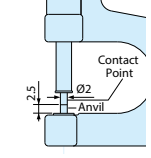
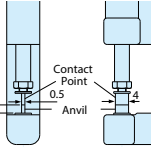
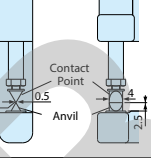
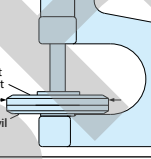
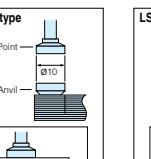
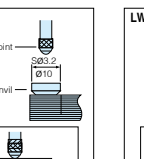
Constant pressured thickness measuring instrument of the plate-cylindrical shape test piece (JIS K 6250 method A)

Hardness 35 for IRHD below-or more of vulcanized rubber.



เกจวัดความหนา

Thickness Gauge Special Product List

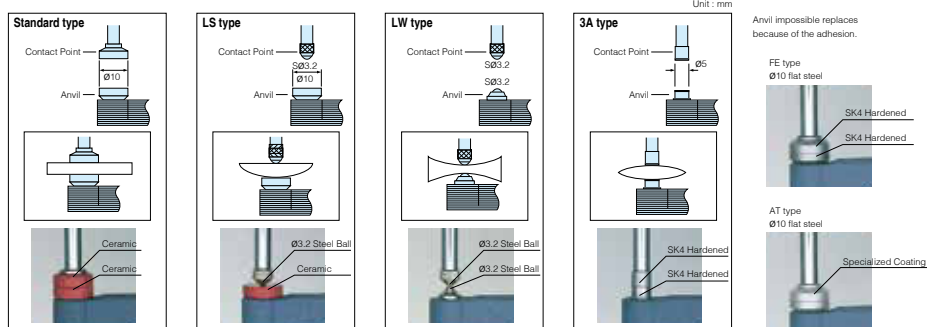
Type	Adaptation models	Graduation (mm)	Measuring Range (mm)	Contact Point (mm)	Anvil Form (mm)
LS type Contact point is spherical, the anvil is flat.  	SM-112LS	0.01	10	Ø3.2 Ball	Ø10 Flat
	SM-528LS	0.01	20	Ø3.2 Ball	Ø10 Flat
	SM-114LS	0.01	10	Ø3.2 Ball	Ø10 Flat
	SM-124LS	0.01	20	Ø3.2 Ball	Ø10 Flat
	SM-130LS	0.01	50	Ø3.2 Ball	Ø10 Flat
	SM-1201LS	0.001	10	Ø3.2 Ball	Ø10 Flat
	SMD-540S2-LS	0.01	12	Ø3.2 Ball	Ø10 Flat
LW type Contact point, anvil with spherical.  	SMD-550S2-LS	0.01	12	Ø3.2 Ball	Ø10 Flat
	SM-112LW	0.01	10	Ø3.2 Ball	Ø3.2 Ball
	SM-528LW	0.01	20	Ø3.2 Ball	Ø3.2 Ball
	SM-114LW	0.01	10	Ø3.2 Ball	Ø3.2 Ball
	SM-124LW	0.01	20	Ø3.2 Ball	Ø3.2 Ball
	SM-130LW	0.01	50	Ø3.2 Ball	Ø3.2 Ball
	SM-1201LW	0.001	10	Ø3 Ball (Carbide)	Ø3 Ball (Carbide)
3A type Upper and lower both Ø5 flat.  	SMD-540S2-LW	0.01	12	Ø3.2 Ball	Ø3.2 Ball
	SMD-550S2-LW	0.01	12	Ø3.2 Ball	Ø3.2 Ball
	SM-112-3A	0.01	10	Ø5 Flat	Ø5 Flat
	SM-528-3A	0.01	20	Ø5 Flat	Ø5 Flat
NE (needle) type Upper and lower with needle type.  	SMD-540S2-3A	0.01	12	Ø5 Flat	Ø5 Flat
	SMD-550S2-3A	0.01	12	Ø5 Flat	Ø5 Flat
	SM-112NE	0.01	110	Ø2 Flat	Ø2 Flat
	SM-528NE	0.01	20	Ø2 Flat	Ø2 Flat
BL (blade) type Upper and lower with blade type.  	SM-114NE	0.01	10	Ø2 Flat	Ø2 Flat
	SMD-540S2-NE	0.01	12	Ø2 Flat	Ø2 Flat
	SMD-550S2-NE	0.01	12	Ø2 Flat	Ø2 Flat
	SM-112BL	0.01	7	t0.5/w4	t0.5/w4
KN (blade) type Upper and lower with blade type.  	SM-528BL	0.01	17	t0.5/w4	t0.5/w4
	SM-114BL	0.01	7	t0.5/w4	t0.5/w4
	SMD-540S2-BL	0.01	10	t0.5/w4	t0.5/w4
	SMD-550S2-BL	0.01	10	t0.5/w4	t0.5/w4
LD (flat disk) type Upper and lower with a flat disk type.  	SM-112KN	0.01	7	t0.5/w4/30°	t0.5/w4/30°
	SM-528KN	0.01	17	t0.5/w4/30°	t0.5/w4/30°
	SM-114KN	0.01	7	t0.5/w4/30°	t0.5/w4/30°
	SMD-540S2-KN	0.01	10	t0.5/w4/30°	t0.5/w4/30°
LD (flat disk) type Upper and lower with a flat disk type.  	SMD-550S2-KN	0.01	10	t0.5/w4/30°	t0.5/w4/30°
	SM-112LD	0.01	10	Ø30	Ø30
	SM-528LD	0.01	20	Ø30	Ø30
	SM-114LD	0.01	10	Ø30	Ø30
LD (flat disk) type Upper and lower with a flat disk type.  	SMD-540S2-LD	0.01	12	Ø30	Ø30
	SMD-550S2-LD	0.01	12	Ø30	Ø30

