

04

Calipers

MeasurLink[®] ENABLED

Data Management Software by Mitutoyo

Measurement Data Network System

MeasurLink[®] is a measurement data management system based on databases (SQL Server). You can build a network to manage the measurement results and measuring instruments simply by combining the required functions.

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

U-WAVE^{fit}

Measurement Data Wireless Communication System

Bluetooth[®] communication enables wireless transfer of measurement data from Digimatic micrometers and callipers to PCs, smartphones, tablets and such other devices.



IP Codes

The code indicates the degree of protection against the ingress of foreign materials and water as defined in the IEC standard (IEC 60529). The number indicates the protection level. (Refer to page 3)



TÜV Rheinland Certification Marks

All products with the marks have passed the IP test carried out by the German accreditation organization, TÜV Rheinland.



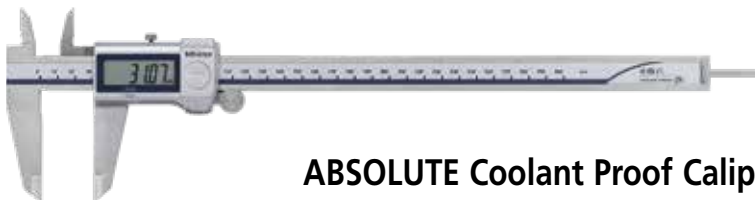
Measuring Instruments Shipped with Inspection Certificate

Mitutoyo guarantees product quality as a leading precision measuring instrument manufacturer and ships measuring instruments with an inspection certificate that includes inspection data so that customers can use them with confidence.

ABSOLUTE[™]

ABSOLUTE Linear Encoder

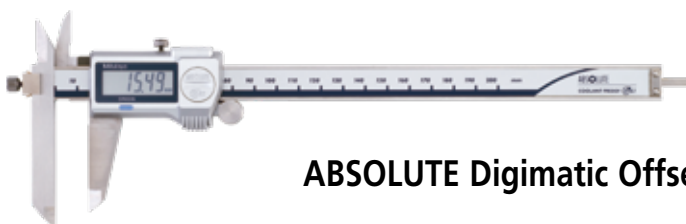
Mitutoyo developed the unique ABSOLUTE method to retain position information after the power is turned off. The origin is set once - thereafter the live position is displayed when the power is turned on.



ABSOLUTE Coolant Proof Caliper



ABSOLUTE Digimatic Caliper



ABSOLUTE Digimatic Offset Caliper

INDEX

Calipers

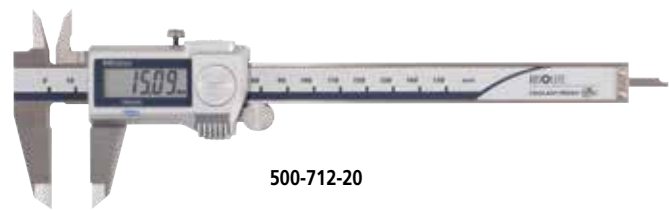
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Calipers

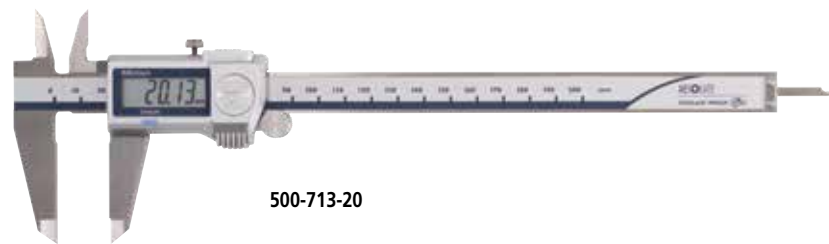
ABSOLUTE Coolant Proof Caliper
SERIES 500 — with Dust/Water Protection Conforming to IP67 Level

04
Calipers

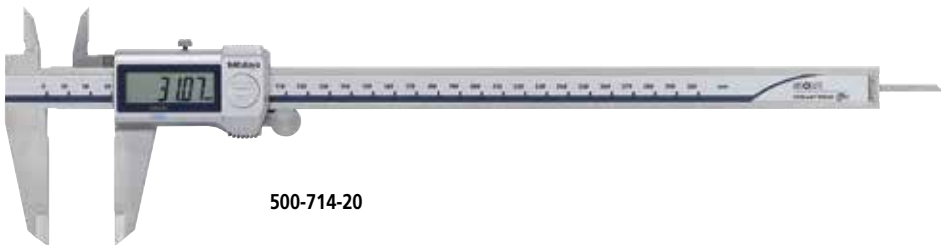
- Rated to IP67: can be used in workshop conditions exposed to coolant, water, dust or oil. The digital display can reduce human error by preventing incorrect reading of measurement results.
- Incorporates Mitutoyo's ABSOLUTE measurement system. No need to reset the origin after switching on. Eliminates overspeed errors.
- Battery cap does not require a screw driver for battery replacement.
- SPC data output models can be integrated into statistical process control and measurement systems. (Refer to page 09-3.)
- Carbide-tipped jaw calipers are optimal for rough finished parts, castings, grindingstones, etc.



500-712-20



500-713-20



500-714-20

Calipers

MeasurLink[®] ENABLED
Data Management Software by Mitutoyo

U-WAVE^{fit}

ABSOLUTE[™]

IP67

Dust- and Water- Protected
www.tuv.com
ID 000045042

Functions

- Origin-set: ABSOLUTE origin position can be changed.
- 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 04-4.
- Automatic power on/off: Turns off the LCD display if the caliper remains unused for approximately 20 minutes after measurement, although the origin is still memorized. Moving the slider restores the display.
- Alarm: Should a computing error occur, the display shows an error message, causing the measurement function to stop. This prevents an instrument from giving an erroneous reading. Also, when the battery voltage drops to a certain level, the "B" mark appears to indicate low battery voltage before the measurement becomes unavailable.

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
05CZA624	A	Connection cable for IT/DP/MUX (1 m)*1
05CZA625	A	Connection cable for IT/DP/MUX (2 m)*1
06AFM380A	A	USB Input Tool Direct (2 m)
02AZD730G	IP67	U-WAVE-T*2
02AZD880G	Buzzer	U-WAVE-T*2
02AZE200	—	U-WAVE-T mounting bracket
02AZD790A	A	Connection cable for U-WAVE-T (160 mm)
02AZE140A	A	Connection cable for U-WAVE-T For foot switch
264-620	IP67	U-WAVE-TC*2
264-621	Buzzer	U-WAVE-TC*2
264-624	IP67	U-WAVE-TCB*2
264-625	Buzzer	U-WAVE-TCB*2
02AZF310	IP67	Connecting unit for U-WAVE-TC/TCB

*1 Cannot be used for other than water resistant type Digital calipers with external output function.
*2 IP67 model is water/dust-proofed suitable for the factory floor. Buzzer type is not water/dust-proofed.

LCD



Remarkably easy to read display

IP67 protection level



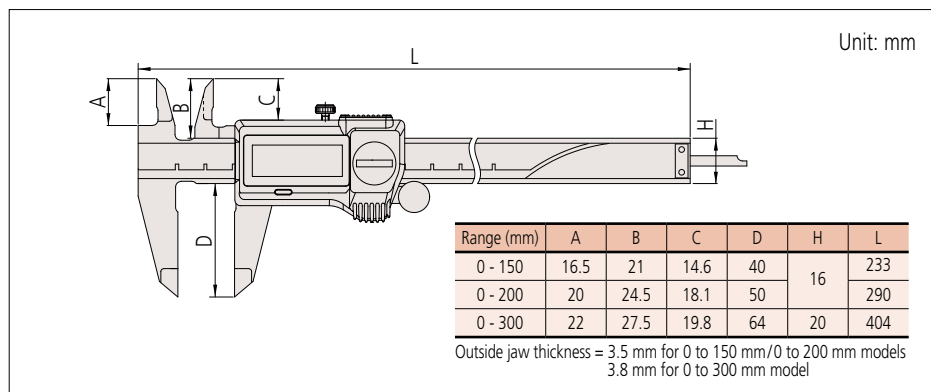
SPECIFICATIONS

Metric								
Code No.	Range (mm)	Resolution (mm)	Maximum permissible error (mm)*1		Measurement data output port	Mass (g)	Thumb roller	Remarks
			EMPE	SMPE				
500-702-20*3	0 - 150	0.01	±0.02	±0.04	—	168	✓	—
500-703-20*3	0 - 200					198		
500-706-20*3	0 - 150					168		
500-707-20*3	0 - 200					198		
500-709-20	0 - 150				168	—	Depth bar ø1.9 mm	
500-716-20					168			
500-717-20	0 - 200				198	—		
500-712-20	0 - 150				168			
500-713-20	0 - 200				198			
500-719-20	0 - 150				168			
500-721-20	0 - 150				168	✓	Carbide-tipped jaws for outside measurement	
500-722-20	0 - 200				198			
500-723-20	0 - 150				168			
500-724-20	0 - 200				198			
500-727-20	0 - 150				168	—	Carbide-tipped jaws for outside and inside measurement	
500-728-20	0 - 200				198			
500-714-20	0 - 300		±0.03	±0.05	—	350	✓	—
500-718-20						345	—	
500-704-20*3						350	✓	
500-708-20*3						345	—	

