

Calipers

ABSOLUTE Digimatic Caliper SERIES 500 — with Exclusive ABSOLUTE Encoder Technology

04

Calipers

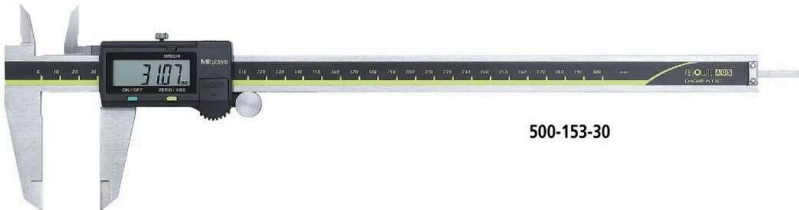
- This is a standard digital calliper. The digital display can reduce human error by preventing incorrect reading of measurement results.
- Incorporates Mitutoyo's ABSOLUTE measurement system. No need to reset the origin after switching on. Eliminates overspeed errors.
- Carbide-tipped jaw calipers are 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

Calipers



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 models without measurement output data port. See SPECIFICATIONS on page 04-6.
- Data hold: With the optional hold unit, the function can hold the displayed value (cannot be used with the output function).

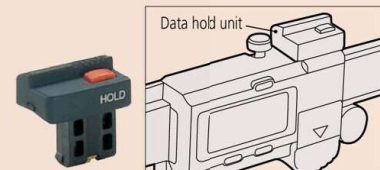
Optional Accessories

(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
264-620	IP67*	U-WAVE-TC
264-621	Buzzer	U-WAVE-TC
264-624	IP67*	U-WAVE-TCB
264-625	Buzzer	U-WAVE-TCB
02AZF300	Buzzer	Connecting unit for U-WAVE-TC/TCB

* IP-67 is applied to these U-WAVE-T/-TC/-TCB, but not to the calipers on page 04-6 to 04-7.

Data hold unit



959143



SPECIFICATIONS

Metric										
Code No.	Range (mm)	Resolution (mm)	Maximum permissible error (mm)*		Measurement data output port	Mass (g)	Depth bar	Fine adjustment	Remarks	
			E_{MPE}	S_{MPE}						
500-150-30	0 - 100	0.01	±0.02	±0.04	✓	143	ø1.9 mm rod	with thumb roller	—	
500-180-30					—					
500-151-30										
500-154-30	0 - 150	0.01	±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					—					
500-152-30	0 - 200	0.01	±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					—					
500-153-30	0 - 300	0.01	±0.03	±0.05	✓	350		with thumb roller	—	
500-161-30	0 - 150	0.01	±0.02	±0.04	✓	168			—	
500-162-30	0 - 200	0.01			198					
500-184-30	0 - 150	0.01	±0.02	±0.04	—	168	ø1.9 mm rod			
500-201-30	0 - 100	0.01	±0.02	±0.04	—	143	Blade		—	
500-203-30	0 - 150	0.01				168	ø1.9 mm rod			
500-205-30	0 - 300	0.01				345				
500-233-30	0 - 150	0.01	±0.02	±0.04	✓	168	Blade	—	Carbide-tipped jaws for outside measurement	
500-234-30										Carbide-tipped jaws for outside and inside measurement
500-235-30					0 - 200	0.01	198			Carbide-tipped jaws for outside measurement
500-236-30	0 - 200	0.01						Carbide-tipped jaws for outside and inside measurement		

- 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
- * The Partial Surface Contact Error (E_{MPE}) and Shift Error (S_{MPE}) are terms defined by ISO 13385-1:2019.

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Inch / Metric		Resolution	Maximum permissible error*		Measurement data output port	Mass (g)	Depth bar	Fine adjustment	Remarks				
Code No.	Range		E_{MPE}	S_{MPE}									
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	$\varnothing 0.075$ inch rod	with thumb roller	—				
500-195-30					—								
500-171-30	Blade				✓	—	—		168	—	with thumb roller	Carbide-tipped jaws for outside measurement	
500-174-30												Carbide-tipped jaws for outside and inside measurement	
500-175-30												—	
500-178-30												$\varnothing 0.075$ inch rod	
500-196-30	0 - 6 in/ 0 - 150 mm				—	—	—		168	—	with thumb roller	Carbide-tipped jaws for outside measurement	
500-159-30												Carbide-tipped jaws for outside and inside measurement	
500-160-30	0 - 8 in/ 0 - 200 mm				—	—	—		198	Blade	with thumb roller	—	
500-191-30												—	
500-202-30												—	
500-172-30												✓	Carbide-tipped jaws for outside measurement
500-176-30	—				—	—	—		—	—	with thumb roller	Carbide-tipped jaws for outside and inside measurement	
500-177-30												—	
500-197-30	0 - 12 in/ 0 - 300 mm				—	—	—		350	—	with thumb roller	—	
500-163-30												—	
500-164-30	—				—	—	—		—	—	with thumb roller	Carbide-tipped jaws for outside measurement	
500-204-30												—	
500-173-30												✓	Carbide-tipped jaws for outside and inside measurement
500-167-30												—	
500-168-30	—	—	—	—	—	—	with thumb roller	Carbide-tipped jaws for outside measurement					
500-193-30								—					
500-165-30	—	—	—	—	—	—	with thumb roller	Carbide-tipped jaws for outside and inside measurement					
500-166-30								—					

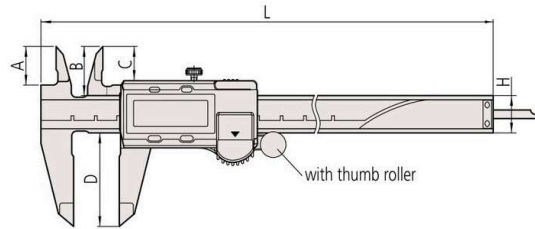
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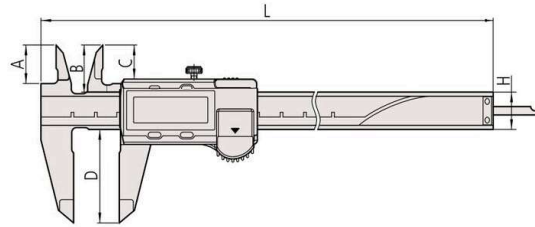
DIMENSIONS

Unit: mm

With thumb roller



Without thumb roller



Range (mm)	A	B	C	D	H	L
0 - 100	16.5	21	14.5	40	16	182
0 - 150						233
0 - 200	20	24.5	18	50		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

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