

Calipers

ABSOLUTE Digimatic Caliper SERIES 500 — with Exclusive ABSOLUTE Encoder Technology

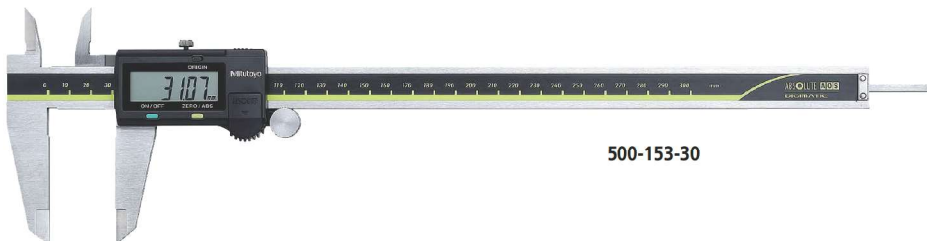
- This is a standard digital calliper. The digital display can reduce human error by preventing incorrect reading of measurement results.
- Incorporates Mitutoyo's ABSOLUTE measurement system. No need to reset the origin after switching on. No fear for overspeed errors.
- Carbide-tipped jaw calipers are optimal for rough finished parts, castings, grinding stones, etc.
- SPC data output models can be integrated into statistical process control and measurement systems. (Refer to page 09-3.)



500-151-30



500-182-30



500-153-30

SPECIFICATIONS

Metric								
Code No.	Range (mm)	Resolution (mm)	Maximum permissible error (mm)*2		Mass (g)	Depth bar	Fine adjustment	Remarks
			EMPE	SMPE				
500-150-30	0 - 100	0.01	±0.02	±0.04	143	ø1.9 mm rod	with thumb roller	—
500-180-30*1							—	
500-151-30							—	
500-154-30	0 - 150				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*1								
500-152-30								
500-156-30	0 - 200				198	Blade	with thumb roller	Carbide-tipped jaws for outside measurement
500-157-30								Carbide-tipped jaws for outside and inside measurement
500-182-30*1								
500-153-30	0 - 300		±0.03	±0.05	350		with thumb roller	—

- Power source: SR44 battery (1 pc.), **938882** included as standard (for operational checks)
- Position detection method: ABSOLUTE electromagnetic induction linear encoder
- Battery life: Approx. 5 years under normal use
- Response speed: Unlimited
- *1 Without SPC data output
- *2 The Partial Surface Contact Error (EMPE) and Shift Error (SMPE) are terms defined by ISO 13385-1:2019.

Functions

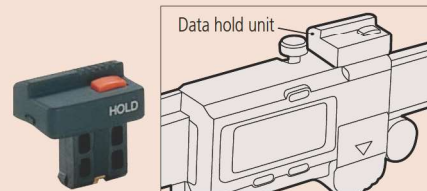
- ABSOLUTE measurement: after a data is displayed, next measurement can be performed without zero-setting. Also, the ABS origin point can be changed with ORIGIN switch.
- Incremental measurement: Sets the displayed value to zero (zero-setting) at any position, making comparative measurement easier.
- Low-voltage alert: notifies that the battery is worn with "B" mark before becoming immeasurable. Thus, the timing for battery replacement can be confirmed in advance.
- Data output: Models equipped with this function have an output port for transferring measurement data to a Statistical Process Control (SPC) system.
Note: Excludes **500-180-30**, **500-181-30** and **500-182-30**.
- Data hold: With the optional hold unit, the function can hold the displayed value (cannot be used with the output function).

Optional Accessories

(Note: Usable only for models with SPC data output. Refer to page 09-23 for details.)

Code No.	Type	Description
264-020	—	USB Input Tool Series USB Keyboard Signal Conversion Type IT-020U
959149	C	Connection cable for IT/DP/MUX (1 m)
959150	C	Connection cable for IT/DP/MUX (2 m)
06AFM380C	C	USB Input Tool Direct (2 m)
02AZD730G	IP67	U-WAVE-T
02AZD880G	Buzzer	U-WAVE-T
02AZE200	—	U-WAVE-T mounting bracket
02AZD790C	C	Connection cable for U-WAVE-T (160 mm)
02AZE140C	C	Connection cable for U-WAVE-T For foot switch
264-621	Buzzer	U-WAVE-TC
264-625	Buzzer	U-WAVE-TCB
02AZF300	Buzzer	Connecting unit for U-WAVE-TC/TCB

• Data hold unit



959143

Inch / Metric		Resolution	Maximum permissible error*2		Mass (g)	Depth bar	Fine adjustment	Remarks		
Code No.	Range		EMPE	SMPE						
500-170-30	0 - 4 in/ 0 - 100 mm	0.0005 in/ 0.01 mm	±0.001 in/ ±0.02 mm	±0.002 in/ ±0.04 mm	143	ø0.075 inch rod	with thumb roller	—		
500-195-30*1	0 - 6 in/ 0 - 150 mm				168	ø0.075 inch rod		—	Carbide-tipped jaws for outside measurement	
500-171-30									Blade	Carbide-tipped jaws for outside and inside measurement
500-174-30										—
500-175-30										Carbide-tipped jaws for outside measurement
500-178-30										Carbide-tipped jaws for outside and inside measurement
500-196-30*1										—
500-159-30*1	0 - 8 in/ 0 - 200 mm				198	Blade		Carbide-tipped jaws for outside measurement		
500-160-30*1								Carbide-tipped jaws for outside and inside measurement		
500-172-30								—		
500-176-30								Carbide-tipped jaws for outside measurement		
500-177-30								Carbide-tipped jaws for outside and inside measurement		
500-197-30*1								—		
500-163-30*1	0 - 12 in/ 0 - 300 mm		350	±0.0025 in/ ±0.05 mm	Carbide-tipped jaws for outside measurement					
500-164-30*1					Carbide-tipped jaws for outside and inside measurement					
500-173-30					—					
500-167-30					Carbide-tipped jaws for outside measurement					
500-168-30					Carbide-tipped jaws for outside and inside measurement					
500-193-30*1					—					
500-165-30*1	0 - 166-30*1	—	—	Carbide-tipped jaws for outside measurement						
500-166-30*1				Carbide-tipped jaws for outside and inside measurement						

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• Position detection method: ABSOLUTE electromagnetic induction linear encoder

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• Response speed: Unlimited

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*2 The Partial Surface Contact Error (EMPE) and Shift Error (SMPE) are terms defined by ISO 13385-1:2019.

DIMENSIONS