• SM is Analog Type, SMD is Digital type.

อุปกรณ์เสริม

Parts & Accessories

Contact Point, Anvil of Symbol and Shapes



Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระดับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

Digimatic Indicators

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ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

SINCE 1916
PEACOCK

เกจวัดความหนา Dial Swift Gauge

The dial swift gauge is used for the same purpose as an ordinary micrometer to measure outside sizes.

- The spindle is always pulled upward by the force of the spring. The knob at the top of the gauge is pushed down by finger to clamp an object in measurement.
- It will show its power for measurement of thickness, heights and diameters.



Q-1

Graduation : 0.05mm
Range : 0-25mm

Order No.	Graduation (mm)	Range (mm)	Throat depth (mm)	Accuracy (μm)	Contact Point	
					Dia (mm)	Parallelism (μm)
Q-1	0.05	0 ~ 25	30	±100	5.5	10

TECLOCK

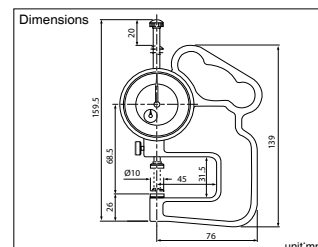
เกจวัดความหนา Dial Swift Gauge



SFM-627

Graduation : 0.01mm
Measuring Range : 20mm

Upward Shockproof
Contact Point, Anvil = Ceramic



Order No.	Graduation (mm)	Measuring Range (mm)	Accuracy (μm)	Parallelism (μm)	Dial Reading	Contact Point Form (mm)	Anvil Form (mm)	Weight (g)
SFM-627	0.01	20	±20	5	0-50-100	Ø 10 Flat	Ø 10 Flat	240

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

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Linear Height

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Depth Gages

เกจวัดความลึก

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โต๊ะระดับ

Indicators

อินดิเคเตอร์

Stands

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Digimatic Indicators

ดิจิมติคอินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

ไดอัลสแนปเกจ

Dial Snap Gage

Optional accessories

Dial indicator

Dial protection cover: **No.21DZA000**

Refer to page C-058 for details.

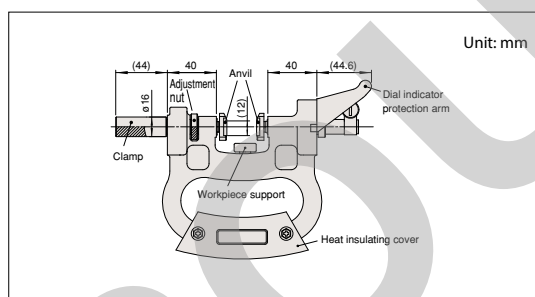
Recommended dial indicators

No.2046SB: Dial indicator (Graduation: 0.01mm)**No.2109SB-10**: Dial indicator
(Graduation: 0.001mm)

FEATURE

- Designed for quick GO/NG judgment of diameters of cylinders and shafts in machining processes.
- Wide (13.5 x 12mm/ 1.53 x 47"), flat carbide anvils.
- Anvil retracting stroke: 2mm/.080"
- Anvil positioning range: 25mm/ 1"
- Adjustment nut: adjusts the measuring range.
- Clamp: adjustment nut
- Flatness of measuring face: 1μm
- Stability of indication: 2μm or less (stability of indicators is not included)
- The dial indicator and protection cover are optional. Also, some dial indicators and protection covers cannot be used with the dial snap gage. Consult Mitutoyo if intending to use dial indicators which are not recommended.

DIMENSIONS

**201-101**

Note: The dial indicator and protection cover are optional.