Inch / Metric								
Code No.	Range	Resolution	Maximum permissible error*1		Measurement data output port	Mass (g)	Thumb roller	Remarks
			EMPE	SMPE				
500-720-20	0 - 6 in/0 - 150 mm	0.0005 in/ 0.01 mm	±0.001 in/ ±0.02 mm	±0.002 in/ ±0.04 mm	✓	168	—	Depth bar ø1.9 mm
500-731-20*3	0 - 8 in/0 - 200 mm				—	198	Carbide-tipped jaws for outside measurement	
500-732-20*3	0 - 8 in/0 - 200 mm					168	Carbide-tipped jaws for outside and inside measurement	
500-733-20*3	0 - 6 in/0 - 150 mm					198	Carbide-tipped jaws for outside measurement	
500-734-20*3	0 - 8 in/0 - 200 mm				✓	168	✓	Carbide-tipped jaws for outside measurement
500-735-20	0 - 6 in/0 - 150 mm					198		Carbide-tipped jaws for outside measurement
500-736-20	0 - 8 in/0 - 200 mm					168		Carbide-tipped jaws for outside and inside measurement
500-737-20	0 - 6 in/0 - 150 mm					198		Carbide-tipped jaws for outside and inside measurement
500-738-20	0 - 8 in/0 - 200 mm				—	168		—
500-752-20*3	0 - 6 in/0 - 150 mm					198		
500-753-20*3	0 - 8 in/0 - 200 mm					168		
500-762-20	0 - 6 in/0 - 150 mm				✓	198		
500-763-20	0 - 8 in/0 - 200 mm					168		
500-768-20*3	0 - 6 in/0 - 150 mm					168		Depth bar ø1.9 mm
500-769-20	0 - 6 in/0 - 150 mm					168		Depth bar ø1.9 mm
500-764-20	0 - 12 in/0 - 300 mm		±0.0015 in/ ±0.03 mm	±0.0025 in/ ±0.05 mm	✓	350	✓	—
500-754-20*3					—	350		

- Dust/Water protection level: IP67 (IEC60529)*2
 - 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
 - With depth bar
- *1 The Partial Surface Contact Error (EMPE) and Shift Error (SMPE) are terms defined by ISO 13385-1:2019.
 *2 Although these models are IP67 rated, care should be taken to dry tool after use.
 *3 Without SPC data output.

DIMENSIONS



Calipers

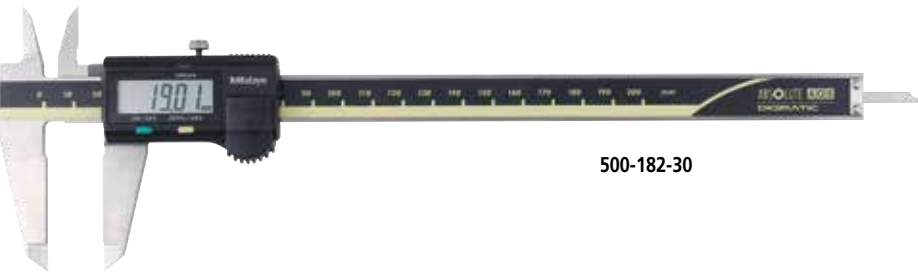
ABSOLUTE Digimatic Caliper
SERIES 500 — with Exclusive ABSOLUTE Encoder Technology

04 Calipers

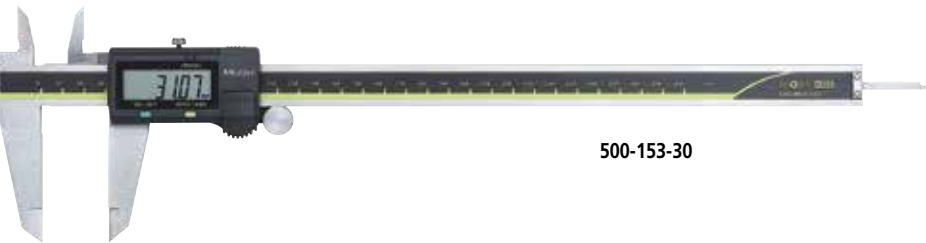
- This is a standard digital caliper. The digital display can reduce human error by preventing incorrect reading of measurement results.
- Incorporates Mitutoyo's ABSOLUTE measurement system. No need to reset the origin after switching on. Eliminates overspeed errors.
- Carbide-tipped jaw calipers are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



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).

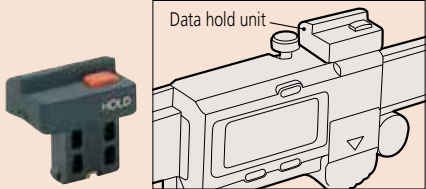
Optional Accessories

(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					✓			168		Blade	with thumb roller	Carbide-tipped jaws for outside measurement	
500-154-30	0 - 150					ø1.9 mm rod	Carbide-tipped jaws for outside and inside measurement						
500-155-30									—				—
500-158-30													
500-181-30													
500-152-30	0 - 200				✓	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		± 0.03	± 0.05	✓	350	with thumb roller	—					
500-161-30	0 - 150		± 0.02	± 0.04		168							
500-162-30	0 - 200					198							
500-184-30	0 - 150				—	168	ø1.9 mm rod						
500-201-30	0 - 100				✓	143	Blade						
500-203-30	0 - 150					168	ø1.9 mm rod						
500-205-30	0 - 300		± 0.03	± 0.05		345	Blade	—	Carbide-tipped jaws for outside measurement				
500-233-30	0 - 150		± 0.02	± 0.04	✓	168				Carbide-tipped jaws for outside and inside measurement			
500-234-30													
500-235-30	0 - 200										198	Carbide-tipped jaws for outside measurement	
500-236-30													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.

ABSOLUTE Digimatic Caliper
SERIES 500 — with Exclusive ABSOLUTE Encoder Technology

04
Calipers

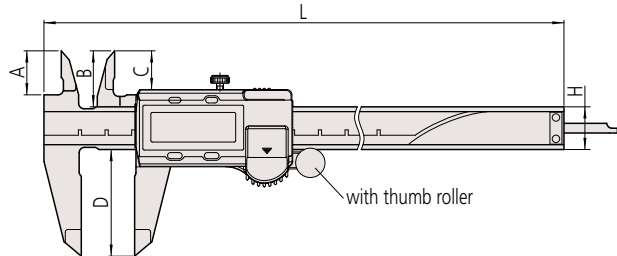
Inch / Metric		Resolution	Maximum permissible error*		Measurement data output port	Mass (g)	Depth bar	Fine adjustment	Remarks			
Code No.	Range		EMPE	SMPE								
500-170-30	0 - 4 in/ 0 - 100 mm	0.0005 in/ 0.01 mm	±0.001 in/ ±0.02 mm	±0.002 in/ ±0.04 mm	✓	143	ø0.075 inch rod	with thumb roller	—			
500-195-30					—							
500-171-30	0 - 6 in/ 0 - 150 mm				✓	168	Blade		Carbide-tipped jaws for outside measurement			
500-174-30										Carbide-tipped jaws for outside and inside measurement		
500-175-30												
500-178-30									ø0.075 inch rod		—	
500-196-30									168	—	Carbide-tipped jaws for outside measurement	
500-159-30												Carbide-tipped jaws for outside and inside measurement
500-160-30												
500-191-30	—				—							
500-202-30												
500-172-30	0 - 8 in/ 0 - 200 mm				✓	198	Blade	with thumb roller	Carbide-tipped jaws for outside measurement			
500-176-30										Carbide-tipped jaws for outside and inside measurement		
500-177-30												
500-197-30									—			
500-163-30			—	Carbide-tipped jaws for outside measurement								
500-164-30									Carbide-tipped jaws for outside and inside measurement			
500-204-30												
500-173-30	0 - 12 in/ 0 - 300 mm		±0.0015 in/ ±0.03 mm	±0.0025 in/ ±0.05 mm	350	with thumb roller	—					
500-167-30								Carbide-tipped jaws for outside measurement				
500-168-30									Carbide-tipped jaws for outside and inside measurement			
500-193-30							—					
500-165-30							Carbide-tipped jaws for outside measurement					
500-166-30		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 (EMPE) and Shift Error (SMPE) are terms defined by ISO 13385-1:2019.

