

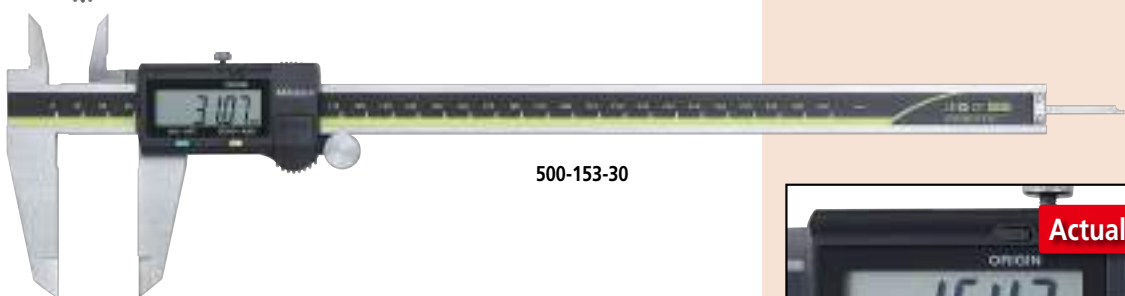
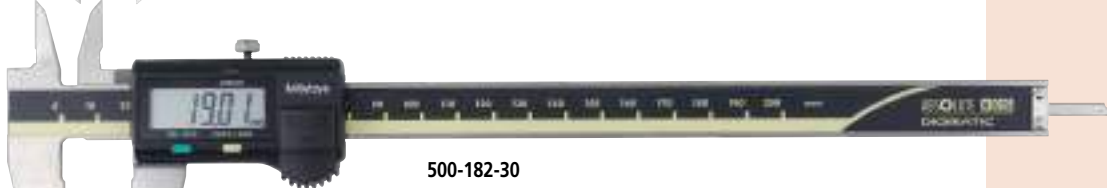
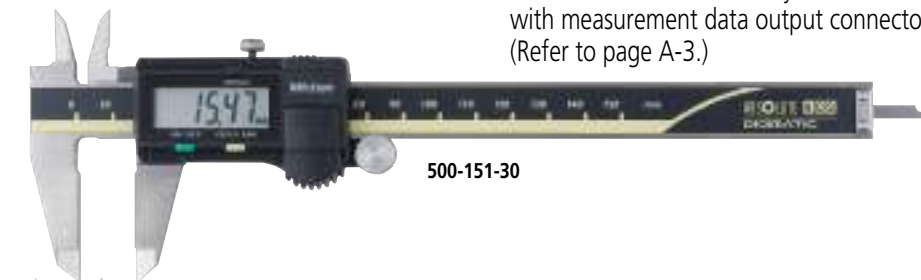
# Calipers

An industry standard measuring tool

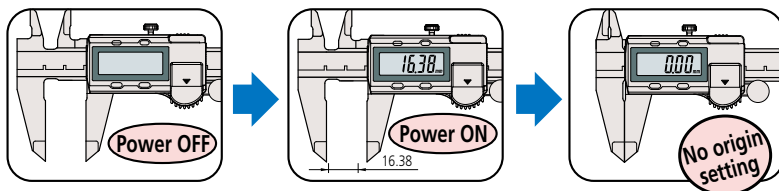
## ABSOLUTE Digimatic Caliper SERIES 500 — with exclusive ABSOLUTE Encoder Technology

**MeasurLink<sup>®</sup> ENABLED**  
Data Management Software by Mitutoyo

- An ABSOLUTE electromagnetic induction linear encoder system is incorporated.
- New ergonomic design with finger rest.
- The ZERO/ABS button allows the display to be Zero-Set at any slider position along the scale for comparison measurements. Scale overspeed-error has been eliminated for maximum reliability.
- Large and clear LCD readout.
- Smooth slider movement makes for comfortable operation.
- Extended battery life of Approx. 5 years due to low current integrated circuit (except for 0 to 300 mm/0 to 12 inch models).
- Allows step measurement.
- Carbide-tipped jaw calipers are optimal for rough finished parts, castings, grinding stones, etc.
- Allows integration into statistical process control and measurement systems for models with measurement data output connector. (Refer to page A-3.)



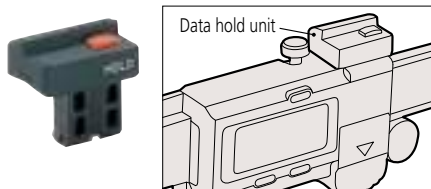
### No need to reset the origin after switching on



### Optional accessories

Dedicated for the models equipped with a digimatic output function. For details, refer to page A-21.

#### 959143: Data hold unit



#### Connecting cables for IT/DP/MUX

- 959149: SPC cable with data button (1 m)
- 959150: SPC cable with data button (2 m)

#### USB Input Tool Direct

- 06AFM380C: SPC cable for USB-ITN-C (2 m)

#### Connecting cables for U-WAVE-T

- 02AZD790C: SPC cable with data button (160 mm)
- 02AZE140C: SPC cable for foot switch

Wireless data output **U-WAVE<sup>™</sup>**  
U-WAVE-TC: 264-621 (Buzzer type)

- U-WAVE-TCB Transmitter (Mitutoyo Bluetooth<sup>®</sup> U-WAVE) 264-625 (Buzzer type)

Refer to page A-10 for details.

Connecting unit for U-WAVE-TC/TCB 02AZF300 (Buzzer type)



**MeasurLink<sup>®</sup> ENABLED**  
Data Management Software by Mitutoyo

Products equipped with the measurement data output function can be connected to the measurement data network system MeasurLink<sup>®</sup> (refer to page A-25 for details).

**ABSOLUTE<sup>™</sup>**



An inspection certificate is supplied as standard. Refer to page U-9 for details.