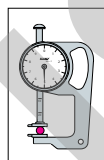
Metric

Order No.	Range	Parallelism	Measuring force	Recommended dial indicator (optional)
201-101	0 - 25mm	5μm	15N ± 3N	2046SB (0.01mm reading), 2109SB-10 (0.001mm reading)
201-102	25 - 50mm	5μm	15N ± 3N	2046SB (0.01mm reading), 2109SB-10 (0.001mm reading)
201-103	50 - 75mm	5μm	15N ± 3N	2046SB (0.01mm reading), 2109SB-10 (0.001mm reading)
201-104	75 - 100mm	5μm	15N ± 3N	2046SB (0.01mm reading), 2109SB-10 (0.001mm reading)
201-105	100 - 125mm	5μm	15N ± 3N	2046SB (0.01mm reading), 2109SB-10 (0.001mm reading)
201-106	125 - 150mm	5μm	15N ± 3N	2046SB (0.01mm reading), 2109SB-10 (0.001mm reading)
201-107	150 - 175mm	5μm	15N ± 3N	2046SB (0.01mm reading), 2109SB-10 (0.001mm reading)
201-108	175 - 200mm	5μm	15N ± 3N	2046SB (0.01mm reading), 2109SB-10 (0.001mm reading)
201-109	200 - 225mm	5μm	15N ± 3N	2046SB (0.01mm reading), 2109SB-10 (0.001mm reading)
201-110	225 - 250mm	5μm	15N ± 3N	2046SB (0.01mm reading), 2109SB-10 (0.001mm reading)
201-111	250 - 275mm	5μm	15N ± 3N	2046SB (0.01mm reading), 2109SB-10 (0.001mm reading)
201-112	275 - 300mm	5μm	15N ± 3N	2046SB (0.01mm reading), 2109SB-10 (0.001mm reading)

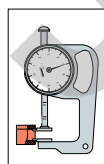
สแนปคาลิเปอร์

Snap Calipers

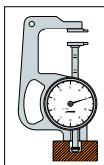
- Easy measurement of thickness, outer diameter, inner diameter and depth.
- Handy size with excellent functions.
- Minimum reading : 0.1mm.



To measure thickness and diameter of balls.



To measure groove width and inner diameter.



To measure depth and step depth. (EG-2 only.)

**EG-1**

for measurement of inner diameter and outer diameter.

Graduation : 0.1mm
 Measurement of thickness: 0-20mm
 Measurement of inner diameter: 3-23mm
 Measurement of depth: 0-20mm
 (※ EG-2 only)

**EG-2**

for measurement of inner diameter, outer diameter and depth.

SMALL TOOLS

เครื่องมือวัดละเอียด

SINCE 1916
PEACOCK

เกจวัดความหนา Pearl Scale

Handy Size: "Pearl Scale" is compact and light.

It is so handy that you can either hang it from your neck or carry it in a pocket.

Easy Measurement: You can measure size or thickness of an object you want to measure, just by holding it between a contact point and anvil, and pressing a knob lightly by your finger. A division of scale shows 0.1mm, and you can measure up to 20mm by this gauge.



PS-1
Graduation : 0.1mm
Range : 20mm



Since the back of gauge is flat, you can measure an object, while laying your gauge on a desk or table.

With 0.1mm graduation of a gauge, you can easily read measured values, which makes your work more efficient.

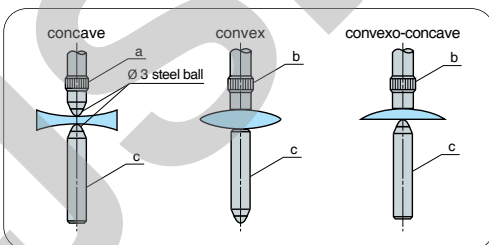
เกจวัดความหนาเลนส์ Dial Lens Gauges

The dial lens gauge can measure convex, concave, convexo-concave and any other lenses in the same gauge by replacing the two contact points and the anvil.



Replaceable Flat contact point
(Standard accessory)

Applied examples



GL
Graduation : 0.01mm
Range : 10mm

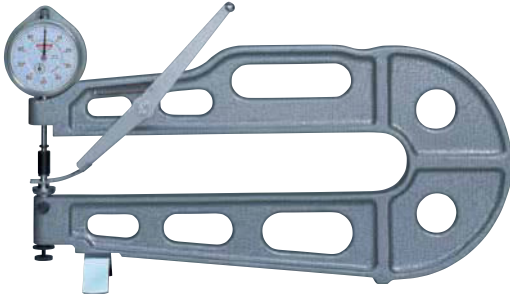
Order No.	Graduation (mm)	Range (mm)	Accuracy (μ m)	Throat depth (mm)	maximum lens diameter measurable (mm)	maximum lens thickness measurable (mm)	Measuring force less than (N)
GL	0.01	10	± 20	30	$\varnothing 59$	≈ 20	1.8

※ Anvil side is adjustable.

เกจวัดความหนา

Dial Sheet Gauges - 0.01mm and 0.05mm

- The sheet gauges can measure wide sheets since the throat depth of this gauges having 300, 500 and 690mm.



