

Digimatic Calipers IP67 ABS Digimatic Coolant Proof Calipers ABS Digimatic Calipers

Small Tool Instruments
and Data Management



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

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.



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

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

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

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

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

No more handwritten records thanks to the built-in measurement data output function.
Centralized data management with U-WAVE^{fit} and DP-1VA LOGGER.



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

TÜV Rheinland
CERTIFIED
Dust- and Water-Protected
www.tuv.com
ID 0000045042

PROPRIETARY INSPECTION CERTIFICATE

U-WAVE^{fit}

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

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

An inspection certificate is supplied as standard.

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.

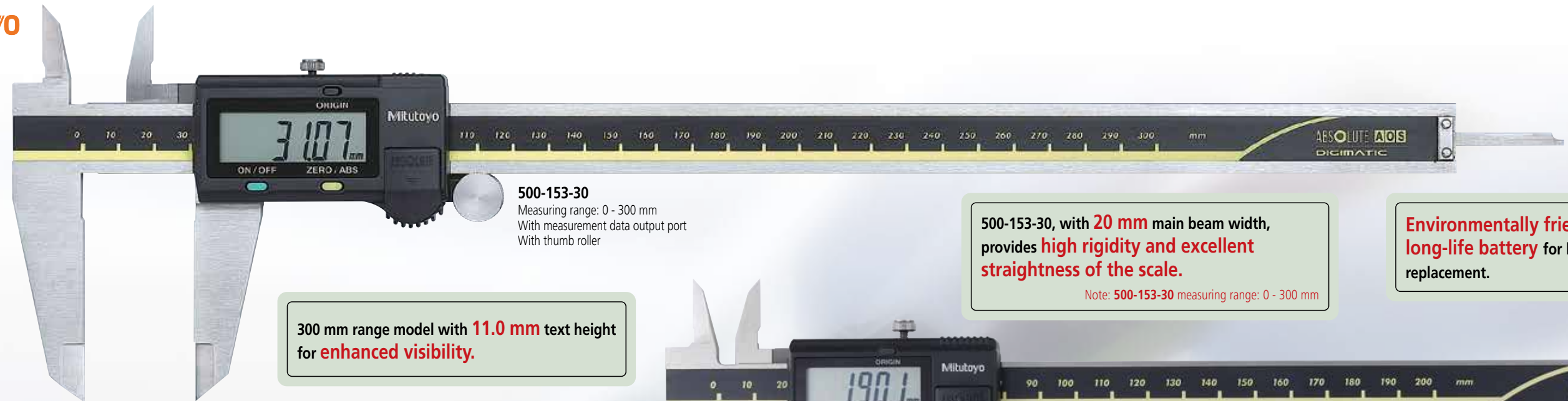
IP67 protection level

IP <div>6</div> <div>7</div>					
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.

History of the Evolution of Mitutoyo's Proprietary Digimatic Calipers

1982	1987	1988	1993	2000	2003	2005	2013
Developed Digimatic Calipers	Digimatic caliper with measurement data output function	Battery-less solar caliper	Digimatic caliper with ABSOLUTE (ABS) electrostatic capacity linear encoder	Coolant-proof caliper with IP65-level protection	Coolant-proof caliper with IP67-level protection and ABSOLUTE (ABS) electromagnetic induction linear encoder	Battery-less solar caliper with IP67-level protection	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** text height
for **enhanced visibility**.

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

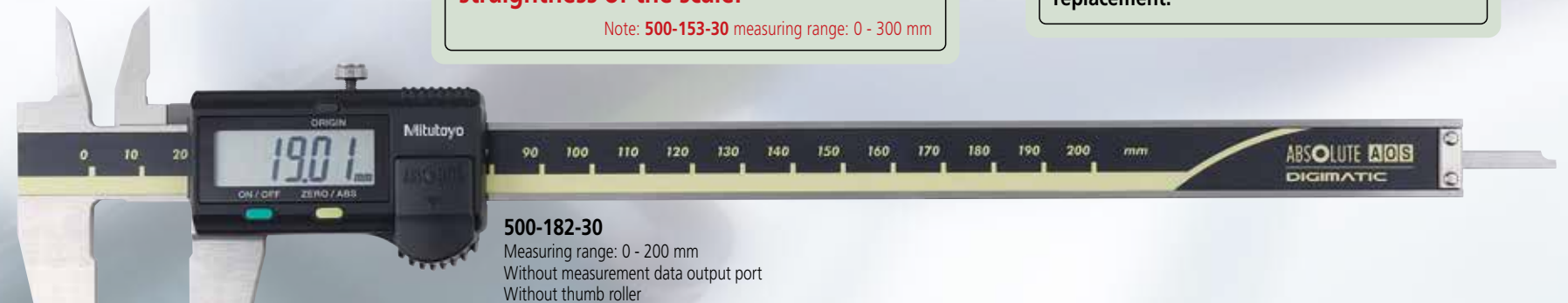
Note: 500-153-30 measuring range: 0 - 300 mm