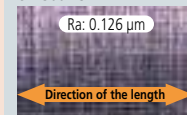
### Technical Data

- Resolution: 0.01 mm or 0.0005 in/0.01 mm
- Scale type: ABSOLUTE electromagnetic induction linear encoder
- Max. response speed: Unlimited
- Battery: SR44 (1 pc.), **938882**, for initial operational checks (standard accessory)
- Battery life: Approx. 5 years under normal use

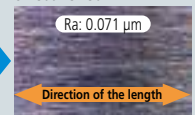
### Smooth slider movement makes for comfortable operation.

High quality guide surface finish for smooth slider movement

Conventional ex. 500-151



ABSOLUTE Digimatic Caliper ex. 500-151-30



Direction of the length

Direction of the length



Remarkably easy to read display

## Functions

**Absolute measurement:** After power is turned ON, measurement can be started without zero-setting if origin-setting was previously performed. The Absolute origin position can be changed by the ORIGIN button.

**Incremental measurement:** Display can be set to zero at any arbitrary position for comparative measurements.

**Low-voltage alert:** If the battery voltage becomes low, a "B" appears in the display to alert the user before measurement is no longer possible. A battery change advisory alert precedes this alert.

**Data output:** By using the connecting cable (optional), measurement data can be output.

**Data hold:** By using the data hold unit (optional), the displayed value can be held. This cannot be used with the data output function.

## SPECIFICATIONS

Metric							
Order No.	Range (mm)	Maximum permissible error (mm) <sup>*2</sup>		Mass (g)	Depth bar	Fine adjustment	Remarks
		<i>E</i> <sub>MPE</sub>	<i>S</i> <sub>MPE</sub>				
500-150-30	0 - 100	±0.02	±0.04	143	ø1.9 mm rod	with thumb roller	—
500-180-30 <sup>*1</sup>						—	
500-151-30						—	
500-154-30	0 - 150	±0.02	±0.04	168	Blade	with thumb roller	Carbide-tipped jaws for outside measurement
500-155-30						—	Carbide-tipped jaws for outside and inside measurement
500-158-30						—	—
500-181-30 <sup>*1</sup>						—	—
500-152-30	0 - 200	±0.02	±0.04	198	Blade	with thumb roller	Carbide-tipped jaws for outside measurement
500-156-30						—	Carbide-tipped jaws for outside and inside measurement
500-157-30						—	—
500-182-30 <sup>*1</sup>						—	—
500-153-30	0 - 300	±0.03	±0.05	350	—	with thumb roller	—

\*1 Without SPC data output

\*2 Partial Surface Contact Error, *E*<sub>MPE</sub> and Shift Error, *S*<sub>MPE</sub> are terms (notations) used in ISO 13385-1:2019.

Inch / Metric								
Order No.	Range (in)	Maximum permissible error <sup>*2</sup>		Mass (g)	Depth bar	Fine adjustment	Remarks	
		<i>E</i> <sub>MPE</sub>	<i>S</i> <sub>MPE</sub>					
500-170-30	0 - 4	±0.001 in/ ±0.02 mm	±0.002 in/ ±0.04 mm	143	ø0.075 inch rod	with thumb roller	—	
500-195-30 <sup>*1</sup>							—	
500-171-30							—	
500-174-30	0 - 6	±0.001 in/ ±0.02 mm	±0.002 in/ ±0.04 mm	168	ø0.075 inch rod	with thumb roller	Carbide-tipped jaws for outside measurement	
500-175-30							—	Carbide-tipped jaws for outside and inside measurement
500-178-30							—	—
500-196-30 <sup>*1</sup>							—	—
500-159-30 <sup>*1</sup>	0 - 8	±0.0015 in/ ±0.03 mm	±0.0025 in/ ±0.05 mm	198	Blade	with thumb roller	Carbide-tipped jaws for outside measurement	
500-160-30 <sup>*1</sup>							—	Carbide-tipped jaws for outside and inside measurement
500-172-30							—	—
500-176-30							—	—
500-177-30	0 - 12	±0.0015 in/ ±0.03 mm	±0.0025 in/ ±0.05 mm	350	Blade	with thumb roller	Carbide-tipped jaws for outside measurement	
500-197-30 <sup>*1</sup>							—	Carbide-tipped jaws for outside and inside measurement
500-163-30 <sup>*1</sup>							—	—
500-164-30 <sup>*1</sup>							—	—
500-173-30	0 - 12	±0.0015 in/ ±0.03 mm	±0.0025 in/ ±0.05 mm	350	Blade	with thumb roller	Carbide-tipped jaws for outside measurement	
500-167-30							—	Carbide-tipped jaws for outside and inside measurement
500-168-30							—	—
500-193-30 <sup>*1</sup>							—	—
500-165-30 <sup>*1</sup>	0 - 12	±0.0015 in/ ±0.03 mm	±0.0025 in/ ±0.05 mm	350	Blade	with thumb roller	Carbide-tipped jaws for outside measurement	
500-166-30 <sup>*1</sup>							—	Carbide-tipped jaws for outside and inside measurement

\*1 Without SPC data output

\*2 Partial Surface Contact Error, *E*<sub>MPE</sub> and Shift Error, *S*<sub>MPE</sub> are terms (notations) used in ISO 13385-1:2019.

## DIMENSIONS

**With thumb roller**

Unit: mm

**Without thumb roller**

Range (mm)	A	B	C	D	H	L
0 - 100	16.5	21	14.5	40	16	182
0 - 150	16.5	21	14.5	40	16	233
0 - 200	20	24.5	18	50	16	290
0 - 300	22	27.5	19.8	64	20	404

Jaw thickness: 3.5 mm for 0 to 100 mm/0 to 150 mm/0 to 200 mm models and 3.8 mm for 0 to 300 mm model