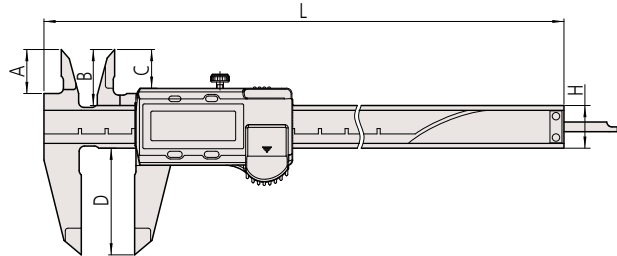
DIMENSIONS

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	20	290
0 - 300	22	27.5	19.8	64		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

ABSOLUTE Digimatic Long Caliper
SERIES 500 — with Exclusive ABSOLUTE Encoder Technology

- This is a long-scale digital caliper. 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.
- Data output function allows integration into statistical process control and measurement systems. (Refer to page 09-3.)



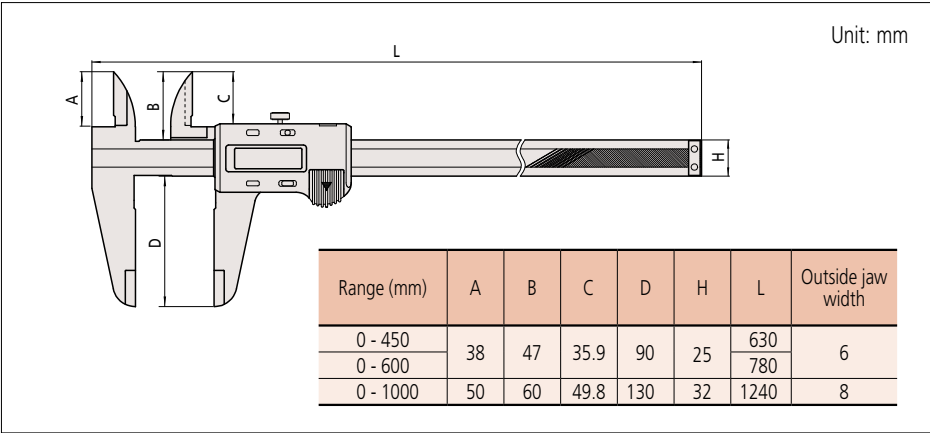
SPECIFICATIONS

Metric					
Code No.	Range (mm)	Resolution (mm)	Maximum permissible error (mm)*		Mass (g)
			EMPE	SMPE	
500-500-10	0 - 450	0.01	±0.05	±0.07	1170
500-501-10	0 - 600				1350
500-502-10	0 - 1000		±0.07	±0.09	3300

Inch / Metric					
Code No.	Range	Resolution	Maximum permissible error*		Mass (g)
			EMPE	SMPE	
500-505-10	0 - 18 in/0 - 450 mm	0.0005 in/0.01 mm	±0.002 in/±0.05 mm	±0.003 in/±0.07 mm	1170
500-506-10	0 - 24 in/0 - 600 mm				1350
500-507-10	0 - 40 in/0 - 1000 mm		±0.003 in/±0.07 mm	±0.004 in/±0.09 mm	3300

- Power source: SR44 battery (1 pc.). **938882** included as standard (for operational checks)
- Battery life: Approx. 3.5 years under normal use
- Response speed: Unlimited
- * The Partial Surface Contact Error (EMPE) and Shift Error (SMPE) are terms defined by ISO 13385-1:2019.

DIMENSIONS

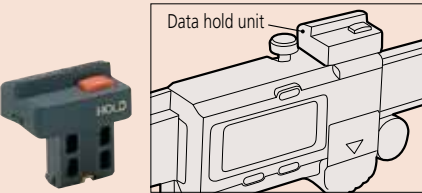


Optional Accessories

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

* IP-67 is applied to this **U-WAVE-T**, but not to the calipers on page 04-9.

• Data hold unit



959143

Vernier Caliper SERIES 530 — Standard Model

Measurement example



Round depth bar type



530-102

Carbide-tipped jaws for outside measurement



530-320

- This is a standard analog caliper. It can measure the outside, inside, depth, and step.
- The small Vernier face angle (14°) provides easy reading.
- Carbide-tipped jaw calipers are optimal for rough finished parts, castings, grinding stones, etc.



530-101

SPECIFICATIONS

Metric						
Code No.	Range (mm)	Graduation (mm)	Maximum permissible error (mm)*		Depth bar	Remarks
			<i>E</i> _{MPE}	<i>S</i> _{MPE}		
530-101	0 - 150	0.05	±0.05	±0.07	Blade	—
530-122		0.02	±0.03	±0.05		High accuracy model
530-108	0 - 200	0.05	±0.05	±0.07		—
530-123		0.02	±0.03	±0.05		High accuracy model
530-109	0 - 300	0.05	±0.08	±0.10		—
530-124		0.02	±0.04	±0.06		High accuracy model

Code No.	Range (mm)	Graduation (mm)	Maximum permissible error (mm)*		Depth bar	Remarks
			<i>E</i> _{MPE}	<i>S</i> _{MPE}		
530-100	0 - 100	0.05	±0.05	±0.07	ø1.9 mm rod	—
530-102	0 - 150				Blade	—
530-320						Carbide-tipped jaws for outside measurement
530-335						Carbide-tipped jaws for outside and inside measurement
530-321	0 - 200		±0.08	±0.10	—	Carbide-tipped jaws for outside measurement
530-322	0 - 300					Carbide-tipped jaws for outside measurement
530-501	0 - 600					—
530-502	0 - 1000		±0.15	±0.17	—	

Metric/Inch

with metric/inch double scale

Code No.	Range	Graduation	Maximum permissible error		Depth bar	Remarks	
			<i>E</i> _{MPE}	<i>S</i> _{MPE}			
530-104	0 - 150 mm/ 0 - 6 in	0.05 mm (1/128 in)	±0.05 mm/ ±0.5/128 in	±0.07 mm/ ±0.5/128 in	Blade	—	
530-316		0.02 mm (0.001 in)	±0.03 mm/ ±0.001 in	±0.05 mm/ ±0.002 in		Clamping screw below the slider	
530-312						High accuracy model: ±0.03 mm	
530-114	0 - 200 mm/ 0 - 8 in	0.05 mm (1/128 in)	±0.05 mm/ ±0.5/128 in	±0.07 mm/ ±0.5/128 in		—	
530-118		0.02 mm (0.001 in)	±0.03 mm/ ±0.001 in	±0.05 mm/ ±0.002 in		High accuracy model: ±0.03 mm	
530-115	0 - 300 mm/ 0 - 12 in	0.05 mm (1/128 in)	±0.08 mm/ ±0.5/128 in	±0.10 mm/ ±0.5/128 in		—	
530-119		0.02 mm (0.001 in)	±0.04 mm/ ±0.0015 in	±0.06 mm/ ±0.0025 in	High accuracy model: ±0.04 mm		

Inch

with inch/inch double scale

Code No.	Range (in)	Graduation (in)	Maximum permissible error (in)		Depth bar	Remarks
			<i>E</i> _{MPE}	<i>S</i> _{MPE}		
530-105	0 - 6	0.001 (1/128)	±0.001/±0.5/128	±0.002/±0.5/128	Blade	—
530-116	0 - 8					

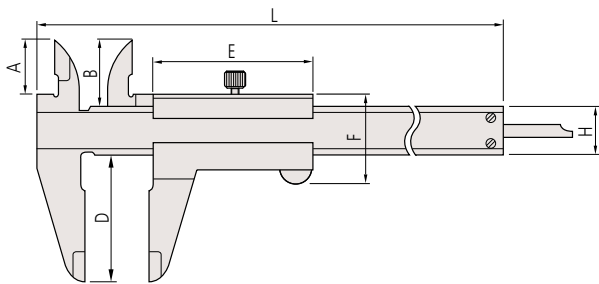
* The Partial Surface Contact Error (*E*_{MPE}) and Shift Error (*S*_{MPE}) are terms defined by ISO 13385-1:2019.

Vernier Caliper
SERIES 530 — Standard Model

04
Calipers

DIMENSIONS

Unit: mm



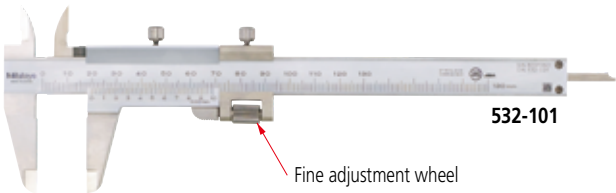
Range (mm)	A	B	D	E	F	H	L	Outside jaw thickness
0 - 100	17	21.5	40	53.5	30	16	182	3
0 - 150							229	
0 - 200							288	
0 - 300	22	27.5	64	66.5	36	20	404	3.8
0 - 600	38	47	90	89	50	25	780	6
0 - 1000	50	60	130	111	61	32	1240	8

Note: **530-100** and **530-102** incorporate a round depth bar (ø1.9 mm).
The depth bar shown in the illustration above is a different type.