K-1

Graduation : 0.01mm
Range : 0-20mm

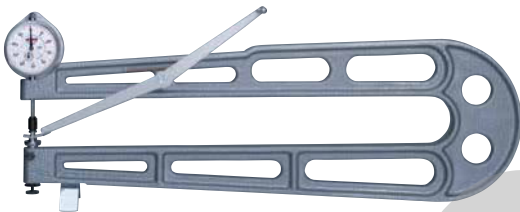
- Ø10mm flat contact point
- Ø20mm anvil (Metal)



K-2

Graduation : 0.05mm
Range : 0-35mm

- Ø10mm flat contact point and anvil (Metal)



K-3

Graduation : 0.01mm
Range : 0-20mm

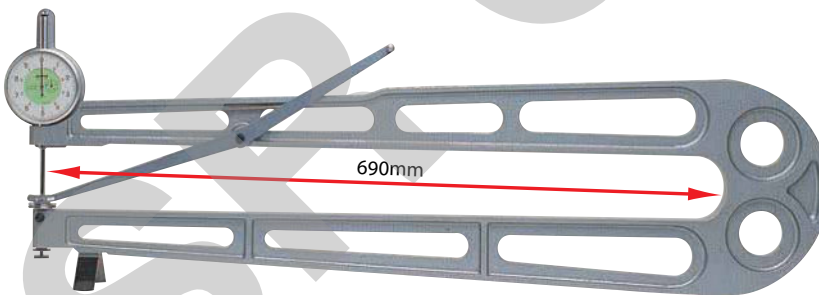
- Ø10mm flat contact point
- Ø20mm anvil (Metal)



K-4

Graduation : 0.05mm
Range : 0-50mm

- Ø25mm flat contact point and anvil (Metal)



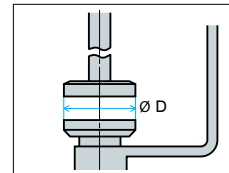
K-7 (Production on request)

Graduation : 0.05mm
Range : 0-50mm

- Ø30mm flat contact point and anvil (Metal)

Custom order available

Optional Ø30, 40 and 50mm contact points and anvils are available.
Please specify material for contact point and anvil, either Metal (SK) material or aluminum (AL).



Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

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เครื่องมืออ้างอิง

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โต๊ะระบับ

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อินดิเคเตอร์

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ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

Order No.	Graduation (mm)	Range (mm)	Throat depth (mm)	Accuracy (μm)	Contact Point		Measuring force less than(N)
					Dia (mm)	Parallelism (μm)	
K-1	0.01	0 ~ 20	300	±22	10	10	2.0
K-2	0.05	0 ~ 35	300	±100	20	25	3.0
K-3	0.01	0 ~ 20	500	±22	10	10	3.0
K-4	0.05	0 ~ 50	500	±100	25	25	3.0
K-7	0.05	0 ~ 50	690	±100	30	25	3.0

※ Model K-7 is production on request.

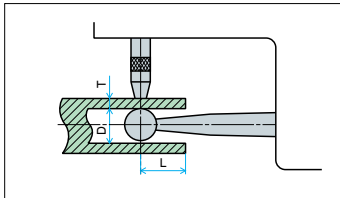
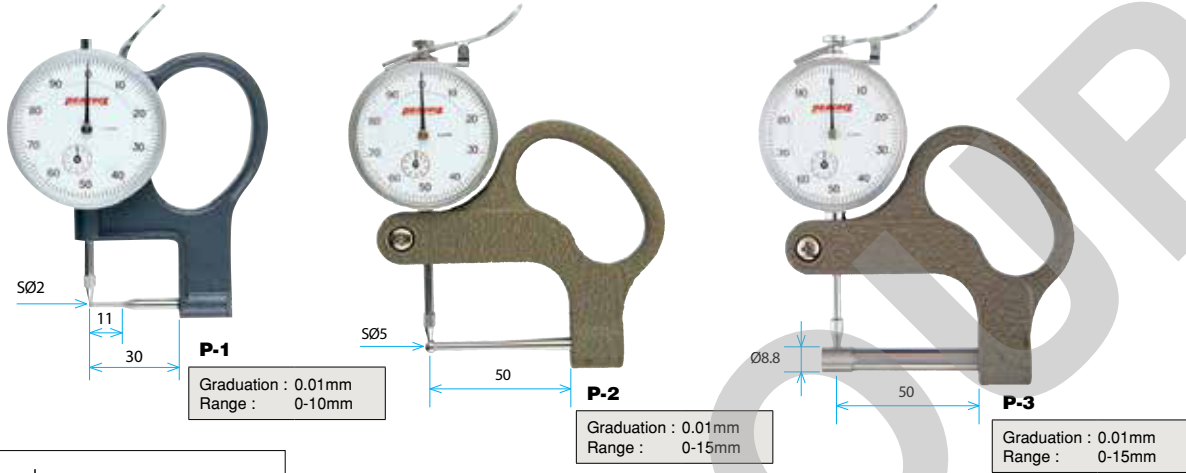
SMALL TOOLS

เครื่องมือวัดละเอียด

SINCE 1916
PEACOCK

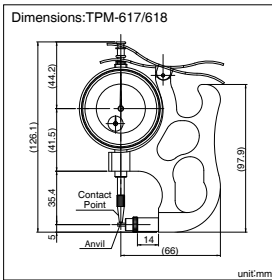
เกจวัดความหนาท่อ Dial Pipe Gauges

Special gauges for measuring wall thickness of pipes.



