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**Digimatic Caliper**



**Digimatic Height Gages**



**Linear Height**



**Depth Gages**



**ABSOLUTE Digimatic Caliper**



**ABSOLUTE Coolant Proof Caliper**



**SuperCaliper**



**ABSOLUTE Digimatic Offset Caliper**



**Digimatic Height Gage**

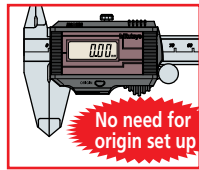
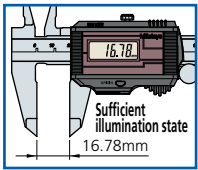
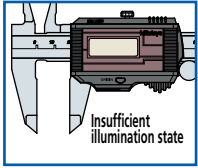


# Super Caliper-Solar Powered

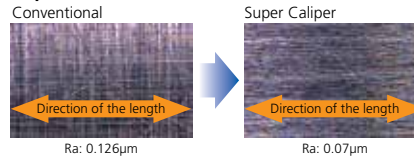
**SERIES 500 — No battery or origin reset needed for IP67 Digital Caliper**

## FEATURES

- With no annoying origin restoration necessary, a measurement can be started any time and there is no restriction on operating speed.
- World's unique\* solar-powered Super Caliper that is eco-friendly with no battery.  
\*According to Mitutoyo investigation in January, 2005
- The impact resistance of the display unit has been increased for improved usability in workshop conditions.
- IP67 protection assures waterproof reliability.
- This Super Caliper uses components that do not contain harmful substances and is compatible with RoHS Directives.
- Supplied in fitted plastic case.



### Improvement in surface finish of beam



500-784

## SPECIFICATIONS

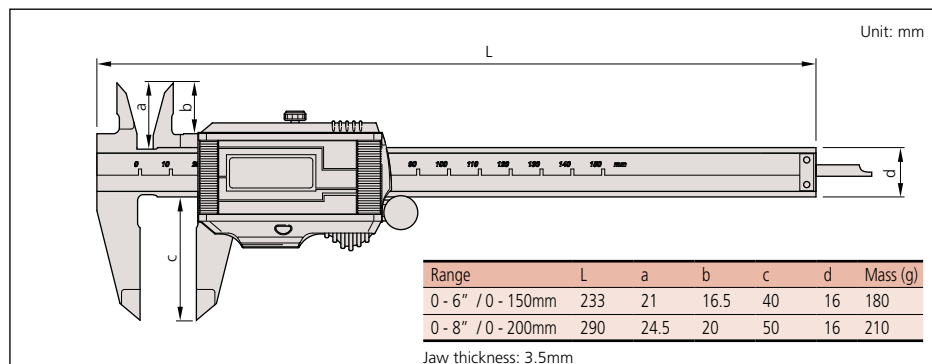
Metric			
Range	Order No.	Accuracy	Resolution
0 - 150mm	<b>500-776</b>	±0.02mm	0.01mm
0 - 150mm	<b>500-774*</b>	±0.02mm	0.01mm
0 - 200mm	<b>500-777</b>	±0.02mm	0.01mm
0 - 200mm	<b>500-775*</b>	±0.02mm	0.01mm

\*Without SPC data output

Inch/Metric			
Range	Order No.	Accuracy	Resolution
0 - 6" / 0 - 150mm	<b>500-786</b>	±.001"	.0005" / 0.01mm
0 - 6" / 0 - 150mm	<b>500-784*</b>	±.001"	.0005" / 0.01mm
0 - 8" / 0 - 200mm	<b>500-787</b>	±.001"	.0005" / 0.01mm
0 - 8" / 0 - 200mm	<b>500-785*</b>	±.001"	.0005" / 0.01mm

\*Without SPC data output

## DIMENSIONS AND MASS



Range	L	a	b	c	d	Mass (g)
0 - 6" / 0 - 150mm	233	21	16.5	40	16	180
0 - 8" / 0 - 200mm	290	24.5	20	50	16	210

Jaw thickness: 3.5mm

**ABSOLUTE®**  
Absolute System Patented by MITUTOYO

**SPC**



**IP67**



## Technical Data

Accuracy: Refer to the list of specifications  
Resolution: .0005" / 0.01mm or 0.01mm  
Repeatability: .0005" / 0.01mm  
Display: LCD  
Length standard: ABSOLUTE electromagnetic induction linear encoder  
Max. response speed: Unlimited  
Battery: Solar battery\*  
Dust/Water protection level: IP67  
\*Can be used continuously above 60 lux ambient illumination.

## Function

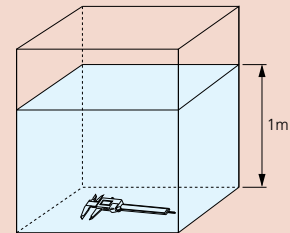
Origin-set, inch/mm conversion (on inch/metric models only)  
Alarm: Counting value composition error

## Optional Accessories

**05CZA624:** SPC cable with data switch (40" / 1m)  
**05CZA625:** SPC cable with data switch (80" / 2m)

## IP67 protection level

Level 6: Dust-tight  
No ingress of dust.  
Level 7: Protected against the effects of temporary immersion in water.  
Ingress of water in quantities causing harmful effects shall not be possible when the enclosure is temporarily immersed 1 meter in water under standardized conditions of pressure and time (30 min.).



## About the charge function (Super Caliper)

The minimum illumination required in the uncharged state is 60 lux. As shown in the table 'JIS Z 9110 Artificial Illumination Intensity Standard', this Super Caliper can be used without problems in a normal work environment.

The charge function allows the operator to use this Super Caliper without interrupting work even if the ambient illumination is temporarily insufficient.

- In the fully charged state this Super Caliper can operate for approximately an hour in an environment of 50lux illumination (less than the minimum necessary illumination intensity).
- The time necessary for full charge differs, depending on the charging conditions. If this Super Caliper is left unused in an illumination of 500 lux (usual for manufacturing environments), it takes approximately one hour to reach full charge.

## Technical Data

Accuracy: Refer to the list of specifications  
 Resolution: .0005"/0.01mm or 0.01mm  
 Repeatability: .0005" / 0.01mm  
 Display: LCD  
 Length standard: ABSOLUTE electrostatic capacitance type linear encoder  
 Max. response speed: Unlimited  
 Battery: Solar battery\*  
 \*Can be used continuously above 60 lux ambient illumination.

## Function

Origin-set, Data hold, Data output,  
 inch/mm conversion (on inch/metric models only)  
 Alarm: Counting value composition error

## Optional Accessories

**959143:** Data hold unit (SPC output model only)  
**959149:** SPC cable with data switch (40" / 1m)  
**959150:** SPC cable with data switch (80" / 2m)

Mitutoyo's Absolute Solar Digimatic Caliper retains its origin point even the display turns off for the entire life of the caliper. At 60 Lux and up the ABSOLUTE solar caliper is turned on ready to start measurement.

## FEATURES

- No more repeated zero setting caused by low light intensity.
- Hard-coated solar panel for increased durability.
- No fear for overspeed errors.
- With thumb roller.
- Supplied in fitted plastic case.



500-474

## SPECIFICATIONS

### Metric

Range	Order No.	Accuracy	Resolution	Remarks
0 - 100mm	<b>500-443</b>	±0.02mm	0.01mm	ø1.9mm round depth bar
0 - 100mm	<b>500-453*</b>	±0.02mm	0.01mm	ø1.9mm round depth bar
0 - 150mm	<b>500-444</b>	±0.02mm	0.01mm	
0 - 150mm	<b>500-454*</b>	±0.02mm	0.01mm	
0 - 200mm	<b>500-445</b>	±0.02mm	0.01mm	
0 - 200mm	<b>500-455*</b>	±0.02mm	0.01mm	

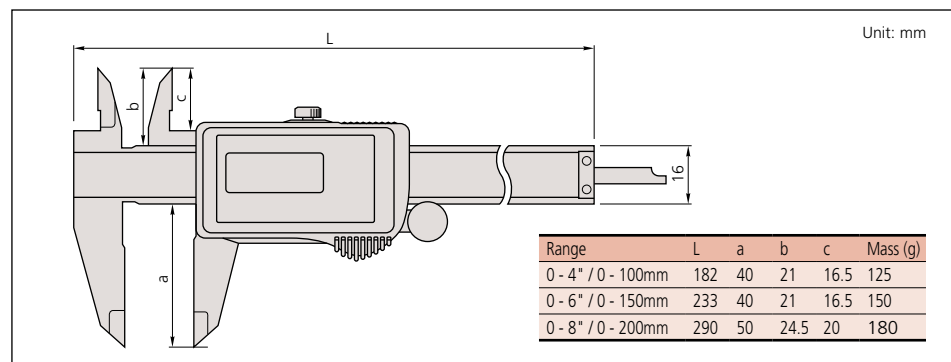
\*without SPC data output

### Inch/Metric

Range	Order No.	Accuracy	Resolution	Remarks
0 - 4" / 0 - 100mm	<b>500-463</b>	±.001"	.0005" / 0.01mm	.075" round depth bar
0 - 4" / 0 - 100mm	<b>500-473*</b>	±.001"	.0005" / 0.01mm	.075" round depth bar
0 - 6" / 0 - 150mm	<b>500-464</b>	±.001"	.0005" / 0.01mm	
0 - 6" / 0 - 150mm	<b>500-474*</b>	±.001"	.0005" / 0.01mm	
0 - 8" / 0 - 200mm	<b>500-465</b>	±.001"	.0005" / 0.01mm	
0 - 8" / 0 - 200mm	<b>500-475*</b>	±.001"	.0005" / 0.01mm	

\*without SPC data output

## DIMENSIONS AND MASS



**SERIES 500 — with Dust/Water Protection Conforming to IP67 Level**

- Can be used in workshop conditions exposed to coolant, water, dust or oil.
- Easy to use - no need to wipe or clean the scale.
- Advanced design styling.

- Incorporates absolute measurement system.
- Automatic power-on/off.
- Data output function.
- With thumb roller.
- Supplied in fitted plastic case.



The diagram illustrates the process of resetting the digital depth gauge in three stages, connected by blue arrows:

- Power OFF:** The gauge is shown with a blank LCD display.
- Power ON:** The gauge is shown with the LCD display showing "16.38".
- No origin resetting:** The gauge is shown with the LCD display showing "0.00". A red circle with the text "No origin resetting" is overlaid on the bottom right of this stage.

[illegible]

**ABSOLUTE®**  
Absolute System Patented by MITUTOYO



Accuracy: Refer to the list of specifications  
Resolution: .0005"/0.01mm or 0.01mm  
Repeatability: .0005" / 0.01mm  
Display: LCD  
Length standard: ABSOLUTE electromagnetic induction  
linear encoder  
Max. response speed: Unlimited  
Battery: SR44 (1 pc./2 pcs\*), **938882**  
Battery life: Approx. 3 years under normal use  
(1 year: over 12" / 300mm models)  
Dust/Water protection level: IP67  
\*0 - 300mm model

Origin-set, Zero-setting, Automatic power on/off, Data output, inch/mm conversion (on inch/metric models only)  
Alarm: Low voltage, Counting value composition error

**05CZA624:** SPC cable with data switch (40" / 1m)  
**05CZA625:** SPC cable with data switch (80" / 2m)  
 Connecting cable for **U-Wave-T**  
**02AZD790A:** SPC cable for **U-Wave** (160mm)



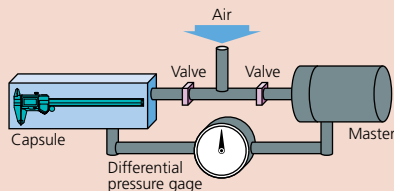
05C7A624



Measurement data output function is available with a water-resistant SPC cable.

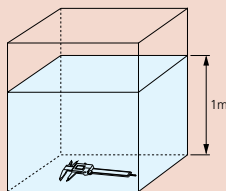
## Air leakage detection system used for water-proof testing

Generally, air leakage tests are performed to evaluate water resistance. Testing begins by placing a measuring tool into the capsule. Next, air with equivalent pressure is supplied to the capsule and the master, then the valves are closed. If none of the air in the capsule seeps into the measuring tool, the capsule's air pressure will remain equal to that in the master, and the differential pressure gage will continue to point to the center. However, if some air does seep into the measuring tool, it will create an air pressure difference in the amount indicated by the differential pressure gage. Thus, detection of air pressure differences is used as a criterion for judging leakage. Every single unit of the ABS Coolant Proof calipers and Coolant Proof micrometer is tested this way for air leakage to help ensure product quality.



## IP67 protection level

- Level 6: Dust-tight  
No ingress of dust.
- Level 7: Protected against the effects of temporary immersion in water.  
Ingress of water in quantities causing harmful effects shall not be possible when the enclosure is temporarily immersed 1 meter in water under standardized conditions of pressure and time (30 min.).



## SPECIFICATIONS

### Metric IP67 model

Range	Order No.	Accuracy	Resolution	Remarks
0-150mm	<b>500-702-10*</b>	+/-0.02mm	0.01mm	
0-150mm	<b>500-712-10</b>	+/-0.02mm	0.01mm	
0-150mm	<b>500-719-10</b>	+/-0.02mm	0.01mm	dia. 1.9mm rod depth bar
0-150mm	<b>500-721-10</b>	+/-0.02mm	0.01mm	carbide-tipped jaws for ID measurement
0-150mm	<b>500-723-10</b>	+/-0.02mm	0.01mm	carbide-tipped jaws for OD & ID measurement
0-200mm	<b>500-703-10*</b>	+/-0.02mm	0.01mm	
0-200mm	<b>500-713-10</b>	+/-0.02mm	0.01mm	
0-200mm	<b>500-722-10</b>	+/-0.02mm	0.01mm	carbide-tipped jaws for ID measurement
0-200mm	<b>500-724-10</b>	+/-0.02mm	0.01mm	carbide-tipped jaws for OD & ID measurement
0-300mm	<b>500-704-10*</b>	+/-0.03mm	0.01mm	
0-300mm	<b>500-714-10</b>	+/-0.03mm	0.01mm	

\*without SPC data output

### Inch/Metric IP67 model

Range	Order No.	Accuracy	Resolution	Remarks
0-6"/0-150mm	<b>500-752-10*</b>	+/- .001"	.0005"/0.01mm	
0-6"/0-150mm	<b>500-762-10</b>	+/- .001"	.0005"/0.01mm	
0-6"/0-150mm	<b>500-768-10*</b>	+/- .001"	.0005"/0.01mm	.075" rod depth bar
0-6"/0-150mm	<b>500-769-10</b>	+/- .001"	.0005"/0.01mm	.075" rod depth bar
0-6"/0-150mm	<b>500-731-10*</b>	+/- .001"	.0005"/0.01mm	carbide-tipped jaws for OD measurement
0-6"/0-150mm	<b>500-735-10</b>	+/- .001"	.0005"/0.01mm	carbide-tipped jaws for OD measurement
0-6"/0-150mm	<b>500-733-10*</b>	+/- .001"	.0005"/0.01mm	carbide-tipped jaws for OD & ID measurement
0-6"/0-150mm	<b>500-737-10</b>	+/- .001"	.0005"/0.01mm	carbide-tipped jaws for OD & ID measurement
0-8"/0-200mm	<b>500-753-10*</b>	+/- .001"	.0005"/0.01mm	
0-8"/0-200mm	<b>500-763-10</b>	+/- .001"	.0005"/0.01mm	
0-8"/0-200mm	<b>500-732-10*</b>	+/- .001"	.0005"/0.01mm	carbide-tipped jaws for OD measurement
0-8"/0-200mm	<b>500-736-10</b>	+/- .001"	.0005"/0.01mm	carbide-tipped jaws for OD measurement
0-8"/0-200mm	<b>500-734-10*</b>	+/- .001"	.0005"/0.01mm	carbide-tipped jaws for OD & ID measurement
0-8"/0-200mm	<b>500-738-10</b>	+/- .001"	.0005"/0.01mm	carbide-tipped jaws for OD & ID measurement
0-12"/0-300mm	<b>500-754-10*</b>	+/- .0015"	.0005"/0.01mm	
0-12"/0-300mm	<b>500-764-10</b>	+/- .0015"	.0005"/0.01mm	

\*without SPC data output

## DIMENSIONS AND MASS

Unit: mm						
Range	L	a	b	c	e	Mass (g)
0 - 6" / 0 - 150mm	233	40	21	16.5	16	168
0 - 8" / 0 - 200mm	290	50	24.5	20	16	198
0 - 12" / 0 - 300mm	404	64	27.5	22	20	350

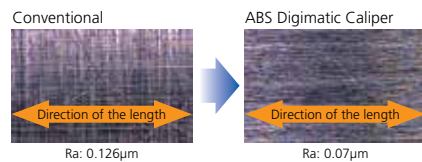


# ABSOLUTE Digimatic Caliper

**SERIES 500 — with Exclusive ABSOLUTE Encoder Technology**

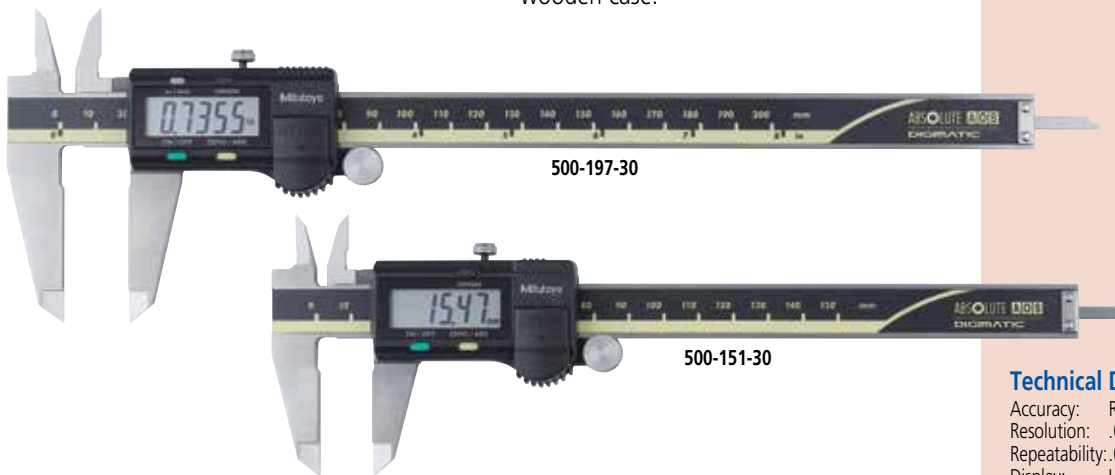
Mitutoyo's absolute Digimatic Caliper is the next generation of electronic calipers. It keeps track of its origin point once set. Whenever turned on, the large LCD screen displays the actual slider position ready to start measurement. No more repeated zero setting is necessary with the absolute encoder technology as well as no more care for overspeed errors.

## High quality guide surface finish for smooth slider movement

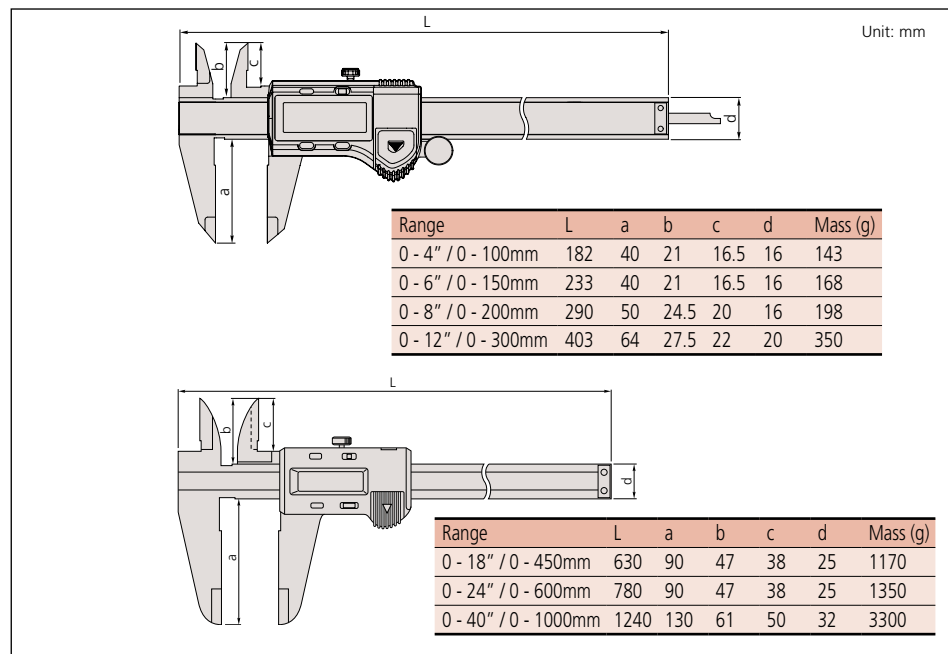


## FEATURES

- Large and clear LCD readout.
- The ZERO/ABS key allows the display to be Zero-Set at any slider position along the scale for incremental comparison measurements. This switch will also allow return to the absolute (ABS) coordinate and display of the true position from the origin point (usually jaws-closed point).
- Data Hold Unit (959143) is optional.
- Carbide-tipped jaw type calipers are also available.
- Thumb roller included only on calipers up to and including 12" or 300mm.
- Supplied in fitted plastic case. Except 40" / 1000mm supplied in wooden case.



## DIMENSIONS AND MASS



**SPC**



The new Mitutoyo ABS Digimatic Caliper line with exclusive AOS sensor technology. The patented Advanced Onsite Sensor (AOS) offers improved measurement dependability by increasing resistance to harsh workshop conditions.

## Technical Data

Accuracy: Refer to the list of specifications  
 Resolution: .0005"/0.01mm or 0.01mm  
 Repeatability: .0005"/0.01mm  
 Display: LCD  
 Length standard:  
 ABSOLUTE electromagnetic induction type linear encoder (200mm and smaller models)  
 ABSOLUTE electrostatic capacitance type linear encoder (300mm and larger models)  
 Max. response speed: Unlimited  
 Battery: SR44 (1 pc.), **938882**  
 Battery life: Approx. 3.5 years under normal use

## Function

Origin-set, Zero-setting, Data output, inch/mm conversion (on inch/metric models only)  
 Alarm: Low voltage, Counting value composition error

## Optional Accessories

**959143:** Data hold unit  
**959149:** SPC cable with data switch (40" / 1m)  
**959150:** SPC cable with data switch (80" / 2m)  
 Connecting cable for **U-Wave-T**  
**02AZD790C:** SPC cable for **U-Wave** (160mm)

**959143**





## SPECIFICATIONS

Metric				
Range	Order No.	Accuracy	Resolution	Remarks
0 - 100mm	<b>500-150-30</b>	±0.02mm	0.01mm	ø1.9mm rod depth bar
0 - 150mm	<b>500-151-30</b>	±0.02mm	0.01mm	—
0 - 150mm	<b>500-154-30</b>	±0.02mm	0.01mm	Carbide-tipped jaws for OD measurement
0 - 150mm	<b>500-155-30</b>	±0.02mm	0.01mm	Carbide-tipped jaws for OD & ID measurement
0 - 150mm	<b>500-158-30</b>	±0.02mm	0.01mm	ø1.9mm rod depth bar
0 - 200mm	<b>500-152-30</b>	±0.02mm	0.01mm	—
0 - 200mm	<b>500-156-30</b>	±0.02mm	0.01mm	Carbide-tipped jaws for OD measurement
0 - 200mm	<b>500-157-30</b>	±0.02mm	0.01mm	Carbide-tipped jaws for OD & ID measurement
0 - 300mm	<b>500-153</b>	±0.03mm	0.01mm	—
0 - 450mm	<b>500-500-10</b>	±0.05mm	0.01mm	Without Thumb Roller
0 - 600mm	<b>500-501-10</b>	±0.05mm	0.01mm	Without Thumb Roller
0 - 1000mm	<b>500-502-10</b>	±0.07mm	0.01mm	Without Thumb Roller

Inch/Metric				
Range	Order No.	Accuracy	Resolution	Remarks
0 - 4" / 0 - 100mm	<b>500-170-30</b>	±.001"	.0005" / 0.01mm	.075" rod depth bar
0 - 4" / 0 - 100mm	<b>500-195-30*</b>	±.001"	.0005" / 0.01mm	.075" rod depth bar
0 - 6" / 0 - 150mm	<b>500-171-30</b>	±.001"	.0005" / 0.01mm	—
0 - 6" / 0 - 150mm	<b>500-174-30</b>	±.001"	.0005" / 0.01mm	Carbide-tipped jaws for OD measurement
0 - 6" / 0 - 150mm	<b>500-175-30</b>	±.001"	.0005" / 0.01mm	Carbide-tipped jaws for OD & ID measurement
0 - 6" / 0 - 150mm	<b>500-178-30</b>	±.001"	.0005" / 0.01mm	.075" rod depth bar
0 - 6" / 0 - 150mm	<b>500-196-30*</b>	±.001"	.0005" / 0.01mm	—
0 - 6" / 0 - 150mm	<b>500-159-30*</b>	±.001"	.0005" / 0.01mm	Carbide-tipped jaws for OD measurement
0 - 6" / 0 - 150mm	<b>500-160-30*</b>	±.001"	.0005" / 0.01mm	Carbide-tipped jaws for OD & ID measurement
0 - 8" / 0 - 200mm	<b>500-172-30</b>	±.001"	.0005" / 0.01mm	—
0 - 8" / 0 - 200mm	<b>500-176-30</b>	±.001"	.0005" / 0.01mm	Carbide-tipped jaws for OD measurement
0 - 8" / 0 - 200mm	<b>500-177-30</b>	±.001"	.0005" / 0.01mm	Carbide-tipped jaws for OD & ID measurement
0 - 8" / 0 - 200mm	<b>500-197-30*</b>	±.001"	.0005" / 0.01mm	—
0 - 8" / 0 - 200mm	<b>500-163-30*</b>	±.001"	.0005" / 0.01mm	Carbide-tipped jaws for OD measurement
0 - 8" / 0 - 200mm	<b>500-164-30*</b>	±.001"	.0005" / 0.01mm	Carbide-tipped jaws for OD & ID measurement
0 - 12" / 0 - 300mm	<b>500-173</b>	±.0015"	.0005" / 0.01mm	—
0 - 12" / 0 - 300mm	<b>500-167</b>	±.0015"	.0005" / 0.01mm	Carbide-tipped jaws for OD measurement
0 - 12" / 0 - 300mm	<b>500-168</b>	±.0015"	.0005" / 0.01mm	Carbide-tipped jaws for OD & ID measurement
0 - 12" / 0 - 300mm	<b>500-193*</b>	±.0015"	.0005" / 0.01mm	—
0 - 12" / 0 - 300mm	<b>500-165*</b>	±.0015"	.0005" / 0.01mm	Carbide-tipped jaws for OD measurement
0 - 12" / 0 - 300mm	<b>500-166*</b>	±.0015"	.0005" / 0.01mm	Carbide-tipped jaws for OD & ID measurement
0 - 18" / 0 - 450mm	<b>500-505-10</b>	±.002"	.0005" / 0.01mm	Without Thumb Roller
0 - 24" / 0 - 600mm	<b>500-506-10</b>	±.002"	.0005" / 0.01mm	Without Thumb Roller
0 - 40" / 0 - 1000mm	<b>500-507-10</b>	±.003"	.0005" / 0.01mm	Without Thumb Roller

\*without SPC data output

# Dial Caliper

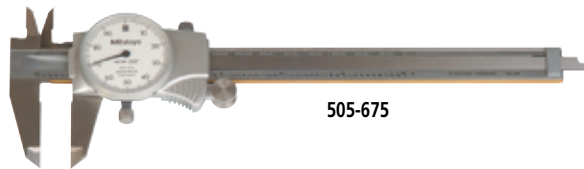
## SERIES 505

### FEATURES

- New designed dial movement for ultra smooth sliding and high shock protection.
- Lock screw for dial bezel and for holding the sliding jaw position.
- Can measure OD, ID, depth, and steps.
- Models available with carbide-tipped OD and ID jaws.
- Supplied in fitted plastic case.