Calipers

Vernier Caliper SERIES 532 — with Fine Adjustment

- Fine-adjustment thumbwheel aids slider positioning.



532-101

Fine adjustment wheel

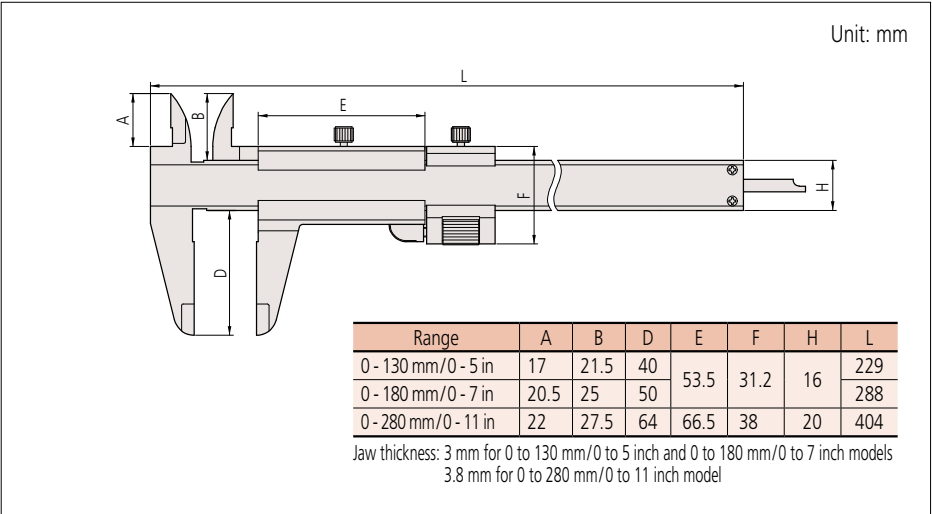
SPECIFICATIONS

Metric						
Code No.	Range (mm)	Graduation (mm)	Maximum permissible error (mm)*		Depth bar	Remarks
			<i>E</i> _{MPE}	<i>S</i> _{MPE}		
532-101	0 - 130	0.02	±0.03	±0.05	Blade	with fine adjustment
532-102	0 - 180		±0.03	±0.05		
532-103	0 - 280		±0.04	±0.06		

Metric/Inch with metric/inch double scale						
Code No.	Range	Graduation	Maximum permissible error*		Depth bar	Remarks
			<i>E</i> _{MPE}	<i>S</i> _{MPE}		
532-119	0 - 130 mm/0 - 5 in	0.02 mm (0.001 in)	±0.03 mm/0.001 in	±0.05 mm/0.002 in	Blade	with fine adjustment
532-120	0 - 180 mm/0 - 7 in		±0.03 mm/0.001 in	±0.05 mm/0.002 in		
532-121	0 - 280 mm/0 - 11 in		±0.04 mm/0.0015 in	±0.06 mm/0.0025 in		

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

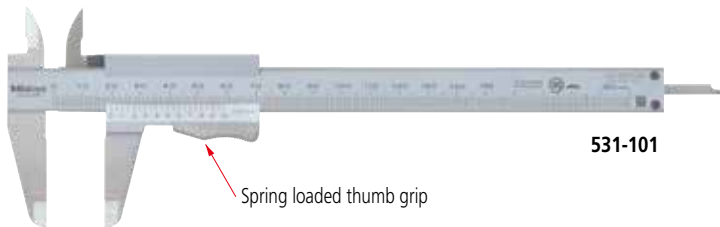
DIMENSIONS



Calipers

Vernier Caliper
SERIES 531 — with Thumb Grip

- 04
- Calipers
- The slider position is fixed by an automatic clamp, and the measured value can be kept after a workpiece is removed.
 - This feature is helpful when measuring at an invisible point of a workpiece or reading a value without a workpiece.



SPECIFICATIONS

Metric						
Code No.	Range (mm)	Graduation (mm)	Maximum permissible error (mm)*		Depth bar	Remarks
			EMPE	SMPE		
531-101	0 - 150	0.05	±0.05	±0.07	Blade	—
531-102	0 - 200					
531-103	0 - 300					

Metric / Inch with metric/inch double scale						
Code No.	Range	Graduation	Maximum permissible error*		Depth bar	Remarks
			EMPE	SMPE		
531-122	0 - 150 mm/0 - 6 in	0.05 mm (1/128 in)	±0.05 mm/±0.5/128 in	±0.07 mm/±0.5/128 in	Blade	with inch/mm conversion label
531-128		0.02 mm (0.001 in)	±0.03 mm/0.001 in	±0.05 mm/0.002 in		High accuracy model
531-108	0 - 200 mm/0 - 8 in	0.05 mm (1/128 in)	±0.05 mm/±0.5/128 in	±0.07 mm/±0.5/128 in		—
531-129		0.02 mm (0.001 in)	±0.03 mm/0.001 in	±0.05 mm/0.002 in		High accuracy model
531-109	0 - 300 mm/0 - 12 in	0.05 mm (1/128 in)	±0.08 mm/±0.5/128 in	±0.10 mm/±0.5/128 in		—
531-112		0.02 mm (0.001 in)	±0.04 mm/0.0015 in	±0.06 mm/0.0025 in		High accuracy model

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

DIMENSIONS

Unit: mm

* (): Dimension in 0 to 300 mm/0 to 12 inch model

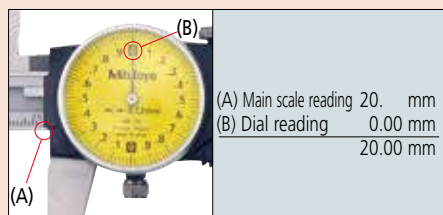
Range	A	B	D	H	L
0 - 150 mm/0 - 6 in	17	21.5	40	16	229
0 - 200 mm/0 - 8 in	20.5	25	50		288
0 - 300 mm/0 - 12 in	22	27.5	64	20	404

Jaw thickness: 3 mm for 0 to 150 mm/0 to 6 inch and 0 to 200 mm/0 to 8 inch models
3.8 mm for 0 to 300 mm/0 to 12 inch model



Dial Caliper SERIES 505

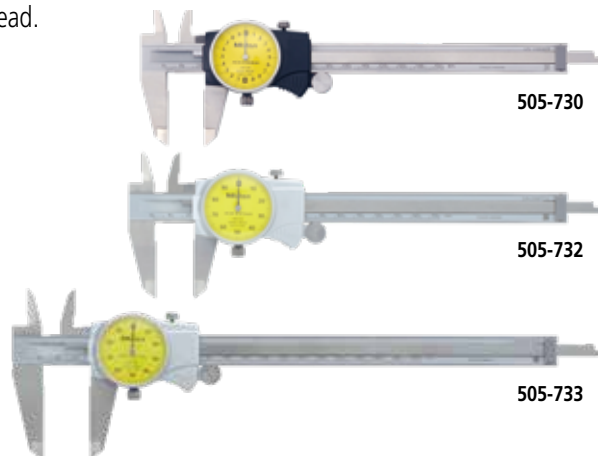
Reading



(A) Main scale reading 20. mm
(B) Dial reading 0.00 mm
20.00 mm

The series provides two types; Graduation 0.02 mm (2 mm/rev.) and Graduation 0.01 mm (1 mm/rev.).

- Easy-to-read yellow dial reduces the effect of parallax.
- The font used on the dial face and the main scale is easy to read.
- Large finger rest aids ease of use.