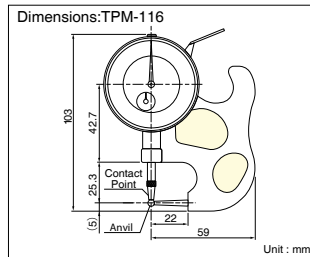
Order No.	Graduation (mm)	Range (mm)	Accuracy (μ m)	Roller contact points			Measuring force less than(N)
				Minimum bore D	Maximum wall thickness T	Depth L	
P-1	0.01	0 ~ 10	± 20	2.5	10	10	1.8
P-2	0.01	0 ~ 15	± 20	5.1	15	50	1.8
P-3	0.01	0 ~ 15	± 20	9.0	15	50	1.8

เกจวัดความหนาท่อ Dial Pipe Gauge



Relation between Anvil diameter and Work inserting depth

Anvil dia.	Depth	Anvil dia.	Depth
Ø0.5	2mm	Ø5.0	8mm
Ø1.0	3mm	Ø7.0	8mm
Ø2.0	3mm	Ø10.0	8mm



The special order if the following hole diameter Ø3.5mm.

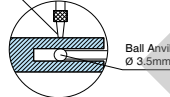
TPM-116

*Suitable for measuring thickness of pipe and curved plate etc.
Radial thickness can be measured up to minimum diameter Ø3.5mm.

Graduation : 0.01mm
Measuring Range : 10mm

Upward Shockproof
Anvil fixed type

Edge of point
Ø 2.5mm Flat



TPM-617

Graduation : 0.01mm
Measuring Range : 10mm

Anvil replaceable type



TPM-618

Graduation : 0.01mm
Measuring Range : 10mm

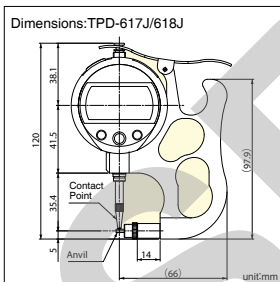
Anvil replaceable type
(option)



Order No.	Graduation (mm)	Measuring Range (mm)	Accuracy (μm)	Parallelism (μm)	Dial Reading	Measuring Force (N)	Contact Point Form (mm)	Anvil Form (mm)	Weight (g)
TPM-116	0.01	10	±15	-	0-50-100	2.3 or less	Ø 2.5 Flat	Ø 3.5 Ball	160
TPM-617	0.01	10	±15	-	0-50-100	1.5 or less	Ø 1.6 Ball	Ø 0.5, 1.0, 2.0 replaceable	190
TPM-618	0.01	10	±15	-	0-50-100	1.5 or less	Ø 1.6 Ball	Ø 5.0 (Ø 7.0, 10.0 replaceable)*	195

*Anvils of Ø7 and Ø10.0 are optional.

เกจวัดความหนาท่อแบบดิจิตอล Digital Pipe Gauge



Relation between Anvil diameter and Work inserting depth

Anvil dia.	Depth	Anvil dia.	Depth
Ø0.5	2mm	Ø5.0	8mm
Ø1.0	3mm	Ø7.0	8mm
Ø2.0	3mm	Ø10.0	8mm

TPD-618J

Graduation : 0.01mm
Measuring Range : 12mm



TPD-617J

Graduation : 0.01mm
Measuring Range : 12mm



Order No.	Graduation (mm)	Measuring Range (mm)	Accuracy (μm)	Parallelism (μm)	Measuring Force (N)	Contact Point Form (mm)	Anvil Form (mm)	Weight (g)
TPM-617J	0.01	12	±20	-	1.5 or less	Ø 1.6 Ball	Ø 0.5, 1.0, 2.0 replaceable	255
TPM-618J	0.01	12	±20	-	1.5 or less	Ø 1.6 Ball	Ø 0.5 (Ø 7.0, 10.0 replaceable)*	260

*Anvils of Ø7 and Ø10.0 are optional.

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

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Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

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เกจบล็อก

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Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

TECLOCK

ไดอัลเกจ

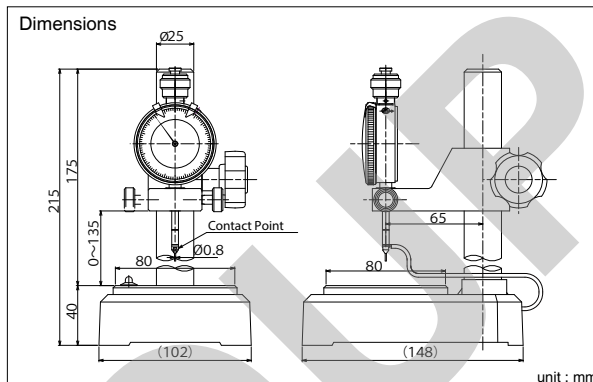
Sensor Gauge Dial Type

• Micro-motion is adjusted by 10mm with upper knob.