505-677



505-675



505-673



505-681



.100" per one revolution



.200" per one revolution



1mm per one revolution



2mm per one revolution

### SPECIFICATIONS

**Metric** 1mm Per One Revolution

Range	Order No.	Accuracy	Graduation	Remarks
0-100mm	505-680	+/-0.015mm	0.01mm	—
0-150mm	505-681	+/-0.03mm	0.01mm	—
0-200mm	505-682	+/-0.03mm	0.01mm	—

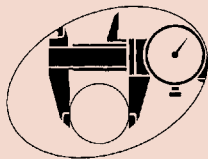
**Metric** 2mm Per One Revolution

Range	Order No.	Accuracy	Graduation	Remarks
0-150mm	505-671	+/-0.03mm	0.02mm	—
0-150mm	505-707	+/-0.03mm	0.02mm	Carbide-tipped jaws for OD measurement
0-150mm	505-711	+/-0.03mm	0.02mm	Carbide-tipped jaws for OD & ID measurement
0-200mm	505-672	+/-0.03mm	0.02mm	—
0-300mm	505-673	+/-0.04mm	0.02mm	—

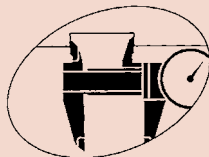




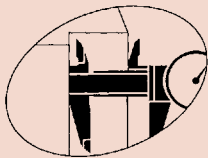
## "Quadri" (4-way) Measurement



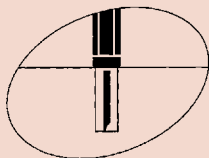
1. Outside measurement



2. Inside measurement



3. Step measurement



4. Depth measurement

## SPECIFICATIONS

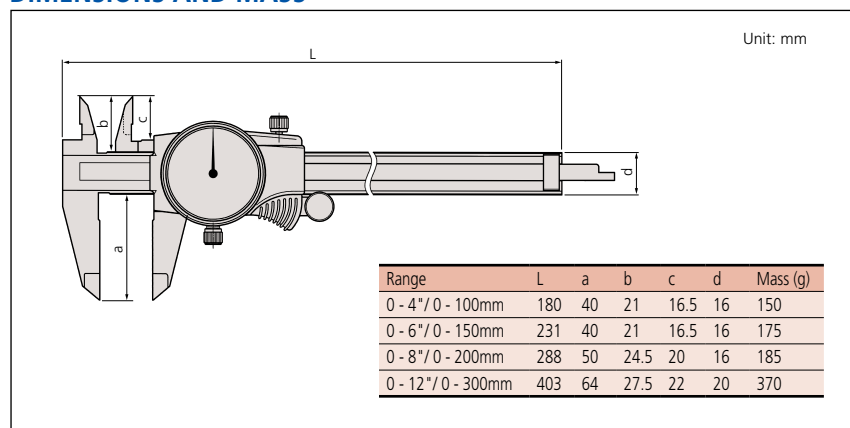
**Inch** .1" Per One Revolution

Range	Order No.	Accuracy	Graduation	Remarks
0-4"	<b>505-674</b>	+/- .001"	.001"	-
0-6"	<b>505-675</b>	+/- .001"	.001"	-
0-6"	<b>505-675-51</b>	+/- .001"	.001"	Blue Dial Face
0-6"	<b>505-675-52</b>	+/- .001"	.001"	Purple Dial Face
0-6"	<b>505-675-53</b>	+/- .001"	.001"	Green Dial Face
0-6"	<b>505-675-54</b>	+/- .001"	.001"	Red Dial Face
0-6"	<b>505-675-55</b>	+/- .001"	.001"	Orange Dial Face
0-6"	<b>505-675-56</b>	+/- .001"	.001"	Black Dial Face
0-6"	<b>505-675-66</b>	+/- .001"	.001"	Black Dial Face with Ratchet Stop
0-6"	<b>505-689</b>	+/- .001"	.001"	Extra smooth movement
0-6"	<b>505-708</b>	+/- .001"	.001"	Carbide-tipped jaws for OD measurement
0-6"	<b>505-712</b>	+/- .001"	.001"	Carbide-tipped jaws for OD & ID measurement
0-8"	<b>505-676</b>	+/- .002"	.001"	-
0-8"	<b>505-690</b>	+/- .002"	.001"	Extra smooth movement
0-8"	<b>505-709</b>	+/- .002"	.001"	Carbide-tipped jaws for OD measurement
0-8"	<b>505-713</b>	+/- .002"	.001"	Carbide-tipped jaws for OD & ID measurement
0-12"	<b>505-677</b>	+/- .002"	.001"	—
0-12"	<b>505-710</b>	+/- .002"	.001"	Carbide-tipped jaws for OD measurement
0-12"	<b>505-714</b>	+/- .002"	.001"	Carbide-tipped jaws for OD & ID

**Inch** .2" Per One Revolution

Range	Order No.	Accuracy	Graduation	Remarks
0-4"	<b>505-716</b>	+/- .001"	.001"	—
0-6"	<b>505-717</b>	+/- .001"	.001"	—
0-6"	<b>505-718</b>	+/- .001"	.001"	Carbide-tipped jaws for OD measurement
0-8"	<b>505-719</b>	+/- .002"	.001"	—
0-12"	<b>505-720</b>	+/- .002"	.001"	—
0-12"	<b>505-721</b>	+/- .002"	.001"	Carbide-tipped jaws for OD measurement

## DIMENSIONS AND MASS

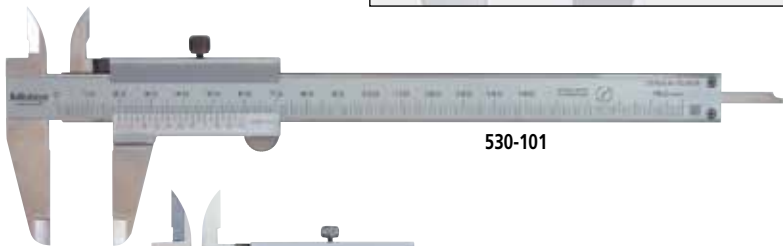
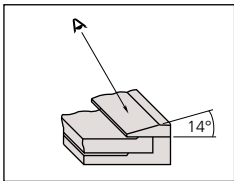


# Vernier Caliper

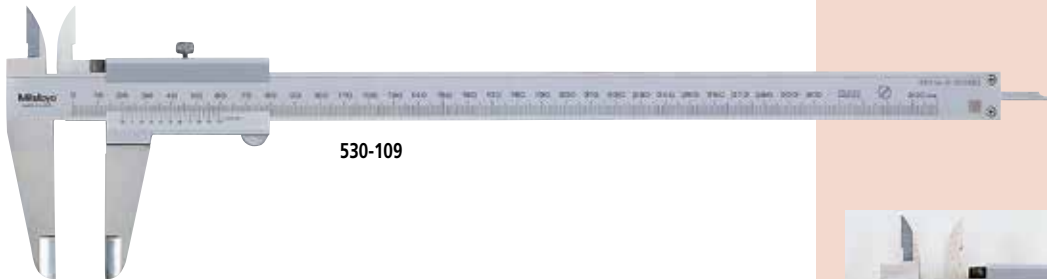
## SERIES 530 — Standard Model

### FEATURES

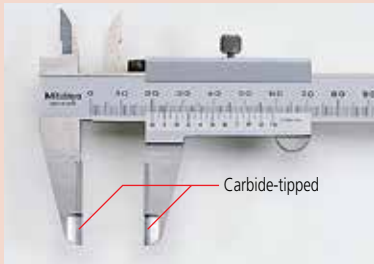
- Can measure OD (outside diameter), ID (inside diameter), depth, and steps.
- The small vernier face angle (14°) provides easy reading.
- Dual reading scales on vernier. (metric/inch and inch models only)
- Lock screw for holding the sliding jaw position.
- Carbide-tipped jaw type calipers are also available.
- Supplied with vinyl holster in fitted carton. Except 24" / 600mm models are carton only. 40" / 1000mm supplied in wooden case.



530-101

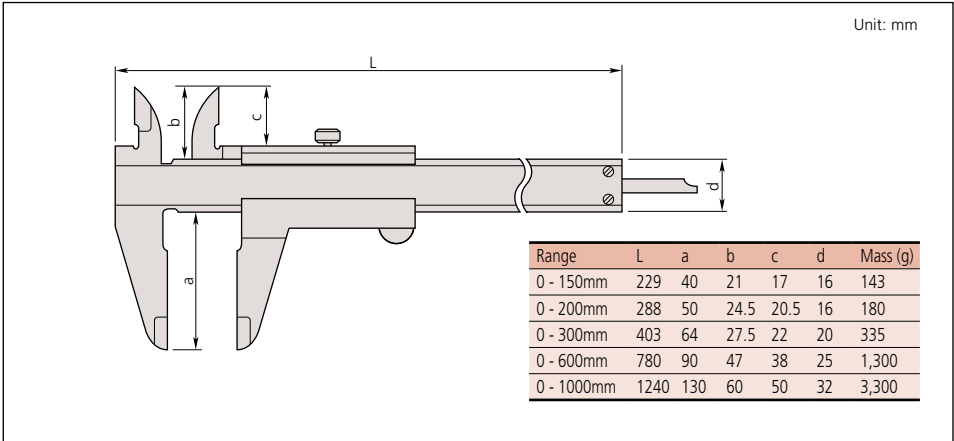


530-109



Carbide-tipped jaw type

### DIMENSIONS AND MASS



Round depth bar type

## "Quadri" (4 way) Measurement Measurement Applications



OD measurement



ID measurement



Step measurement



Depth measurement

## SPECIFICATIONS

### Metric

Range	Order No.	Accuracy	Graduation	Remarks
0 - 150mm	<b>530-102</b>	±0.05mm	0.05mm	ø 1.9mm Depth bar
0 - 150mm	<b>530-101</b>	±0.05mm	0.05mm	—
0 - 150mm	<b>530-320</b>	±0.05mm	0.05mm	Carbide-tipped jaws for OD measurement
0 - 150mm	<b>530-335</b>	±0.05mm	0.05mm	Carbide-tipped jaws for OD & ID measurement
0 - 150mm	<b>530-122*</b>	±0.03mm	0.02mm	High accuracy model
0 - 200mm	<b>530-108</b>	±0.05mm	0.05mm	—
0 - 200mm	<b>530-321</b>	±0.05mm	0.05mm	Carbide-tipped jaws for OD measurement
0 - 200mm	<b>530-123*</b>	±0.03mm	0.02mm	High accuracy model
0 - 300mm	<b>530-109</b>	±0.08mm	0.05mm	—
0 - 300mm	<b>530-322</b>	±0.08mm	0.05mm	Carbide-tipped jaws for OD measurement
0 - 300mm	<b>530-124*</b>	±0.04mm	0.02mm	High accuracy model: ±0.04mm
0 - 600mm	<b>530-501**</b>	±0.1mm	0.05mm	—
0 - 1000mm	<b>530-502 **</b>	±0.15mm	0.05mm	—

\*Graduation: 0.02mm

\*\*No depth measuring bar

### Metric/Inch with metric/inch dual scale

Range	Order No.	Accuracy	Vernier Graduation		Remarks
			Lower Scale	Upper Scale	
0 - 150mm / 0 - 6"	<b>530-104</b>	±0.05mm	0.05mm	1/128"	—
0 - 150mm / 0 - 6"	<b>530-316</b>	±0.05mm	0.05mm	1/128"	—
0 - 150mm / 0 - 6"	<b>530-312*</b>	±0.03mm	0.02mm	.001"	High accuracy model
0 - 200mm / 0 - 8"	<b>530-114</b>	±0.05mm	0.05mm	1/128"	—
0 - 200mm / 0 - 8"	<b>530-118*</b>	±0.03mm	0.02mm	.001"	High accuracy model
0 - 300mm / 0 - 12"	<b>530-115</b>	±0.08mm	0.05mm	1/128"	—
0 - 300mm / 0 - 12"	<b>530-119*</b>	±0.04mm	0.02mm	.001"	High accuracy model

\*Graduation: 0.02mm

### Inch with inch/inch dual scale

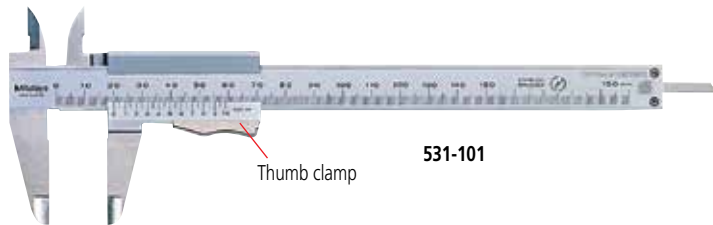
Range	Order No.	Accuracy	Vernier Graduation		Remarks
			Lower Scale	Upper Scale	
0 - 6"	<b>530-105</b>	±.0015"	.001"	1/128"	—
0 - 8"	<b>530-116</b>	±.0015"	.001"	1/128"	—

# Vernier Caliper

## SERIES 531 — with Thumb Clamp

### FEATURES

- The slider moves only when the spring loaded thumb clamp is depressed.
- Can measure OD, ID, depth, and steps
- Supplied with vinyl holster in fitted carton.



531-101

Thumb clamp

### SPECIFICATIONS

#### Metric

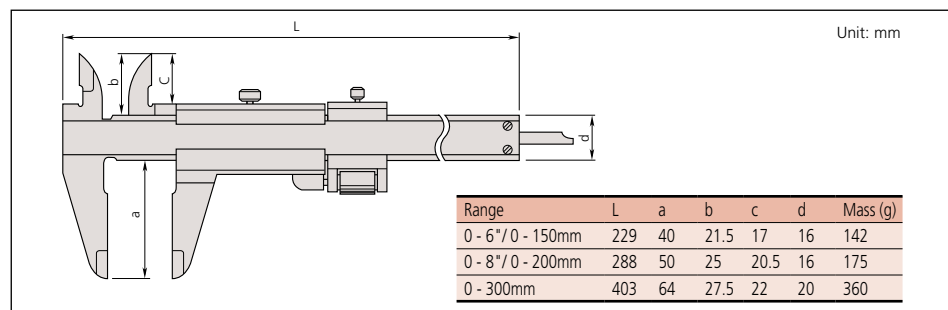
Range	Order No.	Accuracy	Graduation	Remarks
0 - 150mm	<b>531-101</b>	±0.05mm	0.05mm	—
0 - 200mm	<b>531-102</b>	±0.05mm	0.05mm	—
0 - 300mm	<b>531-103</b>	±0.08mm	0.05mm	—

#### Metric/Inch

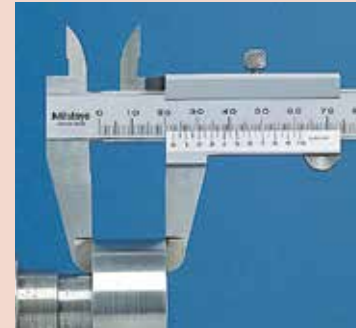
with metric/inch dual scale

Range	Order No.	Accuracy	Graduation		Remarks
			Lower Scale	Upper Scale	
0 - 150mm / 0 - 6"	<b>531-122</b>	±0.05mm	0.05mm	1/128"	with inch/mm conversion label
0 - 150mm / 0 - 6"	<b>531-128</b>	±0.03mm	0.02mm	.001"	High accuracy model
0 - 200mm / 0 - 8"	<b>531-108</b>	±0.05mm	0.05mm	1/128"	—
0 - 200mm / 0 - 8"	<b>531-129</b>	±0.03mm	0.02mm	.001"	High accuracy model
0 - 300mm / 0 - 12"	<b>531-109</b>	±0.08mm	0.05mm	1/128"	—
0 - 300mm / 0 - 12"	<b>531-112</b>	±0.04mm	0.02mm	.001"	High accuracy model

### DIMENSIONS AND MASS



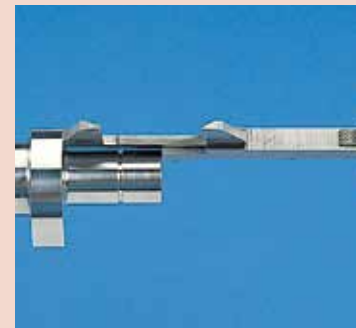
### "Quadri" (4 way) Measurement Measurement Applications



OD measurement



ID measurement



Step measurement

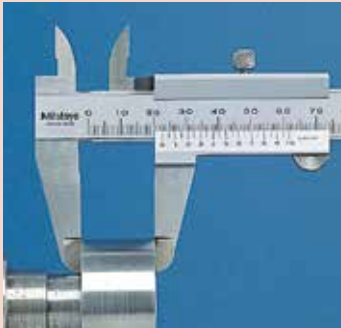


Depth measurement

# Vernier Caliper

**SERIES 532 — with Fine Adjustment**

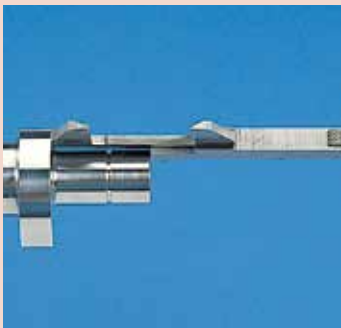
## "Quadri" (4 way) Measurement Measurement Applications



OD measurement



ID measurement



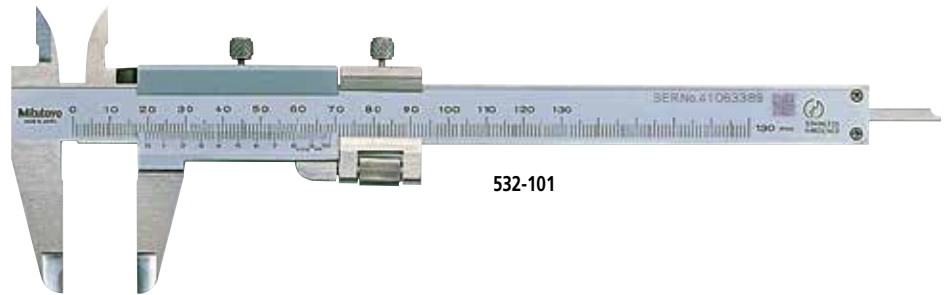
Step measurement



Depth measurement

## FEATURES

- Provided with a fine-adjustment carriage to feed the slider finely.
- Can measure OD, ID, depth, and steps.
- Supplied with vinyl holster in fitted carton.



532-101

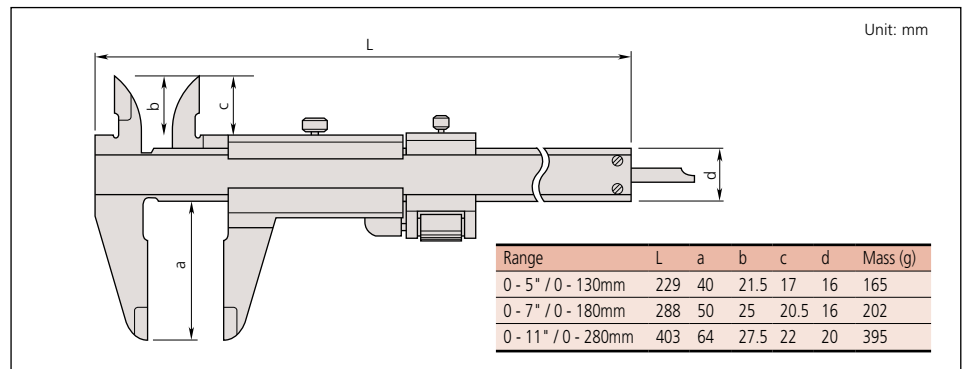
## SPECIFICATIONS

Metric			
Range	Order No.	Accuracy	Graduation
0 - 130mm	<b>532-101</b>	±0.03mm	0.02mm
0 - 180mm	<b>532-102</b>	±0.03mm	0.02mm
0 - 280mm	<b>532-103</b>	±0.04mm	0.02mm

## Metric/Inch with metric/inch dual scale

Range	Order No.	Accuracy	Graduation	
			Lower Scale	Upper Scale
0 - 130mm / 0 - 5"	<b>532-119</b>	±0.03mm	0.02mm	.001"
0 - 180mm / 0 - 7"	<b>532-120</b>	±0.03mm	0.02mm	.001"
0 - 280mm / 0 - 11"	<b>532-121</b>	±0.04mm	0.02mm	.001"

## DIMENSIONS AND MASS





# Vernier Caliper

## SERIES 160 — with Nib Style Jaws and Fine Adjustment

### FEATURES

- The jaws have round measuring faces for accurate ID measurement.
- With fine adjustment carriage to feed the slider finely.
- Inside and outside measurements can be directly read from the upper and lower slider graduations, respectively.
- Supplied with vinyl holster in fitted carton. Except 12" / 300mm, 18" / 450mm and 24" / 600mm are fitted carton only. Over 24" / 600mm supplied in wooden case.



### SPECIFICATIONS

**Metric** with metric/metric dual scale

Range*	Order No.	Accuracy	Graduation		Mass (g)
			Lower Scale	Upper Scale	
0 (10) - 300mm	<b>160-127</b>	±0.04mm	0.02mm	0.02mm	450
0 (20) - 450mm	<b>160-128</b>	±0.05mm	0.02mm	0.02mm	1,200
0 (20) - 600mm	<b>160-101</b>	±0.05mm	0.02mm	0.02mm	2,600
0 (20) - 1000mm	<b>160-104</b>	±0.07mm	0.02mm	0.02mm	3,500
0 (20) - 1500mm	<b>160-110</b>	±0.09mm	0.02mm	0.02mm	4,850
0 (20) - 2000mm	<b>160-113</b>	±0.12mm	0.02mm	0.02mm	10,200

\*( ): Minimum dimension in ID measurement

**Metric/Inch** with metric/inch dual scale

Range*	Order No.	Accuracy	Graduation		Mass (g)
			Lower Scale	Upper Scale	
0 (10) - 300mm / 0 (.3") - 12"	<b>160-150</b>	±0.04mm	0.02mm	.001"	450
0 (20) - 450mm / 0 (.5") - 18"	<b>160-151</b>	±0.05mm	0.02mm	.001"	1,200
0 (20) - 600mm / 0 (.5") - 24"	<b>160-153</b>	±0.05mm	0.02mm	.001"	1,400
0 (20) - 1000mm / 0 (1") - 40"	<b>160-155</b>	±0.07mm	0.02mm	.001"	3,500
0 (20) - 1500mm / 0 (1") - 60"	<b>160-157</b>	±0.09mm	0.02mm	.001"	4,850
0 (20) - 2000mm / 0 (1") - 80"	<b>160-159</b>	±0.12mm	0.02mm	.001"	10,200

\*( ): Minimum dimension in ID measurement

**Inch** with inch/inch dual scale

Range*	Order No.	Accuracy	Graduation		Mass (g)
			Lower Scale	Upper Scale	
0 (.3") - 12"	<b>160-124</b>	±.0015"	.001"	.001"	450
0 (.5") - 18"	<b>160-116</b>	±.002"	.001"	.001"	1,200
0 (.5") - 24"	<b>160-102</b>	±.002"	.001"	.001"	1,400
0 (1") - 40"	<b>160-105</b>	±.003"	.001"	.001"	3,500
0 (1") - 60"	<b>160-111</b>	±.004"	.001"	.001"	4,850
0 (1") - 80"	<b>160-114</b>	±.005"	.001"	.001"	10,200

\*( ): Minimum dimension in ID measurement

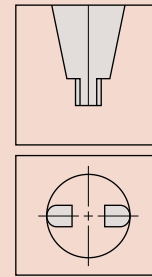
**Inch/Metric** with inch/metric dual scale

Range*	Order No.	Accuracy	Graduation		Mass (g)
			Lower Scale	Upper Scale	
0 (.3") - 12" / 0 (10) - 300mm	<b>160-125</b>	±.0015"	.001"	0.02mm	450
0 (.5") - 18" / 0 (20) - 450mm	<b>160-119</b>	±.002"	.001"	0.02mm	1,200
0 (.5") - 24" / 0 (20) - 600mm	<b>160-103</b>	±.002"	.001"	0.02mm	1,400
0 (1") - 40" / 0 (20) - 1000mm	<b>160-106</b>	±.003"	.001"	0.02mm	3,500
0 (1") - 60" / 0 (20) - 1500mm	<b>160-112</b>	±.004"	.001"	0.02mm	4,850
0 (1") - 80" / 0 (20) - 2000mm	<b>160-115</b>	±.005"	.001"	0.02mm	10,200

\*( ): Minimum dimension in ID measurement

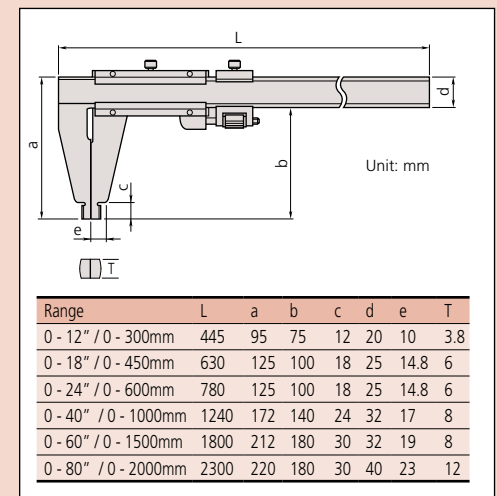
### Technical Data

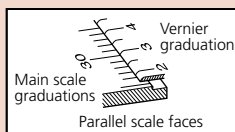
Accuracy: Refer to the list of specifications.  
Graduation: Refer to the list of specifications.



Round surface of jaws for accurate ID measurement

### DIMENSIONS





## Technical Data

Accuracy: Refer to the list of specifications.

Display\*: LCD

Length standard\*: ABSOLUTE electrostatic capacitance type linear encoder

Max. response speed\*: Unlimited

Battery\*: SR44 (1 pc.), 938882

Battery life\*: Approx. 3.5 years under normal use

\*Digital models \*\*Analog models

## Function of Digital Model

Origin-set, Zero-setting, Data output, inch/mm conversion (on inch/metric models only)

Alarm: Low voltage, Counting value composition error

## Optional Accessories for Digital Model

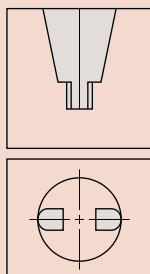
959143: Data hold unit

959149: SPC cable with data switch (40" / 1m)

959150: SPC cable with data switch (80" / 2m)

05CZA624: SPC cable with data switch (40" / 1m) for IP67 model

05CZA625: SPC cable with data switch (80" / 2m) for IP67 model



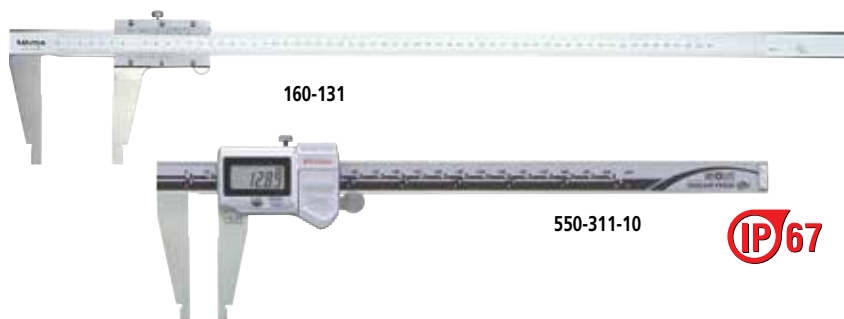
Round surface of jaws for accurate ID measurement

# ABSOLUTE Digimatic & Vernier Caliper

SERIES 550, 160 — with Nib Style Jaws

## FEATURES

- The rounded faces of the jaws are ideal for accurate ID (inside diameter) measurement.
- Inside and outside measurements can be directly read from the upper and lower slider graduations (Series 160).
- With fine-adjustment carriage type is available (Series 160).
- Parallax-free vernier scale type is available for easy and positive measurement (Series 160).
- With SPC output (Series 550).
- Supplied in fitted plastic case. Except 40" / 1000mm supplied in wooden case.



## SPECIFICATIONS

### Metric Digital model

Range*	Order No.	Accuracy	Resolution	Mass (g)	Remarks
0 (10) - 200mm	550-301-10	±0.03mm	0.01mm	180	IP67
0 (10) - 300mm	550-331-10	±0.03mm	0.01mm	380	w/ offset/preset function for easy ID measurement, IP67
0 (20) - 450mm	550-203-10**	±0.05mm	0.01mm	1,110	
0 (20) - 600mm	550-205-10**	±0.05mm	0.01mm	1,290	
0 (20) - 1000mm	550-207-10**	±0.07mm	0.01mm	3,350	

\*( ): Minimum dimension in ID measurement \*\*Models are not IP67 rated

### Inch/Metric Digital model

Range*	Order No.	Accuracy	Resolution	Mass (g)	Remarks
0 (.4") - 8" / 0 (10) - 200mm	550-311-10	±.001"	.0005" / 0.01mm	180	IP67
0 (.4") - 12" / 0 (10) - 300mm	550-341-10	±.0015"	.0005" / 0.01mm	380	w/ offset/preset function for easy ID measurement, IP67
0 (.5") - 18" / 0 (20) - 450mm	550-223-10**	±.002"	.0005" / 0.01mm	1,110	—
0 (.5") - 24" / 0 (20) - 600mm	550-225-10**	±.002"	.0005" / 0.01mm	1,290	—
0 (1") - 40" / 0 (20) - 1000mm	550-227-10**	±.003"	.0005" / 0.01mm	3,350	—

\*( ): Minimum dimension in ID measurement \*\*Models are not IP67 rated

### Metric with metric/metric dual scale

Range*	Order No.	Accuracy	Graduation	Mass (g)	Remarks
0 (20) - 450mm	160-130	±0.10mm	0.02mm	1,100	—
0 (20) - 600mm	160-131	±0.10mm	0.02mm	1,300	—
0 (20) - 1000mm	160-132	±0.15mm	0.02mm	3,350	—
0 (20) - 1500mm	160-133	±0.22mm	0.05mm	4,850	
0 (20) - 2000mm	160-134	±0.28mm	0.05mm	10,000	

\*( ): Minimum dimension in ID measurement

## DIMENSIONS

Range	L	a	b	d	T
0 - 8" / 0 - 200mm	288 (290)	60	8	16	3
0 - 12" / 0 - 300mm	445	75	12	20	3.8
0 - 18" / 0 - 450mm	632	100	18	25	6
0 - 24" / 0 - 600mm	780	100	18	25	6
0 - 40" / 0 - 1000mm	1240	140	24	32	8
0 - 60" / 0 - 1500mm	1800	180	30	32	8
0 - 80" / 0 - 2000mm	2300	180	30	40	12

# Long Jaw Vernier Caliper

## SERIES 534

### FEATURES

- Long jaws for measuring hard-to-reach features.
- Supplied in fitted wooden case.



### SPECIFICATIONS

**Metric** with metric/metric dual scale without fine adjustment

Range*	Order No.	Accuracy	Graduation		Mass (g)
			Lower Scale	Upper Scale	
0 (10) - 300mm	<b>534-109</b>	±0.07mm	0.05mm	0.05mm	400
0 (20) - 500mm	<b>534-110</b>	±0.13mm	0.05mm	0.05mm	1,400

\*( ) : Minimum dimension in ID measurement

**Metric** with metric/metric dual scale

Range*	Order No.	Accuracy	Graduation		Mass (g)
			Lower Scale	Upper Scale	
0 (10) - 300mm	<b>534-113</b>	±0.04mm	0.02mm	0.02mm	460
0 (20) - 500mm	<b>534-114</b>	±0.06mm	0.02mm	0.02mm	1,500
0 (20) - 750mm	<b>534-115</b>	±0.08mm	0.02mm	0.02mm	2,900
0 (20) - 1000mm	<b>534-116</b>	±0.10mm	0.02mm	0.02mm	3,500

\*( ) : Minimum dimension in ID measurement

**Metric/Inch** with metric/inch dual scale

Range*	Order No.	Accuracy	Graduation		Mass (g)
			Lower Scale	Upper Scale	
0 (10) - 300mm / 0 (.3") - 12"	<b>534-101</b>	±0.07mm	0.05mm	1/128"	460
0 (10) - 300mm / 0 (.3") - 12"	<b>534-105</b>	±0.04mm	0.02mm	.001"	460
0 (20) - 500mm / 0 (.8") - 20"	<b>534-102</b>	±0.13mm	0.05mm	1/128"	1,500
0 (20) - 500mm / 0 (.8") - 20"	<b>534-106</b>	±0.06mm	0.02mm	.001"	1,500
0 (20) - 700mm / 0 (.8") - 30"	<b>534-103</b>	±0.16mm	0.05mm	1/128"	2,900
0 (20) - 700mm / 0 (.8") - 30"	<b>534-107</b>	±0.08mm	0.02mm	.001"	2,900
0 (20) - 1000mm / 0 (.8") - 40"	<b>534-104</b>	±0.20mm	0.05mm	1/128"	3,500
0 (20) - 1000mm / 0 (.8") - 40"	<b>534-108</b>	±0.10mm	0.02mm	.001"	3,500

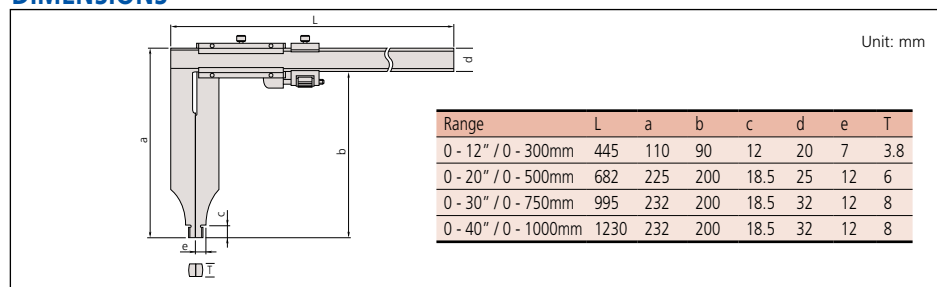
\*( ) : Minimum dimension in ID measurement

**Inch** with inch/inch dual scale

Range*	Order No.	Accuracy	Graduation		Mass (g)
			Lower Scale	Upper Scale	
0 (.3") - 12"	<b>534-117</b>	±.002"	.001"	.001"	400
0 (.8") - 20"	<b>534-118</b>	±.003"	.001"	.001"	1500
0 (.8") - 30"	<b>534-119</b>	±.004"	.001"	.001"	2900
0 (.8") - 40"	<b>534-120</b>	±.004"	.001"	.001"	3500

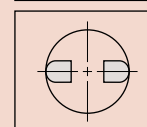
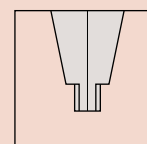
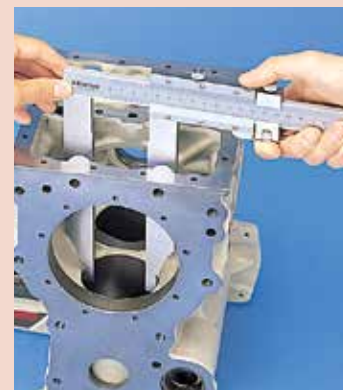
\*( ) : Minimum dimension in ID measurement

### DIMENSIONS



### Technical Data

Accuracy: Refer to the list of specifications.  
Graduation: Refer to the list of specifications.