SPECIFICATIONS

Metric

Code No.	Range (mm)	Graduation (mm)	Maximum permissible error (mm)*2		Remarks
			EMPE	SMPE	
505-730	0 - 150	0.02, 2/rev	±0.03	±0.05	—
505-734					Carbide-tipped jaws for outside measurement
505-735					Carbide-tipped jaws for outside and inside measurement
505-731	0 - 200	0.01, 1/rev	±0.04	±0.06	—
505-745	0 - 300		±0.02	±0.04	
505-732*1	0 - 150		±0.03	±0.05	
505-733*1	0 - 200		±0.03	±0.05	

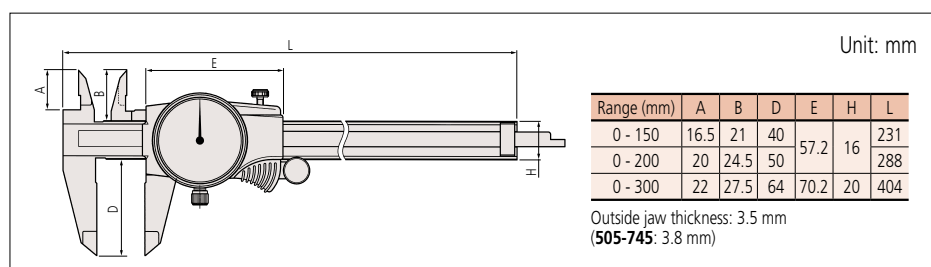
Inch

Code No.	Range (in)	Graduation (in)	Maximum permissible error (in)*2		Remarks	
			EMPE	SMPE		
505-740J	0 - 6	0.001, 0.2/rev	±0.001	±0.002	—	
505-742J*1		0.001, 0.1/rev			Carbide-tipped jaws for outside measurement	
505-742-56J						
505-742-51J						Carbide-tipped jaws for outside and inside measurement
505-736*1						Carbide-tipped jaws for outside measurement
505-738*1						
505-744		0.001, 0.2/rev			0.001, 0.1/rev	—
505-742-52J						
505-742-53J						
505-742-54J						
505-742-55J						
505-741J	0 - 8	0.001, 0.2/rev	±0.002	±0.0025	—	
505-743J*1		0.001, 0.1/rev			Carbide-tipped jaws for outside measurement	
505-737*1		0.001, 0.2/rev			Carbide-tipped jaws for outside and inside measurement	
505-739*1						
505-749		0 - 12			0.001, 0.1/rev	—
505-746*1	0.001, 0.2/rev		Carbide-tipped jaws for outside measurement			
505-750	0.001, 0.1/rev		Carbide-tipped jaws for outside and inside measurement			
505-747*1						
505-748*1						

*1 Silver cover type

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

DIMENSIONS



Calipers

ABSOLUTE Coolant Proof Carbon Fiber Caliper SERIES 552 — with Standard Jaws

- Digimatic Calipers employ CFRP (Carbon-Fiber Reinforced Plastics) in the beam and jaws. Lightweight and easy to handle.

- Rated to IP66: can be used in adverse environments where the caliper is subject to splashing by cutting fluid or coolant. The digital display can reduce human error by preventing incorrect reading of measurement results.



552-303-10

SPECIFICATIONS

Metric

Code No.	Range (mm)* ¹	Resolution (mm)	Maximum permissible error (mm)* ²	
			EMPE	SMPE
552-302-10	0 - 450 (20.1 - 470)	0.01	±0.04	±0.04
552-303-10	0 - 600 (20.1 - 620)		±0.05	±0.05
552-304-10	0 - 1000 (20.1 - 1020)		±0.09	±0.09
552-305-10	0 - 1500 (20.1 - 1520)		±0.12	±0.12
552-306-10	0 - 2000 (20.1 - 2020)			

Inch / Metric

Code No.	Range* ¹	Resolution	Maximum permissible error* ²	
			EMPE	SMPE
552-312-10	0 - 18 in/0 - 450 mm (0.504 - 18.5 in/12.8 - 462.7mm)	0.0005 in/0.01 mm	±0.002 in/±0.04 mm	±0.002 in/±0.04 mm
552-313-10	0 - 24 in/0 - 600 mm (0.504 - 24.5 in/12.8 - 612.7 mm)		±0.002 in/±0.05 mm	±0.002 in/±0.05 mm
552-314-10	0 - 40 in/0 - 1000 mm (1.004 - 41 in/25.5 - 1025.4 mm)		±0.004 in/±0.09 mm	±0.004 in/±0.09 mm
552-315-10	0 - 60 in/0 - 1500 mm (1.004 - 61 in/25.5 - 1525.4 mm)		±0.005 in/±0.12 mm	±0.005 in/±0.12 mm
552-316-10	0 - 80 in/0 - 2000 mm (1.004 - 81 in/25.5 - 2025.4 mm)			

- Dust/Water protection level: IP66 (IEC60529)*³
- Power source: SR44 battery (1 pc.), **938882** included as standard (for operational checks)
- Battery life: Approx. 5,000 hours in continuous use
- Response speed: Unlimited
- Material of jaws: Stainless Steel Hardened

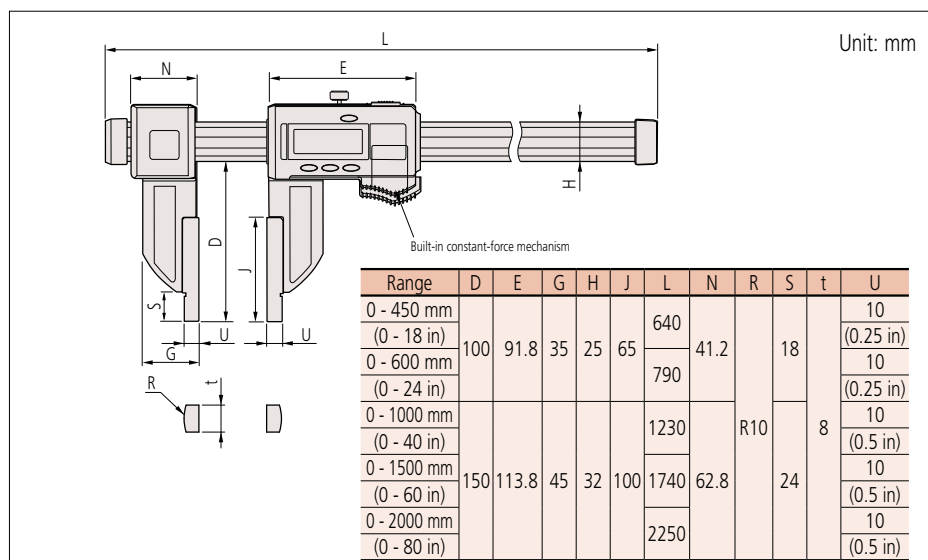
*1 (): Dimension in inside measurement

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

*3 Rustproofing shall be applied after use if caliper was in contact with coolant.

Note: A constant-force mechanism is used in the finger rest; however, this is only an auxiliary mechanism to avoid measurement error caused by excessive measuring force. To measure with good accuracy, use the minimum necessary measuring force for the caliper measuring faces to make sufficient contact with the workpiece. Refer to page 13-21 for details.

DIMENSIONS



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Measurement example



Functions

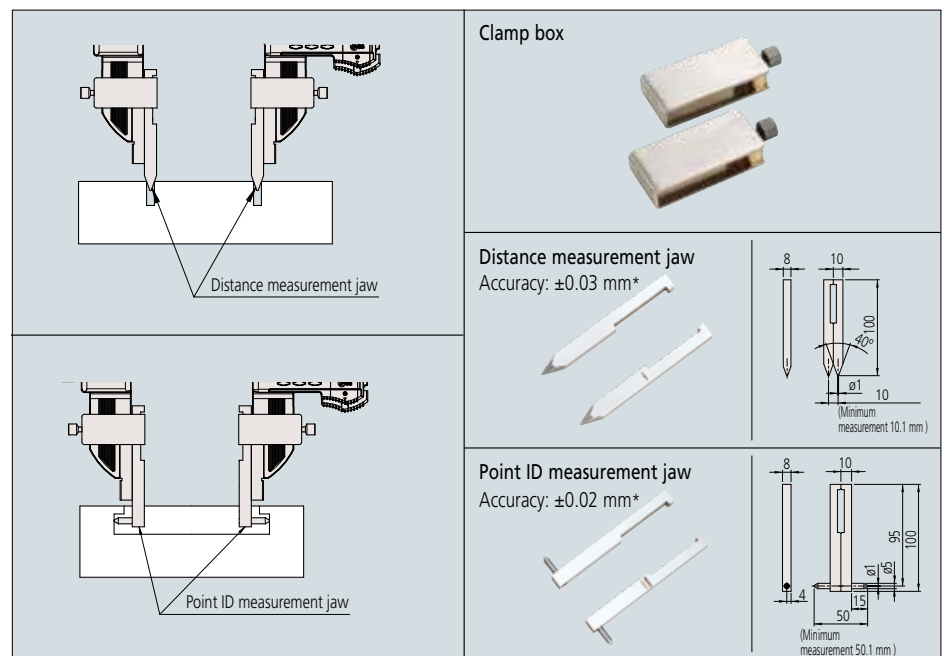
- Zero-setting
- Data hold: Pressing the HOLD switch displays "H" on the LCD display and holds (retains) the display of value. Moving the slider in this state does not change the displayed value. Pressing the switch again cancels the state, allowing you to start measurement again.
- Offsetting: Pressing the OFFSET switch adds an offset for inside measurement to the displayed value so that you can directly obtain an inside measurement value.
- Presetting: This function presets a desired value as the displayed value at the origin. When using optional jaws, presetting an offset of the jaws enables you to directly obtain the necessary measurement value.
- Data output: Measurement data can be output, allowing easy incorporation of this instrument into a statistical process control or measurement system.
- Low-power and low-voltage alert: When the battery voltage becomes low, "B" appears on the LCD, signalling the need for battery replacement before the caliper stops working.
- Counting value composition error: If a measurement error occurs due to dirt on the scale, etc., an error message appears on the display and measurement stops.
- Automatic power on/off, inch/mm reading (inch/mm models): LCD display turns off after 20 minutes inactivity but the ABS scale unit origin is stored. Moving the slider restores the display.