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



500-151-30
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.**



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-WAVE^{fit} 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.**

The Standard for Digimatic Calipers

ABS Digimatic Calipers

MeasurLink[®] ENABLED
Data Management Software by Mitutoyo

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

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

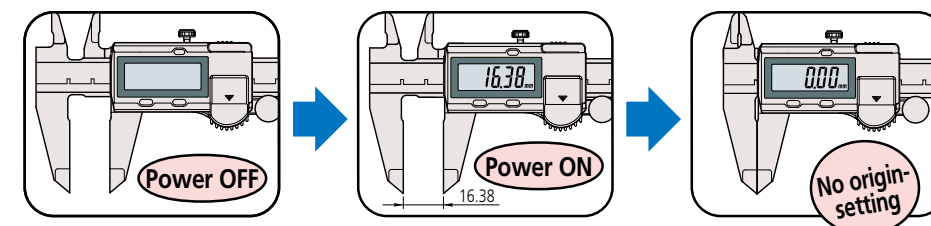
ABSOLUTE[™]



An inspection certificate is supplied
as standard.

U-WAVE^{fit}

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)

- Resolution: 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)*		Mass (g)	Measurement data output port	Thumb roller	Remarks
		<i>E</i> _{MPE}	<i>S</i> _{MPE}				
500-702-20	0 - 150	±0.02	±0.04	168	—	✓	—
500-703-20	0 - 200			198	—	✓	—
500-712-20	0 - 150			168	✓	✓	—
500-713-20	0 - 200			198	✓	✓	—
500-714-20	0 - 300	±0.03	±0.05	350	✓	✓	—
500-721-20	0 - 150	±0.02	±0.04	168	✓	✓	Carbide-tipped jaws for outside measurement
500-722-20	0 - 200			198	✓	✓	Carbide-tipped jaws for outside measurement
500-723-20	0 - 150			168	✓	✓	Carbide-tipped jaws for outside & inside measurement
500-724-20	0 - 200			198	✓	✓	Carbide-tipped jaws for outside & inside measurement
500-719-20	0 - 150			168	✓	✓	Rod depth bar ø1.9 mm

* Partial Surface Contact Error, *E*_{MPE} and Shift Error, *S*_{MPE} are terms (notations) used in ISO 13385-1:2019.

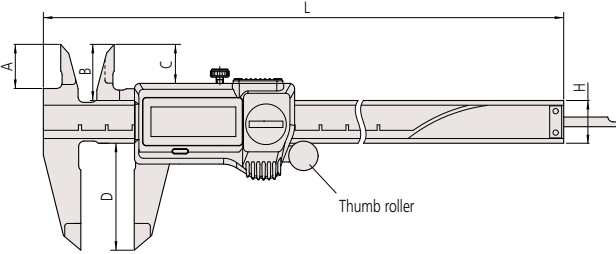
Inch/Metric

Order No.	Measuring range (in)	Maximum permissible error*		Mass (g)	Measurement data output port	Thumb roller	Remarks
		<i>E</i> _{MPE}	<i>S</i> _{MPE}				
500-752-20	0 - 6	±0.001 in/ ±0.02 mm	±0.002 in/ ±0.04 mm	168	—	✓	—
500-753-20	0 - 8			198	—	✓	—
500-762-20	0 - 6			168	✓	✓	—
500-763-20	0 - 8			198	✓	✓	—
500-764-20	0 - 12	±0.0015 in/ ±0.03 mm	±0.0025 in/ ±0.05 mm	350	✓	✓	—
500-735-20	0 - 6	±0.001 in/ ±0.02 mm	±0.002 in/ ±0.04 mm	168	✓	✓	Carbide-tipped jaws for outside measurement
500-736-20	0 - 8			198	✓	✓	Carbide-tipped jaws for outside measurement
500-737-20	0 - 6			168	✓	✓	Carbide-tipped jaws for outside & inside measurement
500-738-20	0 - 8			198	✓	✓	Carbide-tipped jaws for outside & inside measurement
500-769-20	0 - 6			168	✓	✓	Rod depth bar ø0.075 inch