Round surface of jaws for accurate CD measurement

## Technical Data

Accuracy: Refer to the list of specifications.  
 Resolution: 0.01mm or .0005"/0.01mm  
 Display: LCD  
 Length standard: ABSOLUTE electrostatic capacitance type linear encoder  
 Max. response speed: Unlimited  
 Battery: SR44 (1 pc.), **938882**  
 Battery life: Approx. 3.5 years under normal use

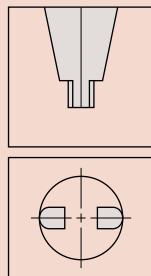
## Function of Digital Model

Origin-set, Zero-setting, Data output,  
 inch/mm conversion (on inch/metric models only)  
 Alarm: Low voltage, Counting value composition error

## Optional Accessories for Digital Model

**05CZA624:** SPC cable with data switch (1m / 40") IP67

**05CZA625:** SPC cable with data switch (2m / 80") IP67



Round surface of jaws for accurate ID measurement

# ABSOLUTE Digimatic Caliper

**SERIES 551 — with Nib Style and Standard Jaws**

## FEATURES

- The rounded faces of the jaws are ideal for accurate ID (inside diameter) measurement.
- With SPC output.
- Supplied in fitted plastic holster in carton. 18" / 450mm and larger supplied wooden case.



551-311-10

## SPECIFICATIONS

**Metric** Digital model

Range*	Order No.	Accuracy	Resolution	Mass (g)	Remarks
0 (10) - 200mm	<b>551-301-10</b>	±0.03mm	0.01mm	180	IP67
0 (10) - 300mm	<b>551-331-10</b>	±0.04mm	0.01mm	380	with offset/preset function for easy ID measurement, IP67
0 (20) - 500mm	<b>551-204-10**</b>	±0.06mm	0.01mm	1,060	—
0 (20) - 750mm	<b>551-206-10**</b>	±0.06mm	0.01mm	1,410	—
0 (20) - 1000mm	<b>551-207-10**</b>	±0.07mm	0.01mm	3,430	—

\*( ) : Minimum dimension in ID measurement \*\* Models are not IP67 rated

**Inch/Metric** Digital model

Range*	Order No.	Accuracy	Resolution	Mass (g)	Remarks
0 (.4") - 8" / 0 (10) - 200mm	<b>551-311-10</b>	±.001"	.0005" / 0.01mm	180	IP67
0 (.4") - 12" / 0 (10) - 300mm	<b>551-341-10</b>	±.002"	.0005" / 0.01mm	380	w/ offset/preset function for easy ID measurement, IP67
0 (.5") - 20" / 0 (20) - 500mm	<b>551-224-10**</b>	±.0025"	.0005" / 0.01mm	1,060	—
0 (.5") - 30" / 0 (20) - 750mm	<b>551-226-10**</b>	±.0025"	.0005" / 0.01mm	1,410	—
0 (1") - 40" / 0 (20) - 1000mm	<b>551-227-10**</b>	±.003"	.0005" / 0.01mm	3,430	—

\*( ) : Minimum dimension in ID measurement \*\* Models are not IP67 rated

## DIMENSIONS

Series 551		Unit: mm					
Range		a	b	c	d	R	T
0 - 8" / 0 - 200mm		60	43	8	30	5	3
0 - 12" / 0 - 300mm		90	68	10	40.1	5	3.8
0 - 20" / 0 - 500mm		150	115	15	56	10	6
0 - 30" / 0 - 750mm		150	115	15	56	10	8
0 - 40" / 0 - 1000mm		150	115	20	56	10	8

# Digimatic Carbon Fiber Caliper

**SERIES 552 — with optional jaw attachments**

**ABSOLUTE®**  
Absolute System Patented by MTIUTOYO

## FEATURES

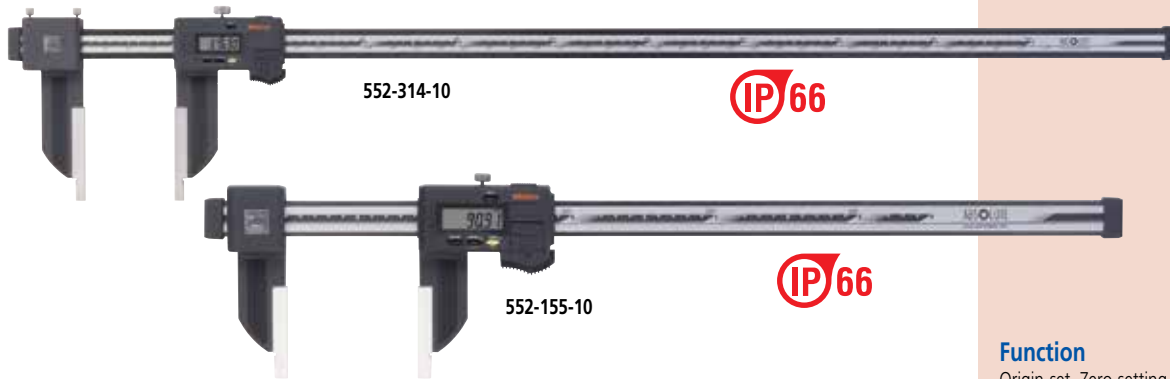
- Lightweight Digimatic Calipers that employ CFRP (Carbon Fiber Reinforced Plastics) in the beam and jaws.
- Highly durable and easy to handle.
- The range of applications can be expanded by using the optional attachments.
- Direct readout of ID measurements from the LCD. (Offset value can be set easily by pressing the Offset key.)
- Preset function for setting a desired starting point.
- With SPC data output.
- Special model available with ceramic jaws which are suitable for measuring abrasive and magnetic products.
- Supplied in fitted wooden case.

**SPC**

**IP66**

## Technical Data

Accuracy: Refer to the list of specifications.  
Resolution: .0005"/0.01mm or 0.01mm  
Display: LCD  
Length standard: Electrostatic capacitance type linear encoder  
Max. response speed: unlimited  
Battery: SR44 (1 pc.), **938882**  
Battery life: Approx. 3,000 hours in continuous use



## SPECIFICATIONS

### Metric

Range*	Order No.	Accuracy	Resolution	Remarks
0(20)-450mm	<b>552-302-10</b>	+/-0.04mm	0.01mm	
0(20)-450mm	<b>552-150-10</b>	+/-0.06mm	0.01mm	long jaws 200mm
0(20)-450mm	<b>552-155-10</b>	+/-0.04mm	0.01mm	ceramic jaws
0(20)-600mm	<b>552-303-10</b>	+/-0.04mm	0.01mm	
0(20)-600mm	<b>552-151-10</b>	+/-0.06mm	0.01mm	long jaws 200mm
0(20)-600mm	<b>552-156-10</b>	+/-0.04mm	0.01mm	ceramic jaws
0(20)-1000mm	<b>552-304-10</b>	+/-0.05mm	0.01mm	
0(20)-1000mm	<b>552-152-10</b>	+/-0.07mm	0.01mm	long jaws 200mm
0(20)-1500mm	<b>552-305-10</b>	+/-0.09mm	0.01mm	
0(20)-1500mm	<b>552-153-10</b>	+/-0.11mm	0.01mm	long jaws 200mm
0(20)-2000mm	<b>552-306-10</b>	+/-0.12mm	0.01mm	
0(20)-2000mm	<b>552-154-10</b>	+/-0.14mm	0.01mm	long jaws 200mm

\*( ): Minimum dimension in ID measurement

### Inch/Metric

Range*	Order No.	Accuracy	Resolution	Remarks
0(.5")-18"	<b>552-312-10</b>	+/- .002"	.0005"/0.01mm	
0(.5")-18"	<b>552-160-10</b>	+/- .0025"	.0005"/0.01mm	long jaws 7.9"
0(.5")-18"	<b>552-165-10</b>	+/- .002"	.0005"/0.01mm	ceramic jaws
0(.5")-24"	<b>552-313-10</b>	+/- .002"	.0005"/0.01mm	
0(.5")-24"	<b>552-161-10</b>	+/- .0025"	.0005"/0.01mm	long jaws 7.9"
0(.5")-24"	<b>552-166-10</b>	+/- .002"	.0005"/0.01mm	ceramic jaws
0(1")-40"	<b>552-314-10</b>	+/- .002"	.0005"/0.01mm	
0(1")-40"	<b>552-162-10</b>	+/- .003"	.0005"/0.01mm	long jaws 7.9"
0(1")-60"	<b>552-315-10</b>	+/- .004"	.0005"/0.01mm	
0(1")-60"	<b>552-163-10</b>	+/- .0045"	.0005"/0.01mm	long jaws 7.9"
0(1")-80"	<b>552-316-10</b>	+/- .005"	.0005"/0.01mm	
0(1")-80"	<b>552-164-10</b>	+/- .0055"	.0005"/0.01mm	long jaws 7.9"

\*( ): Minimum dimension in ID measurement

## Function

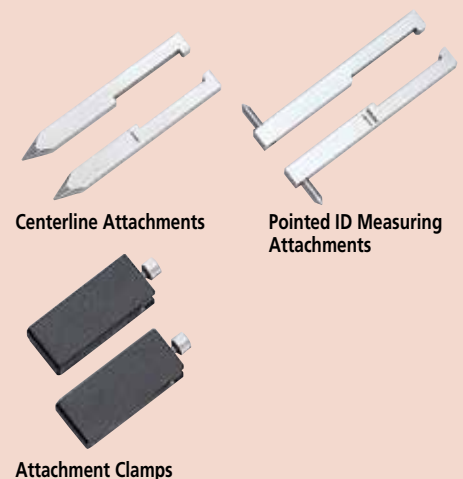
Origin-set, Zero-setting, Presetting, Offsetting, Data hold, Data output, inch/mm conversion (on inch/metric models only)  
Alarm: Low voltage, Counting value composition error

## Optional Accessories

**05CZA624:** SPC cable with data switch (40"/1m)  
**05CZA625:** SPC cable with data switch (80"/2m)

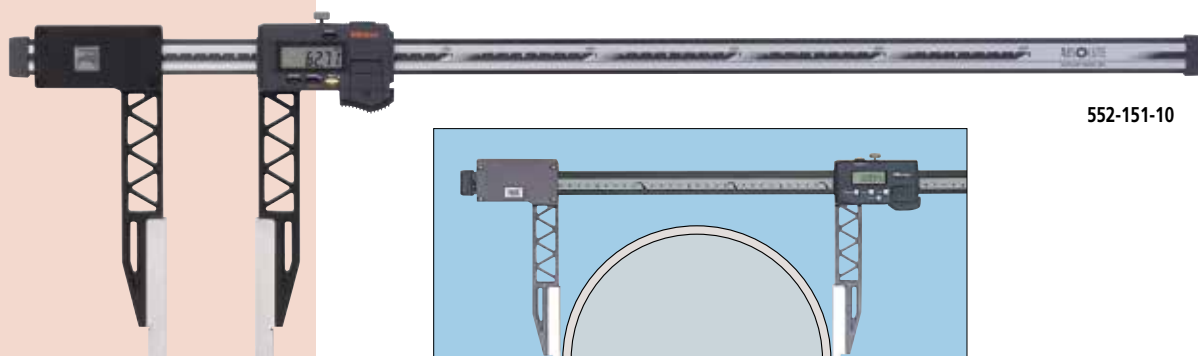
- 914055:** Centerline attachments (mm)\*  
**914056:** Centerline attachments (inch)\*  
**914057:** Pointed ID measuring attachments (mm)\*  
**914058:** Pointed ID measuring attachments (inch)\*  
**914053:** Attachment clamps (for models up to 24" / 600mm range)  
**914054:** Attachment clamps (for models over 24" / 600mm range)

\* Attachment clamps are required and not available for long jaw type.

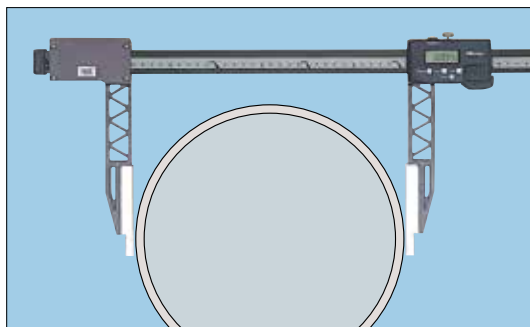


Attachment Clamps





552-151-10



Ceramic jaws



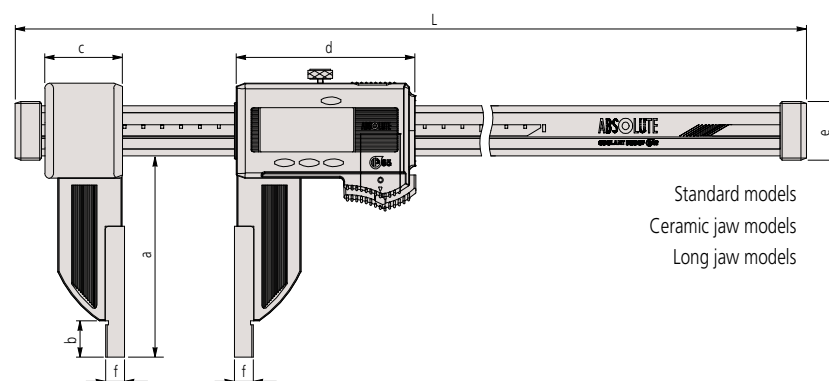
Centerline attachments



ID point attachments

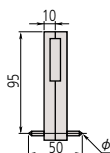
## DIMENSIONS AND MASS

Unit: mm



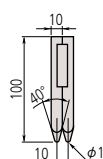
Standard models  
Ceramic jaw models  
Long jaw models

Pointed  
ID Measuring  
Attachments



Unit: mm

Centerline  
Attachments



Standard models, Ceramic jaw models

Range	L	a	b	c	d	e	f	Mass (g)
0 - 18" / 0 - 450mm	640	100	18	41.2	91.8	25	10 (.25")	715
0 - 24" / 0 - 600mm	790	100	18	41.2	91.8	25	10 (.25")	790
0 - 40" / 0 - 1000mm	1230	150	24	62.8	113.8	32	10 (.5")	1,760
0 - 60" / 0 - 1500mm	1740	150	24	62.8	113.8	32	10 (.5")	2,160
0 - 80" / 0 - 2000mm	2250	150	24	62.8	113.8	32	10 (.5")	2,560

( ) : inch/mm models

Long jaw models

Range	L	a	b	c	d	e	f	Mass (g)
0 - 18" / 0 - 450mm	680	200	24	89	91.8	25	10 (.25")	1,215
0 - 24" / 0 - 600mm	830	200	24	89	91.8	25	10 (.25")	1,290
0 - 40" / 0 - 1000mm	1280	200	24	110	113.8	32	10 (.5")	2,090
0 - 60" / 0 - 1500mm	1790	200	24	110	113.8	32	10 (.5")	2,490
0 - 80" / 0 - 2000mm	2300	200	24	110	113.8	32	10 (.5")	2,890

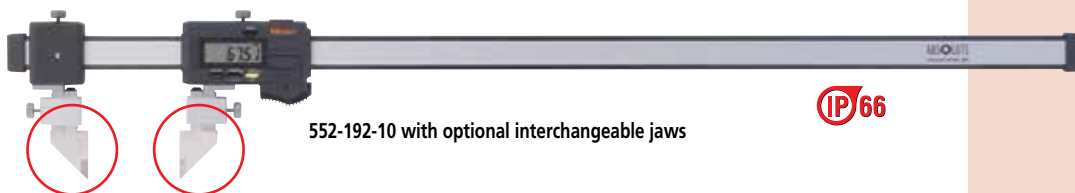
( ) : inch/mm models

# ABSOLUTE Coolant Proof Carbon Fiber Caliper

## SERIES 552 — with Interchangeable Jaws

### FEATURES

- The range of applications can be expanded by using interchangeable jaws (optional).
- Quick and easy exchanging of jaws due to the unique clamping mechanism. (A pair of clamping wheels is a standard accessory.)
- Provided with preset function for setting a desired starting point, which allows direct readout of offset measurements.
- SPC data output.



552-192-10 with optional interchangeable jaws

IP66

### SPECIFICATIONS

Inch/Metric

Range	Order No.	Accuracy	Mass(g)
0 - 18" / 0 - 450mm	552-191-10	±.002"	650
0 - 24" / 0 - 600mm	552-192-10	±.002"	725
0 - 40" / 0 - 1000mm	552-193-10	±.002"	1480
0 - 60" / 0 - 1500mm	552-194-10	±.004"	1880
0 - 80" / 0 - 2000mm	552-195-10	±.005"	2280

### Interchangeable Jaws (Optional)

**Standard type**

**Inside point type**

**Surface Plate Type**

**Scriber Type**

**Centerline Type**

Unit: mm

**Standard Type**

Order No.	Components	a	b
07CZA056	Right (07CAA044), Left (07CAA045)	28mm (1.1")	30mm (1.2")

**Inside Point Type**

Order No.	Components	a	b
07CZA058	07CZA041 x 2pcs.	25mm	50mm
07CZA059	07CZA048 x 2pcs.	1"	2"

**Scriber Type**

Order No.	Components	a	b
07CZA055	Right (07CZA042), Left (07CZA043)	8mm	30mm
07CZA061	Right (07CZA042), Left (07CZA049)	031"	1.2"

**Surface Plate Type**

Order No.	a	b
07CZA044	3.5" / 90mm	1.1" / 28mm

**Centerline Type**

Order No.	Components	a	b
07CZA057	07CZA039 x 2pcs.	30mm	30mm
07CZA060	07CZA047 x 2pcs.	1.2"	1.2"

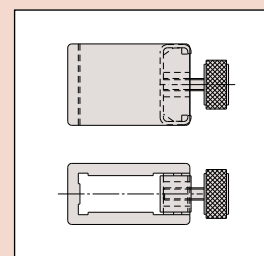
SPC

ABSOLUTE®  
Absolute System Patented by MITUTOYO

IP66

### Technical Data

Accuracy: Refer to the list of specifications.  
Resolution: .0005"/0.01mm  
Display: LCD  
Scale type: ABSOLUTE electromagnetic linear encoder  
Max. response speed: Unlimited  
Battery: SR44 (1 pc.), **938882**  
Battery life: Approx. 5,000 hours in continuous use  
Dust/Water protection level: IP66  
Standard accessory: Jaw clamps (2 pcs.), **05GZA033**

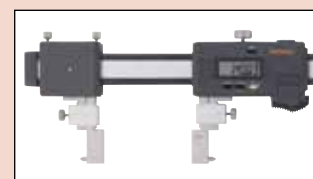


### Functions

Origin-set, Zero-setting, Presetting, Offsetting, Data hold, Automatic power on/off, Data output, inch/mm conversion (inch/mm models)  
Alarm: Low voltage, Counting value composition error

### Optional Accessories

**05CZA624:** SPC cable with data switch (40" / 1m)  
**05CZA625:** SPC cable with data switch (80" / 2m)  
**02AZD790A:** SPC cable for U-WAVE w/ data switch (160mm)



SPC

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Absolute System Patented by MITUTOYO

## Technical Data

Accuracy: Refer to the list of specifications.

Resolution: 0.01mm

Display: LCD

Length standard\*: ABSOLUTE electrostatic capacitance type linear encoder

Max. response speed: Unlimited

Battery: SR44 (1 pc.), **938882**

Battery life: Approx. 3.5 years under normal use

## Function

Origin-set, Zero-setting, Power On/Off, Data output, inch/mm conversion (on inch/metric models only)

Alarm: Low voltage, Counting value composition error

## Optional Accessories

**959143:** Data hold unit

**959149:** SPC cable with data switch (1m)

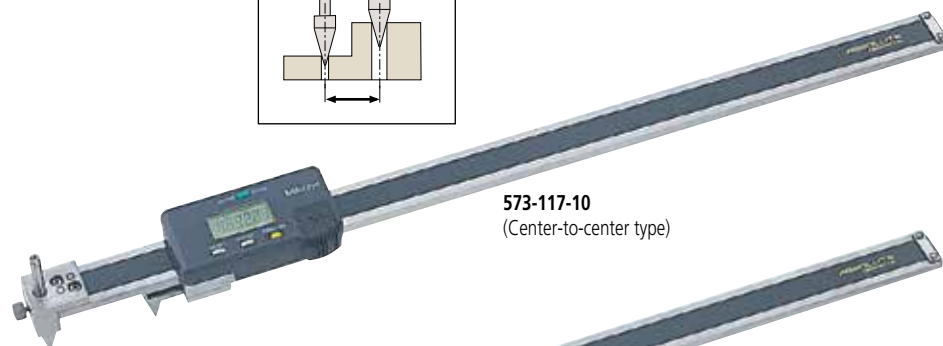
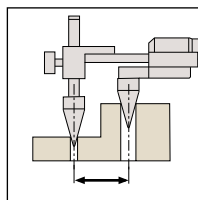
**959150:** SPC cable with data switch (2m)

# ABSOLUTE Back-Jaw Centerline Caliper

## SERIES 573 — Center-to-Center & Edge-to-Center Types

## FEATURES

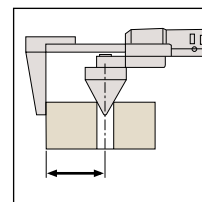
- Specially designed to measure the distance between two centers or the distance from an edge to center.
- Provided with jaws on the back of the slider, measurements can be read easily by looking down.
- Direct reading of pitch measurements is available due to the offset value setting function.
- With SPC data output.
- Supplied fitted in wooden case.



**573-117-10**  
(Center-to-center type)



**573-119-10**  
(Edge-to-center type)



## SPECIFICATIONS

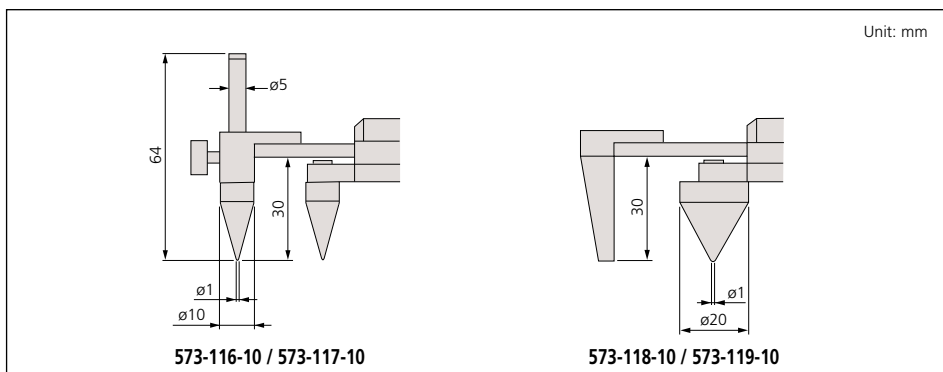
### Metric Center-to-center distance type

Range	Order No.	Accuracy	Resolution	Mass (g)
10 - 200mm	<b>573-116-10</b>	±0.10mm	0.01mm	482
10 - 300mm	<b>573-117-10</b>	±0.15mm	0.01mm	578

### Metric Edge-to-center distance type

Range	Order No.	Accuracy	Resolution	Mass (g)
10 - 200mm	<b>573-118-10</b>	±0.10mm	0.01mm	485
10 - 300mm	<b>573-119-10</b>	±0.15mm	0.01mm	581

## DIMENSIONS

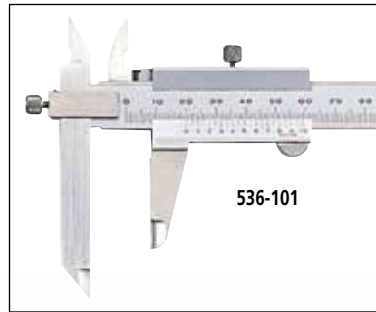


# Offset Caliper

**SERIES 573, 536 — ABSOLUTE Digimatic and Vernier Type**

## FEATURES

- Main scale jaw can slide up and down to facilitate measurement of stepped sections. (Hard-to-get-at dimensions such as A, B, C can be accurately measured.)
- With depth bar.
- With SPC data output. (Series 573)
- Supplied in fitted plastic case.



536-101



573-701



## SPECIFICATIONS

**Metric** Digital model

Range	Order No.	Accuracy	Resolution	Mass (g)
0 - 150mm	<b>573-601</b>	±0.02mm	0.01mm	168
0 - 200mm	<b>573-602</b>	±0.02mm	0.01mm	198
0 - 300mm	<b>573-604</b>	±0.03mm	0.01mm	350

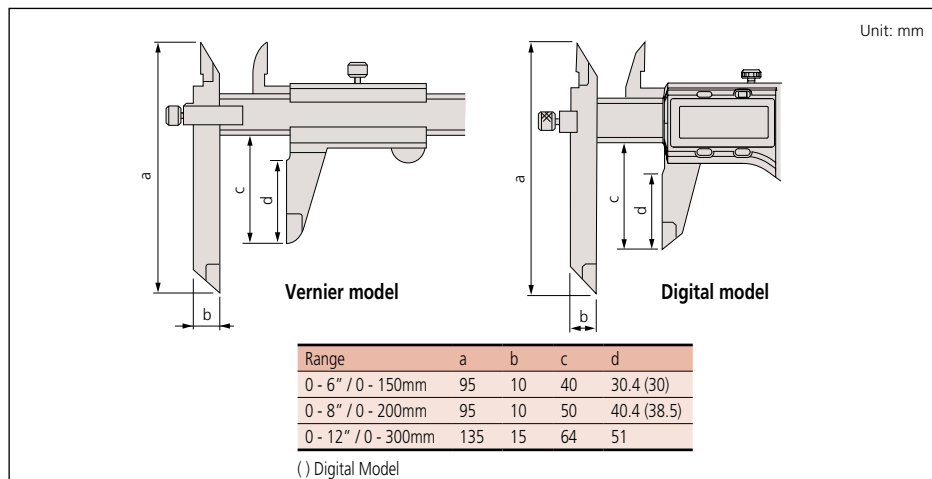
**Metric**

Range	Order No.	Accuracy	Graduation	Mass (g)
0 - 150mm	<b>536-101</b>	±0.05mm	0.05mm	150
0 - 200mm	<b>536-102</b>	±0.05mm	0.05mm	200
0 - 300mm	<b>536-103</b>	±0.08mm	0.05mm	400

**Inch/Metric** Digital model

Range	Order No.	Accuracy	Resolution	Mass (g)
0 - 6" / 0 - 150mm	<b>573-701</b>	±.001"	.0005" / 0.01mm	168
0 - 8" / 0 - 200mm	<b>573-702</b>	±.001"	.0005" / 0.01mm	198
0 - 12" / 0 - 300mm	<b>573-704</b>	±.0015"	.0005" / 0.01mm	350

## DIMENSIONS



**SPC**

**IP67**

**ABSOLUTE®**  
Absolute System Patented by MITUTOYO

www.tuv.com  
**TÜV**  
TÜV Rheinland  
ID: 2011207400

## Technical Data

Accuracy: Refer to the list of specifications.  
Resolution\*: .0005"/0.01mm or 0.01mm  
Graduation\*\*: 0.05mm  
Display\*: LCD  
Length standard\*: ABSOLUTE electrostatic capacitance type linear encoder  
Max. response speed\*: Unlimited  
Battery\*: SR44 (1 pc.), **938882**  
Battery life\*: Approx. 3.5 years under normal use  
\*Digital models \*\*Analog models

## Function of Digital Model

Origin-set, Zero-setting, Power On/Off, Data output, inch/mm conversion (on inch/metric models only)  
Alarm: Low voltage, Counting value composition error

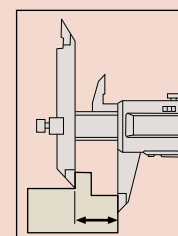
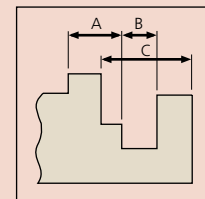
## Optional Accessories for Digital Model

**05CZA624**: SPC cable with data switch (40" / 1m)

**05CZA625**: SPC cable with data switch (80" / 2m)

Connecting cable for **U-Wave-T**

**02AZD790A**: SPC cable for **U-Wave** (160mm)





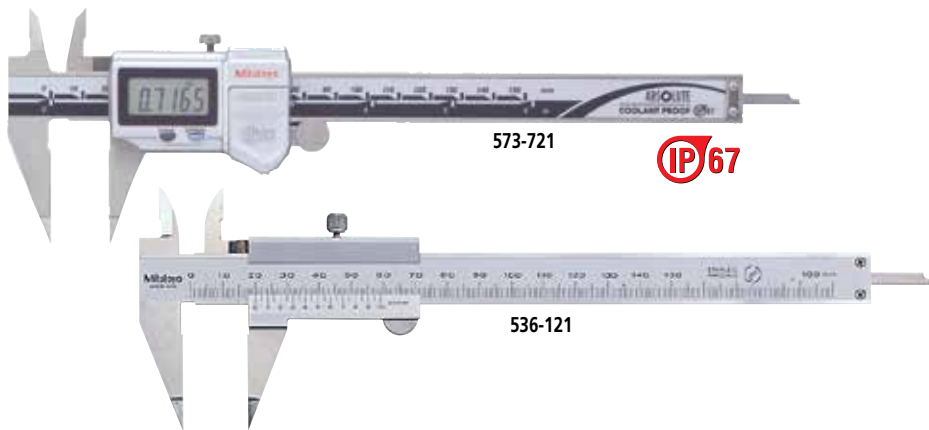


# Point Caliper

**SERIES 573, 536 — ABSOLUTE Digimatic and Vernier Type**

## FEATURES

- Narrow tip jaws fit into very small grooves and tracks, making many previously difficult outside measurements far easier to obtain.
- With depth bar.
- With SPC data output. (Series 573)
- Supplied in fitted plastic case.



