

## Digimatic Calipers IP67 ABS Digimatic Coolant Proof Calipers ABS Digimatic Calipers



300 mm range model with **11.0 mm** character height for **enhanced visibility**.



**500-714-20**  
Measuring range: 0 - 300 mm  
With measurement data output port

With built-in ABS scale,  
**no need for origin-setting at every power-on.**

# Highly resistant to water, oil, and staining

with Dust/Water Protection Conforming to IP67 Level

## IP67 ABS Digimatic Coolant Proof Calipers

**MeasurLink** ENABLED  
Data Management Software by Mitutoyo

**ABSOLUTE™**

**IP67**

Dust- and Water-Protected  
**TÜVRheinland**  
CERTIFIED  
www.tuv.com  
ID 000045042







**U-WAVE fit**

Products equipped with the measurement data output function can be connected to the measurement data network system MeasurLink®.

An inspection certificate is supplied as standard.

Note: MeasurLink® is a registered trademark of Mitutoyo Corporation in Japan and Mitutoyo America Corporation in the United States.

### History of the Evolution of Mitutoyo's Proprietary Digimatic Calipers

1982	1987	1988	1993
Developed Digimatic Calipers	Digimatic caliper with measurement data output function	Battery-less solar caliper	Digimatic caliper with ABSOLUTE (ABS) electrostatic capacity linear encoder
			

500-714-20, with 20 mm main beam width, provides high rigidity and excellent straightness of the scale.

Note: 500-714-20 measuring range: 0 - 300 mm

Environmentally friendly 5-year long-life battery for less frequent battery replacement.



**500-712-20**  
Measuring range: 0 - 150 mm  
With measurement data output port

No more handwritten records thanks to the built-in measurement data output function. Centralized data management with U-WAVE<sup>fit</sup> and DP-1VA LOGGER.



There is no screw on the battery lid. Easy, quick battery replacement.



**500-724-20**  
Measuring range: 0 - 200 mm  
With measurement data output port  
Carbide-tipped jaws for outside and inside measurement

## COOLANT PROOF™ IP67



COOLANT PROOF\* is the universal term for Mitutoyo Digimatic Small Tool Instruments that are not only resistant to dust and water ingress but also to deterioration of materials due to contact with the cutting oil or coolant fluids in normal use.

\* Some types of aggressive cutting oil or coolant may degrade the sealing materials over time.

## IP67 protection level

IP 6 7		IP 6 7			
First characteristic number	Protection from solid objects (people or things)		Second characteristic number	Protection from liquids (water, etc.)	
	Brief description	Description		Brief description	Description
6	Dust-proof	No ingress of dust allowed.	7	Protected against water penetration.	Ingress of water in quantities causing harmful effects shall not be possible when the enclosure is temporarily immersed in water under standardized conditions of pressure and time.

Note: For details of the test conditions used in evaluating each degree of protection, please refer to the original standard.

2000

Coolant-proof caliper with IP65-level protection



2003

Coolant-proof caliper with IP67-level protection and ABSOLUTE (ABS) electromagnetic induction linear encoder