SD-465A

Graduation 0.001mm
Measuring Range 10mm



Order No.	Display	Resolution (mm)	Indicating Range (mm)	Measuring Range (mm)	Gauge Error (μ m)	Specimen Table Size (mm)	Power Supply	Weight (kg)
SD-101A	Dial (Analog)	0.01	10	Max. 150	± 15	W80 x D80	DC3V (AA size batteryx2)	3.4

ดิจิตอล เซ็นเซอร์เกจ

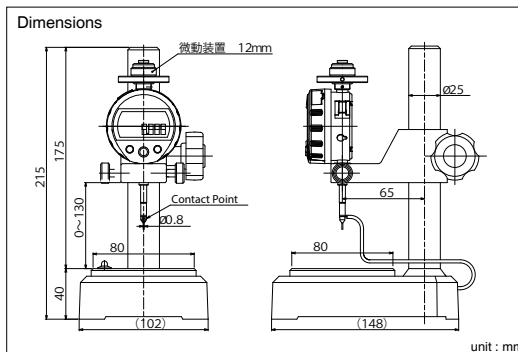
Sensor Gauge Digital Type

- Springs and pressed parts which are used for precision equipments, computer terminal and home electric goods can be measured just before their shapes are changed due to measuring force.
- If detecting contact between sensor (contact point) and work piece by energizing, it simultaneously sounds (buzzer) when LED lamp is lighting.. Then read the value which is detected.
- Micro-motion is adjusted by 12mm with upper knob.
- Work piece of maximum 150mm can be measured by using block gauge.
- As detection is implemented by energizing, work piece which is not energized can not be measured.



SD-465A

Resolution 0.001mm
Measuring Range 12mm



Example



Measuring height of coil spring

Order No.	Display	Resolution (mm)	Indicating Range (mm)	Measuring Range (mm)	Gauge Error (μ m)	Specimen Table Size (mm)	Power Supply	Weight (kg)
SD-465A	Digital	0.001	12	Max. 150	$\pm 3^{*1}$	W80 x D80	DC3V (AA size battery*2)	3.4

*1 The quantizing error is not included. *2 SR-44 battery for digital indicator

เกจวัดความหนา

Dial Upright Gauges - R Series

Best suited for measuring precision parts and testing materials like rubber, leather, fabric and plastic etc.

Rubber, leather, urethane and film can be easily measured by this system.

- The table of R1 series are adjustable up and down by the nut installed side way.
- The dial gauge is affixed to the body.



R1-A

Graduation : 0.001 mm
Range : 2 mm
Effective measuring range: 10 mm



R1-B

Graduation : 0.01 mm
Range : 10 mm
Effective measuring range: 25 mm



R1-C

Graduation : 0.01 mm
Range : 20 mm
Effective measuring range: 20 mm

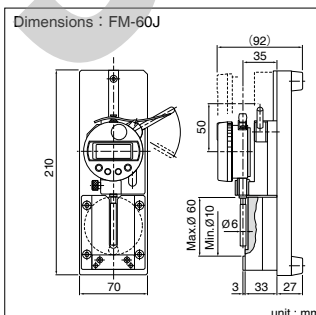
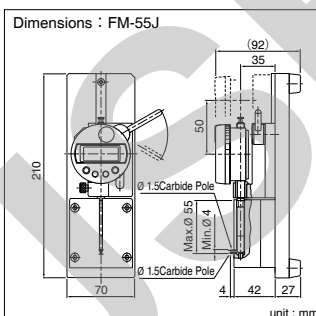
Order No.	Dial Indicator (standard attachments)			Indication error (μm)	Table diameter (mm)	Contact point dia. (mm)	Measuring force less than (N)	Measuring depth (mm)	Effective measuring range (mm)	Measuring force less than (N)
	Gauge installed	Range (mm)	Graduation (mm)							
R1-A	25F-RE	2	0.001	±7	40	5	1.5	55	10	191
R1-B	107F-RE	10	0.01	±15	40	5	1.4	55	25	190
R1-C	207F-PL	20	0.01	±22	40	5	2.0	55	20	210

TECLOCK

ดิจิตอลคอมพาราเตอร์

Digital Comparator

- These are exclusive equipments which comparatively measure dimension of internal diameter and outer diameter.
- After placing master gauge on measuring table and setting up standard value (zero point set up), tolerance judging measurement against standard value is possible by measuring work piece.
- Cemented carbide is provided to stylus and anvil (anvil pin).
- Special made products are compiled for the measuring range except for below.



Example



FM-60J

Digital outside Comparator

Resolution 0.001 mm
Measuring Range 10~60mm



FM-55J

Digital inside Comparator

Resolution 0.001 mm
Measuring Range 4~55mm

Effective for measuring internal diameter of thin ring (FM-55)

Both models can print out data with SD-763P digital mini printer and ZE-018 connection cable.

Order No.	Graduation (mm)	Gauge Accuracy* (mm)	Measuring Range (mm)	Indicating Range (mm)	Measuring Force (N)
FM-55	0.001	0.003	4 ~ 55	12	1.5 or less
FM-60	0.001	0.003	10 ~ 60	12	1.5 or less

*The quantizing error is not included.

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

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ดิจิมติคอินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

เกจทดสอบแรงกด

Contact Force Gage SERIES 546

FEATURE

- Contact Force Gages are widely used to determine the measuring force applied by an instrument to a workpiece, as well as contact forces of electrical relays, micro-switches, valves and precision springs.
- Thanks to the miniature anti-friction bearing in the fulcrum, stable measurement is guaranteed.
- 2 types are available: Standard and peak hold.