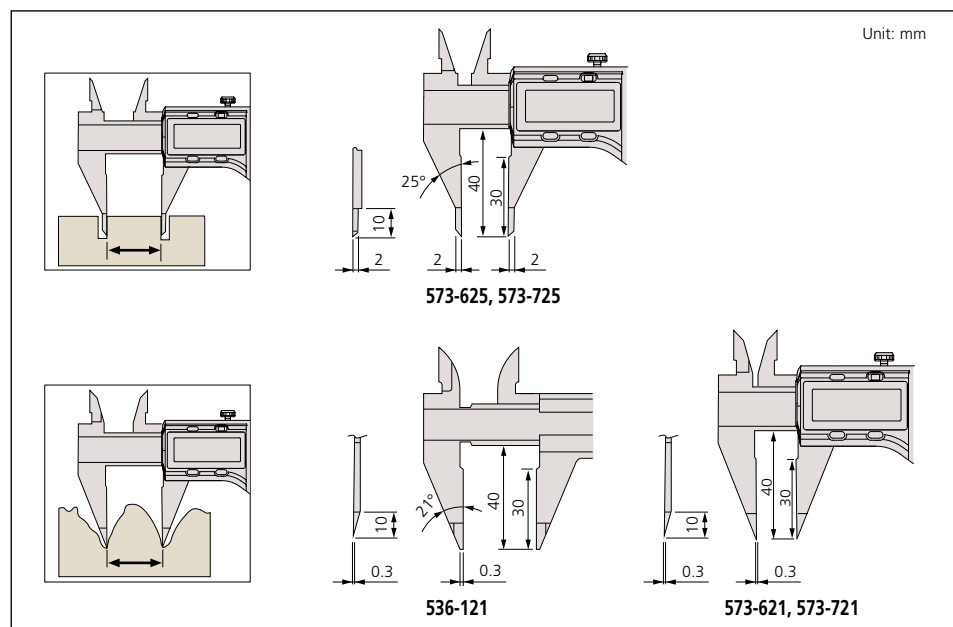
## SPECIFICATIONS

Metric Digital model				
Range	Order No.	Accuracy	Resolution	Mass (g)
0 - 150mm	573-621	±0.02mm	0.01mm	163
0 - 150mm	573-625	±0.02mm	0.01mm	163

Inch/Metric Digital model				
Range	Order No.	Accuracy	Resolution	Mass (g)
0 - 6" / 0 - 150mm	573-721	±.001"	.0005" / 0.01mm	163
0 - 6" / 0 - 150mm	573-725	±.001"	.0005" / 0.01mm	163

Metric				
Range	Order No.	Accuracy	Graduation	Mass (g)
0 - 150mm	536-121	±0.05mm	0.05mm	150

## DIMENSIONS



SPC

IP67

ABSOLUTE®  
Absolute System Patented by MITUTOYO

www.tuv.com  
TÜV  
TÜV Rheinland  
ID:2011207400

## Technical Data

Accuracy: Refer to the list of specifications.  
Resolution\*: .0005"/0.01mm or 0.01mm  
Graduation\*\*: 0.05mm  
Display\*: LCD  
Length standard\*: ABSOLUTE electrostatic capacitance type linear encoder  
Max. response speed\*: Unlimited  
Battery\*: SR44 (1 pc.), 938882  
Battery life\*: Approx. 3.5 years under normal use  
\*Digital models \*\*Analog models

## Function of Digital Model

Origin-set, Zero-setting, Power On/Off, Data output, inch/mm conversion (on inch/metric models only)  
Alarm: Low voltage, Counting value composition error

## Optional Accessories for Digital Model

05CZA624: SPC cable with data switch (40" / 1m)  
05CZA625: SPC cable with data switch (80" / 2m)





### Technical Data

Accuracy: Refer to the list of specifications.  
 Resolution\*: .0005" / 0.01 mm or 0.01 mm  
 Graduation\*\*: 0.05 mm  
 Display\*: LCD  
 Length standard\*: ABSOLUTE electrostatic capacitance type linear encoder  
 Max. response speed\*: Unlimited  
 Battery\*: SR44 (1 pc.), **938882**  
 Battery life\*: Approx. 3.5 years under normal use  
 \*Digital models \*\*Analog models

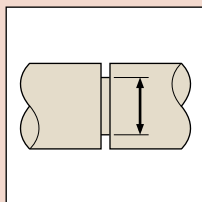
### Function of Digital Model

Origin-set, Zero-setting, Power On/Off, Data output, inch/mm conversion (on inch/metric models only)  
 Alarm: Low voltage, Counting value composition error

### Optional Accessories for Digital Model

**05CZA624**: SPC cable with data switch (40" / 1m)

**05CZA625**: SPC cable with data switch (80" / 2m)

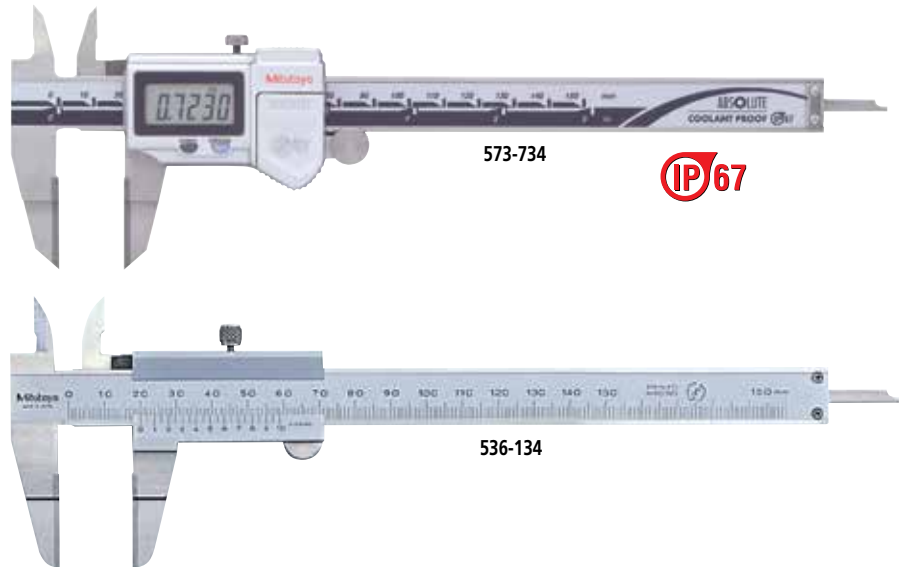


# Blade Type Caliper

**SERIES 573, 536 — ABSOLUTE Digimatic and Vernier Type**

## FEATURES

- The thin blade type jaws fit into very small grooves and making previously difficult outside measurements far easier to obtain.
- The OD measuring faces are carbide-tipped.
- With depth bar.
- With SPC data output. (Series 573)
- Supplied in fitted plastic case.



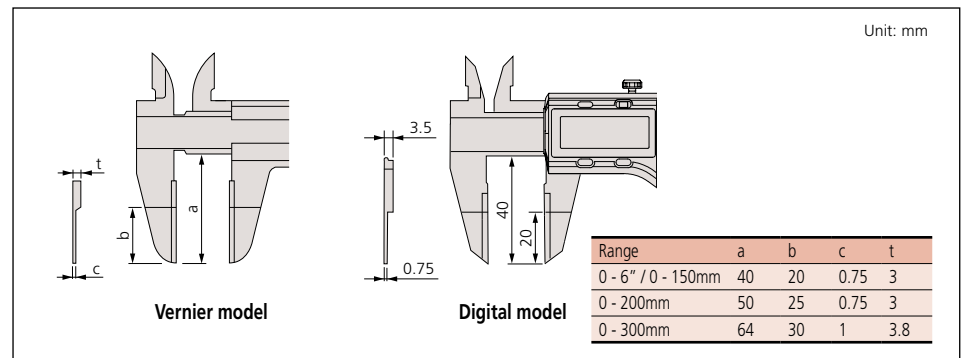
## SPECIFICATIONS

Metric Digital model				
Range	Order No.	Accuracy	Resolution	Mass (g)
0 - 150mm	<b>573-634</b>	±0.02mm	0.01mm	168

Inch/Metric Digital model				
Range	Order No.	Accuracy	Resolution	Mass (g)
0 - 6" / 0 - 150mm	<b>573-734</b>	±.001"	.0005" / 0.01mm	168

Metric				
Range	Order No.	Accuracy	Graduation	Mass (g)
0 - 150mm	<b>536-134</b>	±0.05mm	0.05mm	130
0 - 200mm	<b>536-135</b>	±0.05mm	0.05mm	160
0 - 300mm	<b>536-136</b>	±0.08mm	0.05mm	340

## DIMENSIONS

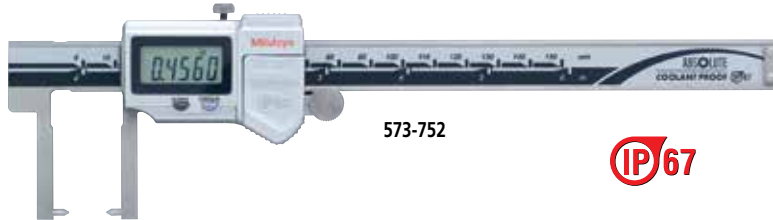


# Neck Caliper

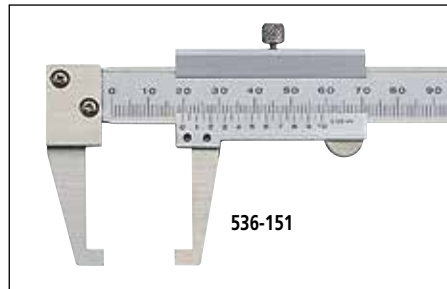
**SERIES 573, 536 — ABSOLUTE Digimatic and Vernier Type**

## FEATURES

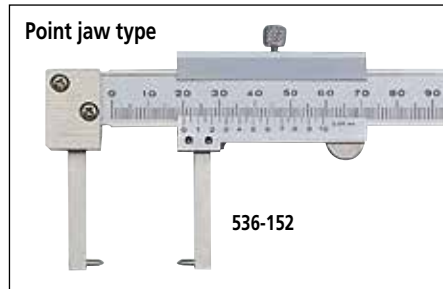
- Point jaw type can measure wall thickness inside bores and recesses.
- Flat jaw type can measure grooves and recesses.
- With SPC data output. (Series 573)
- Supplied in fitted plastic case.



573-752



536-151



Point jaw type

536-152

## SPECIFICATIONS

### Metric Digital model

Range	Order No.	Accuracy	Resolution	Mass (g)
0 - 150mm	573-651	±0.03mm	0.01mm	157
0 - 150mm	573-652*	±0.03mm	0.01mm	157

\*Point jaw type

### Inch/Metric Digital model

Range	Order No.	Accuracy	Resolution	Mass (g)
0 - 6" / 0 - 150mm	573-751	±.0015"	.0005" / 0.01mm	157
0 - 6" / 0 - 150mm	573-752*	±.0015"	.0005" / 0.01mm	157

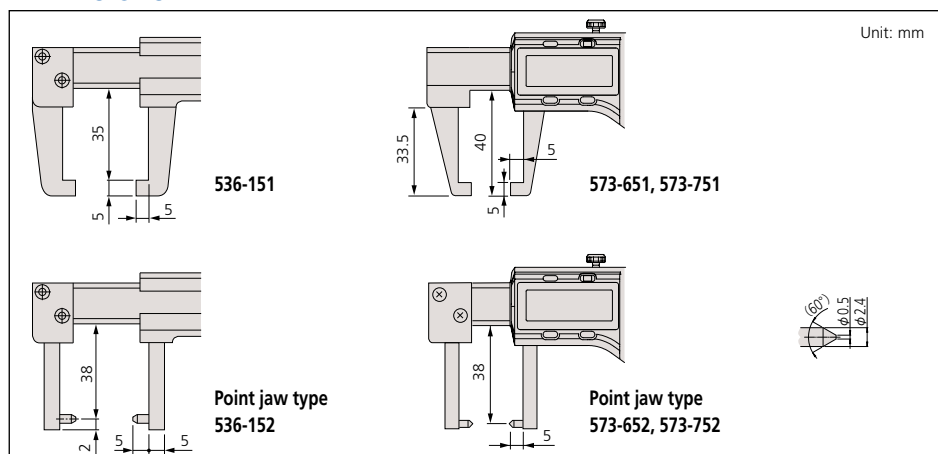
\*Point jaw type

### Metric

Range	Order No.	Accuracy	Graduation	Mass (g)
0 - 150mm	536-151	±0.05mm	0.05mm	140
0 - 150mm	536-152*	±0.05mm	0.05mm	140

\*Point jaw type

## DIMENSIONS



## Technical Data

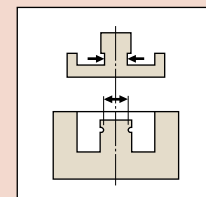
Accuracy: Refer to the list of specifications.  
 Resolution\*: 0.01mm or .0005"/0.01mm  
 Graduation\*\*: 0.05mm  
 Display\*: LCD  
 Length standard\*: ABSOLUTE electrostatic capacitance type linear encoder  
 Max. response speed\*: Unlimited  
 Battery\*: SR44 (1 pc.), **938882**  
 Battery life\*: Approx. 3.5 years under normal use  
 \*Digital models \*\*Analog models

## Function of Digital Model

Origin-set, Zero-setting, Power On/Off, Data output, inch/mm conversion (on inch/metric models only)  
 Alarm: Low voltage, Counting value composition error

## Optional Accessories for Digital Model

**05CZA624**: SPC cable with data switch (1m / 40")  
**05CZA625**: SPC cable with data switch (2m / 80")





## Technical Data

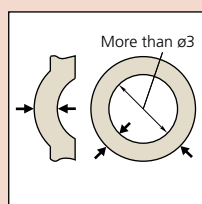
Accuracy: Refer to the list of specifications.  
 Display\*: LCD  
 Length standard: ABSOLUTE electrostatic capacitance type linear encoder  
 Max. response speed\*: Unlimited  
 Battery\*: SR44 (1 pc.), **938882**  
 Battery life\*: Approx. 3.5 years under normal use  
 \*Digital models \*\*Analog models

## Function of Digital Model

Origin-set, Zero-setting, Power On/Off, Data output, inch/mm conversion (on inch/metric models only)  
 Alarm: Low voltage, Counting value composition error

## Optional Accessories for Digital Model

**05CZA624**: SPC cable with data switch (40" / 1m)  
**05CZA625**: SPC cable with data switch (80" / 2m)

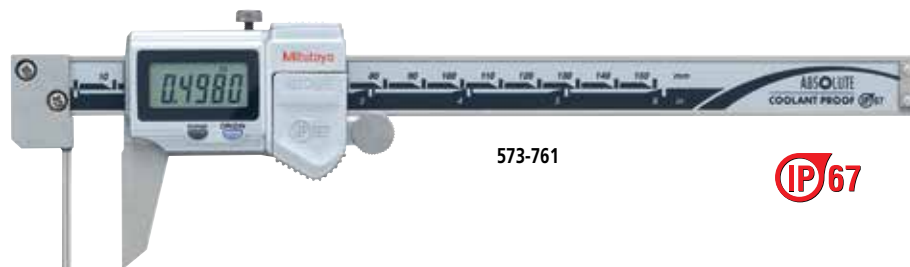


# Tube Thickness Caliper

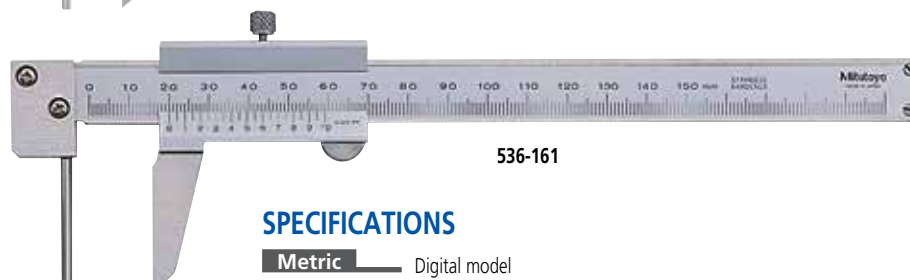
**SERIES 573, 536 — ABSOLUTE Digimatic and Vernier Type**

## FEATURES

- The main scale jaw is a round bar that facilitates measurements of tube wall thickness.
- With SPC data output. (Series 573)
- Supplied in fitted plastic case.



573-761



536-161

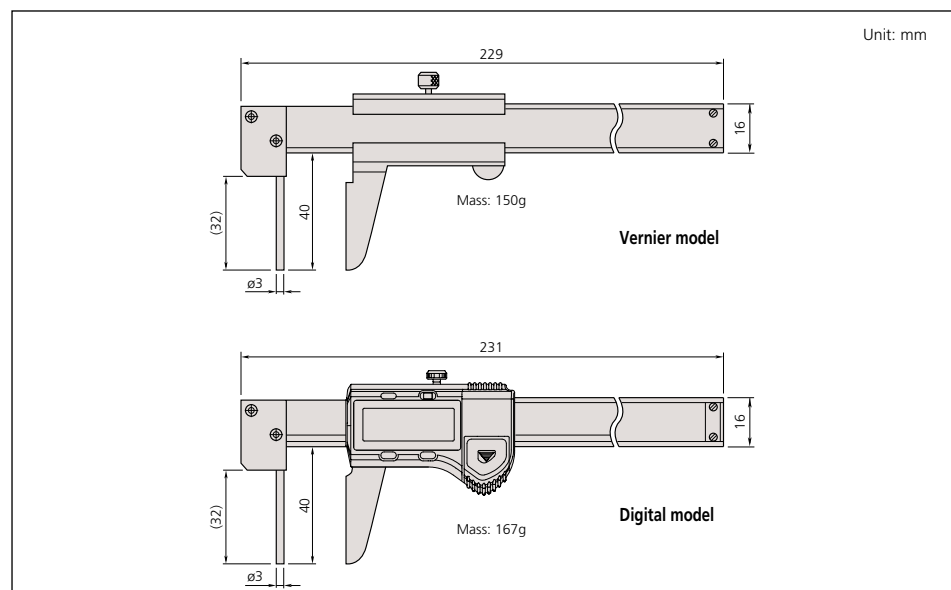
## SPECIFICATIONS

Metric		Digital model		
Range	Order No.	Accuracy	Resolution	Mass(g)
0 - 150mm	<b>573-661</b>	±0.05mm	0.01mm	167

Inch/Metric		Digital model		
Range	Order No.	Accuracy	Resolution	Mass(g)
0 - 6" / 0 - 150mm	<b>573-761</b>	±.002"	.0005" / 0.01mm	167

Metric		Vernier model		
Range	Order No.	Accuracy	Graduation	Mass(g)
0 - 150mm	<b>536-161</b>	±0.05mm	0.05mm	150

## DIMENSIONS AND MASS



# ABSOLUTE Low Force Caliper

**SERIES 573**

## FEATURES

- Due to the low measuring force these calipers are ideal for elastic or resilient workpieces such as plastic parts and rubber parts that standard calipers cannot measure.
- With SPC data output.
- Supplied in fitted plastic case.



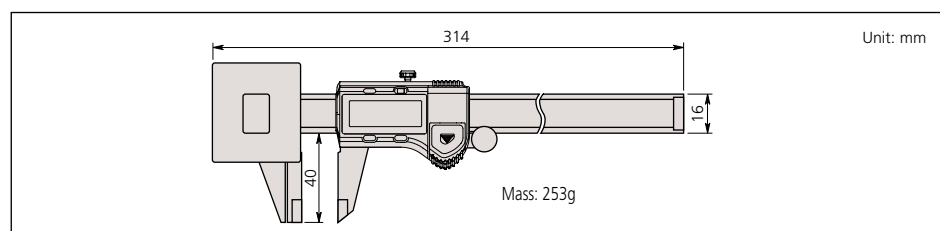
573-191-20

## SPECIFICATIONS

Metric				
Range	Order No.	Accuracy	Resolution	Mass (g)
0 - 180mm	573-191-20	±0.05mm	0.01mm	253

Inch/Metric				
Range	Order No.	Accuracy	Resolution	Mass (g)
0 - 7" / 0 - 180mm	573-291-20	±.002"	.0005" / 0.01mm	253

## DIMENSIONS AND MASS



# ABSOLUTE Snap Caliper

**SERIES 573**

## FEATURES

- The ABSOLUTE Digimatic snap caliper features a spring-loaded mechanism to allow quick and efficient GO/NO-GO inspection for mass production parts.
- With SPC data output.
- Supplied in fitted plastic case.



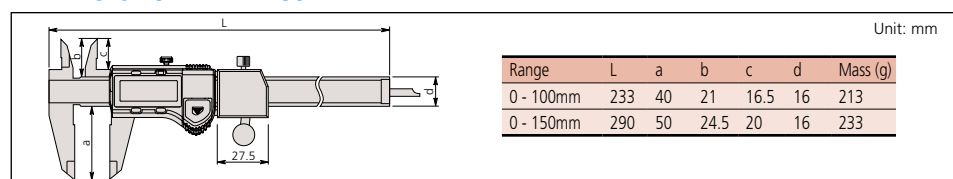
573-281-20

## SPECIFICATIONS

Metric				
Range	Order No.	Accuracy	Resolution	Mass (g)
0 - 100mm	573-181-20	±0.02mm	0.01mm	213
0 - 150mm	573-182-20	±0.02mm	0.01mm	233

Inch/Metric				
Range	Order No.	Accuracy	Resolution	Mass (g)
0 - 4" / 0 - 100mm	573-281-20	±.001"	.0005" / 0.01mm	213
0 - 6" / 0 - 150mm	573-282-20	±.001"	.0005" / 0.01mm	233

## DIMENSIONS AND MASS



Range	L	a	b	c	d	Mass (g)
0 - 100mm	233	40	21	16.5	16	213
0 - 150mm	290	50	24.5	20	16	233

**SPC**

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## Technical Data

Accuracy: Refer to the list of specifications.  
Resolution: .0005"/0.01mm or 0.01mm  
Display: LCD  
Length standard: ABSOLUTE electrostatic capacitance type linear encoder  
Measuring force: 0.49N to 0.98N (50gf to 100gf)  
Jaw retraction: 0.3mm  
Max. response speed: Unlimited  
Battery: SR44 (1 pc.), **938882**  
Battery life: Approx. 3.5 years under normal use

## Function

Origin-set, Zero-setting, Power On/Off, Data output, inch/mm conversion (on inch/metric models only)  
Alarm: Low voltage, Counting value composition error

## Optional Accessories

**959143:** Data hold unit  
**959149:** SPC cable with data switch (40" / 1m)  
**959150:** SPC cable with data switch (80" / 2m)



## Measurement procedures



To measure resilient workpieces take the measurement when the pointer is between the two index lines.

**SPC**

**ABSOLUTE**  
Absolute System Patented by MITUTOYO

## Technical Data

Accuracy: Refer to the list of specifications.  
Resolution: .0005"/0.01mm or 0.01mm  
Repeatability: .0005" / 0.01mm  
Display: LCD  
Length standard: ABSOLUTE electrostatic capacitance type linear encoder  
Measuring force: 7N to 14N (700gf to 1400gf)  
Jaw retraction: 2mm  
Max. response speed: Unlimited  
Battery: SR44 (1 pc.), **938882**  
Battery life: Approx. 3.5 years under normal use

## Function

Origin-set, Zero-setting, Power On/Off, Data output, inch/mm conversion (on inch/metric models only)  
Alarm: Low voltage, Counting value composition error

## Optional Accessories

**959143:** Data hold unit  
**959149:** SPC cable with data switch (40" / 1m)  
**959150:** SPC cable with data switch (80" / 2m)





## Technical Data

Accuracy: Refer to the list of specifications.  
 Display: LCD  
 Length standard: ABSOLUTE electrostatic capacitance type linear encoder  
 Max. response speed: Unlimited  
 Battery: SR44 (1 pc.), **938882**  
 Battery life: Approx. 3.5 years under normal use

## Function

Origin-set, Zero-setting, Power On/Off, Data output, inch/mm conversion (on inch/metric models only)  
 Alarm: Low voltage, Counting value composition error

## Optional Accessories

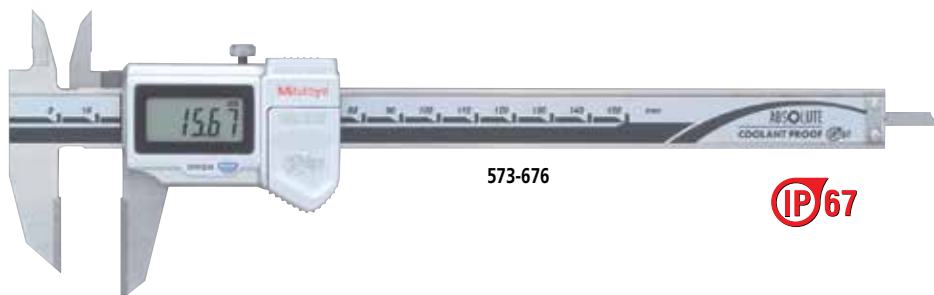
**05CZA624**: SPC cable with data switch (40" / 1m)  
**05CZA625**: SPC cable with data switch (80" / 2m)

# Scribing Caliper

**SERIES 573, 536 — ABSOLUTE Digimatic and Vernier Type**

## FEATURES

- The carbide-tipped jaws facilitate fine scribing on workpiece.
- With depth bar.
- With SPC data output. (Series 573)
- Supplied in fitted plastic case.



## SPECIFICATIONS

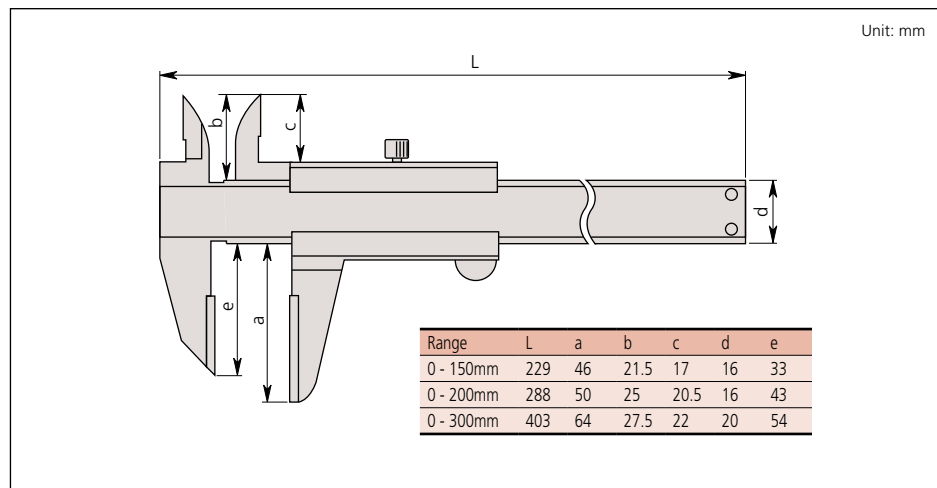
**Metric** Digital model

Range	Order No.	Accuracy	Resolution	Mass (g)
0 - 150mm	<b>573-676</b>	±0.02mm	0.01mm	166
0 - 200mm	<b>573-677</b>	±0.02mm	0.01mm	196
0 - 300mm	<b>573-679</b>	±0.03mm	0.01mm	345

**Metric** Vernier type

Range	Order No.	Accuracy	Graduation	Mass (g)
0 - 150mm	<b>536-221</b>	±0.05mm	0.05mm	150
0 - 200mm	<b>536-222</b>	±0.05mm	0.05mm	180
0 - 300mm	<b>536-223</b>	±0.08mm	0.05mm	355

## DIMENSIONS



# ABSOLUTE Inside Caliper

**SERIES 573, 536 — Knife-edge/Inside Groove/Point Jaw Type**

## FEATURES

- Specially designed for inside measurements in hard-to-reach places.
  - With SPC data output. (Series 573)
  - Supplied in fitted plastic case.
- 18" / 450mm and 24" / 600mm supplied in wooden case.