2005

Battery-less solar caliper with IP67-level protection

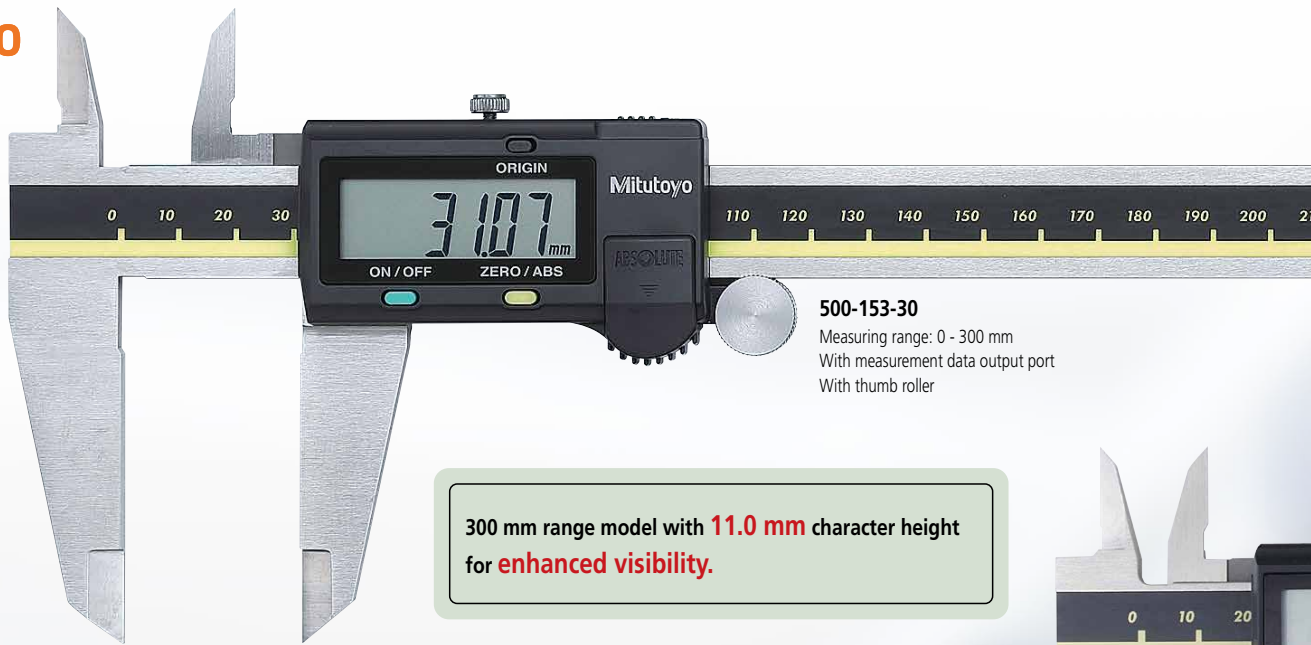


2013

Digimatic caliper with ABSOLUTE (ABS) electromagnetic induction linear encoder







**500-153-30**  
 Measuring range: 0 - 300 mm  
 With measurement data output port  
 With thumb roller

300 mm range model with **11.0 mm** character height for **enhanced visibility.**



**500-151-30**  
 Measuring range: 0 - 150 mm  
 With measurement data output port  
 With thumb roller

With built-in ABS scale, **no need for origin-setting at every power-on.**

# The Standard for Digimatic Calipers

## ABS Digimatic Calipers

**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>.

**ABSOLUTE<sup>™</sup>**



An inspection certificate is supplied as standard.

**U-WAVE<sup>fit</sup>**

Note: MeasurLink<sup>®</sup> is a registered trademark of Mitutoyo Corporation in Japan and Mitutoyo America Corporation in the United States.



500-153-30, with 20 mm main beam width, provides **high rigidity and excellent straightness of the scale.**

Note: 500-153-30 measuring range: 0 - 300 mm

**Environmentally friendly 5-year long-life battery** for less frequent battery replacement.



**500-182-30**

Measuring range: 0 - 200 mm  
Without measurement data output port  
Without thumb roller

No more handwritten records thanks to the built-in measurement data output function. **Centralized data management** with **U-WAVEfit** and **DP-1VA LOGGER**.

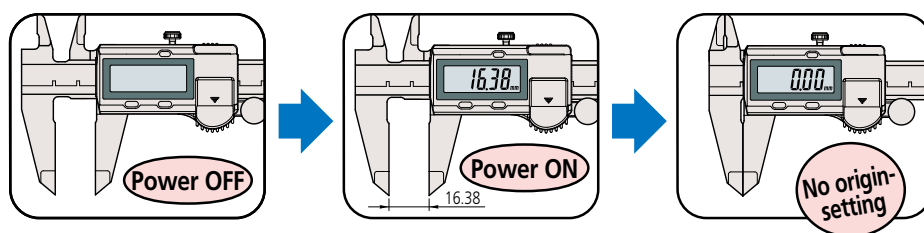


**500-181-30**

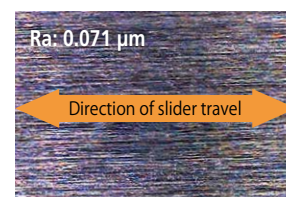
Measuring range: 0 - 150 mm  
Without measurement data output port  
Without thumb roller

**Displayed value clearing (zero-setting) at any position.**  
**Comparison measurement has never been easier.**

ABS (Absolute) scale makes origin-setting at every power-on unnecessary, and the allowable slider speed is unlimited with this type of scale.



