

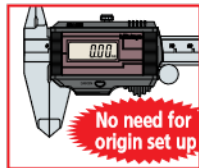
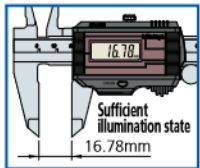
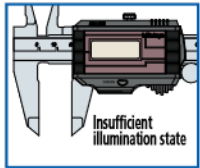
# Super Caliper–Solar Powered

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



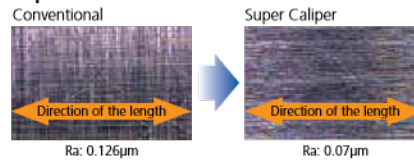
## FEATURES

- With no annoying origin restoration necessary, a measurement can be started at any time and without restrictions on operating speed.



- This unique\* eco-friendly solar-powered Super Caliper requires 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 ensures 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

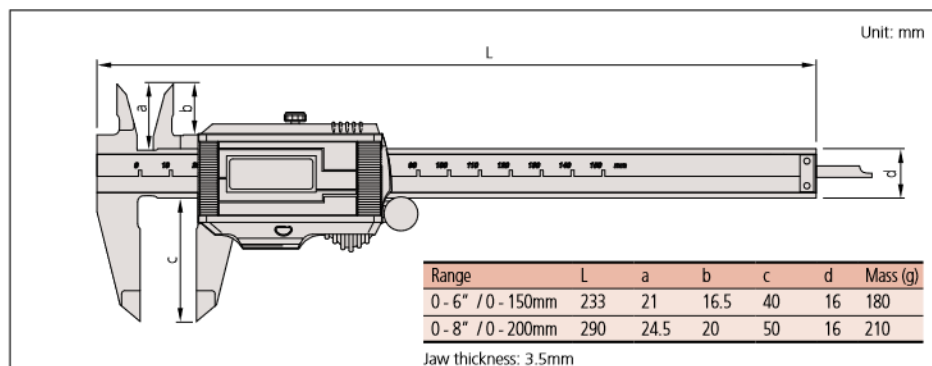
Metric			
Range	Order No.	Accuracy	Resolution
0 - 150mm	<b>500-776</b>	±0.02mm	0.01mm
0 - 150mm	<b>500-774*</b>	±0.02mm	0.01mm
0 - 200mm	<b>500-777</b>	±0.02mm	0.01mm
0 - 200mm	<b>500-775*</b>	±0.02mm	0.01mm

\*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



## 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 cell\*
- Dust/Water protection level: IP67
- \*Can be used continuously above 60 lux ambient illumination.

## Function

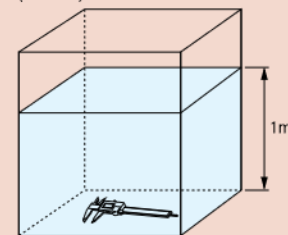
- Origin-set, inch/mm conversion (on inch/metric models only)
- Alarm: Counting value composition error

## 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.

# ABSOLUTE Solar Caliper

**SERIES 500 — No battery or origin reset needed**

Mitutoyo's Absolute Solar Digimatic Caliper retains its origin point for the entire life of the caliper, even the display turns off. At 60 Lux and higher, 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.



## 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 cell\*  
 \*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)

## 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

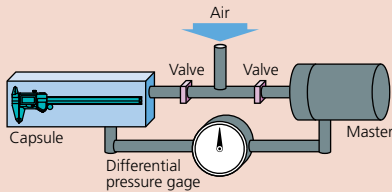
Unit: mm

Range	L	a	b	c	Mass (g)
0 - 4" / 0 - 100mm	182	40	21	16.5	125
0 - 6" / 0 - 150mm	233	40	21	16.5	150
0 - 8" / 0 - 200mm	290	50	24.5	20	180



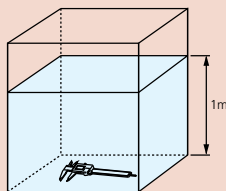
## Air leakage detection system used for water-proof testing

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 of the master, and the differential pressure gage will continue to point to the center. However, if some air seeps 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>500-702-20*</b>	+/-0.02mm	0.01mm	
0-150mm	<b>500-712-20</b>	+/-0.02mm	0.01mm	
0-150mm	<b>500-719-20</b>	+/-0.02mm	0.01mm	dia. 1.9mm rod depth bar
0-150mm	<b>500-721-20</b>	+/-0.02mm	0.01mm	carbide-tipped jaws for ID measurement
0-150mm	<b>500-723-20</b>	+/-0.02mm	0.01mm	carbide-tipped jaws for OD & ID measurement
0-200mm	<b>500-703-20*</b>	+/-0.02mm	0.01mm	
0-200mm	<b>500-713-20</b>	+/-0.02mm	0.01mm	
0-200mm	<b>500-722-20</b>	+/-0.02mm	0.01mm	carbide-tipped jaws for ID measurement
0-200mm	<b>500-724-20</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	