### Knife-edge type



573-742



536-142

### Inside groove type



573-745



536-145

### Point jaw type



573-746



536-146

## SPECIFICATIONS

### Metric Digital model

Range	Order No.	Accuracy	Remarks	Mass (g)
10 - 200mm	<b>573-642</b>	±0.05mm	Knife-edge type, Measurable min. hole diameter: ø10mm	227
10 - 160mm	<b>573-645</b>	±0.05mm	Inside groove type, Measurable min. hole diameter: ø10mm	147
20 - 170mm	<b>573-646</b>	±0.03mm	Point jaw type, Measurable min. hole diameter: ø20mm	157

### Inch/Metric Digital model

Range	Order No.	Accuracy	Remarks	Mass (g)
.4" - 8" / 10-200mm	<b>573-742</b>	±.002"	Knife-edge type, Measurable min. hole diameter: ø.4"	227
.4" - 6" / 10-150mm	<b>573-745</b>	±.002"	Inside groove type, Measurable min. hole diameter: ø.4"	147
.8" - 6" / 20-150mm	<b>573-746</b>	±.0015"	Point jaw type, Measurable min. hole diameter: ø.8"	157

### Metric

Range	Order No.	Accuracy	Remarks	Mass (g)
10 - 200mm	<b>536-142</b>	±0.12mm	Knife-edge type, Measurable min. hole diameter: ø10mm	210
10 - 150mm	<b>536-145</b>	±0.05mm	Inside groove type, Measurable min. hole diameter: ø10mm	130
20 - 150mm	<b>536-146</b>	±0.05mm	Point jaw type, Measurable min. hole diameter: ø20mm	140
30 - 300mm	<b>536-147</b>	±0.08mm	Point jaw type, Measurable min. hole diameter: ø30mm	370
70 - 450mm	<b>536-148</b>	±0.10mm	Point jaw type, Measurable min. hole diameter: ø70mm	1,250
70 - 600mm	<b>536-149</b>	±0.12mm	Point jaw type, Measurable min. hole diameter: ø70mm	1,430



## Technical Data

Accuracy: Refer to the list of specifications.  
 Resolution\*: .0005"/0.01mm / 0.01mm  
 Graduation\*: 0.05mm  
 Display\*: LCD  
 Length standard\*: ABSOLUTE electrostatic capacitance type linear encoder  
 Max. response speed\*: Unlimited  
 Battery\*: SR44 (1 pc.), **938882**  
 Battery life\*: Approx. 3.5 years under normal use  
 \*Digital models \*\*Analog models

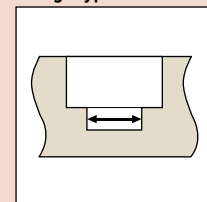
## Function of Digital Model

Origin-set, Zero-setting, Power On/Off, Data output, inch/mm conversion (on inch/metric models only)  
 Alarm: Low voltage, Counting value composition error

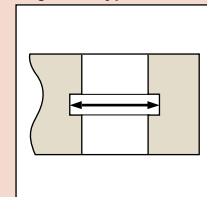
## Optional Accessories for Digital Model

**05CZA624**: SPC cable with data switch (40" / 1m)  
**05CZA625**: SPC cable with data switch (80" / 2m)

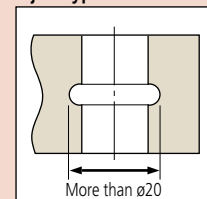
### Knife-edge type



### Inside groove type



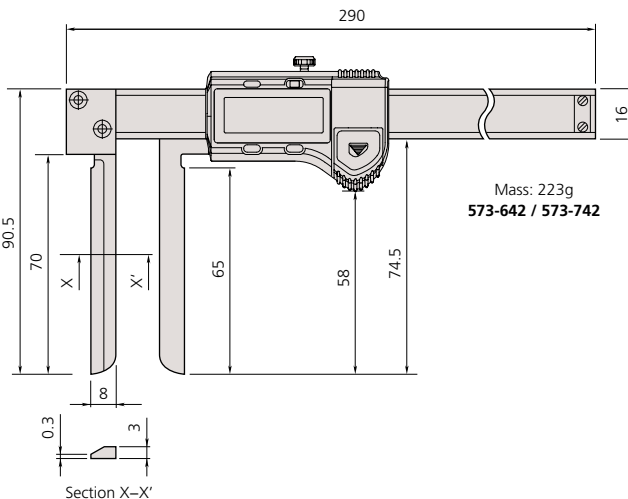
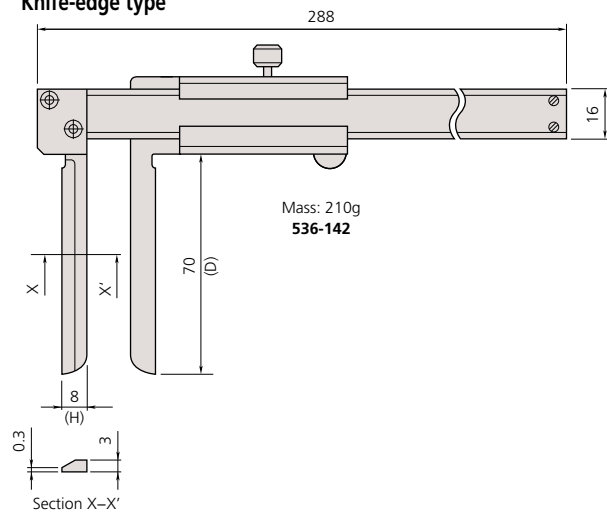
### Point jaw type



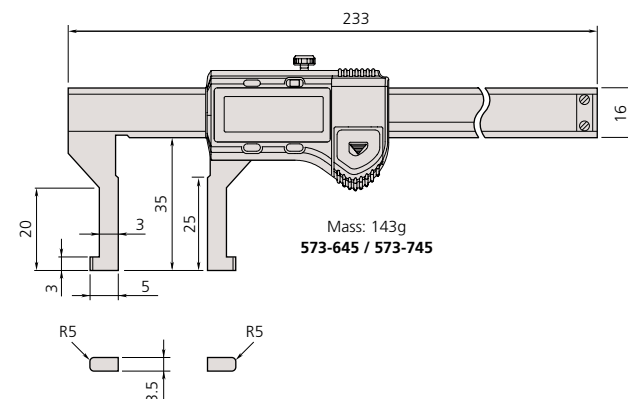
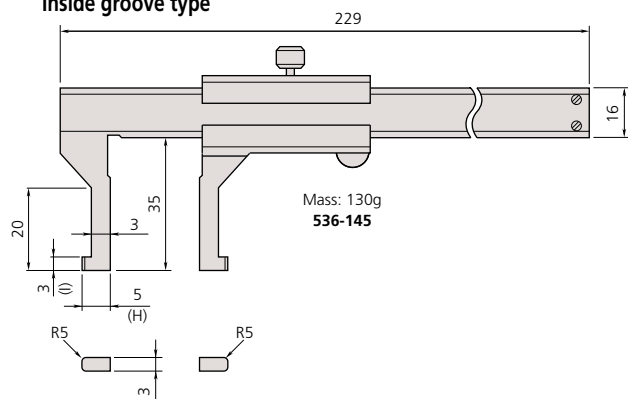
## DIMENSIONS AND MASS

Unit: mm

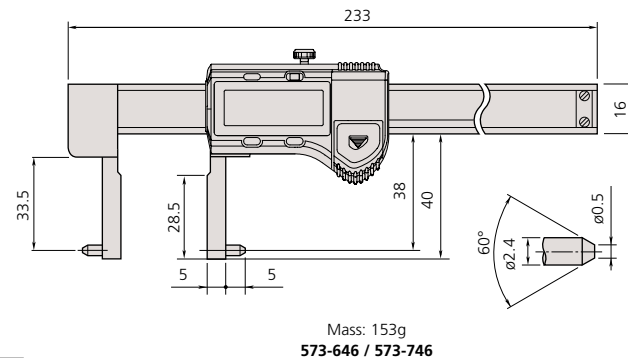
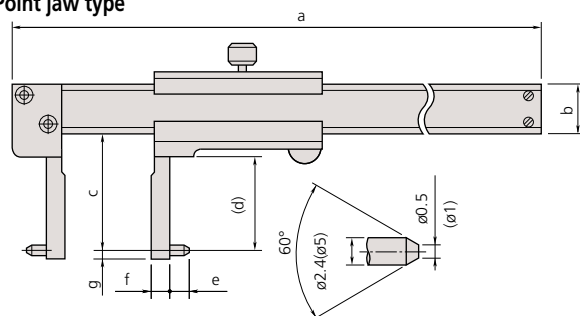
### Knife-edge type



### Inside groove type



### Point jaw type



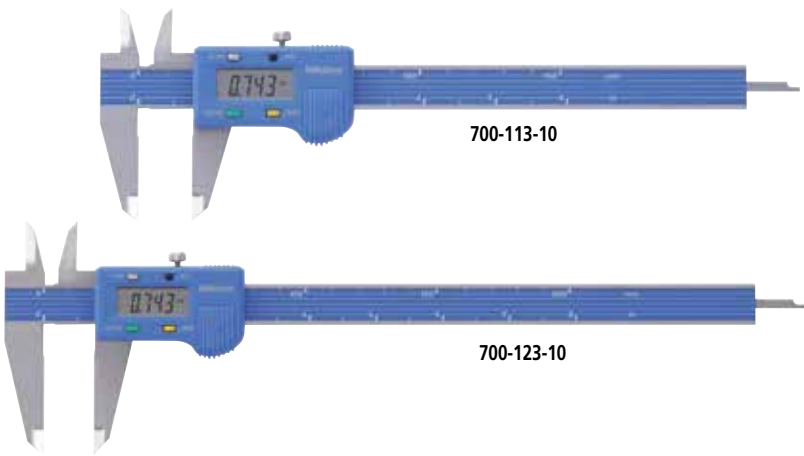
Order No.	Range	a	b	c	d	e	f	g	Mass (g)
536-146	150mm	229	16	38	31	5	5	2	140
536-147	300mm	403	20	98	89	5	10	2	370
536-148	450mm	610	25	145	136	10	25	5	1,250
536-149	600mm	750	25	145	136	10	25	5	1,430

# MyCAL-Lite

## SERIES 700 — Digital Caliper for DIY

### FEATURES

- The “MyCAL-Lite” is an ideal measuring tool for DIY.
- The LCD screen allows error-free readout of measurements.
- With depth measuring bar.



### SPECIFICATIONS

Inch/Metric			
Range	Order No.	Accuracy	Mass (g)
0 - 6" / 0 - 150mm	700-113-10	±.005" / ±0.2mm	150
0 - 8" / 0 - 200mm	700-123-10	±.005" / ±0.2mm	170

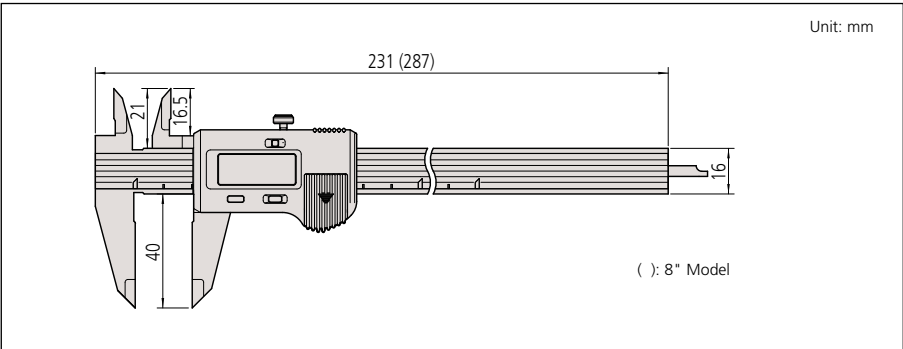
### Technical Data

Accuracy: Refer to the list of specifications.  
Resolution: .001" / 0.1mm  
Display: LCD  
Length standard: Electrostatic capacitance type linear encoder  
Max. response speed: 1800mm/s  
Battery: SR44 (1 pc.), **938882**  
Battery life\*: Approx. 2 years under normal use

### Function

Zero-setting, Power on/off  
inch/mm conversion  
Alarm: Low voltage, Counting value composition error

### DIMENSIONS

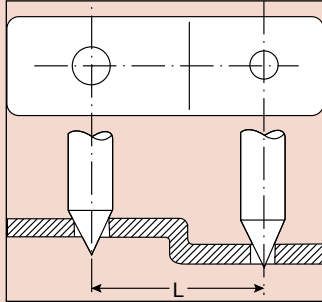


# Center Line Gage

## Optional Accessories for Caliper

### FEATURES

Pairs of conical probes are specially designed for Digimatic, Dial and Vernier calipers to quickly measure centerline distances.



**050001**

Application for 4", 6" and 8" Vernier, Dial and Digimatic Calipers, requiring dimensions over .375".



**050018**

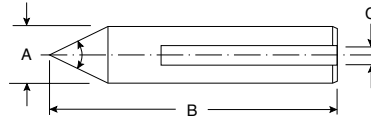
Application for 12" Vernier, Dial and Digimatic Calipers requiring dimensions over .5".

### SPECIFICATIONS

Center Line Gage

Order No.	Description
<b>050001</b>	For 4, 6 and 8" Calipers
<b>050018</b>	For 12" Calipers

### DIMENSIONS



	A	B	C
<b>050001</b>	.375"	2.187"	.141"
<b>050018</b>	.500"	2.75"	.154"

# Depth Base Attachment

## Optional Accessories for Caliper

### FEATURES

- For 4", 6", 8", 12" / 100mm, 150mm, 200mm, 300mm, vernier, dial and digital calipers which have a depth measuring bar.

- Finely grounded base surface and secure locking clamp.



**050084-10**

### SPECIFICATIONS

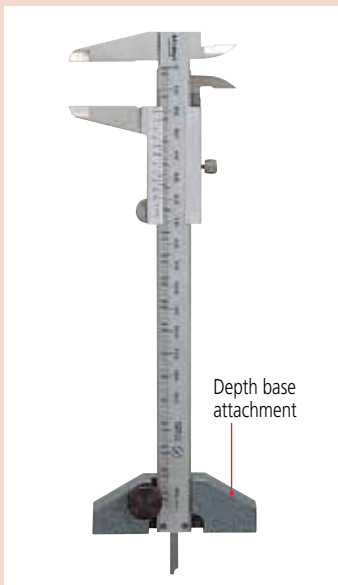
Inch/Metric

Size	Order No.	Remarks (applicable measuring range of caliper)
3" / 75mm	<b>050083-10</b>	4", 6", 8" / 100mm, 150mm, 200mm
4" / 100mm	<b>050084-10</b>	4", 6", 8" / 100mm, 150mm, 200mm
5" / 125mm	<b>050085-10</b>	12" / 300mm

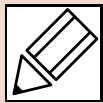
### DIMENSIONS

Unit: mm						
Size	a	b	c	d	e	t
3" / 75mm	25	75	26.5	13	18.5	12
4" / 100mm	25	100	26.5	13	18.5	12
5" / 125mm	30	125	28.5	13	20	14

t: Base thickness



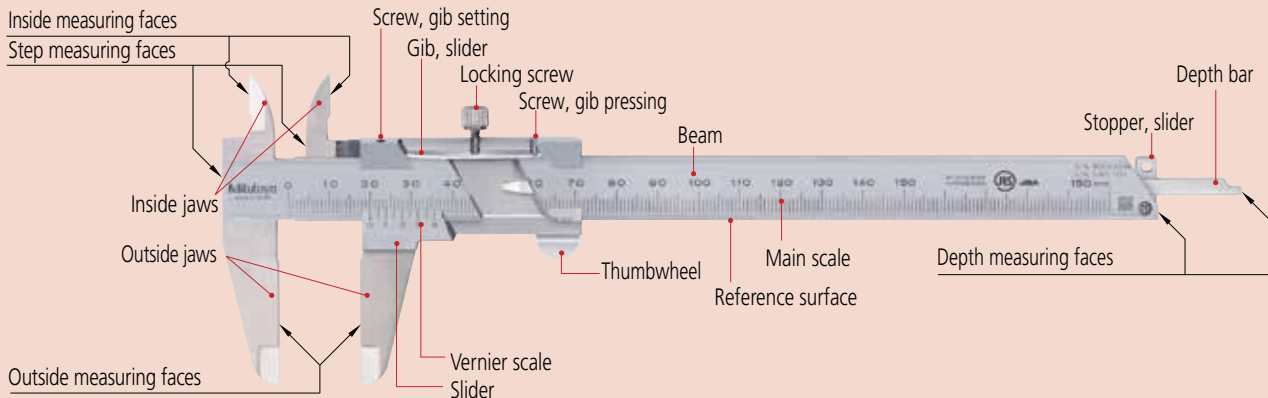
# Quick Guide to Precision Measuring Instruments



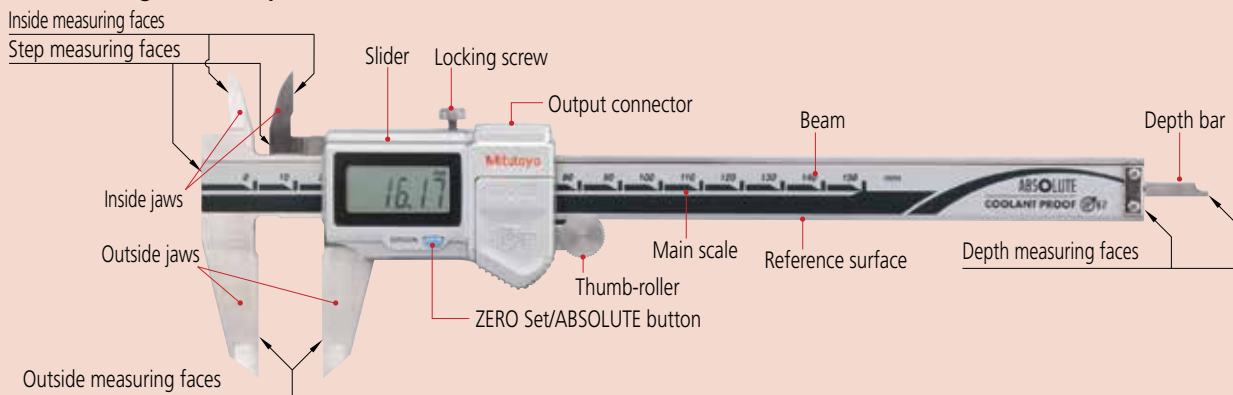
## Calipers

### Nomenclature

#### Vernier Caliper

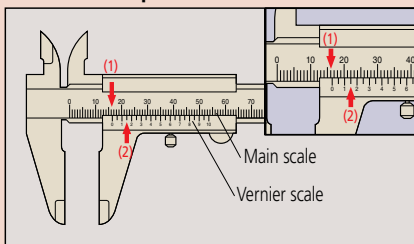


#### Absolute Digimatic Caliper



### How to Read the Scale

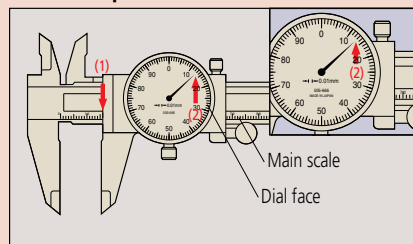
#### Vernier Calipers



Graduation 0.05mm

(1) Main scale	16	mm
(2) Vernier	0.15	mm
Reading	16.15	mm

#### Dial Calipers



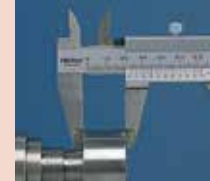
Graduation 0.01mm

(1) Main scale	16	mm
(2) Dial face	0.13	mm
Reading	16.13	mm

Note) Above left, 0.15 mm (2) is read at the position where a main scale graduation line corresponds with a vernier graduation line.

### Measurement examples

1. Outside measurement



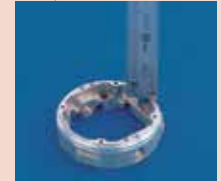
2. Inside measurement



3. Step measurement

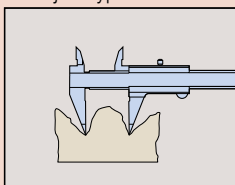


4. Depth measurement



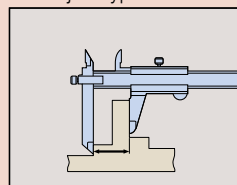
### Special Purpose Caliper Applications

Point jaw type



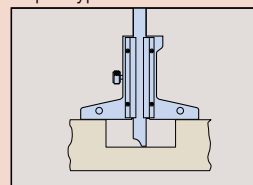
For uneven surface measurement

Offset jaw type



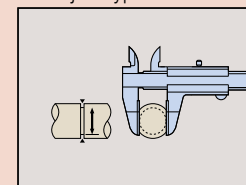
For stepped feature measurement

Depth type



For depth measurement

Blade jaw type

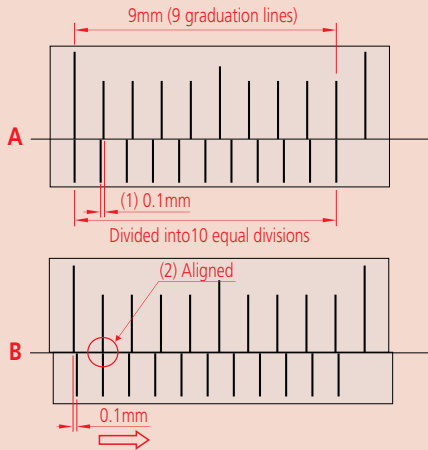


For diameter of narrow groove measurement



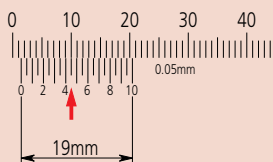
## Vernier scale

This is a short auxiliary scale that enables accurate interpolation between the divisions of a longer scale without using mechanical magnification. The principle of operation is that each vernier scale division is slightly smaller than a main scale division, so that successive vernier graduations successively coincide with main scale graduations as one is moved relative to the other. Specifically,  $n$  divisions on a vernier scale are the same length as  $n-1$  divisions on the main scale it works with, and  $n$  defines the division (or interpolation) ratio. Although  $n$  may be any number, in practice it is typically 10, 20, 25, etc., so that the division is a useful decimal fraction. The example below is for  $n = 10$ . The main scale is graduated in mm, and so the vernier scale is 9mm (10 divisions) long, the same as 9mm (9 divisions) on the main scale. This produces a difference in length of 0.1mm (1) as shown in figure A (the 1st vernier graduation is aligned with the first main scale graduation). If the vernier scale is slid 0.1mm to the right as shown in figure B, the 2nd graduation line on the vernier scale moves into alignment with the 2nd line on the main scale (2), and so enables easy reading of the 0.1mm displacement.

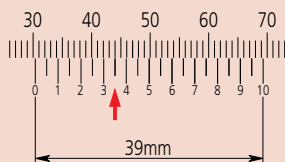


Some early calipers divided 19 divisions on the main scale by 20 vernier divisions to provide 0.05mm resolution. However, the closely spaced lines proved difficult to read and so, since the 1970s, a long vernier scale that uses 39 main scale divisions to spread the lines is generally used instead, as shown below.

### 19mm Vernier scale

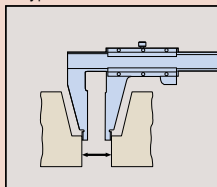


### 39mm vernier scale (long vernier scale)



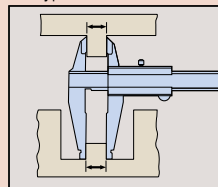
Calipers were made that gave an even finer resolution of 0.02mm. These required a 49-division vernier scale dividing 50 main scale divisions. However, they were difficult to read and are now hard to find since Digital calipers with an easily read display and resolution of 0.01mm appeared.

### C-type



Standard outside measurement  
Inside measurement of a stepped hole  
Measurement of a stepped part

### CN-type

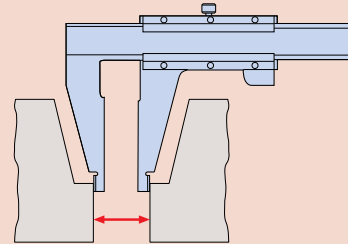


Standard outside measurement  
Measurement of a stepped hole

## About Long Calipers

Steel rules are commonly used to roughly measure large workpieces but if a little more accuracy is needed then a long caliper is suitable for the job. A long caliper is very convenient for its user friendliness but does require some care in use. In the first place it is important to realize there is no relationship between resolution and accuracy. For details, refer to the values in our catalog. Resolution is constant whereas the accuracy obtainable varies dramatically according to how the caliper is used.

The measuring method with this instrument is a concern since distortion of the main beam causes a large amount of the measurement error, so accuracy will vary greatly depending on the method used for supporting the caliper at the time. Also, be careful not to use too much measuring force when using the outside measuring faces as they are furthest away from the main beam so errors will be at a maximum here. This precaution is also necessary when using the tips of the outside measuring faces of a long-jaw caliper.

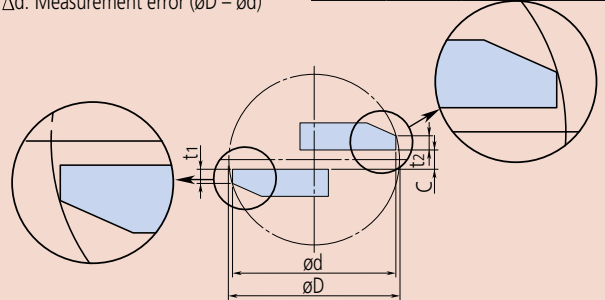


## Small hole measurement with an M-type caliper

A structural error  $d$  occurs when you measure the internal diameter of a small hole.

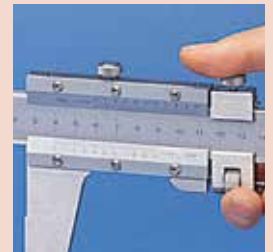
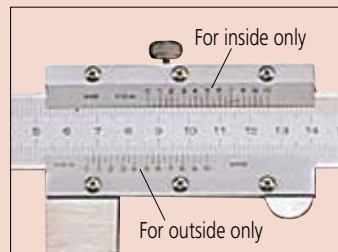
$\phi D$ : True internal diameter  
 $\phi d$ : Measured diameter  
 $t, t_c$ : Thickness of the inside jaw  
 $C$ : Distance between the inside jaws  
 $\Delta d$ : Measurement error ( $\phi D - \phi d$ )

True internal diameter ( $\phi D$ : 5mm) Unit: mm			
$t, t_c + C$	0.3	0.5	0.7
$\Delta d$	0.009	0.026	0.047



## Inside Measurement with a CM-type Caliper

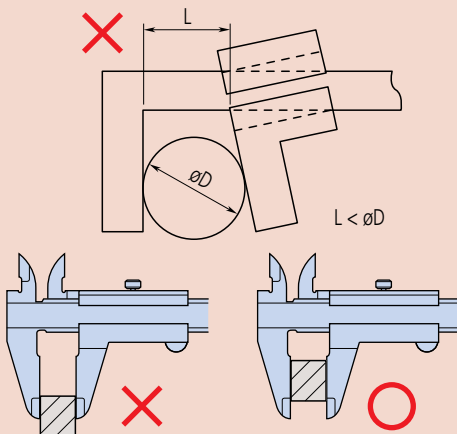
Because the inside measuring faces of a CM-type caliper are at the tips of the jaws the measuring face parallelism is heavily affected by measuring force, and this becomes a large factor in the measurement accuracy attainable. In contrast to an M-type caliper, a CM-type caliper cannot measure a very small hole diameter because it is limited to the size of the stepped jaws, although normally this is no inconvenience as it would be unusual to have to measure a very small hole with this type of caliper. Of course, the radius of curvature on the inside measuring faces is always small enough to allow correct hole diameter measurements right down to the lowest limit (jaw closure). Mitutoyo CM-type calipers are provided with an extra scale on the slider for inside measurements so they can be read directly without the need for calculation, just as for an outside measurement. This useful feature eliminates the possibility of error that occurs when having to add the inside-jaw-thickness correction on a single-scale caliper.



## General notes on use of caliper

### 1. Potential causes of error

A variety of factors can cause errors when measuring with a caliper. Major factors include parallax effects, excessive measuring force due to the fact that a caliper does not conform to Abbe's Principle, differential thermal expansion due to a temperature difference between the caliper and workpiece, and the effect of the thickness of the knife-edge jaws and the clearance between these jaws during measurement of the diameter of a small hole. Although there are also other error factors such as graduation accuracy, reference edge straightness, main scale flatness on the main blade, and squareness of the jaws, these factors are included within the instrumental error tolerances. Therefore, these factors do not cause problems as long as the caliper satisfies the instrumental error tolerances. Handling notes have been added to the JIS so that consumers can appreciate the error factors caused by the structure of the caliper before use. These notes relate to the measuring force and stipulate that "as the caliper does not have a constant-force device, you must measure a workpiece with an appropriate even measuring force. Take extra care when you measure it with the root or tip of the jaw because a large error could occur in such cases."



### 2. Inside measurement

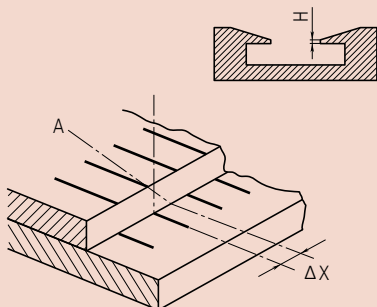
Insert the inside jaw as deeply as possible before measurement.  
Read the maximum indicated value during inside measurement.  
Read the minimum indicated value during groove width measurement.

### 3. Depth measurement

Read the minimum indicated value during depth measurement.

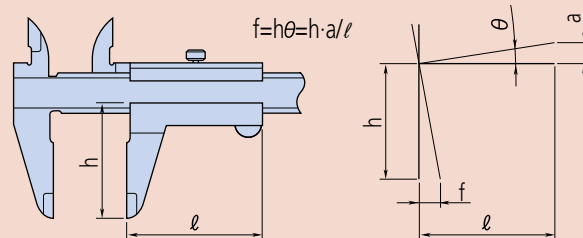
### 4. Parallax error when reading the scales

Look straight at the vernier graduation line when checking the alignment of vernier graduation lines to the main scale graduation lines. If you look at a vernier graduation line from an oblique direction (A), the apparent alignment position is distorted by  $\Delta X$  as shown in the figure below due to a parallax effect caused by the step height (H) between the planes of the vernier graduations and the main scale graduations, resulting in a reading error of the measured value. To avoid this error, the JIS stipulates that the step height should be no more than 0.3 mm.



### 5. Moving Jaw Tilt Error

If the moving jaw becomes tilted out of parallel with the fixed jaw, either through excessive force being used on the slider or lack of straightness in the reference edge of the beam, a measurement error will occur as shown in the figure. This error may be substantial due to the fact that a caliper does not conform to Abbe's Principle.



Example: Assume that the error slope of the jaws due to tilt of the slider is 0.01 mm in 50 mm and the outside measuring jaws are 40 mm deep, then the error (at the jaw tip) is calculated as  $(40/50) \times 0.01 \text{ mm} = 0.008 \text{ mm}$ .  
If the guide face is worn then an error may be present even using the correct measuring force.

### 6. Relationship between measurement and temperature

The main scale of a caliper is engraved (or mounted on) stainless steel, and although the linear thermal expansion coefficient is equal to that of the most common workpiece material, steel, i.e.  $(10.2 \pm 1) \times 10^{-6} / \text{K}$ , note that other workpiece materials, the room temperature and the workpiece temperature may affect measurement accuracy.

### 7. Handling

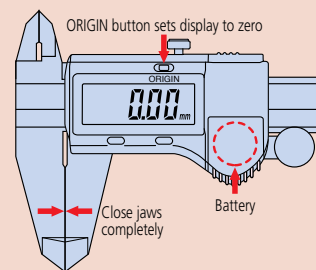
Caliper jaws are sharp, and therefore the instrument must be handled with care to avoid personal injury.  
Avoid damaging the scale of a digital caliper and do not engrave an identification number or other information on it with an electric marker pen.  
Avoid damaging a caliper by subjecting it to impact with hard objects or by dropping it on a bench or the floor.

### 8. Maintenance of beam sliding surfaces and measuring faces

Wipe away dust and dirt from the sliding surfaces and measuring faces with a dry soft cloth before using the caliper.

### 9. Checking and setting the origin before use

Clean the measuring surfaces by gripping a sheet of clean paper between the outside jaws and then slowly pulling it out. Close the jaws and ensure that the vernier scale (or display) reads zero before using the caliper. When using a Digimatic caliper, reset the origin (ORIGIN button) after replacing the battery.



### 10. Handling after use

After using the caliper, completely wipe off any water and oil. Then, lightly apply anti-corrosion oil and let it dry before storage.  
Wipe off water from a waterproof caliper as well because it may also rust.

### 11. Notes on storage

Avoid direct sunlight, high temperatures, low temperatures, and high humidity during storage.  
If a digital caliper will not be used for more than three months, remove the battery before storage.  
Do not leave the jaws of a caliper completely closed during storage.