High quality guide surface finish for smooth slider movement



ABS Digimatic Caliper  
ex. 500-151-30

## Common specifications

(IP67 ABS Digimatic Coolant Proof Calipers, ABS Digimatic Calipers)

- Digital step: 0,01 mm
- Power supply: Silver oxide button cell battery SR44 (938882), 1 pc. supplied for testing purposes only. Replace with a fresh cell as soon as the caliper is put into use.
- Battery life: Approx. 5 years under normal use
- Max. response speed: Unlimited

## IP67 ABS Digimatic Coolant Proof Calipers Specifications

### Metric

Order No.	Measuring range (mm)	Maximum permissible error (mm)*		Measurement data output port	Thumb roller	Remarks			
		$E_{MPE}$	$S_{MPE}$						
500-706-20	0 - 150	±0,02	±0,04	—	—	—			
500-709-20				—	—	Depth bar: ø1,9 mm			
500-702-20				—	✓	—			
500-716-20				✓	—	—			
500-712-20				✓	✓	—			
500-719-20				✓	✓	Depth bar: ø1,9 mm			
500-721-20				✓	✓	Carbide-tipped jaws for outside measurement			
500-727-20				✓	—	Carbide-tipped jaws for outside & inside measurement			
500-723-20				✓	✓	Carbide-tipped jaws for outside & inside measurement			
500-707-20				0 - 200	±0,03	±0,05	—	—	—
500-703-20	—	✓	—						
500-717-20	✓	—	—						
500-713-20	✓	✓	—						
500-722-20	✓	✓	Carbide-tipped jaws for outside measurement						
500-728-20	✓	—	Carbide-tipped jaws for outside & inside measurement						
500-724-20	✓	✓	Carbide-tipped jaws for outside & inside measurement						
500-708-20	0 - 300	±0,03	±0,05				—	—	—
500-704-20							—	✓	—
500-718-20							✓	—	—
500-714-20				✓	✓	—			

\* Partial Surface Contact Error,  $E_{MPE}$  and Shift Error,  $S_{MPE}$  are terms (notations) used in ISO 13385-1:2019.

### Inch/Metric

Order No.	Measuring range (in)	Maximum permissible error*		Measurement data output port	Thumb roller	Remarks			
		$E_{MPE}$	$S_{MPE}$						
500-752-20	0 - 6	±0.001 in	±0.002 in	—	✓	—			
500-768-20				—	✓	Depth bar: Ø 1,9 mm			
500-762-20				✓	✓	—			
500-769-20				✓	✓	Depth bar: Ø 1,9 mm			
500-731-20				—	✓	Carbide-tipped jaws for outside measurement			
500-733-20				—	✓	Carbide-tipped jaws for outside/inside measurement			
500-735-20				✓	✓	Carbide-tipped jaws for outside measurement			
500-737-20				✓	✓	Carbide-tipped jaws for outside/inside measurement			
500-753-20				0 - 8	±0.0015 in	±0.0025 in	—	✓	—
500-763-20							✓	✓	—
500-732-20	—	✓	Carbide-tipped jaws for outside measurement						
500-734-20	—	✓	Carbide-tipped jaws for outside/inside measurement						
500-736-20	✓	✓	Carbide-tipped jaws for outside measurement						
500-738-20	✓	✓	Carbide-tipped jaws for outside/inside measurement						
500-754-20	0 - 12	±0.0015 in	±0.0025 in	—	✓	—			
500-764-20				✓	✓	—			

\* Partial Surface Contact Error,  $E_{MPE}$  and Shift Error,  $S_{MPE}$  are terms (notations) used in ISO 13385-1:2019.

## DIMENSIONS

With thumb roller

Thumb roller

Unit: mm

Measuring range	A	B	C	D	H	L
0 - 150	16.5	21	14.6	40	16	233
0 - 200	20	24.5	18.1	50		290
0 - 300	22	27.5	19.8	64	20	404

Outside jaw thickness = 3.5 mm for 0 to 150 mm / 0 to 200 mm models  
3.8 mm for 0 to 300 mm model

## Common functions

(IP67 ABS Digimatic Coolant Proof Calipers, ABS Digimatic Calipers)

### 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.

### ORIGIN button:

Sets the Absolute origin at the current slider position when pressed.