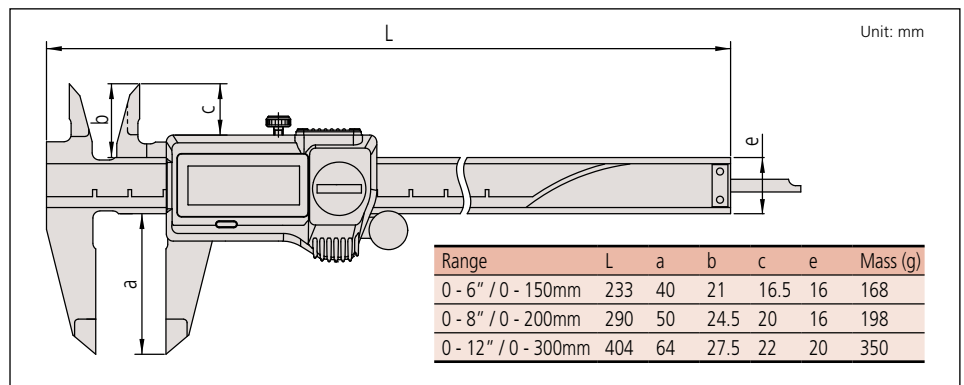
\*without SPC data output

### Inch/Metric IP67 model

Range	Order No.	Accuracy	Resolution	Remarks
0-6" / 0-150mm	<b>500-752-20*</b>	+/- .001"	.0005" / 0.01mm	
0-6" / 0-150mm	<b>500-762-20</b>	+/- .001"	.0005" / 0.01mm	
0-6" / 0-150mm	<b>500-768-20*</b>	+/- .001"	.0005" / 0.01mm	.075" rod depth bar
0-6" / 0-150mm	<b>500-769-20</b>	+/- .001"	.0005" / 0.01mm	.075" rod depth bar
0-6" / 0-150mm	<b>500-731-20*</b>	+/- .001"	.0005" / 0.01mm	carbide-tipped jaws for OD measurement
0-6" / 0-150mm	<b>500-735-20</b>	+/- .001"	.0005" / 0.01mm	carbide-tipped jaws for OD measurement
0-6" / 0-150mm	<b>500-733-20*</b>	+/- .001"	.0005" / 0.01mm	carbide-tipped jaws for OD & ID measurement
0-6" / 0-150mm	<b>500-737-20</b>	+/- .001"	.0005" / 0.01mm	carbide-tipped jaws for OD & ID measurement
0-8" / 0-200mm	<b>500-753-20*</b>	+/- .001"	.0005" / 0.01mm	
0-8" / 0-200mm	<b>500-763-20</b>	+/- .001"	.0005" / 0.01mm	
0-8" / 0-200mm	<b>500-732-20*</b>	+/- .001"	.0005" / 0.01mm	carbide-tipped jaws for OD measurement
0-8" / 0-200mm	<b>500-736-20</b>	+/- .001"	.0005" / 0.01mm	carbide-tipped jaws for OD measurement
0-8" / 0-200mm	<b>500-734-20*</b>	+/- .001"	.0005" / 0.01mm	carbide-tipped jaws for OD & ID measurement
0-8" / 0-200mm	<b>500-738-20</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

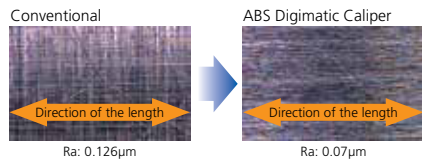


# ABSOLUTE Digimatic Caliper

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

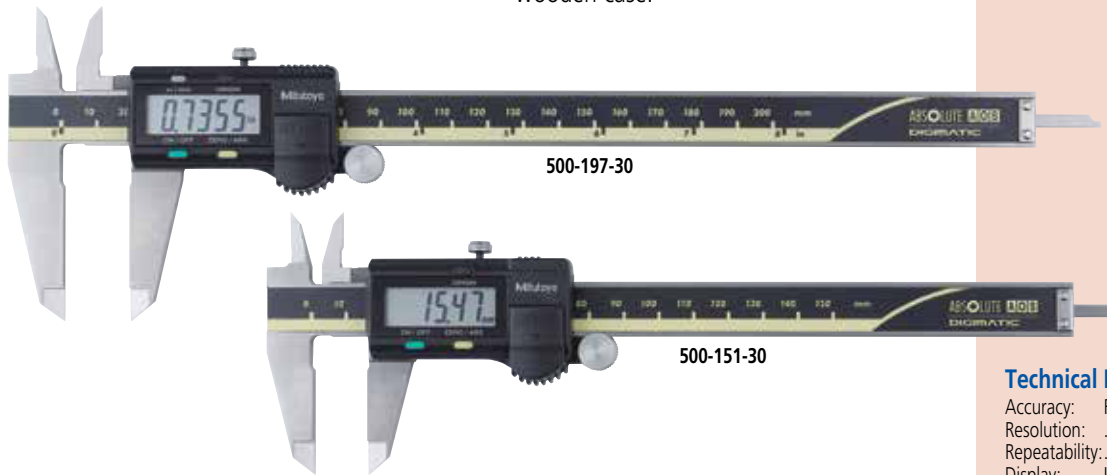
Mitutoyo's absolute Digimatic Caliper is the next generation of electronic calipers. It keeps track of its origin point once set. Whenever turned on, the large LCD displays the actual slider position ready to start measurement. No more repeated zero setting is necessary with the absolute encoder technology,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

Range	L	a	b	c	d	Mass (g)
0 - 4" / 0 - 100mm	182	40	21	16.5	16	143
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	403	64	27.5	22	20	350

Range	L	a	b	c	d	Mass (g)
0 - 18" / 0 - 450mm	630	90	47	38	25	1170
0 - 24" / 0 - 600mm	780	90	47	38	25	1350
0 - 40" / 0 - 1000mm	1240	130	61	50	32	3300



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)

**959143**



**959149**



500-506-10

500-502-10

500-501-10

500-500-10

## 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