## Technical Data

Accuracy: Refer to the list of specifications.  
 Resolution: 0.01+0.005mm or 0.0005" (0.01mm)  
 [0.0002" (0.005mm) switchable]  
 Display: LCD, 7-digits, character height 11mm  
 Max. response speed: 500mm/s  
 Battery: SR44 (1 pc.), **938882**  
 Battery life: Approx. 2000 hours under normal use

## Function

Zero-setting, ABS/INC switching, Two presets, Probe tip diameter compensation, +/- switching, Power ON/OFF, Data hold, Data output, inch/mm conversion (on inch/metric models only)  
 Alarm: Low voltage, Counting value composition error

## Standard Scriber Provided

Metric models: Carbide-tipped scriber (**905200**) and scriber clamp (**05GZA033**)  
 Inch/Metric models: Carbide-tipped scriber (**905201**) and scriber clamp (**901385**)

## Optional Accessories

**905338:** SPC cable (40" / 1m)  
**905409:** SPC cable (80" / 2m)  
**905691:** SPC cable (L-shape, 40" / 1m)  
**905692:** SPC cable (L-shape, 80" / 2m)  
**192-007:** Bi-directional touch-signal probe (metric)  
**192-008:** Bi-directional touch-signal probe (inch)  
**953638:** Holding bar for test indicator (length: 50mm)  
**900209:** Holding bar for test indicator (length: 100mm)  
**953639:** Holding bar for test indicator (length: 2")  
**900306:** Holding bar for test indicator (length: 4")  
**900321:** Swivel clamp used with holding bar (metric)  
**900322:** Swivel clamp used with holding bar (inch)



Shown with optional touch-signal probe



# Digimatic Height Gage

## SERIES 192 — Multi-Function Type with SPC Data Output

## FEATURES

- Highly versatile multi-function type.
- Carbide-tipped long scriber is provided.
- Rigid construction ensures repeatable measurement.
- Switchable resolution.
- Coarse/fine feed switching.
- Bi-directional touch-signal probe is an optional accessory. It can quickly and accurately measure steps, inside width, and outside width.
- With SPC data output.
- Two preset reference height.



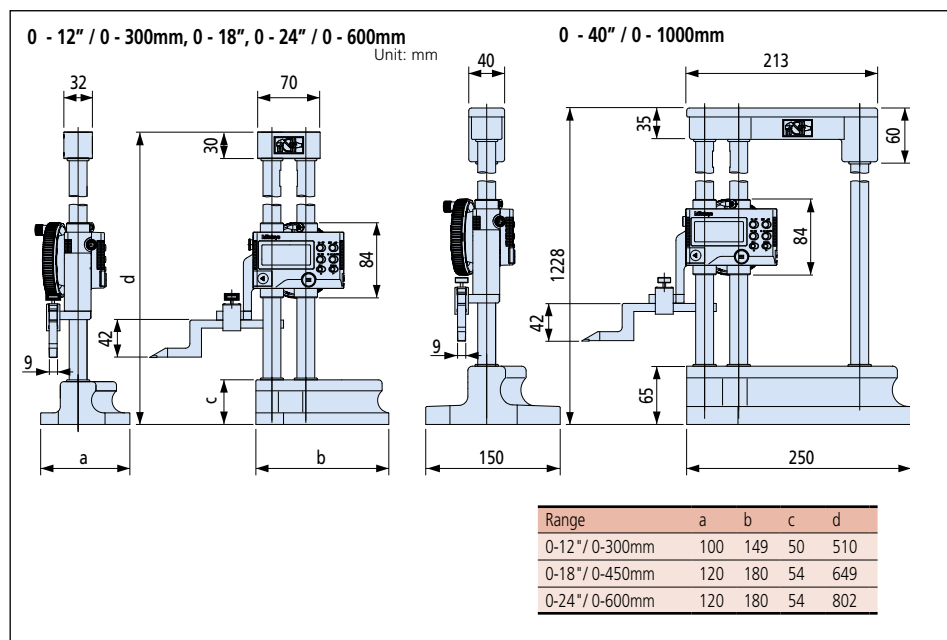
192-670-10

## SPECIFICATIONS

Inch/Metric				
Range	Order No.	Accuracy	Resolution	Mass (kg)
0-12"/0-300mm	<b>192-670-10</b>	±001"	.0005" (0.01mm) [.0002" (0.005mm) Switchable]	5.7
0-18"/0-450mm	<b>192-671-10</b>	±0015"	.0005" (0.01mm) [.0002" (0.005mm) Switchable]	7.5
0-24"/0-600mm	<b>192-672-10</b>	±0015"	.0005" (0.01mm) [.0002" (0.005mm) Switchable]	8.3
0-40"/0-1000mm	<b>192-673-10</b>	±0025"	.0005" (0.01mm) [.0002" (0.005mm) Switchable]	15.7

Metric				
Range	Order No.	Accuracy	Resolution	Mass (kg)
0-300mm	<b>192-663-10</b>	±0.02mm	Switchable between 0.01mm and 0.005mm	5.7
0-600mm	<b>192-664-10</b>	±0.04mm	Switchable between 0.01mm and 0.005mm	8.3
0-1000mm	<b>192-665-10</b>	±0.06mm	Switchable between 0.01mm and 0.005mm	15.7

## DIMENSIONS



# Digimatic Height Gage

## SERIES 192 — Standard Type with SPC Data Output



### FEATURES

- Easy-to-use standard type.
- Carbide-tipped scriber is provided.
- Double-column structure ensures high measuring accuracy.
- Coarse/fine feed switching.
- Switchable resolution
- Two preset reference height



192-630-10

### SPECIFICATIONS

#### Inch/Metric

Range	Order No.	Accuracy	Resolution	Mass (kg)
0-12"/0-300mm	192-630-10	±001"	.0005" (0.01mm) [.0002" (0.005mm) Switchable]	4.7
0-18"/0-450mm	192-631-10	±002"	.0005" (0.01mm) [.0002" (0.005mm) Switchable]	7.5
0-24"/0-600mm	192-632-10	±002"	.0005" (0.01mm) [.0002" (0.005mm) Switchable]	8.3
0-40"/0-1000mm	192-633-10	±003"	.0005" (0.01mm) [.0002" (0.005mm) Switchable]	15.7

#### Metric

Range	Order No.	Accuracy	Resolution	Mass (kg)
0-300mm	192-613-10	±0.02mm	Switchable between 0.01mm and 0.005mm	4.7
0-600mm	192-614-10	±0.05mm	Switchable between 0.01mm and 0.005mm	8.3
0-1000mm	192-615-10	±0.07mm	Switchable between 0.01mm and 0.005mm	15.7

### Technical Data

Accuracy: Refer to the list of specifications.  
 Resolution: .0005" (0.01mm) [.0002" (0.005mm)]  
 or 0.01mm and 0.005mm  
 Display: LCD, 7-digit, character height 11mm  
 Max. response speed: 500mm/s  
 Battery: SR44 (1 pc.), **938882**  
 Battery life: Approx. 2000 hours under normal use

### Function

Zero-setting, ABS/INC switching, Two presets, Probe tip diameter compensation, +/- switching, Power ON/OFF, Data hold, With Output, inch/mm conversion (on inch/metric models only)  
 Alarm: Low voltage, Counting value composition error

### Standard Scriber Provided

Metric models: Carbide-tipped scriber (**07GZA000**) and scriber clamp (**05GZA033**)  
 Inch/Metric models: Carbide-tipped scriber (**900258**) and scriber clamp (**901385**)

### Optional Accessories

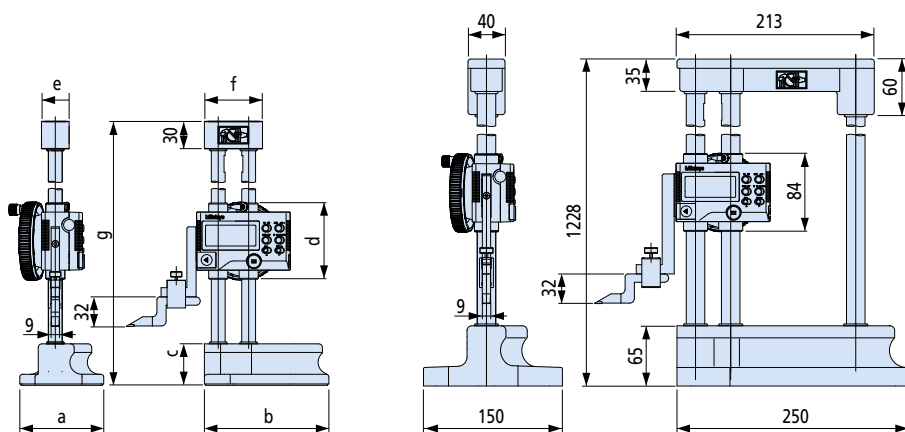
**953638**: Holding bar for test indicator (length: 50mm)  
**900209**: Holding bar for test indicator (length: 100mm)  
**953639**: Holding bar for test indicator (length: 2")  
**900306**: Holding bar for test indicator (length: 4")  
**900321**: Swivel clamp used with holding bar (metric)  
**900322**: Swivel clamp used with holding bar (inch)  
**905338**: SPC cable (CD type) 1m  
**905409**: SPC cable (CD type) 2m  
**905691**: CD/Connecting cable L-Type 1m RIG  
**905692**: CD/Connecting cable L-Type 2m RIG

### DIMENSIONS

0 - 12" / 0 - 300mm, 0 - 18", 0 - 24" / 0 - 600mm

0 - 40" / 0 - 1000mm

Unit: mm



Range	a	b	c	d	e	f	g
0-12"/0-300mm	91	135	45	83	30	63	475
0-18"/0-450mm	120	180	54	84	32	70	649
0-24"/0-600mm	120	180	54	84	32	70	802

## Technical Data

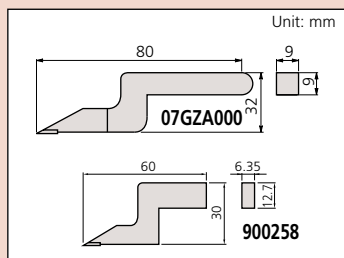
Dial reading: 0.01mm or .001"

## Standard Scriber Provided

Metric models: Carbide-tipped scriber (**07GZA000**) and scriber clamp (**05GZA033**)

Inch/Metric models: Carbide-tipped scriber (**900258**) and scriber clamp (**901385**)

## Dimension of scriber



## Optional Accessories

- 953638:** Holding bar for test indicator (length: 50mm)
- 900209:** Holding bar for test indicator (length: 100mm)
- 953639:** Holding bar for test indicator (length: 2")
- 900306:** Holding bar for test indicator (length: 4")
- 900321:** Swivel clamp used with holding bar (metric)
- 900322:** Swivel clamp used with holding bar (inch)



Comfortable grip base



Easy and secure clamping



Easy and error free reading

# Dial Height Gage

## SERIES 192 — with Digital Counter

## FEATURES

- Easy and error-free reading with both up and down digital counters as well as a dial.
- Provided with a feed wheel for easy coarse feeding.
- Carbide-tipped scriber is provided.
- The counters and dial can be re-zeroed at any scriber position.

## SPECIFICATIONS

### Metric

Range	Order No.	Accuracy	Graduation	Mass (kg)
0 - 300mm	<b>192-130</b>	±0.03mm	0.01mm	4.2
0 - 450mm	<b>192-131</b>	±0.05mm	0.01mm	9.2
0 - 600mm	<b>192-132</b>	±0.05mm	0.01mm	9.8
0 - 1000mm	<b>192-133</b>	±0.07mm	0.01mm	17.0

### Inch

Range	Order No.	Accuracy	Graduation	Mass (kg)
0 - 12"	<b>192-150</b>	±.0015"	.001"	4.2
0 - 18"	<b>192-151</b>	±.002"	.001"	9.2
0 - 24"	<b>192-152</b>	±.002"	.001"	9.8
0 - 40"	<b>192-153</b>	±.003"	.001"	17.0



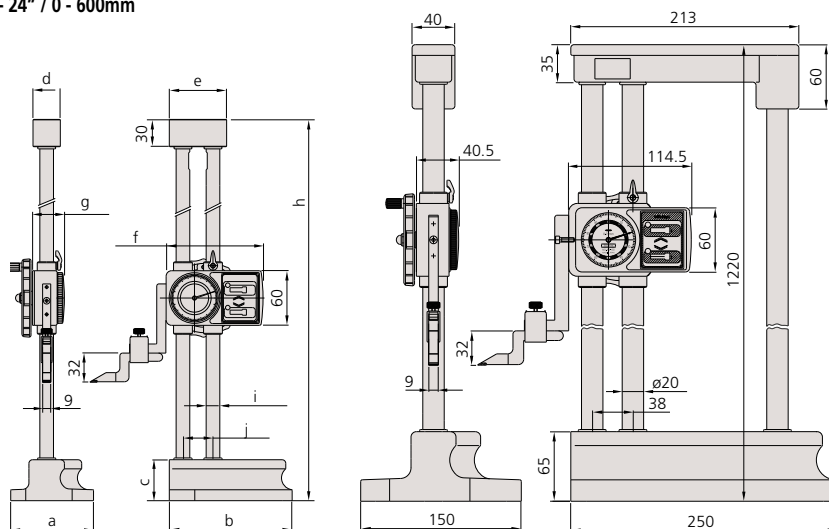
192-150

## DIMENSIONS

0 - 12" / 0 - 300mm, 0 - 18" / 0 - 450mm  
0 - 24" / 0 - 600mm

0 - 40" / 0 - 1000mm

Unit: mm



Range	a	b	c	d	e	f	g	h	i	j
0-12"/0-300mm	91	135	45	30	63	106.5	35.5	470	ø15	33
0-18"/0-450mm	120	180	54	32	70	114.5	40.5	645	ø20	38
0-24"/0-600mm	120	180	54	32	70	114.5	40.5	798	ø20	38



# ABSOLUTE Digimatic Height Gage

**SERIES 570 — with ABSOLUTE Linear Encoder**

## FEATURES

- Built in ABSOLUTE linear encoder  
This encoder eliminates the necessity of setting the reference point at every power-on. It has improved reliability because no over-speed error will occur.
- Fine-adjustment carriage to feed the slider finely.
- Carbide-tipped scriber is provided.
- With SPC data output.



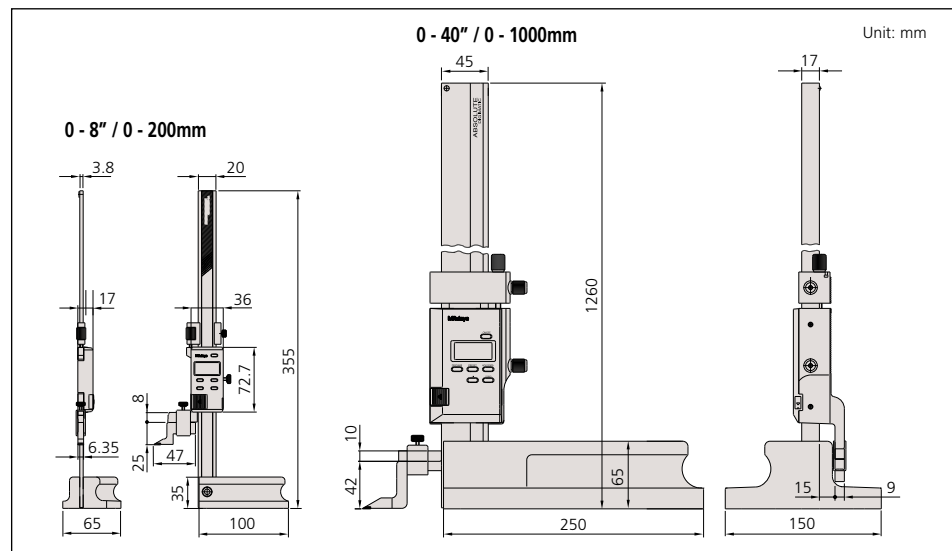
570-244

## SPECIFICATIONS

Metric				
Range	Order No.	Accuracy	Resolution	Mass (kg)
0 - 200mm	570-227	±0.03mm	0.01mm	1.4
0 - 1000mm	570-230	±0.07mm	0.01mm	16.8

Inch/Metric				
Range	Order No.	Accuracy	Resolution	Mass(kg)
0 - 8" / 0 - 200mm	570-244	±.001"	.0005" / 0.01mm	1.4
0 - 40" / 0 - 1000mm	570-248	±.003"	.0005" / 0.01mm	16.8

## DIMENSIONS



## Technical Data

Accuracy: Refer to the list of specifications.  
 Resolution: .0005" / 0.01mm or 0.01mm  
 Display: LCD, 6-digit  
 Length standard: ABSOLUTE electrostatic capacitance type linear encoder  
 Max. response speed: Un limited  
 Battery: SR44 (1 pc.), **938882**  
 Battery life: Approx. 5000 hours under normal use

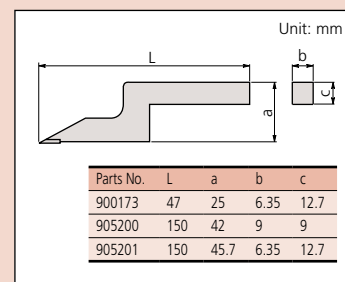
## Function

Origin setting, ABS/INC switching, Presetting, +/- switching, Data hold, Data output, inch/mm conversion (on inch/metric models only)  
 Alarm: Low voltage, Counting value composition error

## Standard Scriber Provided

Metric models: Carbide-tipped scriber  
 (900173/905200\*) and scriber clamp  
 (901338/05GZA033\*)  
 \*0 - 1000mm model  
 Inch/Metric models: Carbide-tipped scriber  
 (900173/905201\*) and scriber clamp  
 (901338/901385\*)  
 \*0 - 40" model

## Dimension of scriber



## Optional Accessories

905338: SPC cable (40" / 1m)  
 905409: SPC cable (80" / 2m)  
 953638: Holding bar for test indicator (length: 50mm)  
 953639: Holding bar for test indicator (length: 2")  
 902053: Swivel clamp used with holding bar (metric)  
 900322: Swivel clamp used with holding bar (inch)



## Technical Data

Accuracy: Refer to the list of specifications.  
 Resolution: .0005"/0.01mm or 0.01mm  
 Display: LCD, 6-digit  
 Length standard: ABSOLUTE electrostatic capacitance type linear encoder  
 Max. response speed: Un limited  
 Battery: SR44 (1 pc.), **938882**  
 Battery life: Approx. 20000 hours under normal use

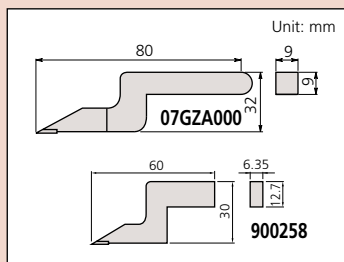
## Function

Origin setting, ABS/INC switching, Power ON/OFF, Data hold, Data output, inch/mm conversion (on inch/metric models only)  
 Alarm: Low voltage, Counting value composition error

## Standard Scriber Provided

Metric models: Carbide-tipped scriber (**07GZA000**), scriber clamp (**05GZA033**)  
 Inch/Metric models: Carbide-tipped scriber (**900258**), scriber clamp (**901385**)

## Dimension of scriber



## Optional Accessories

**905338:** SPC cable (40" / 1m)  
**905409:** SPC cable (80" / 2m)  
**953638:** Holding bar for test indicator (length: 50mm)  
**953639:** Holding bar for test indicator (length: 2")  
**902053:** Swivel clamp used with holding bar (metric)  
**900322:** Swivel clamp used with holding bar (inch)



Large smooth slider feed wheel



Large clamp lever



Comfortable grip base

# ABSOLUTE Digimatic Height Gage

## SERIES 570 — with ABSOLUTE Linear Encoder

## FEATURES

- Built in ABSOLUTE linear encoder  
 This encoder eliminates the necessity of setting the reference point at every power-on. It has improved reliability because no over-speed error will occur.
- Rigid column structure ensures high measuring accuracy.
- With large smooth slider feed wheel.
- Carbide-tipped scriber is provided.
- With SPC data output.

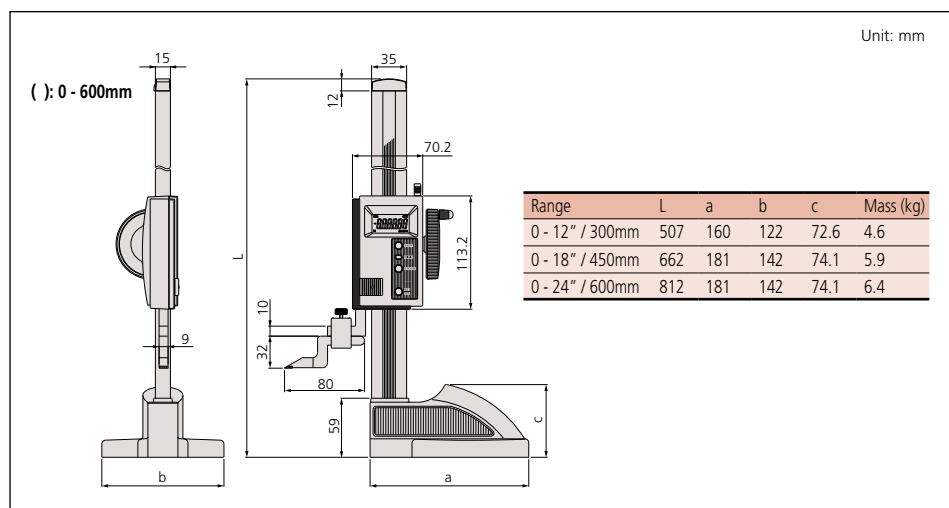


## SPECIFICATIONS

Metric			
Range	Order No.	Accuracy	Resolution
0 - 300mm	<b>570-302</b>	±0.03mm	0.01mm
0 - 600mm	<b>570-304</b>	±0.05mm	0.01mm

Inch/Metric			
Range	Order No.	Accuracy	Resolution
0 - 12" / 0 - 300mm	<b>570-312</b>	±.0015"	.0005" / 0.01mm
0 - 18" / 0 - 450mm	<b>570-313</b>	±.002"	.0005" / 0.01mm
0 - 24" / 0 - 600mm	<b>570-314</b>	±.002"	.0005" / 0.01mm

## DIMENSIONS AND MASS



# Vernier Height Gage

## SERIES 514 — Standard Height Gage with Adjustable Main Scale

### FEATURES

- Zero reference point can be adjusted.
- Stain chrome finished scales for glare-free reading.
- Extra-large base for rigidity.
- Optional magnifier for easier reading
- Carbide-tipped scriber is provided.



### SPECIFICATIONS

#### Metric

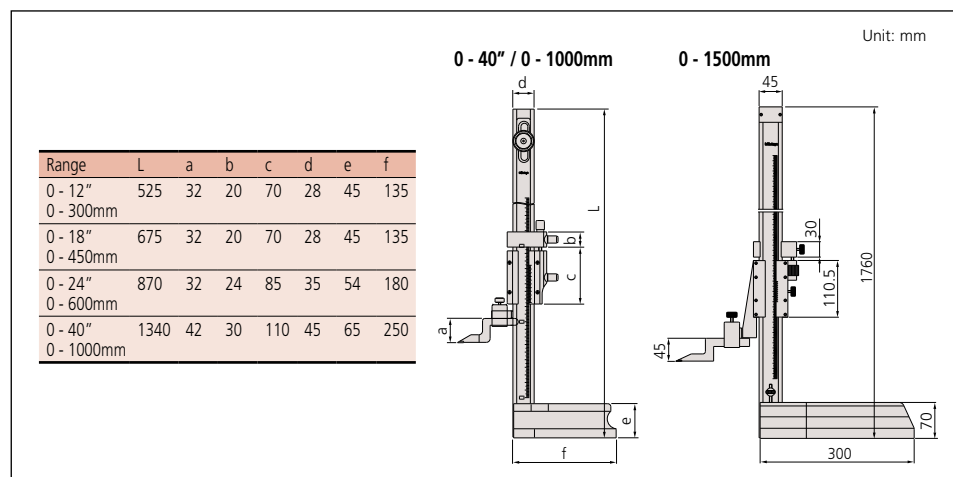
Range	Order No.	Accuracy	Graduation	Mass (kg)
0 - 300mm	<b>514-102</b>	±0.04mm	0.02mm	3.1
0 - 450mm	<b>514-104</b>	±0.05mm	0.02mm	3.4
0 - 600mm	<b>514-106</b>	±0.05mm	0.02mm	7.4
0 - 1000mm	<b>514-108</b>	±0.07mm	0.02mm	20.0
0 - 1500mm	<b>514-170</b>	±0.18mm	0.02mm	26.0

#### Inch/Metric

Inch model with inch/metric dual scale

Range	Order No.	Accuracy	Graduation	Mass (kg)
0 - 12" / 0 - 300mm	<b>514-103</b>	±.002"	.001" / 0.02mm	3.1
0 - 18" / 0 - 450mm	<b>514-105</b>	±.002"	.001" / 0.02mm	3.4
0 - 24" / 0 - 600mm	<b>514-107</b>	±.002"	.001" / 0.02mm	7.4
0 - 40" / 0 - 1000mm	<b>514-109</b>	±.003"	.001" / 0.02mm	20.0

### DIMENSIONS



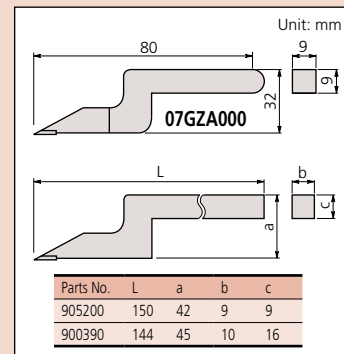
### Technical Data

Main scale adjustment: 15mm or 25mm  
Slider fine feed: 4mm, 6mm, 7mm or 20mm

### Standard Scriber Provided

Up to 600mm: Carbide-tipped scriber (**07GZA000**) and scriber clamp (**05GZA033**)  
0 - 1000mm: Carbide-tipped scriber (**905200**) and scriber clamp (**05GZA033**)  
0 - 1500mm: Carbide-tipped scriber (**900390**) and scriber clamp (**905008**)

### Dimension of scriber



### Optional Accessories

**07GZA003**: Magnifier for 300, 450mm, 600mm models  
**07GZA015**: Magnifier for 1000mm and 1500mm models  
**953638**: Holding bar for test indicator (length: 50mm)  
**902053**: Swivel clamp used with holding bar



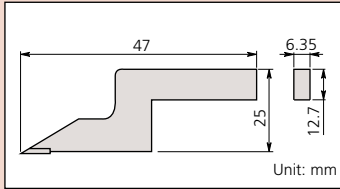
# Vernier Height Gage

## SERIES 506 — Light Weight Height Gage

### Standard Scriber Provided

Carbide-tipped scriber (900173) and scriber clamp (901338)

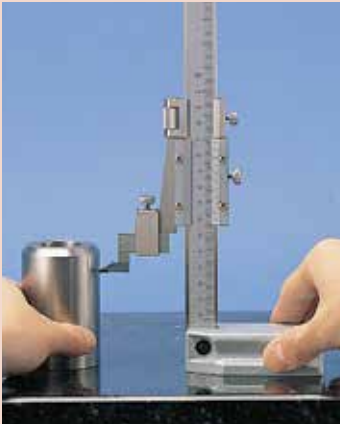
### Dimension of scriber



### Optional Accessories

953639: Holding bar for test indicator (length: 2" / 50mm)

900322: Swivel clamp used with holding bar



### FEATURES

- The Light Weight Height Gage is designed for scribing from a vertical base or for small parts.
- Stain chrome finished scales for glare-free reading.
- Beam and slider are made of stainless steel.
- Carbide-tipped scriber is provided.



506-207



506-208

### SPECIFICATIONS

#### Metric

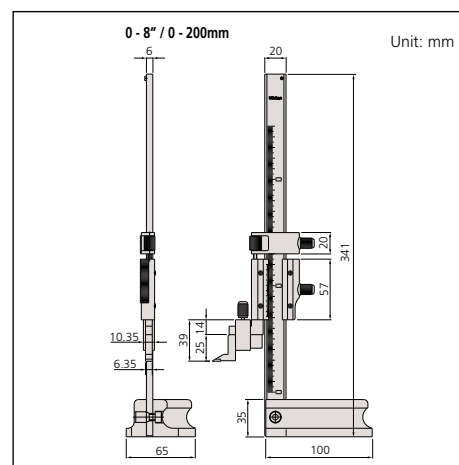
Range	Order No.	Accuracy	Graduation	Mass (kg)
0 - 200mm	506-207	±0.03mm	0.02mm	1.4

#### Inch/Metric

Inch model with inch/metric double scale

Range	Order No.	Accuracy	Graduation	Mass (kg)
0 - 8" / 0 - 200mm	506-208	±.001"	.001" / 0.02mm	1.4

### DIMENSIONS

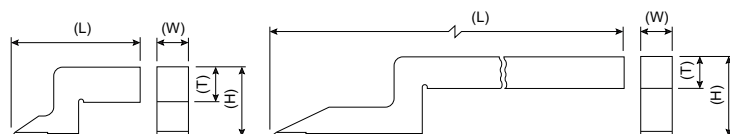


# Carbide-Tipped Scriber

## Optional Accessory for Height Gage

### FEATURES

- Use the appropriate scriber and clamp for each height gage.



### DIMENSIONS

#### Metric

Scriber Order No.	Clamp Order No.	Scriber Dimensions (mm)			
		Length	Height	Width	Thickness
900167	05GZA033	143	23	9	9
07GZA000	07GZA002	80	32	9	9
905200	05GZA033	150	42	9	9
900390	905008	144	45	10	16

#### Inch

Scriber Order No.	Clamp Order No.	Scriber Dimensions (inch)			
		Length	Height	Width	Thickness
900258	901385	2.4	1.2	.25	.5
905201	901385	5.9	1.77	.25	.5
900172	901385	5.3	1.0	.25	.5
900173	901338	1.9	1.0	.25	.5

# Optional Accessories

## Optional Accessories for Height Gage



### Center Master

- Allows quick measurement of center-to-center distance between holes.
- Measurable hole diameters: .040" to 1.50" /  $\varnothing 1 - \varnothing 38\text{mm}$ .

### SPECIFICATIONS

Order No.	Remarks
951144	With metric type holding bar (9x9mm cross-section)
900581	With Inch type holding bar (.25x.5" cross-section)



### Depth Gage Attachment

- Attached to a height gage to measure groove and hole depth.
- Minimum hole diameter: 5.5mm
- Maximum distance from the bottom of the holding bar to the contact point: 2.95" (inch type), 80mm (metric type)
- Uses standard dial indicator points

### SPECIFICATIONS

Order No.	Remarks
900878	With metric type holding bar (9x9mm cross-section)
900764	With Inch type holding bar (.25x.5" cross-section)



### Contact Sensor

- The contact sensor eliminates errors caused by jacking-up the height gage while taking measurements. When the scriber of a height gage touches a conductive workpiece, an indicator will light up to indicate that measurement can be taken, which will result in consistent height measurement.