### 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.

# ABS Digimatic Calipers Specifications

## Metric

Order No.	Measuring range (mm)	Maximum permissible error (mm)*		Measurement data output port	Thumb roller	Remarks
		<i>E</i> <sub>MPE</sub>	<i>S</i> <sub>MPE</sub>			
500-180-30	0 - 100	±0,02	±0,04	—	—	Depth bar ø1,9 mm
500-201-30				✓	—	Depth bar ø1,9 mm
500-150-30				✓	✓	Depth bar ø1,9 mm
500-181-30	0 - 150	±0,02	±0,04	—	—	—
500-184-30				—	—	Depth bar ø1,9 mm
500-161-30				✓	—	—
500-203-30				✓	—	Depth bar ø1,9 mm
500-151-30				✓	✓	—
500-158-30				✓	✓	Depth bar ø1,9 mm
500-233-30				✓	—	Carbide-tipped jaws for outside measurement
500-234-30				✓	—	Carbide-tipped jaws for outside/inside measurement
500-154-30				✓	✓	Carbide-tipped jaws for outside measurement
500-155-30				✓	✓	Carbide-tipped jaws for outside/inside measurement
500-182-30	0 - 200	±0,03	±0,05	—	—	—
500-162-30				✓	—	—
500-152-30				✓	✓	—
500-235-30				✓	—	Carbide-tipped jaws for outside measurement
500-236-30				✓	—	Carbide-tipped jaws for outside/inside measurement
500-156-30				✓	✓	Carbide-tipped jaws for outside measurement
500-157-30				✓	✓	Carbide-tipped jaws for outside/inside measurement
500-205-30	0 - 300	±0,03	±0,05	✓	—	—
500-153-30				✓	✓	—

\*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.	Measuring range (in)	Maximum permissible error*		Measurement data output port	Thumb roller	Remarks
		<i>E</i> <sub>MPE</sub>	<i>S</i> <sub>MPE</sub>			
500-195-30	0 - 4	±0,001 in	±0,002 in	—	✓	Depth bar: ø 1,9 mm
500-170-30				✓	✓	Depth bar: ø 1,9 mm
500-191-30				—	—	—
500-196-30	0 - 6	±0,001 in	±0,002 in	—	✓	—
500-202-30				✓	—	—
500-171-30				✓	✓	—
500-178-30				✓	✓	Depth bar: ø 1,9 mm
500-159-30				—	✓	Carbide-tipped jaws for outside measurement
500-160-30				—	✓	Carbide-tipped jaws for outside/inside measurement
500-174-30				✓	✓	Carbide-tipped jaws for outside measurement
500-175-30	✓	✓	Carbide-tipped jaws for outside/inside measurement			
500-197-30	0 - 8	±0,0015 in	±0,0025 in	—	✓	—
500-204-30				✓	—	—
500-172-30				✓	✓	—
500-163-30				—	✓	Carbide-tipped jaws for outside measurement
500-164-30				—	✓	Carbide-tipped jaws for outside/inside measurement
500-176-30				✓	✓	Carbide-tipped jaws for outside measurement
500-177-30				✓	✓	Carbide-tipped jaws for outside/inside measurement
500-193-30	0 - 12	±0,0015 in	±0,0025 in	—	✓	—
500-173-30				✓	✓	—
500-165-30				—	—	Carbide-tipped jaws for outside measurement
500-166-30				—	—	Carbide-tipped jaws for outside/inside measurement
500-167-30				✓	✓	Carbide-tipped jaws for outside measurement
500-168-30	✓	✓	Carbide-tipped jaws for outside/inside measurement			