Measuring contact force on a relay



Standard Type
546-112

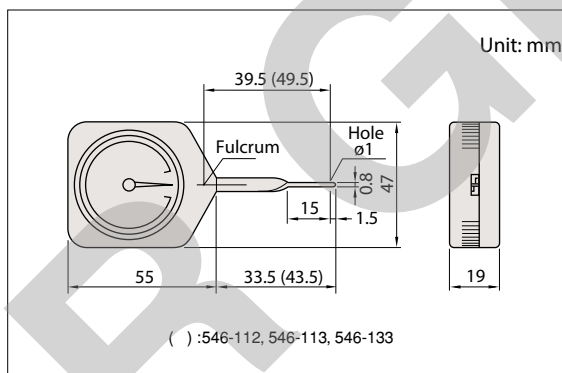


Standard Type
546-119



Peak hold type
546-137

DIMENSIONS



Standard

Order No.	Graduation	Range	Accuracy
546-112	2mN	6mN - 50mN	
546-113	5mN	10mN - 100mN	
546-114	10mN	30mN - 300mN	
546-115	0.02N	0.06N - 0.5N	±0.5
546-116	0.05N	0.1N - 1N	(division)
546-117	0.05N	0.15N - 1.5N	
546-118	0.1N	0.3N - 3N	
546-119	0.2N	0.6N - 5N	

Peak hold

Order No.	Graduation	Range	Accuracy
-	-	-	-
546-133	5mN	10mN - 100mN	
546-134	10mN	30mN - 300mN	
546-135	0.02N	0.06N - 0.5N	±0.5
546-136	0.05N	0.1N - 1N	(division)
546-137	0.05N	0.15N - 1.5N	
546-138	0.1N	0.3N - 3N	
546-139	0.2N	0.6N - 5N	

SMALL TOOLS

เครื่องมือวัดละเอียด



เครื่องมือวัดแรงดึง-แรงดัน

TENSION GAUGE - ROD TYPE



FEATURE

1. A round spring-type tension gauge is a gauge that represents the scale on a cylindrical shape and measures it accurately by applying the force of a spring when measuring pressing force, pulling force, plate spring, etc. We also manufacture special products.
2. Standard type for left side is generally used type, but when it is used in horizontal condition, add horizontal error to actual measurement value. Please. When using reverse vertical, it will be double the horizontal time error.

Accuracy: ± 1 scale

Order No.	Model	Instrument Type (N)	First sight (N)	Horizontal error (N)	Gross weight (g)	
U-0114-0001	O-BT	0.1	0.005	0.04	40	
U-0114-0002		0.3	0.01		45	
U-0114-0003		0.5	0.01	0.1		50
U-0114-0004		1	0.025			
U-0114-0005		2	0.05			
U-0114-0006		3	0.075			
U-0114-0007		5	0.125			
U-0114-0008		6	0.2			
U-0114-0009		10	0.25	0.35	100	
U-0114-0010		15	0.5			
U-0114-0011		20	0.5	0.5	150	
U-0114-0012		25				
U-0114-0013		30	0.75			
U-0114-0014		40	1	1	250	
U-0114-0015		50				
U-0114-0016		70				
U-0114-0017		100	2	2.5	500	
U-0114-0018		150			650	
U-0114-0019		200	3	3.5	950	
U-0114-0020		300			3.5	1,200
U-0114-0021		500				
U-0114-0022			1000	10		

เครื่องมือตรวจสอบ i-Checker IC2000 SERIES 170



Applications for Dial Test Indicator
Accessory Set

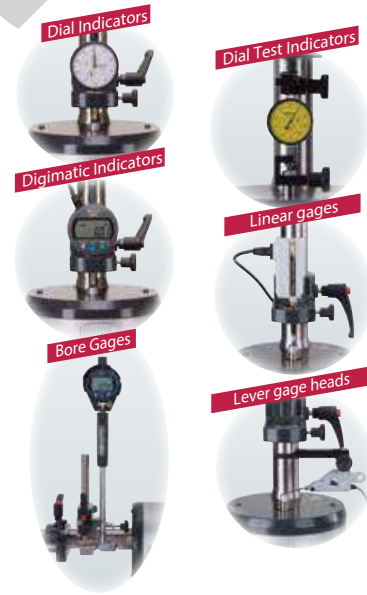
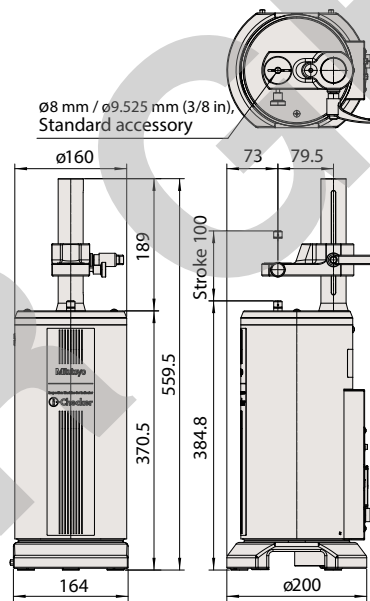


Using dial test indicator attachment set
(02ASK000)

FEATURE

- Indication accuracy of $(0.1+0.4L/100) \mu\text{m}$, the highest level in the world, is achieved.
- The pointer of the analog indicator is positioned just before the measuring point automatically in the semi-automatic mode.
- Digital indicators equipped with a data output function are checked very efficiently due to spindle positioning at the inspection points and recording of measurement results being under fully automatic control.