### SPECIFICATIONS

Order No.	Remarks
900872	Battery (2pcs. SR44, required) is not included



# CERA Caliper Checker

## SERIES 515

### FEATURES

- The CERA Caliper Checker is designed to inspect vernier, dial and Digimatic calipers. It is comprised of permanently wrung, high-grade CERA gage blocks in a protective casting.
- The CERA Caliper Checker also stands perpendicular to a surface for height gage inspection.
- The zirconia based ceramic CERA measuring blocks are corrosion resistant and dimensionally stable.



515-555

### Technical Data

Block pitch accuracy:  $\pm 0.005\text{mm}$  for range up to 300mm  
 $\pm 0.002"$  for range up to 12"  
 $\pm 0.007\text{mm}$  for range up to 600mm  
 Parallelism of blocks:  
 $0.002\text{mm}$  for range up to 300mm  
 $0.004\text{mm}$  for range up to 600mm

### Optional Accessories

**602162:** Wooden case for 300mm model  
**602164:** Wooden case for 600mm model

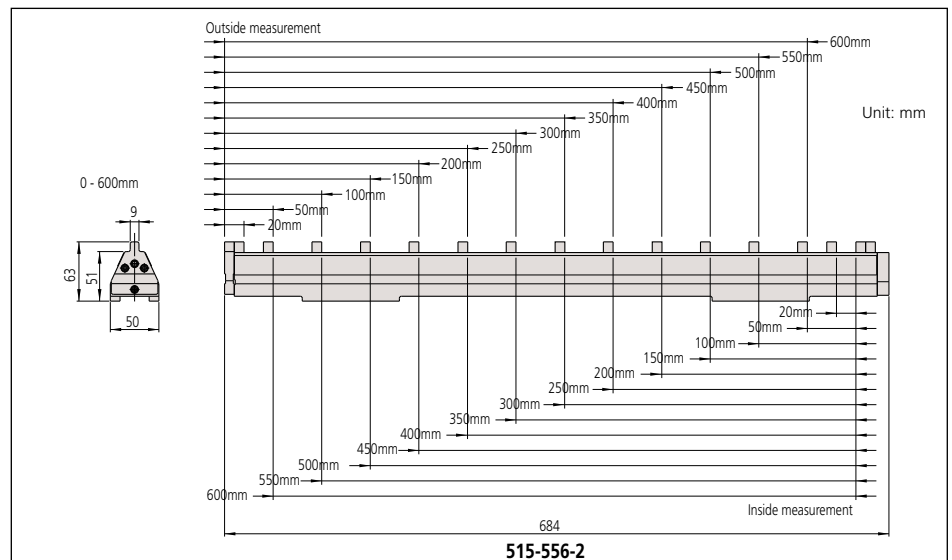
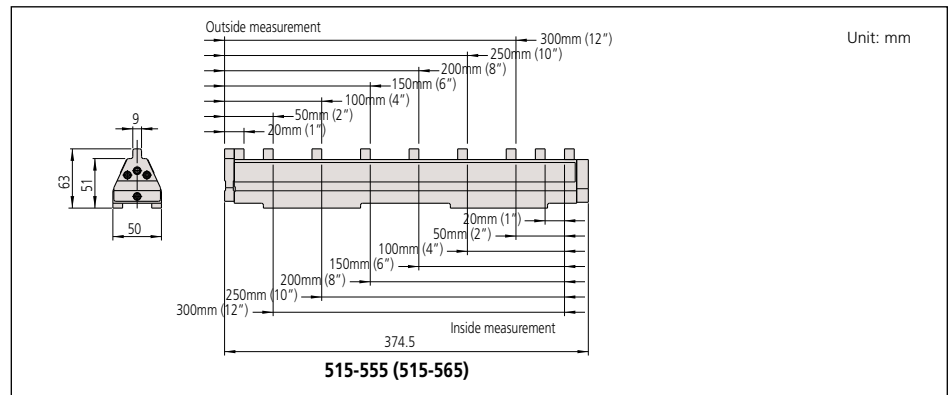
### SPECIFICATIONS

Metric			
Range	Order No.	Remarks (length to check)	Mass (kg)
0 - 300mm	<b>515-555</b>	Outside measurement: 20, 50, 100, 150, 200, 250, 300mm Inside measurement: 20, 50, 100, 150, 200, 250, 300mm	4.0
0 - 600mm	<b>515-556-2</b>	Outside, Inside measurement: 20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600mm	8.5

### Inch

Range	Order No.	Remarks (length to check)	Mass (kg)
0 - 12"	<b>515-565</b>	Outside measurement: 1", 2", 4", 6", 8", 10", 12" Inside measurement: 1", 2", 4", 6", 8", 10", 12"	4.0

### DIMENSIONS



Used for caliper



Used for height gage



# Linear Height LH-600E

## SERIES 518 — High Performance 2D Measurement System

### FEATURES

- Excellent accuracy of (1.1+0.6L/600)µm with 0.1µm/0.5µm resolution/repeatability.
- Perpendicularity (frontal) of 5µm and straightness of 4µm are guaranteed.
- Pneumatic full/semi-floating system allows adjustment of air-cushion height.
- Basic statistical functions are provided and, additionally, RS-232C / USB data output provides the option of evaluating measurement data externally with SPC software on a PC.
- One-key operation for running a semi-automatic measurement.
- Data entry from a Digimatic tool.

with power grip



518-351A-21

### SPECIFICATIONS

Inch/Metric		
Order No.		518-351A-21
Model		LH-600E
Measuring Range (stroke)		0-38" (24") / 0-972mm(600mm)
Resolution (selectable)		.000001" / .00001" / .0001" / .001" / 0.0001mm / 0.001mm / 0.01mm / 0.1mm
Accuracy at 20°C	Measuring accuracy	.000043 + (.000024 x L*/24)" / (1.1 + 0.6L**/600)µm
	Repeatability (2s)	Plane: .000015"/0.4µm Bore: .000035"/0.9µm
	Perpendicularity	.0002"/5µm
	Straightness	.0002"/4µm
Drive Method		Motor Drive (5, 10, 15, 20, 25, 30, 40mm/s=7 steps) / manual
Measuring Force		1N
Balancing Method		Counter balance
Main Unit Floating Method		Full/semi-floating with air
Air Source		Built-in air compressor
LCD		TFT LCD (color)
Language for Display		English/German/French/Spanish/Italian/Japanese
Number of Programs		50 (max.)
Number of Datas		60,000 (max.) 1 program 30,000 (Max.)
Power Supply		AC Adapter/Battery (Ni-MH)
Power Consumption		43VA
Operation Time		Approx. 5 hours
Standard Accessories		ø5 Eccentric probe (12AAF634)
		Probe diameter calibration block (12AAA715)
		Battery (12AAAF712)
		AC adapter (357651), Power Cable (02ZAA010)
		Clear Cover (223587)
		Conveying handle (510434)
Mass		24kg

L\*=Measuring length (inch) L\*\*=Measuring length (mm)



### Technical Data

Measuring range: 0 - 38" / 0 - 972mm  
 Slider stroke: 24" / 600mm  
 Resolution: .000001" / .00001" / .0001" / .001" or  
 (switchable) 0.0001 / 0.001 / 0.01 / 0.1mm /  
 0.0001 / 0.001 / 0.01 / 0.1mm  
 Accuracy at 20°C: Refer to the list of specifications.  
 Floating method: Full / semi-floating with built-in air  
 compressor  
 Display: TFT LCD (color)



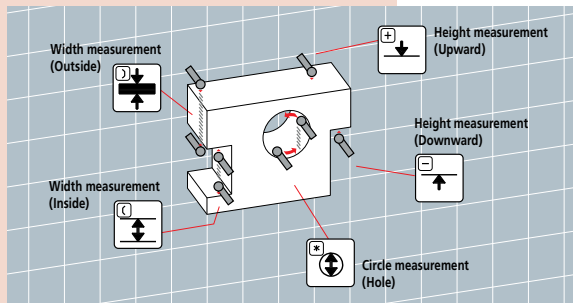
5.7" color LCD display



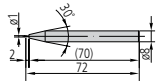
## Optional probes and calibration blocks

### Optional Accessories

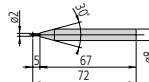
<b>12AAF712:</b>	Battery pack
<b>12AAF675:</b>	Large capacity battery pack
<b>12AAA797</b>	Thermal printer (120V)
<b>12AAA802</b>	Thermal printing paper (10pcs.)
<b>12AAA804</b>	Cable for page printer** (2m)
<b>12AAA807</b>	RS-232C cable (80" / 2m)
<b>12AAA808</b>	RS-232C cable (160" / 4m)



**12AAF666**  
ø1 ball probe



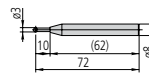
**957261**  
ø2 ball probe



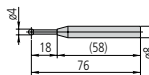
**12AAF667**  
ø2 ruby ball probe



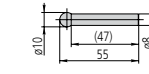
**957262**  
ø3 ball probe



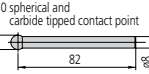
**957263**  
ø4 ball probe



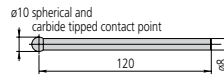
**12AAB552**  
ø10 ball probe, L=55



**12AAF668**  
ø10 ball probe, L=82



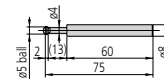
**12AAF669**  
ø10 ball probe, L=120



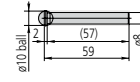
**932361** Mu-checker lever head holder  
CMM ball and disk hard probes are available.

**12AAA787** Block for calibrating probe diameter  
(applicable to taper probe)

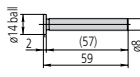
**12AAF670**  
ø5 disk probe



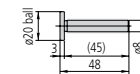
**12AAF671**  
ø10 disk probe



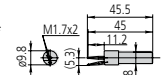
**957264**  
ø14 disk probe



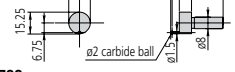
**957265**  
ø20 disk probe



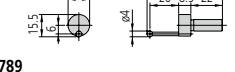
**12AAF672**  
ø1 ball offset probe\*  
\*test indicator stylus (103017)



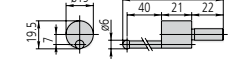
**12AAF673**  
ø2 ball offset probe



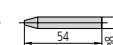
**12AAA788**  
ø4 ball offset probe



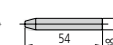
**12AAA789**  
ø6 ball offset probe



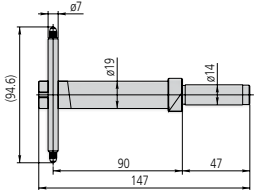
**226117**  
M2 CMM stylus adapter



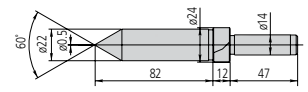
**226118**  
M3 CMM stylus adapter



**12AAC072** Depth probe

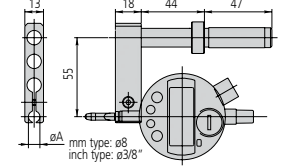


**12AAC073** ø20 taper probe

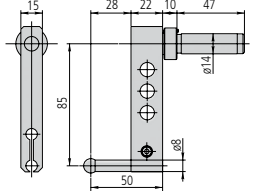


**12AAA792** Dial indicator (ø8 stem) holder

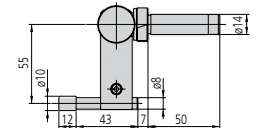
**12AAA837** Dial indicator (ø3/8" stem) holder



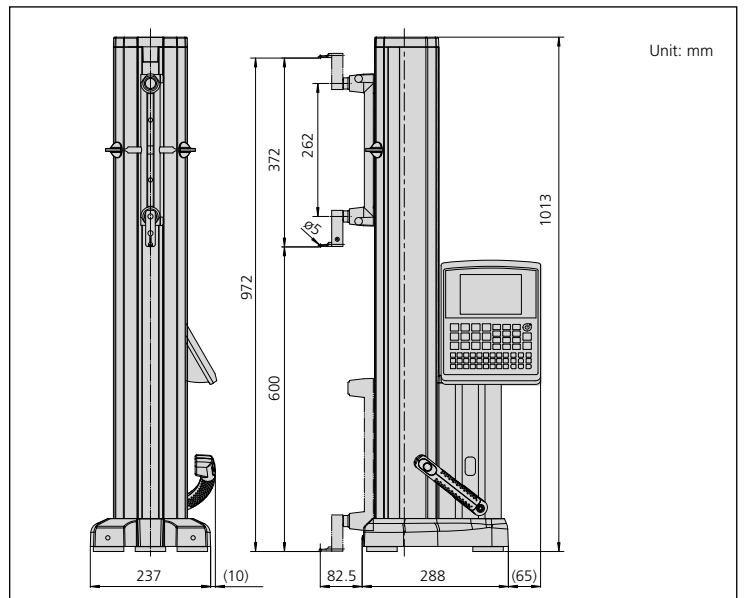
**12AAA793** Probe extension holder (85mm/3.3")



**12AAB136** ø10 cylindrical probe



## DIMENSIONS AND MASS



# QM-Height

## SERIES 518 — High Precision ABSOLUTE Digital Height Gauge

### FEATURES

- Newly developed high accuracy and high resolution ABSOLUTE linear encoder for position detection.
- Easy reference icon keys.
- Possible to measure inside/outside diameter via unique process (detect the circle apex and process by tracing measurement).
- Various types of optional probes are available.
- Large size LCD with back light.
- GO/±NG judgment is performed by setting the upper and lower tolerances. If a judgment result is out of tolerance, the display backlighting changes from green to red, so tolerance judgment can be made at a glance.
- Slider elevation knob (for travel) / wheel (for measurement).
- With SPC and USB output.



SPC

**ABSOLUTE®**  
Absolute System Patented by MITUTOYO

### Technical Data

Measuring range\*: 0 - 18.3" or 0 - 28.1"  
0 - 465mm or 0 - 715mm  
Slider stroke: 14" / 350mm or 24" / 600mm  
Resolution: .00005" / .0001" / .0002" / 0.001 / 0.005mm or 0.001 / 0.005mm  
Accuracy at 20°C: Refer to the list of specifications  
Guiding method: Roller bearing  
Drive method: Manual  
Length standard: ABSOLUTE electromagnetic induction type linear encoder  
Measuring force: 1.5±0.5N  
Display: LCD  
Power supply: AC adapter (06AEG180JA) 120V battery (LR6x4)  
Battery operation time: Refer to the list of specifications  
\* Maximum values are obtained with the probe at the highest position. Any change of the probe orientation requires the coordinate system be re-zeroed. With the probe in the highest position, minimum measurable height is 4.53"/115mm.

### SPECIFICATIONS

#### Inch/Metric

Order No.	64PKA094A	64PKA095A	64PKA129A	64PKA130A
Model	QMH-14"A	QMH-24"A	QMH-14"B	QMH-24"B
Range	0 - 14"/0-350mm	0 - 24"/0-600mm	0 - 14"/0-350mm	0 - 24"/0-600mm
Resolution	0.001 / 0.0005mm / .00005" / .0001"			
Accuracy	Accuracy*1 ±(2.4+2.1L/600)µm L = Measuring length (mm)			
at 20°C	Repeatability*1 2σ≤1.8µm			
Perpendicularity	7µm	12µm	7µm	12µm
Guiding method	Roller bearing			
Drive method	Manual Operation			
Scale type	Electromagnetic induction type ABSOLUTE linear encoder			
Measuring force	1.5±0.5(N)			
Data Output	Digimatic output/USB			
Pneumatic floating system	NA		Included (for movement only)	
Power supply	AC adapter battery / (LR6 x 4) Standard accessory / Nickel metal hydride battery (x4)			
Battery operation time	Approx. 300 hours (Not using pneumatic floating system)			
	Approx. 80 hours (Using pneumatic floating system regularly)			
Standard Accessories	Stepped probe (05H2A148) Probe diameter calibration block (12AAA715) LR6 Battery / AC Adapter (06AEG180JA) 120V			
Mass	55.16 lbs (25kg)	63.93 lbs (29kg)	57.32 lbs (26kg)	66.14 lbs (30kg)
Dimensions	41.85"x21.85x18.94" 1063(W)x555(D)x481(H)	51.02"x21.85x18.94" 1296(W)x555(D)x481(H)	41.85"x21.85x18.94" 1063(W)x555(D)x481(H)	51.02"x21.85x18.94" 1296(W)x555(D)x481(H)
Main Unit	518-231	518-233	518-235	518-237

\*1 Guaranteed when using the standard eccentric ø5 probe.

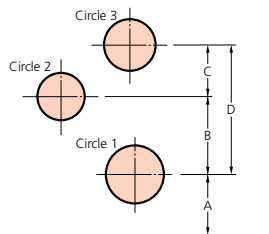


## Optional Accessories

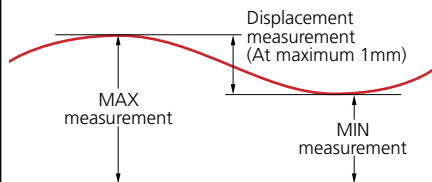
<b>12AAC072:</b>	Depth probe
<b>12AAA792:</b>	Dial indicator (ø8mm stem) holder
<b>12AAA837:</b>	Dial indicator (ø3/8" stem) holder
<b>12AAA793:</b>	Probe extension holder (3.3" / 85mm)
<b>12AAF667:</b>	ø2mm ruby ball probe
<b>957261:</b>	ø2mm ball probe
<b>957262:</b>	ø3mm ball probe
<b>957263:</b>	ø4mm ball probe
<b>05HAA394:</b>	ø5mm ball probe (for 05HZA148)
<b>12AAB552:</b>	ø10 mm ball probe, L=55mm
<b>12AAF670:</b>	ø5mm disk probe
<b>12AAF671:</b>	ø10mm disk probe
<b>957264:</b>	ø14mm disk probe
<b>957265:</b>	ø20mm disk probe
<b>12AAA788:</b>	ø4mm ball offset probe
<b>05HAA394:</b>	ø5mm ball offset probe
<b>12AAA789:</b>	ø6mm ball offset probe
<b>05HZA173:</b>	Scriber
<b>264-504-5A:</b>	DP-1VR
<b>936937:</b>	SPC cable (40" / 1m)
<b>965014:</b>	SPC cable (80" / 2m)

## Circle pitch measurement

The length A, B, C and D can be determined by measuring circles 1 to 3 once each, using the memory of measuring data together with the calculation function. (A maximum of nine circle measurement data can be saved.)

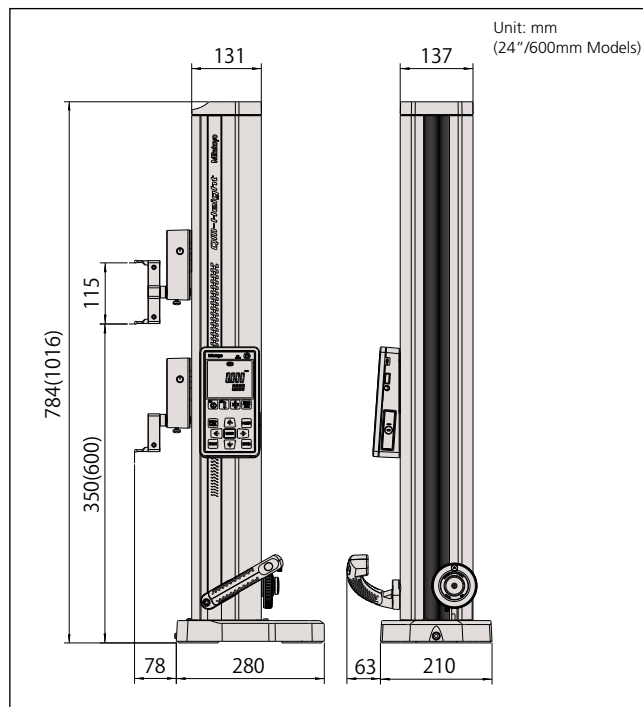


## Maximum/minimum and displacement measurement



Inside diameter measurement

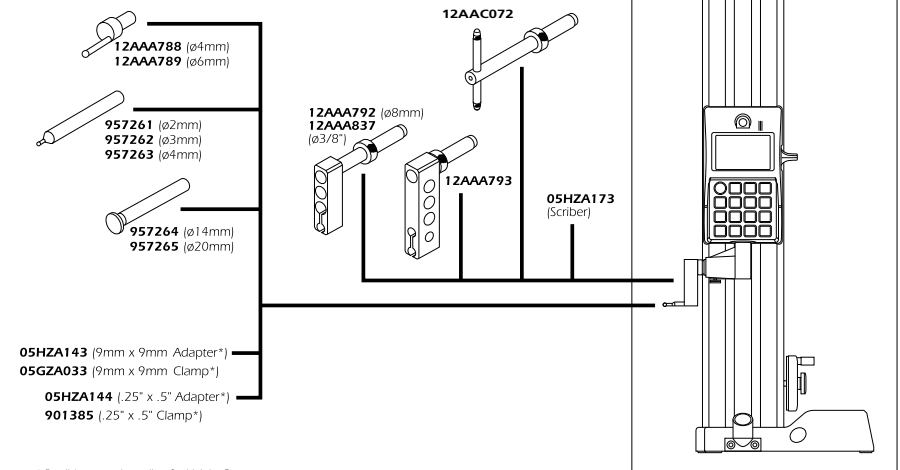
## DIMENSIONS



Digimatic mini processor DP-1VR



936937 (1m)  
965014 (2m)



\* Possible to use the scriber for Height Gage.

# Depth Micrometer

## SERIES 329, 129 — Interchangeable Rod Type

### FEATURES

- $\varnothing 4\text{mm}$  interchangeable rods, with lapped measuring end, provide a wide measuring range.
- The rod length can be adjusted in 1" or 25mm increments.
- With ratchet stop for constant force.
- With measuring rod clamp.
- With SPC output (Series 329).
- Supplied in fitted plastic case.



### SPECIFICATIONS

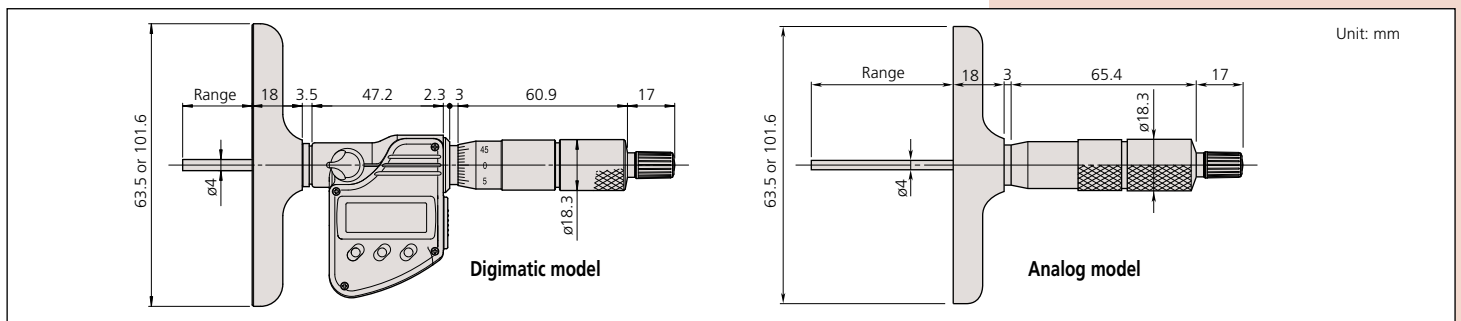
Metric — Digimatic model			
Range	Order No.	Base Size	Rod Qty.
0 - 150mm	<b>329-250-10</b>	101.6x16mm	6 rods
0 - 300mm	<b>329-251-10</b>	101.6x16mm	12 rods

Metric —			
Range	Order No.	Base Size	Rod Qty.
0 - 50mm	<b>129-109</b>	63.5x16mm	2 rods
0 - 100mm	<b>129-111</b>	63.5x16mm	4 rods
0 - 100mm	<b>129-115</b>	101.6x16mm	4 rods
0 - 150mm	<b>129-112</b>	63.5x16mm	6 rods
0 - 150mm	<b>129-116</b>	101.6x16mm	6 rods

Inch/Metric — Digimatic model			
Range	Order No.	Base Size	Rod Qty.
0 - 6" / 0 - 152.4mm	<b>329-350-10</b>	4"x.63"	6 rods
0 - 12" / 0 - 304.8mm	<b>329-351-10</b>	4"x.63"	12 rods

Inch —			
Range	Order No.	Base Size	Rod Qty.
0 - 4"	<b>129-127</b>	2.5"x.63"	4 rods
0 - 4"	<b>129-131</b>	4"x.63"	4 rods
0 - 6"	<b>129-128</b>	2.5"x.63"	6 rods
0 - 6"	<b>129-132</b>	4"x.63"	6 rods
0 - 12"	<b>129-149</b>	2.5"x.63"	12 rods
0 - 12"	<b>129-150</b>	4"x.63"	12 rods

### DIMENSIONS



### Technical Data

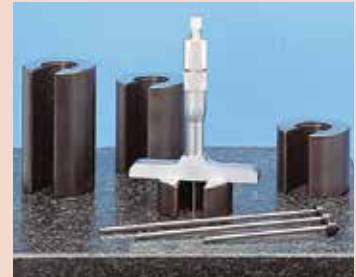
Accuracy:  $\pm 0.0012'' / \pm 3\mu\text{m}$  for micrometer head feed  
 $\pm [0.0008 + (0.0004 \times R/3)]''$   
 $R = \text{max. measuring length (inch)}$   
 $\pm (2 + L/75)\mu\text{m}$  for interchangeable rod,  
 $L = \text{Max. measuring length (mm)}$   
Resolution\*:  $.00005'' / 0.001\text{mm}$  or  $0.001\text{mm}$   
Graduation\*\*:  $.001''$  or  $0.01\text{mm}$   
Flatness of reference face:  $.00005''$  for  $2.5'' / 1.3\mu\text{m}$  for  $63.5\text{mm}$  width base,  $.00008''$  for  $4'' / 2\mu\text{m}$  for  $101.6\text{mm}$  width base  
Flatness of measuring rod face:  $0.3\mu\text{m}$   
Parallelism between reference face and measuring rod face:  
 $[.00016 + (0.0004 \times R/2)]''$   
 $R = \text{max. measuring range (inch)}$   
 $(4 + L/50)\mu\text{m}$ ,  $L = \text{Max. measuring length (mm)}$   
Measuring rod diameter:  $.157'' / 4\text{mm}$   
Display\*: LCD  
Battery\*: SR44 (1 pc.), **938882**  
Battery life\*: Approx. 1.2 years under normal use  
\*Digital models \*\*Analog models

### Function of Digimatic Model

Origin-set, Zero-setting, Data hold, Data output, inch/mm conversion (on inch/metric models only)  
Alarm: Low voltage, Counting value composition error  
Function Lock  
2 Presets

### Optional Accessories for Digimatic Model

**05CZA662**: SPC cable with data switch (40" / 1m)  
**05CZA663**: SPC cable with data switch (80" / 2m)



### Technical Data

Accuracy:  $\pm 3\mu\text{m}$  for micrometer head feed  
 Graduation: .001" or 0.01mm  
 Flatness of reference face:  $1.3\mu\text{m}$  for 63.5mm width base,  
 $2\mu\text{m}$  for 101.6mm width base  
 Flatness of measuring rod face:  $0.3\mu\text{m}$   
 Parallelism between reference face and measuring rod face:  
 $(4+L/50)\mu\text{m}$ , L=Max. measuring length (mm)  
 Measuring rod diameter: 4mm

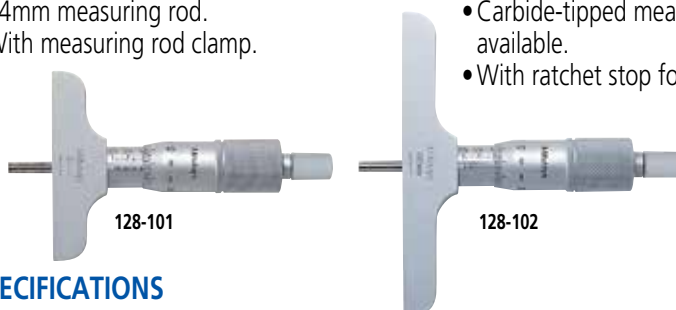


# Depth Micrometer

## SERIES 128

### FEATURES

- $\varnothing 4\text{mm}$  measuring rod.
- With measuring rod clamp.



- Carbide-tipped measuring rod model is available.
- With ratchet stop for constant force.

### SPECIFICATIONS

Metric		
Range	Order No.	Remarks (base)
0 - 25mm	<b>128-101</b>	63.5x16mm
0 - 25mm	<b>128-103*</b>	63.5x16mm
0 - 25mm	<b>128-102</b>	101.6x16mm
0 - 25mm	<b>128-104*</b>	101.6x16mm

\*with carbide-tipped measuring rod

Inch		
Range	Order No.	Remarks (base)
0 - 1"	<b>128-105</b>	2.5"x.63"
0 - 1"	<b>128-106</b>	4"x.63"

# Depth Micro Checker

## SERIES 515

### FEATURES

- The Depth Micro Checker is designed to efficiently check the zero point of a depth micrometer.