* Partial Surface Contact Error, *E*_{MPE} and Shift Error, *S*_{MPE} are terms (notations) used in ISO 13385-1:2019.

DIMENSIONS

With thumb roller



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		404

Unit: mm

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.
- Zero/ABS button:**
Switches between Absolute and Incremental measurement modes 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.
- Data output:**
By using the connecting cable (option), measurement data can be output.

ABS Digimatic Calipers Specifications

Metric

Order No.	Measuring range (mm)	Maximum permissible error (mm)**2		Mass (g)	Measurement data output port	Thumb roller	Remarks
		<i>E</i> _{MPE}	<i>S</i> _{MPE}				
500-150-30	0 - 100	±0.02	±0.04	143	✓	✓	Rod depth bar ø1.9 mm
500-180-30* ¹					—	—	Rod depth bar ø1.9 mm
500-151-30					✓	✓	—
500-154-30	0 - 150			168	✓	✓	Carbide-tipped jaws for outside measurement
500-155-30					✓	✓	Carbide-tipped jaws for outside & inside measurement
500-158-30					✓	✓	Rod depth bar ø1.9 mm
500-181-30* ¹					—	—	—
500-152-30					0 - 200	198	✓
500-156-30	✓			✓			Carbide-tipped jaws for outside measurement
500-157-30	✓			✓			Carbide-tipped jaws for outside & inside measurement
500-182-30* ¹	—			—			—
500-153-30	0 - 300	±0.03	±0.05	350	✓	✓	—

^{*1} Without SPC data output
^{*2} Partial Surface Contact Error, *E*_{MPE} and Shift Error, *S*_{MPE} are terms (notations) used in ISO 13385-1:2019.

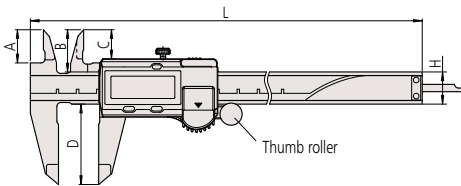
Inch/Metric

Order No.	Measuring range (in)	Maximum permissible error* ²		Mass (g)	Measurement data output port	Thumb roller	Remarks
		<i>E</i> _{MPE}	<i>S</i> _{MPE}				
500-170-30	0 - 4	±0.001 in/ ±0.02 mm	±0.002 in/ ±0.04 mm	143	✓	✓	Rod depth bar ø0.075 inch
500-171-30	0 - 6			✓	✓	—	
500-174-30				✓	✓	Carbide-tipped jaws for outside measurement	
500-175-30				✓	✓	Carbide-tipped jaws for outside & inside measurement	
500-178-30				✓	✓	Rod depth bar ø0.075 inch	
500-191-30				—	—	—	
500-172-30				0 - 8	✓	✓	—
500-176-30	✓				✓	Carbide-tipped jaws for outside measurement	
500-177-30	✓				✓	Carbide-tipped jaws for outside & inside measurement	
500-173-30	0 - 12	±0.0015 in/ ±0.03 mm	±0.0025 in/ ±0.05 mm	350	✓	✓	—
500-195-30* ¹	0 - 4	±0.001 in/ ±0.02 mm	±0.002 in/ ±0.04 mm	143	—	✓	Rod depth bar ø0.075 inch
500-196-30* ¹	0 - 6			168	—	✓	—
500-197-30* ¹	0 - 8			198	—	✓	—

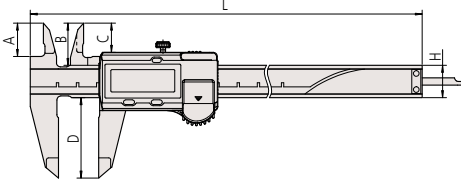
^{*1} Without SPC data output
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DIMENSIONS