\*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

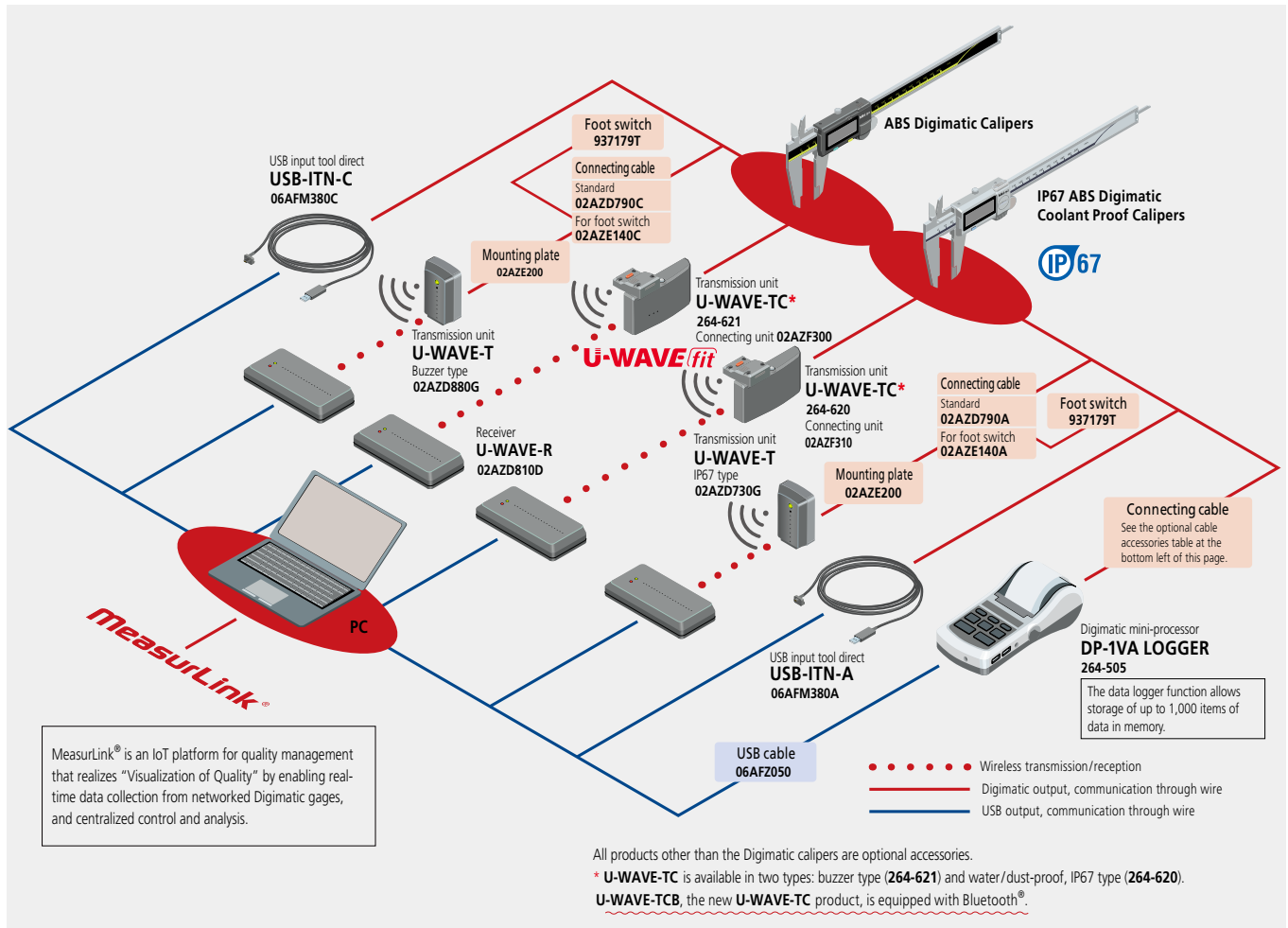
Without thumb roller

Unit: mm

Measuring range	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	20	290
0 - 300	22	27.5	19.8	64		404

Outside 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

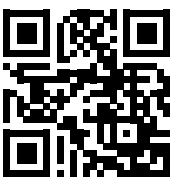
# Centralized data management



## Optional cable accessories

	Product	Order No.
ABS Digimatic Calipers	Connecting cable	959149 (1 m)
		959150 (2 m)
	Hold unit	959143
IP67 ABS Digimatic Coolant Proof Calipers	Connecting cable	05CZA624 (1 m)
		05CZA625 (2 m)

Combining optional accessories enables not only wireless measurement data recording but also advanced statistical processing management.



Find additional product literature and our complete catalog here.

[www.mitutoyo.eu](http://www.mitutoyo.eu)

**Note:** All information regarding our products, and in particular the illustrations, drawings, dimensional and performance data contained in this printed matter as well as other technical data are to be regarded as approximate average values. We therefore reserve the right to make changes to the corresponding designs, dimensions and weights. The stated standards, similar technical regulations, descriptions and illustrations of the products were valid at the time of printing. In addition, the latest applicable version of our General Trading Conditions will apply. Only quotations submitted by ourselves may be regarded as definitive.



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