DIMENSIONS



Order No.	170-402	170-403
Remarks	with 8 mm bush	with 3/8 in bush
Measuring Range	100 mm	
Resolution	0.01 μm	
Accuracy	$(0.1+0.4L/100) \mu\text{m}$ L = Arbitrary length (mm)	
(20°C)	$(0.15+0.6L/100) \mu\text{m}$ L = Arbitrary length (mm)	
Feed speed	Maximum 10 mm/s	
Drive method	Motor drive	
Measuring Unit	Separate type Linear Encoder	
Measurement method	Semi-automatic measurement	
	Fully automatic measurement (only when using an indicator equipped with data output function) ^{*1,2}	
Mass	20 kg	
Operating temperature range	20 °C $\pm$ 0.5 °C	

^{*1} Automatic measurement requires the indicator's connecting cable. Additionally some form of indicator, along with the normally connected accessory (the optional accessory for the indicator such as a Digimatic power-supply unit in an EF counter) will be required.

^{*2} The indicator measured via RS-232C has the capability to receive data from the main unit and output the counter value.

Micrometer

ไมโครมิเตอร์

Inside

Measurement

เครื่องมือวัดภายใน

Calipers

คาร์ลิเปอร์

Height Gages

เกจวัดความสูง

Linear Height

เครื่องมือวัดความสูง

Depth Gages

เกจวัดความลึก

Gauge Blocks

เกจบล็อก

Reference Gages

เครื่องมืออ้างอิง

Surface Plate

โต๊ะระดับ

Indicators

อินดิเคเตอร์

Stands

ขาตั้ง

Digimatic Indicators

ดิจิตอล อินดิเคเตอร์

Dial Indicators

ไดอัลอินดิเคเตอร์

Dial Test Indicators

ไดอัลเทสอินดิเคเตอร์

Dial Indicators

Applications

ไดอัลอินดิเคเตอร์อื่นๆ

Accessories

อุปกรณ์เสริม

Other

อุปกรณ์อื่นๆ

SMALL TOOLS

เครื่องมือวัดละเอียด

Mitutoyo

เครื่องมือตรวจสอบ

SERIES 170 — UDT-2 Dial Indicator Tester

FEATURE

- UDT-2 is the accuracy tester for 0.01mm resolution/graduation dial indicators, dial test indicators and bore gages.
- Stem mounting hole: $\phi 6, \phi 8\text{mm}$ (Metric) $\phi 1/4", \phi 3/8"$ (Inch)



Metric

Order No.	Range	Graduation	Accuracy
170-102-12	0-25mm	0.001mm	$\pm 2\mu\text{m}$

Optional accessory

Stand for bore gage inspection (12AAK824)
Can be used for the inspection of bore gages 511 series standard type and with micrometer head up to 400mm.
(Refer to pages C-031 and C-038 for details.)



การลิเบรชั่นทดสอบ

SERIES 521 — Calibration Tester

FEATURE

- The Calibration Tester is specially designed to calibrate short range dial indicators, dial test indicators, and electronic gage heads.
- Universal bracket accepts any dial indicator, dial test indicator or electronic gage without any additional accessory.
- Clamping capacity: $\phi 4\text{mm}$ to $\phi 10\text{mm}$



Metric

Order No.	Range	Graduation	Accuracy
521-103	0-1mm	0.0002mm	$\pm 0.2\mu\text{m}$
521-105	0-5mm	0.0002mm	$\pm 0.8\mu\text{m}$



TECLOCK

การลิเบรชั่นทดสอบ

Calibration Tester

• FM-10 is a calibration device to check accuracy of dial indicators, test indicators, back plunger type dial indicators and bore gauges. Accuracy of various gauges mentioned in the following list can be measured according to combination of various units. Optional pole (ZY-095) is needed for 400mm-600mm measuring range bore gauges.



For Dial Indicators



For Dial Test Indicators



For Back Plunger Dial Indicators



For Bore Gauges

Applicable gauges and industrial standards

0.01mm Dial Indicators	JIS B 7503
0.01mm Dial Indicators (20mm)	JAMS 2001
0.001mm Dial Indicators	JIS B 7503
Small Dial Indicators	JAMS 2001
Test Indicators	JIS B 7533
Back Plunger Type Dial Indicators	-
Bore Gauges	JIS B 7515
Bore Gauges for small holes	JAMS 2009

FM-10

Graduation 0.001mm
Measuring Range 25mm
Weight 9kg

Used Micrometer Head
Pitch 0.5mm
Range 25mm
Sleeve graduation 500
Instrumental error $\pm 1\mu\text{m}$

It does not include calibration certificate.