With thumb roller



Without thumb roller

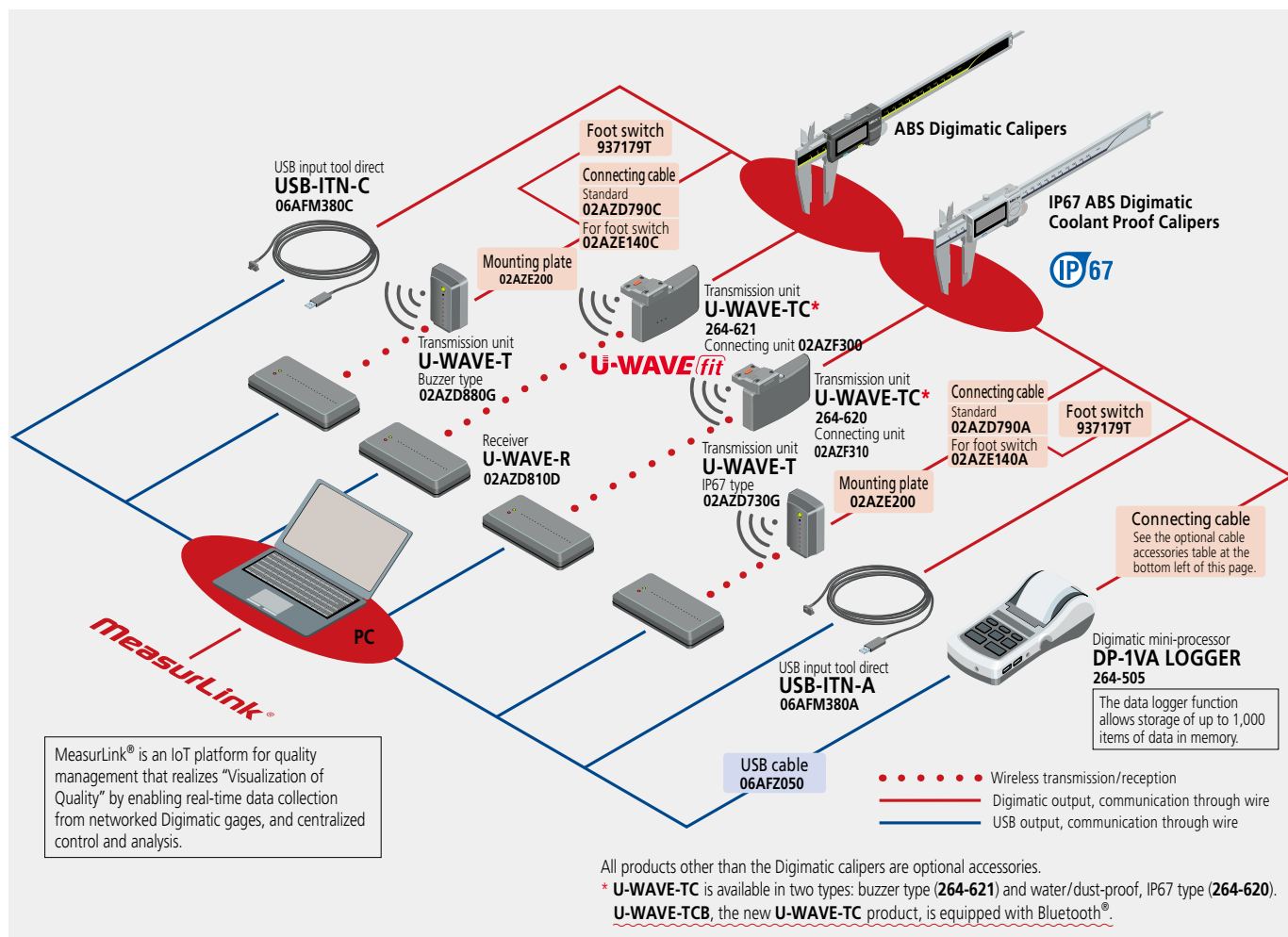


Measuring range	A	B	C	D	H	L
0 - 100	16.5	21	14.5	40	16	182
0 - 150						233
0 - 200	20	24.5	18	50		290
0 - 300	22	27.5	19.8	64	20	404

Unit: mm

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 product catalogue

<https://www.mitutoyo.co.jp/global.html>

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