Optional Accessories

Code No.	Type	Description
264-020	—	USB Input Tool Series USB Keyboard Signal Conversion Type IT-020U
05CZA624	A	Connection cable for IT/DP/MUX (1 m)
05CZA625	A	Connection cable for IT/DP/MUX (2 m)
06AFM380A	A	USB Input Tool Direct (2 m)
02AZD730G	IP67	U-WAVE-T
02AZD880G	Buzzer	U-WAVE-T
02AZE200	—	U-WAVE-T mounting bracket
02AZD790A	A	Connection cable for U-WAVE-T (160 mm)
02AZE140A	A	Connection cable for U-WAVE-T For foot switch

Optional accessories

Metric		
	552-302-10, 552-155-10, 552-303-10 and 552-156-10	552-304-10, 552-305-10 and 552-306-10
Clamp box (1 pair)	914053	914054
Distance measurement jaw (1 pair)	914055	
Point ID measurement jaw (1 pair)	914057	
Inch / Metric		
	552-312-10, 552-165-10, 552-313-10 and 552-166-10	552-314-10, 552-315-10 and 552-316-10
Clamp box (1 pair)	914053	914054
Distance measurement jaw (1 pair)	914056	
Point ID measurement jaw (1 pair)	914058	



* Accuracies shown in the diagrams are of each accessory and accuracy resulting in mounting them on the main body is not guaranteed.

Calipers

ABSOLUTE Coolant Proof Carbon Fiber Caliper
SERIES 552 — with Long Jaws

- Digimatic Calipers employ CFRP (Carbon-Fiber Reinforced Plastics) in the beam and jaws. Lightweight and easy to handle. The long jaw is suitable for measuring a large pipe diameter, etc.
- Rated to IP66: can be used in adverse environments where the caliper is subject to splashing by cutting fluid or coolant. The digital display can reduce human error by preventing incorrect reading of measurement results.



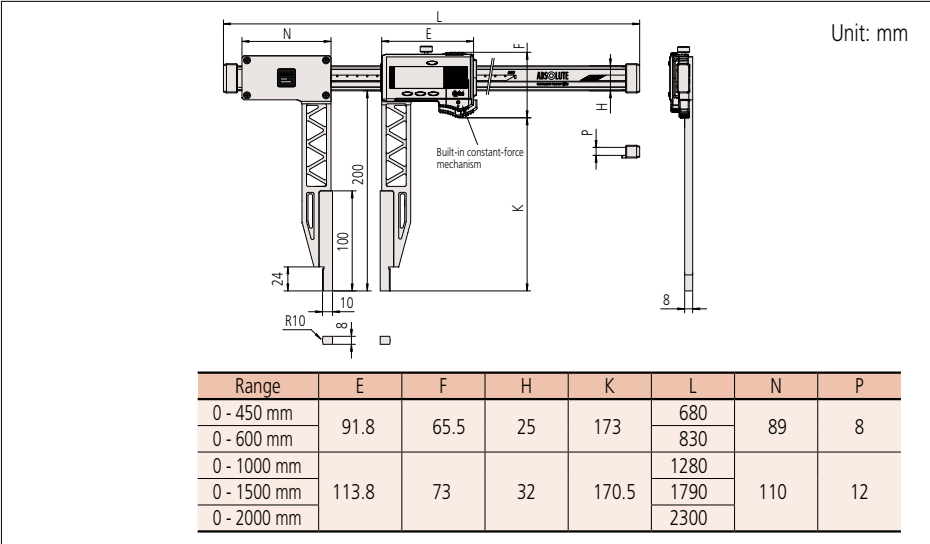
SPECIFICATIONS

Code No.	Range (mm)*1	Resolution (mm)	Maximum permissible error (mm)*2	
			EMPE	SMPE
552-150-10	0 - 450 (20.1 - 470)	0.01	±0.06	±0.06
552-151-10	0 - 600 (20.1 - 620)		±0.06	±0.06
552-152-10	0 - 1000 (20.1 - 1020)		±0.07	±0.07
552-153-10	0 - 1500 (20.1 - 1520)		±0.11	±0.11
552-154-10	0 - 2000 (20.1 - 2020)		±0.14	±0.14

Code No.	Range*1	Resolution	Maximum permissible error*2	
			EMPE	SMPE
552-160-10	0 - 18 in/0 - 450 mm (0.504 - 18.5 in/12.8 - 462.7 mm)	0.0005 in/0.01 mm	±0.0025 in/±0.06 mm	±0.0025 in/±0.06 mm
552-161-10	0 - 24 in/0 - 600 mm (0.504 - 24.5 in/12.8 - 612.7 mm)		±0.0025 in/±0.06 mm	±0.0025 in/±0.06 mm
552-162-10	0 - 40 in/0 - 1000 mm (1.004 - 41 in/25.5 - 1025.4 mm)		±0.003 in/±0.07 mm	±0.003 in/±0.07 mm
552-163-10	0 - 60 in/0 - 1500 mm (1.004 - 61 in/25.5 - 1525.4 mm)		±0.0045 in/±0.11 mm	±0.0045 in/±0.11 mm
552-164-10	0 - 80 in/0 - 2000 mm (1.004 - 81 in/25.5 - 2025.4 mm)		±0.0055 in/±0.14 mm	±0.0055 in/±0.14 mm

- Dust/Water protection level: IP66 (IEC 60529)*3
 - Power source: SR44 battery (1 pc.), **938882** included as standard (for operational checks)
 - Battery life: Approx. 5,000 hours in continuous use
 - Response speed: Unlimited
 - Material of jaws: Stainless Steel Hardened
- *1 (): Dimension in inside measurement
*2 The Partial Surface Contact Error (EMPE) and Shift Error (SMPE) are terms defined by ISO 13385-1:2019.
*3 Rustproofing shall be applied after use if caliper was in contact with coolant.
- Note: A constant-force mechanism is used in the finger rest; however, this is only an auxiliary mechanism to avoid measurement error caused by excessive measuring force. To measure with good accuracy, use the minimum necessary measuring force for the caliper measuring faces to make sufficient contact with the workpiece. Refer to page 13-21 for details.

DIMENSIONS



Measurement example



Functions

- Zero-setting
- Data hold: Pressing the HOLD switch displays "H" on the LCD display and holds (retains) the display of value. Moving the slider in this state does not change the displayed value. Pressing the switch again cancels the state, allowing you to start measurement again.
- Offsetting: Pressing the OFFSET switch adds an offset for inside measurement to the displayed value so that you can directly obtain an inside measurement value.
- Presetting: This function presets a desired value as the displayed value at the origin. When using optional jaws, presetting an offset of the jaws enables you to directly obtain the necessary measurement value.
- Data output: Measurement data can be output, allowing easy incorporation of this instrument into a statistical process control or measurement system.
- Low-power and low-voltage alert: When the battery voltage becomes low, "B" appears on the LCD, signalling the need for battery replacement before the calliper stops working.
- Counting value composition error: If a measurement error occurs due to dirt on the scale, etc., an error message appears on the display and measurement stops.
- Automatic power on/off, inch/mm reading (inch/mm models): LCD display turns off after 20 minutes inactivity but the ABS scale unit origin is stored. Moving the slider restores the display.

Optional Accessories

Code No.	Type	Description
264-020	—	USB Input Tool Series USB Keyboard Signal Conversion Type IT-020U
05CZA624	A	Connection cable for IT/DP/MUX (1 m)
05CZA625	A	Connection cable for IT/DP/MUX (2 m)
06AFM380A	A	USB Input Tool Direct (2 m)
02AZD730G	IP67	U-WAVE-T
02AZD880G	Buzzer	U-WAVE-T
02AZE200	—	U-WAVE-T mounting bracket
02AZD790A	A	Connection cable for U-WAVE-T (160 mm)
02AZE140A	A	Connection cable for U-WAVE-T For foot switch

ABSOLUTE Coolant Proof Carbon Fiber Caliper SERIES 552 — with Ceramic Jaws

- Digimatic Calipers employ CFRP (Carbon-Fiber Reinforced Plastics) in the beam and jaws. Lightweight and easy to handle.
- Rated to IP66: can be used in adverse environments where the caliper is subject to splashing by cutting fluid or coolant. The digital display can reduce human error by preventing incorrect reading of measurement results.
- Zirconia ceramic contact surfaces make it possible to measure weakly magnetic workpieces; however, measurement of strongly magnetic workpieces may not be possible, as metal parts are used for the caliper's main body.