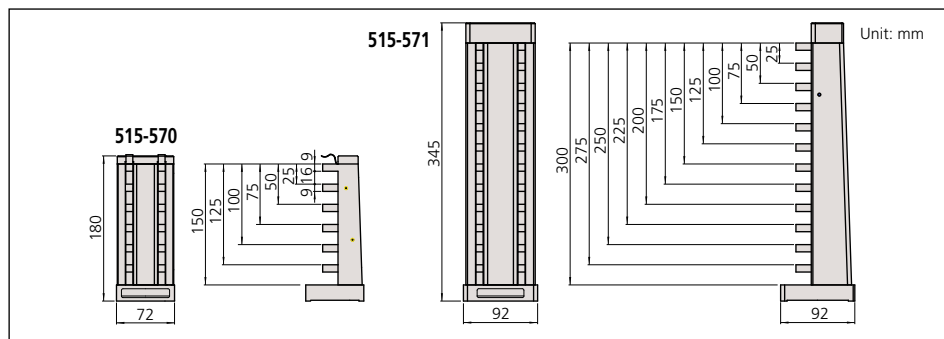


### SPECIFICATIONS

Metric		
Range	Order No.	Remarks (length to check)
0 - 150mm	<b>515-570</b>	25, 50, 75, 100, 125, 150mm
0 - 300mm	<b>515-571</b>	25, 50, 75, 100, 125, 150, 175, 200, 225, 250, 275, 300mm

Inch		
Range	Order No.	Remarks (length to check)
0 - 6"	<b>515-575</b>	1", 2", 3", 4", 5", 6"

### DIMENSIONS



### Technical Data

Block pitch accuracy:  $\pm(1+L/150)\mu\text{m}$ ,  
 L=Length to check (mm)  
 Anvil block accuracy:  $\pm 0.5\mu\text{m}$

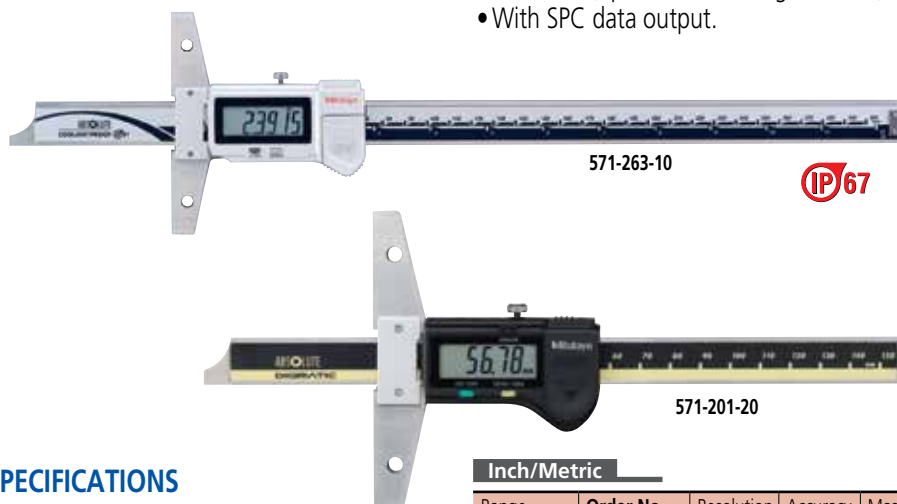


# ABSOLUTE Digimatic Depth Gage

## SERIES 571

### FEATURES

- ABSOLUTE Digimatic Depth Gage can keep track of the origin point once set for the entire life of the battery.
- Base and measuring faces are hardened and micro-lapped.
- Optional wider extension base are available. (up to 450mm range models)
- With SPC data output.



### SPECIFICATIONS

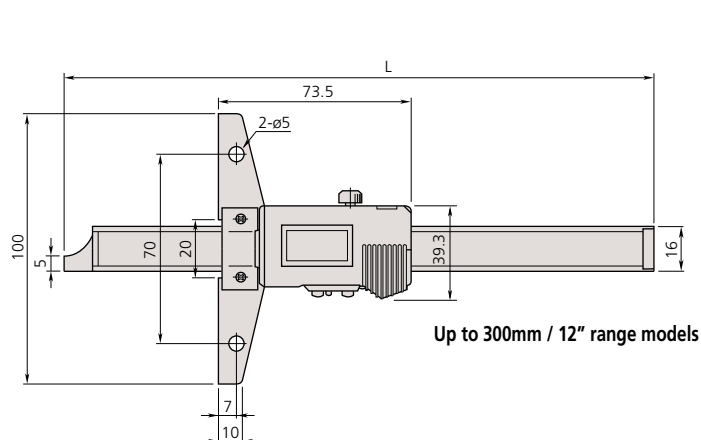
Metric				
Range	Order No.	Resolution	Accuracy	Mass(g)
0 - 150mm	571-201-20	0.01mm	±0.02mm	192
0 - 150mm	571-251-10*	0.01mm	±0.02mm	199
0 - 200mm	571-202-20	0.01mm	±0.02mm	212
0 - 200mm	571-252-10*	0.01mm	±0.02mm	219
0 - 300mm	571-203-20	0.01mm	±0.03mm	310
0 - 300mm	571-253-10*	0.01mm	±0.03mm	320
0 - 450mm	571-204-10	0.01mm	±0.05mm	1270
0 - 600mm	571-205-10	0.01mm	±0.05mm	1400
0 - 750mm	571-206-10	0.01mm	±0.06mm	1530
0 - 1000mm	571-207-10	0.01mm	±0.07mm	1760

\*IP67 Coolant Proof model

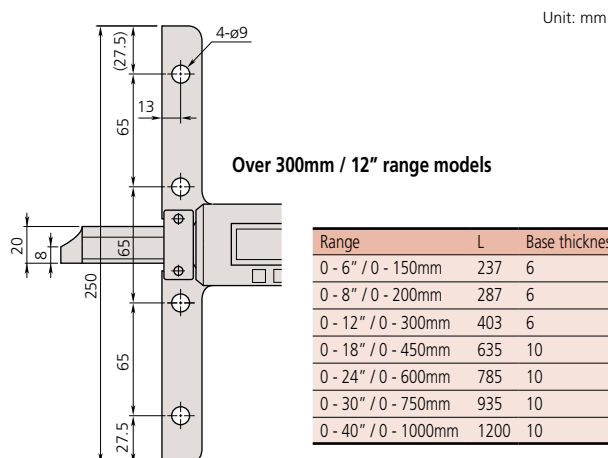
Inch/Metric				
Range	Order No.	Resolution	Accuracy	Mass(g)
0 - 6" / 0 - 150mm	571-211-20	.0005" / 0.01mm	±.001"	192
0 - 6" / 0 - 150mm	571-261-10*	.0005" / 0.01mm	±.001"	199
0 - 8" / 0 - 200mm	571-212-20	.0005" / 0.01mm	±.001"	212
0 - 8" / 0 - 200mm	571-262-10*	.0005" / 0.01mm	±.001"	219
0 - 12" / 0 - 300mm	571-213-10	.0005" / 0.01mm	±.0015"	310
0 - 12" / 0 - 300mm	571-263-10*	.0005" / 0.01mm	±.0015"	320
0 - 18" / 0 - 450mm	571-214-10	.0005" / 0.01mm	±.002"	1270
0 - 24" / 0 - 600mm	571-215-10	.0005" / 0.01mm	±.002"	1400
0 - 30" / 0 - 750mm	571-216-10	.0005" / 0.01mm	±.0025	1530
0 - 40" / 0 - 1000mm	571-217-10	.0005" / 0.01mm	±.0025	1760

\*IP67 Coolant Proof model

### DIMENSIONS



Up to 300mm / 12" range models



Over 300mm / 12" range models

Range	L	Base thickness
0 - 6" / 0 - 150mm	237	6
0 - 8" / 0 - 200mm	287	6
0 - 12" / 0 - 300mm	403	6
0 - 18" / 0 - 450mm	635	10
0 - 24" / 0 - 600mm	785	10
0 - 30" / 0 - 750mm	935	10
0 - 40" / 0 - 1000mm	1200	10

SPC



IP67

**ABSOLUTE®**  
Absolute System Patented by MTUTOTO

### Technical Data

Resolution: .0005" / 0.01mm or 0.01mm  
 Repeatability: 0.01mm  
 Display: LCD  
 Length standard: ABSOLUTE electrostatic capacitance (electromagnetic induction)\* type linear encoder  
 Max. response speed: Unlimited  
 Battery: SR44 (1 pc.), **938882**  
 Battery life: Approx. 20,000 hours (3 years)\* under normal use  
 Dust/Water protection level: IP67\*  
 \*Coolant Proof models

### Function

Origin-set, Zero-setting, Automatic power on/off, Data output, inch/mm conversion (on inch/metric models only)  
 Alarm: Low voltage, Counting value composition error

### Optional Accessories

- 959143:** Data hold unit
- 959149:** SPC cable with data switch (40" / 1m)
- 959150:** SPC cable with data switch (80" / 2m)
- 05CZA624:** SPC cable with data switch (40" / 1m)\*
- 05CZA625:** SPC cable with data switch (80" / 2m)\*
- Extension base (see page D-53.)

\*For IP67 models



Measurement data output function is available with a water-resistant SPC cable.



# Vernier Depth Gage

## SERIES 527

### FEATURES

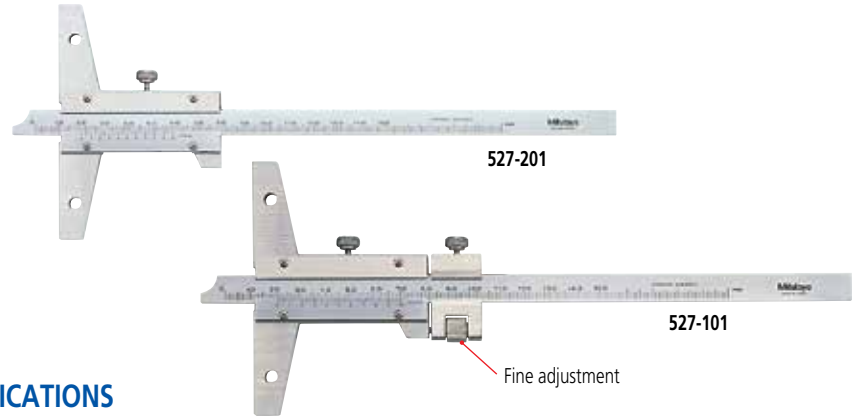
- Made of hardened stainless steel.
- Base and measuring faces are hardened and micro-lapped.
- Optional wider extension base are available. (up to 450mm range models)

### Technical Data

Graduation: .001" or 0.05mm, 0.02mm

### Optional Accessories

—: Extension base (see page D-55.)



### SPECIFICATIONS

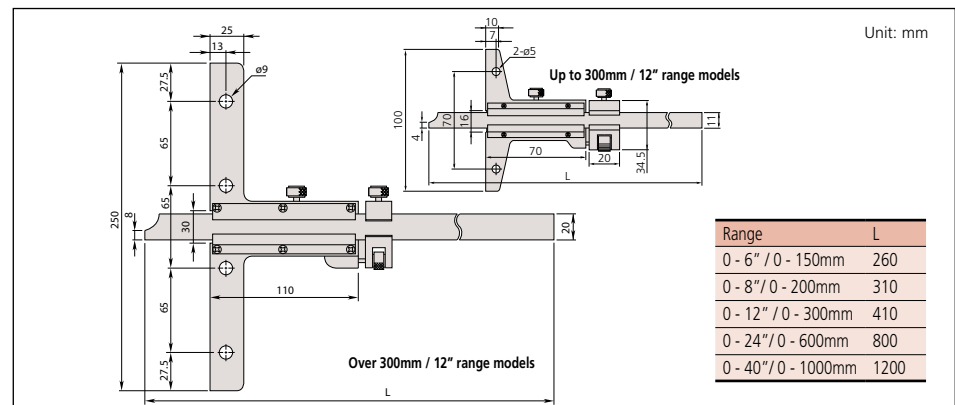
#### Metric

Range	Order No.	Vernier reading	Accuracy	Mass (g)	Remarks
0 - 150mm	<b>527-201</b>	0.05mm	±0.05mm	240	—
0 - 150mm	<b>527-121</b>	0.02mm	±0.03mm	215	—
0 - 150mm	<b>527-101</b>	0.02mm	±0.03mm	280	with fine adjustment
0 - 200mm	<b>527-202</b>	0.05mm	±0.05mm	260	—
0 - 200mm	<b>527-122</b>	0.02mm	±0.03mm	230	—
0 - 200mm	<b>527-102</b>	0.02mm	±0.03mm	300	with fine adjustment
0 - 300mm	<b>527-203</b>	0.05mm	±0.08mm	300	—
0 - 300mm	<b>527-123</b>	0.02mm	±0.04mm	265	—
0 - 300mm	<b>527-103</b>	0.02mm	±0.04mm	350	with fine adjustment
0 - 600mm	<b>527-204</b>	0.05mm	±0.10mm	1511	—
0 - 600mm	<b>527-104</b>	0.02mm	±0.05mm	1511	with fine adjustment
0 - 1000mm	<b>527-205</b>	0.05mm	±0.15mm	1880	—
0 - 1000mm	<b>527-105</b>	0.02mm	±0.07mm	1880	with fine adjustment

#### Inch

Range	Order No.	Vernier reading	Accuracy	Mass (g)	Remarks
0 - 6"	<b>527-111</b>	.001"	±.001"	280	with fine adjustment
0 - 8"	<b>527-112</b>	.001"	±.001"	300	with fine adjustment
0 - 12"	<b>527-113</b>	.001"	±.0015"	350	with fine adjustment
0 - 24"	<b>527-114</b>	.001"	±.002"	1511	with fine adjustment
0 - 40"	<b>527-115</b>	.001"	±.003"	1880	with fine adjustment

### DIMENSIONS



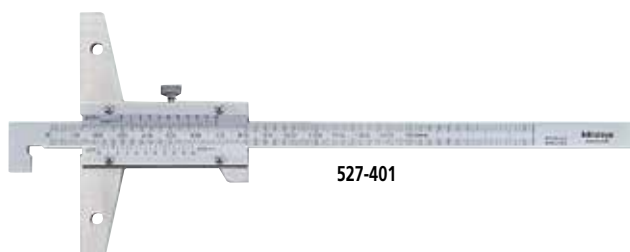
Range	L
0 - 6" / 0 - 150mm	260
0 - 8" / 0 - 200mm	310
0 - 12" / 0 - 300mm	410
0 - 24" / 0 - 600mm	800
0 - 40" / 0 - 1000mm	1200

# Vernier Depth Gage

## SERIES 527 — Hook End Type

### FEATURES

- The end of the main scale is hook-shaped to allow depth and thickness measurements of a projected portion or lip in a hole, in addition to standard depth measurement.
- With fine adjustment models are available.
- Optional wider extension base are available.



527-401

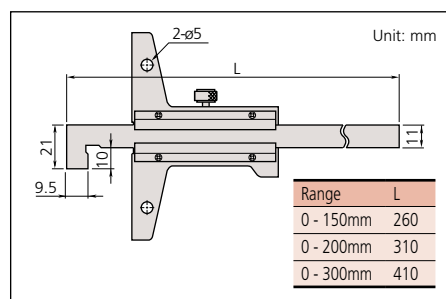
### SPECIFICATIONS

Metric				
Range	Order No.	Vernier reading	Accuracy	Mass (g)
0 - 150mm	527-401	0.05mm	±0.05mm	240
0 - 200mm	527-402	0.05mm	±0.05mm	240
0 - 300mm	527-403	0.05mm	±0.08mm	270

### Metric with fine adjustment

Range	Order No.	Vernier reading	Accuracy	Mass (g)
0 - 150mm	527-411	0.02mm	±0.03mm	280
0 - 200mm	527-412	0.02mm	±0.03mm	300
0 - 300mm	527-413	0.02mm	±0.04mm	350

### DIMENSIONS



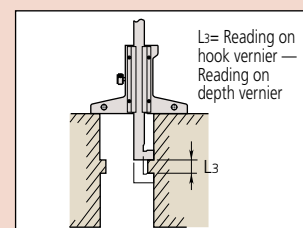
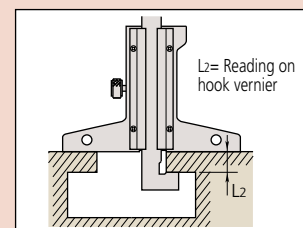
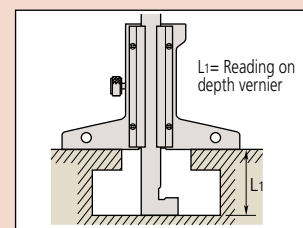
Range	L
0 - 150mm	260
0 - 200mm	310
0 - 300mm	410

### Technical Data

Graduation: 0.05mm or 0.02mm  
Base size: 100x6.5mm (WxT)

### Optional Accessory

—: Extension base (see page D-55.)



# ABSOLUTE Digimatic Depth Gage

## SERIES 571 — Hook End Type

### FEATURES

- ABSOLUTE Digimatic Depth Gage can keep track of the origin point once set for the entire life of the battery.
- Base and measuring faces are hardened and micro-lapped.
- Optional wider extension base are available.
- With SPC data output.



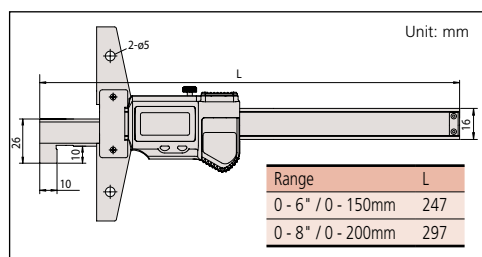
571-264-10



### SPECIFICATIONS

Inch/Metric				
Range	Order No.	Resolution	Accuracy	Mass (g)
0 - 6" / 0 - 150mm	571-264-10	.0005" / 0.01mm	±.0015"	578
0 - 8" / 0 - 200mm	571-265-10	.0005" / 0.01mm	±.0015"	598

### DIMENSIONS



Range	L
0 - 6" / 0 - 150mm	247
0 - 8" / 0 - 200mm	297



### Technical Data

Resolution: .0005"/0.01mm  
Repeatability: .0005"/0.01mm  
Display: LCD  
Length standard: ABSOLUTE electrostatic capacitance (electromagnetic induction)\* type linear encoder  
Max. response speed: Unlimited  
Battery: SR44 (1 pc.), 938882  
Battery life: Approx. 20,000 hours (3 years)\* under normal use  
Dust/Water protection level: IP67

### Function

Origin-set, Zero-setting, Automatic power on/off, Data output, inch/mm conversion (on inch/metric models only)  
Alarm: Low voltage, Counting value composition error

### Optional Accessories

05CZA624: SPC cable with data switch (40" / 1m)\*

05CZA625: SPC cable with data switch (80" / 2m)\*

—: Extension base (see page D-55.)

\*For IP67 models



# ABSOLUTE Digimatic/Dial Depth Gage

**SERIES 547, 7**

## FEATURES

- ABSOLUTE Digimatic Depth Gage can keep track of the origin point once set for the entire life of the battery. (Series 547)
- Wide probing range is available with the supplied extension rod.
- Bottom surface of the base is hardened, ground and lapped for highest degree of flatness.
- Designed with a back plunger type dial indicator for upward facing readings. (**7231, 7237, 7238**)
- With SPC data output. (Series 547)



## SPECIFICATIONS

### Metric Digimatic model

Range	Order No.	Resolution	Stroke	Accuracy	Extension rod	Base (WxT)	Flatness
0 - 200mm	<b>547-211</b>	0.01mm	12mm	±0.02mm	5 pcs. (10, 20, 30, 30, 100mm)	63.5x16mm	5μm
0 - 200mm	<b>547-212</b>	0.01mm	12mm	±0.02mm	5 pcs. (10, 20, 30, 30, 100mm)	101.6x16mm	5μm
0 - 200mm	<b>547-251</b>	0.001mm	12mm	±0.005mm	5 pcs. (10, 20, 30, 30, 100mm)	63.5x16mm	2μm
0 - 200mm	<b>547-252</b>	0.001mm	12mm	±0.005mm	5 pcs. (10, 20, 30, 30, 100mm)	101.6x16mm	2μm

0.01mm graduation 0.001mm graduation

### Inch/Metric Digimatic model

Range	Order No.	Resolution	Stroke	Accuracy	Extension rod	Base (WxT)	Flatness
0 - 8" / 0-200mm	<b>547-217S</b>	.0005" / 0.01mm	.5"	±.001"	4 pcs. (.5", 1", 2", 4")	2.5"x.63"	.0002"
0 - 8" / 0-200mm	<b>547-218S</b>	.0005" / 0.01mm	.5"	±.001"	4 pcs. (.5", 1", 2", 4")	4"x.63"	.0002"
0 - 8" / 0-200mm	<b>547-257S</b>	.00005" / 0.001mm	.5"	±.0003"	4 pcs. (.5", 1", 2", 4")	2.5"x.63"	.00008"
0 - 8" / 0-200mm	<b>547-258S</b>	.00005" / 0.001mm	.5"	±.0003"	4 pcs. (.5", 1", 2", 4")	4"x.63"	.00008"

.005"/0.01mm graduation .00005"/0.001mm graduation

### Metric Dial Type

Range	Order No.	Graduation	Stroke	Accuracy	Extension rod	Base (WxT)	Flatness
0 - 10mm	<b>7210*</b>	0.01mm	10mm	±0.015mm	—	40x16mm	5μm
0 - 200mm	<b>7211</b>	0.01mm	10mm	±0.015mm	5 pcs. (10, 20, 30, 30, 100mm)	63.5x16mm	5μm
0 - 200mm	<b>7212</b>	0.01mm	10mm	±0.015mm	5 pcs. (10, 20, 30, 30, 100mm)	101.6x16mm	5μm
0 - 210mm	<b>7213</b>	0.01mm	30mm	±0.03mm	3 pcs. (30, 60, 90mm)	63.5x16mm	5μm
0 - 210mm	<b>7214</b>	0.01mm	30mm	±0.03mm	3 pcs. (30, 60, 90mm)	101.6x16mm	5μm
0 - 200mm	<b>7220</b>	0.01mm	10mm	±0.015mm	5 pcs. (10, 20, 30, 30, 100mm)	100x18mm	5μm
0 - 200mm	<b>7221</b>	0.01mm	10mm	±0.015mm	5 pcs. (10, 20, 30, 30, 100mm)	150x18mm	5μm
0 - 10mm	<b>7222*</b>	0.01mm	10mm	±0.015mm	5 pcs. (10, 20, 30, 30, 100mm)	ø16mm	5μm
0 - 10mm	<b>7223</b>	0.01mm	10mm	±0.015mm	5 pcs. (10, 20, 30, 30, 100mm)	ø25mm	5μm
0 - 10mm	<b>7224</b>	0.01mm	10mm	±0.015mm	5 pcs. (10, 20, 30, 30, 100mm)	ø40mm	5μm
0 - 200mm	<b>7231</b>	0.01mm	5mm	±0.015mm	5 pcs. (10, 20, 30, 30, 100mm)	63.5x16mm	5μm

\*with needle probe

### Inch Dial Type

Range	Order No.	Graduation	Stroke	Accuracy	Extension rod	Base (WxT)	Flatness
0 - 8"	<b>7217S</b>	.001"	1"	±.002"	4 pcs. (.5", 1", 2", 4")	2.5"x.63"	.0002"
0 - 8"	<b>7218S</b>	.001"	1"	±.002"	4 pcs. (.5", 1", 2", 4")	4"x.63"	.0002"
0 - 8"	<b>7237</b>	.001"	.2"	±.002"	4 pcs. (.5", 1", 2", 4")	2.5"x.63"	.0002"
0 - 8"	<b>7238</b>	.001"	.2"	±.002"	4 pcs. (.5", 1", 2", 4")	4"x.63"	.0002"



## Technical Data

Accuracy: Refer to the list of specifications.  
 Resolution\*: .0005"/0.01mm or 0.001mm, 0.01mm, .00005"/0.001mm  
 Dial reading\*\*: .001" or 0.01mm  
 Flatness of base face: 5μm  
 Contact point: Carbide-tipped ball point or needle point (**7210, 7222**)  
 Measuring force: 1.4N, 1.5N (digital model), 2.5N (**7213, 7214, 7217S, 7218S**)  
 Display\*: LCD  
 Battery\*: SR44 (1 pc.), **938882**  
 Battery life\*: Approx. 3.5 years under normal use  
 \*Digital models \*\*Dial models

## Technical Data of Dial Mode

Accuracy: Refer to the list of specifications.  
 Dial reading: .001" or 0.01mm  
 Flatness of base face: 5μm or 2μm  
 Contact point: Carbide-tipped ball point (needle point: **7210, 7222**)  
 Measuring force: 1.4N (2.5N: **7213, 7214, 7217, 7218**)

## Function of Digimatic Model

Origin-set, Zero-setting, Data hold, Data output, inch/mm conversion (on inch/metric models only)  
 Alarm: Low voltage, Counting value composition error

## Optional Accessories for Digimatic Model

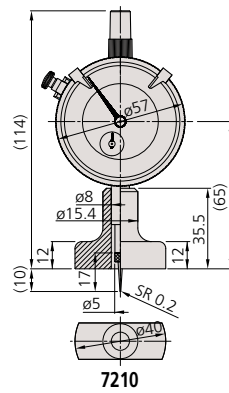
**905338**: SPC cable (40" / 1m)  
**905409**: SPC cable (80" / 2m)  
**139167**: .5" Extension Rod  
**301655**: 1" Extension Rod  
**301657**: 2" Extension Rod  
**301659**: 4" Extension Rod  
**303611**: 10mm Extension Rod  
**303612**: 20mm Extension Rod  
**303613**: 30mm Extension Rod  
**303614**: 100mm Extension Rod

## Base Only (3/8" dia. hole)

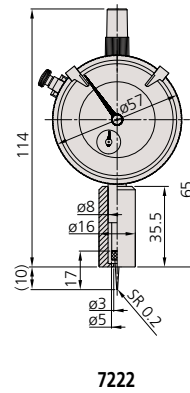
Part No.	length	remark
<b>902164</b> :	2.5"	<b>7217S, 7237, 547-217S, 547-257S</b>
<b>902165</b> :	4"	<b>7218S, 7238, 547-218S, 547-258S</b>

## DIMENSIONS

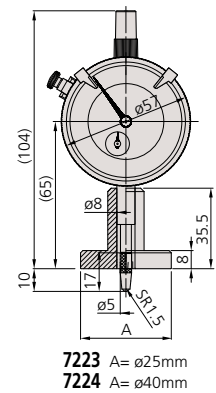
Unit: mm



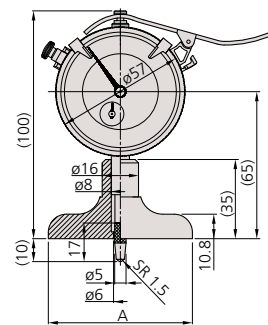
7210



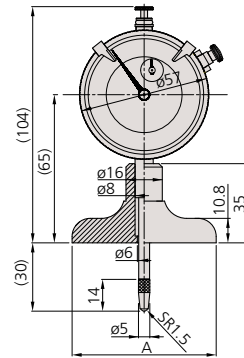
7222



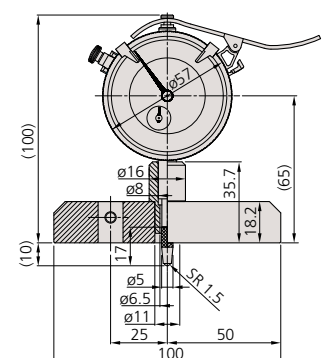
7223 A=  $\phi 25$ mm  
7224 A=  $\phi 40$ mm



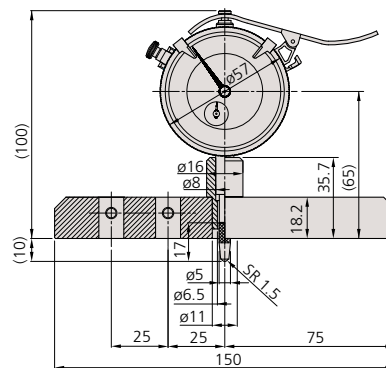
7211 A= 63.5mm  
7212 A= 101.6mm



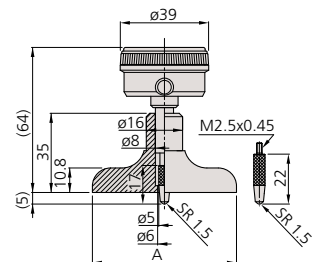
7213, 7217S A= 63.5mm  
7214, 7218S A= 101.6mm



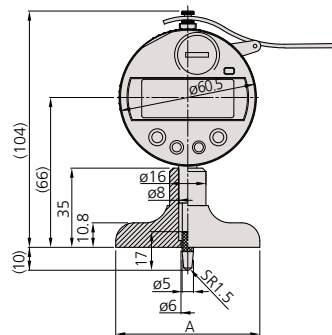
7220



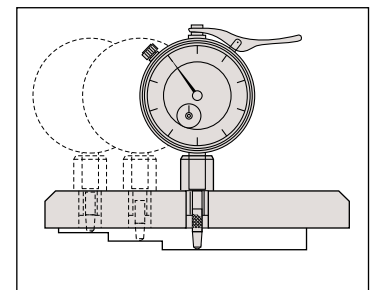
7221



7237, 7231 A=63.5mm  
7238 A=101.6mm



547-211, 547-251, 547-217S, 547-257S A= 63.5mm  
547-212, 547-252, 547-218S, 547-258S A= 101.6mm



# Tire Tread Depth Gage

SERIES 571

## FEATURES

- ABSOLUTE Digimatic Tread Depth Gage can keep track of the origin point once set for the entire life of the battery.
- Specially designed to measure tire tread depth.
- With SPC data output.



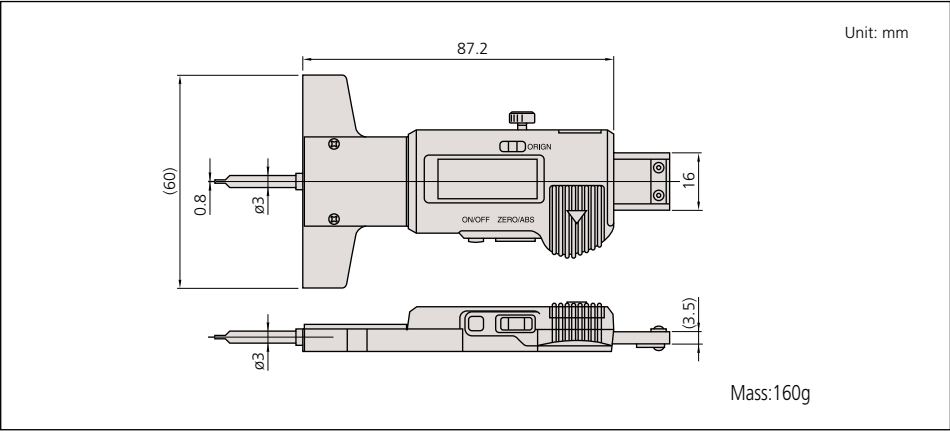
571-100MOT-10

## SPECIFICATIONS

Metric			
Range	Order No.	Resolution	Accuracy
0 - 25mm	571-100MOT-10	0.01mm	±0.02mm

Inch/Metric			
Range	Order No.	Resolution	Accuracy
0 - 1" / 0 - 25.4mm	571-200MOT-10	.0005" / 0.01mm	±.0005"

## DIMENSIONS AND MASS



**ABSOLUTE**

Absolute System Patented by MITUTOYO

## Technical Data

Accuracy: Refer to the list of specifications.  
Resolution: .0005"/0.01mm or 0.01mm  
Display: LCD  
Battery: SR44 (1 pc.), 938882  
Battery life: Approx. 2000 hours

## Function

Origin-set, Zero-setting, Power ON/OFF,  
inch/mm conversion (on inch/metric models only)  
Alarm: Low voltage, Counting value composition error

## Optional Accessories

959143: Data hold unit  
959149: SPC cable with data switch (40" / 1m)  
959150: SPC cable with data switch (80" / 2m)