552-156-10

Functions

- Zero-setting
- Data hold: Pressing the HOLD switch displays "H" on the LCD display and holds (retains) the display of value. Moving the slider in this state does not change the displayed value. Pressing the switch again cancels the state, allowing you to start measurement again.
- Offsetting: Pressing the OFFSET switch adds an offset for inside measurement to the displayed value so that you can directly obtain an inside measurement value.
- Presetting: This function presets a desired value as the displayed value at the origin. When using optional jaws, presetting an offset of the jaws enables you to directly obtain the necessary measurement value.
- Data output: Measurement data can be output, allowing easy incorporation of this instrument into a statistical process control or measurement system.
- Low-power and low-voltage alert: When the battery voltage becomes low, "B" appears on the LCD, signalling the need for battery replacement before the caliper stops working.
- Counting value composition error: If a measurement error occurs due to dirt on the scale, etc., an error message appears on the display and measurement stops.
- Automatic power on/off, inch/mm reading (inch/mm models): LCD display turns off after 20 minutes inactivity but the ABS scale unit origin is stored. Moving the slider restores the display.

Optional Accessories

Code No.	Type	Description
264-020	—	USB Input Tool Series USB Keyboard Signal Conversion Type IT-020U
05CZA624	A	Connection cable for IT/DP/MUX (1 m)
05CZA625	A	Connection cable for IT/DP/MUX (2 m)
06AFM380A	A	USB Input Tool Direct (2 m)
02AZD730G	IP67	U-WAVE-T
02AZD880G	Buzzer	U-WAVE-T
02AZE200	—	U-WAVE-T mounting bracket
02AZD790A	A	Connection cable for U-WAVE-T (160 mm)
02AZE140A	A	Connection cable for U-WAVE-T For foot switch

SPECIFICATIONS

Metric				
Code No.	Range (mm)* ¹	Resolution (mm)	Maximum permissible error (mm)* ²	
552-155-10	0 - 450 (20.1 - 470)	0.01	<i>E</i> _{MPE}	<i>S</i> _{MPE}
552-156-10	0 - 600 (20.1 - 620)		±0.04	±0.04

Inch/Metric				
Code No.	Range* ¹	Resolution	Maximum permissible error* ²	
552-165-10	0 - 18 in/0 - 450 mm (0.504 - 18.5 in/12.8 - 462.7 mm)	0.0005 in/0.01 mm	<i>E</i> _{MPE}	<i>S</i> _{MPE}
552-166-10	0 - 24 in/0 - 600 mm (0.504 - 24.5 in/12.8 - 612.7 mm)		±0.002 in/±0.04 mm	±0.002 in/±0.04 mm

- Dust/Water protection level: IP66 (IEC 60529)*³
- Power source: SR44 battery (1 pc.), **938882** included as standard (for operational checks)
- Battery life: Approx. 5,000 hours in continuous use
- Response speed: Unlimited
- Material of jaws: Zirconia

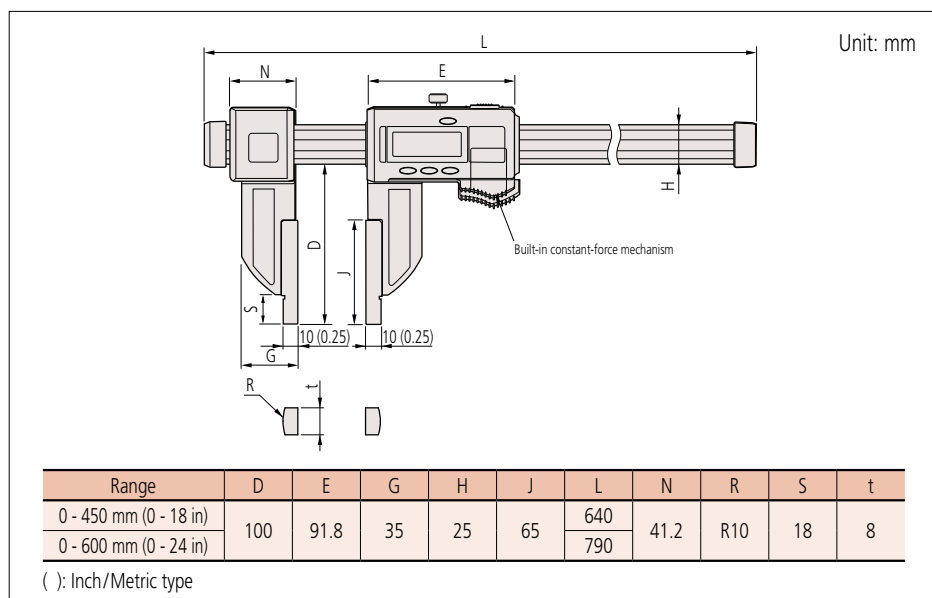
*1 (): Dimension in inside measurement

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

*3 Rustproofing shall be applied after use if caliper was in contact with coolant.

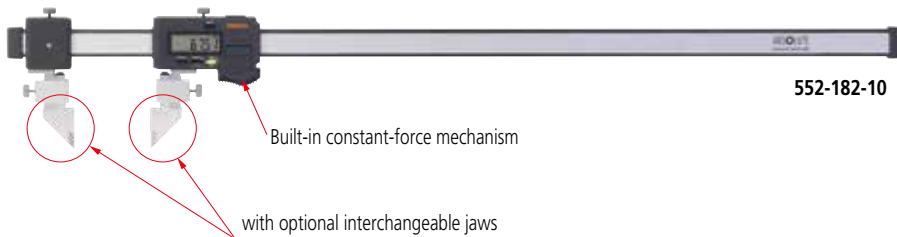
Note: A constant-force mechanism is used in the finger rest; however, this is only an auxiliary mechanism to avoid measurement error caused by excessive measuring force. To measure with good accuracy, use the minimum necessary measuring force for the caliper measuring faces to make sufficient contact with the workpiece. Refer to page 13-21 for details.

DIMENSIONS



ABSOLUTE Coolant Proof Carbon Fiber Caliper SERIES 552 — with Interchangeable Jaws

- Digimatic Calipers employ CFRP (Carbon-Fiber Reinforced Plastics) in the beam and jaws. Lightweight and easy to handle. The range of applications can be expanded by using interchangeable jaws.
- Rated to IP66: can be used in adverse environments where the caliper is subject to splashing by cutting fluid or coolant. The digital display can reduce human error by preventing incorrect reading of measurement results.



SPECIFICATIONS

Metric				
Code No.	Range (mm)	Resolution (mm)	Maximum permissible error (mm)*1	
			<i>E</i> MPe	<i>S</i> MPe
552-181-10	0 - 450	0.01	±0.04	
552-182-10	0 - 600			
552-183-10	0 - 1000			
552-184-10	0 - 1500			
552-185-10	0 - 2000		±0.12	

Inch / Metric				
Code No.	Range	Resolution	Maximum permissible error*1	
			<i>E</i> MPe	<i>S</i> MPe
552-191-10	0 - 18 in/0 - 450 mm	0.0005 in/0.01 mm	±0.002 in/±0.04 mm	
552-192-10	0 - 24 in/0 - 600 mm			
552-193-10	0 - 40 in/0 - 1000 mm			
552-194-10	0 - 60 in/0 - 1500 mm			
552-195-10	0 - 80 in/0 - 2000 mm		±0.005 in/±0.12 mm	

- Dust/Water protection level: IP66 (IEC 60529)*2
- Power source: SR44 battery (1 pc.), **938882** included as standard (for operational checks)
- Battery life: Approx. 5,000 hours in continuous use
- Response speed: Unlimited

*1 The Partial Surface Contact Error (*E*MPe) and Shift Error (*S*MPe) are terms defined by ISO 13385-1:2019.

*2 Rustproofing shall be applied after use if caliper was in contact with coolant.

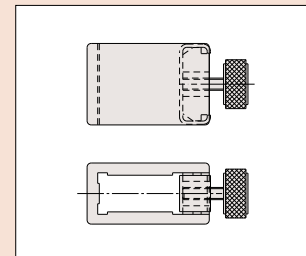
Note1: The Maximum permissible error (MPE) values described above were measured using a dedicated outside measurement inspection tool.

Note2: A constant-force mechanism is used in the finger rest; however, this is only an auxiliary mechanism to avoid measurement error caused by excessive measuring force. To measure with good accuracy, use the minimum necessary measuring force for the caliper measuring faces to make sufficient contact with the workpiece. Refer to page 13-21 for details.

Functions

- Zero-setting
- Data hold: Pressing the HOLD switch displays "H" on the LCD display and holds (retains) the display of value. Moving the slider in this state does not change the displayed value. Pressing the switch again cancels the state, allowing you to start measurement again.
- Offsetting: Pressing the OFFSET switch adds an offset for inside measurement to the displayed value so that you can directly obtain an inside measurement value.
- Presetting: This function presets a desired value as the displayed value at the origin. When using optional jaws, presetting an offset of the jaws enables you to directly obtain the necessary measurement value.
- Data output: Measurement data can be output, allowing easy incorporation of this instrument into a statistical process control or measurement system.
- Low-power and low-voltage alert: When the battery voltage becomes low, "B" appears on the LCD, signalling the need for battery replacement before the caliper stops working.
- Counting value composition error: If a measurement error occurs due to dirt on the scale, etc., an error message appears on the display and measurement stops.
- Automatic power on/off, inch/mm reading (inch/mm models): LCD display turns off after 20 minutes inactivity but the ABS scale unit origin is stored. Moving the slider restores the display.

Standard Accessories (2 pcs.)



Jaw clamps: 05GZA033

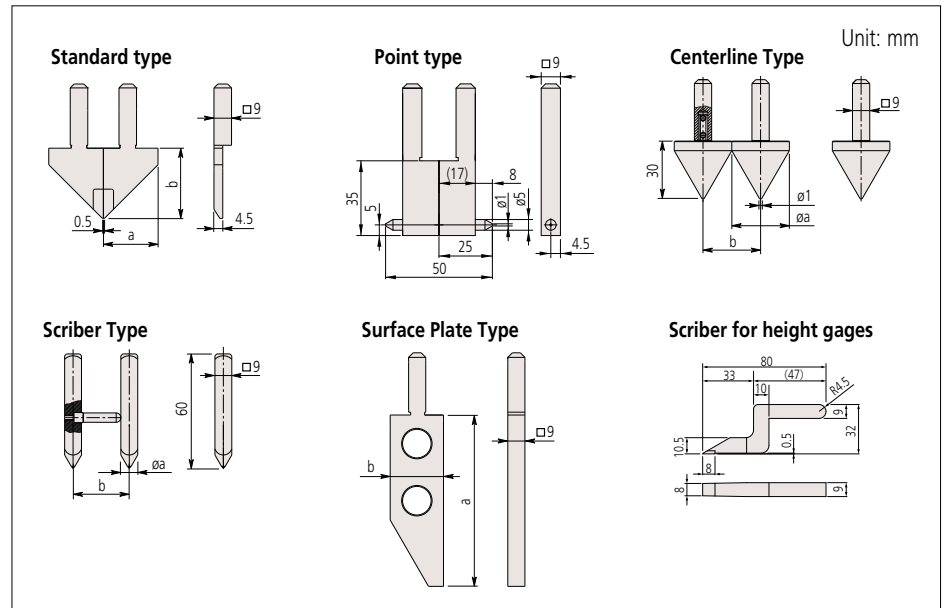
Optional Accessories

Code No.	Type	Description
264-020	—	USB Input Tool Series USB Keyboard Signal Conversion Type IT-020U
05CZA624	A	Connection cable for IT/DP/MUX (1 m)
05CZA625	A	Connection cable for IT/DP/MUX (2 m)
06AFM380A	A	USB Input Tool Direct (2 m)
02AZD730G	IP67	U-WAVE-T
02AZD880G	Buzzer	U-WAVE-T
02AZE200	—	U-WAVE-T mounting bracket
02AZD790A	A	Connection cable for U-WAVE-T (160 mm)
02AZE140A	A	Connection cable for U-WAVE-T For foot switch

Optional accessories

Interchangeable jaws

SPECIFICATIONS



Standard Type

Code No.	Components	a	b
07CZA056	Right (07CAA044), Left (07CAA045)	28 mm (1.1 in)	36 mm (1.2 in)

Note: 1 set

Point Type

Code No.	Components	a	b
07CZA058	07CZA041x2 pcs.	25 mm	50 mm
07CZA059	07CZA048x2 pcs.	1 in	2 in

Centerline Type

Code No.	Components	a	b
07CZA057	07CZA039x2 pcs.	30 mm	30 mm
07CZA060	07CZA047x2 pcs.	1.2 in	1.2 in

Scriber Type

Code No.	Components	a	b
07CZA055	Right (07CZA042), Left (07CZA043)	8 mm	30 mm
07CZA061	Right (07CZA042), Left (07CZA049)	0.31 in	1.2 in

Surface Plate Type

Code No.	a	b
07CZA044	90 mm (3.5 in)	28 mm (1.1 in)

Note: Note that the error arising from the combination of surface plates is outside the scope of accuracy guarantee.

Scriber for height gages

Code No.
07GZA000

Type	Applicable calipers	Range	Maximum permissible error*	
			EMPE	SMPE
Standard type	552-181-10 (552-191-10)	0 - 450 mm (0 - 18 in)	±0.06 mm (±0.0025 in)	
	552-182-10 (552-192-10)	0 - 600 mm (0 - 24 in)	±0.07 mm (±0.0030 in)	
	552-183-10 (552-193-10)	0 - 1000 mm (0 - 40 in)	±0.07 mm (±0.0030 in)	
	552-184-10 (552-194-10)	0 - 1500 mm (0 - 60 in)	±0.11 mm (±0.0045 in)	
	552-185-10 (552-195-10)	0 - 2000 mm (0 - 80 in)	±0.14 mm (±0.0055 in)	
Point type	552-181-10 (552-191-10)	Inside: 50.1 - 500 mm (2.004 - 20 in) Outside: 0 - 450 mm (0 - 18 in)	— ±0.09 mm (±0.0035 in)	±0.09 mm (±0.0035 in)
	552-182-10 (552-192-10)	Inside: 50.1 - 650 mm (2.004 - 26 in) Outside: 0 - 600 mm (0 - 24 in)	— ±0.09 mm (±0.0035 in)	±0.09 mm (±0.0035 in)
	552-183-10 (552-193-10)	Inside: 50.1 - 1050 mm (2.004 - 42 in) Outside: 0 - 1000 mm (0 - 40 in)	— ±0.10 mm (±0.0040 in)	±0.10 mm (±0.0040 in)
	552-184-10 (552-194-10)	Inside: 50.1 - 1550 mm (2.004 - 62 in) Outside: 0 - 1500 mm (0 - 60 in)	— ±0.14 mm (±0.0055 in)	±0.14 mm (±0.0055 in)
	552-185-10 (552-195-10)	Inside: 50.1 - 2050 mm (2.004 - 82 in) Outside: 0 - 2000 mm (0 - 80 in)	— ±0.17 mm (±0.0070 in)	±0.17 mm (±0.0070 in)
	552-181-10 (552-191-10)	30.1 - 480 mm (1.204 - 19.2 in)	±0.08 mm (±0.0030 in)	±0.08 mm (±0.0030 in)
	552-182-10 (552-192-10)	30.1 - 630 mm (1.204 - 25.2 in)		
	552-183-10 (552-193-10)	30.1 - 1030 mm (1.204 - 41.2 in)		
	552-184-10 (552-194-10)	30.1 - 1530 mm (1.204 - 61.2 in)		
	552-185-10 (552-195-10)	30.1 - 2030 mm (1.204 - 81.2 in)		
Centerline type	552-181-10 (552-191-10)	30.1 - 480 mm (1.204 - 19.2 in)	±0.11 mm (±0.0045 in)	±0.11 mm (±0.0045 in)
	552-182-10 (552-192-10)	30.1 - 630 mm (1.204 - 25.2 in)		
	552-183-10 (552-193-10)	30.1 - 1030 mm (1.204 - 41.2 in)		
	552-184-10 (552-194-10)	30.1 - 1530 mm (1.204 - 61.2 in)		
	552-185-10 (552-195-10)	30.1 - 2030 mm (1.204 - 81.2 in)		
Scriber type	552-181-10 (552-191-10)	30.1 - 480 mm (1.204 - 19.2 in)	±0.15 mm (±0.0060 in)	±0.15 mm (±0.0060 in)
	552-182-10 (552-192-10)	30.1 - 630 mm (1.204 - 25.2 in)		
	552-183-10 (552-193-10)	30.1 - 1030 mm (1.204 - 41.2 in)		
	552-184-10 (552-194-10)	30.1 - 1530 mm (1.204 - 61.2 in)		
	552-185-10 (552-195-10)	30.1 - 2030 mm (1.204 - 81.2 in)		
Surface plate type + Scriber type for height gages	552-181-10 (552-191-10)	0 - 450 mm (0 - 17.7 in)	±0.10 mm (±0.0040 in)	±0.10 mm (±0.0040 in)
	552-182-10 (552-192-10)	0 - 600 mm (0 - 23.7 in)		
	552-183-10 (552-193-10)	0 - 1000 mm (0 - 39.4 in)		
	552-184-10 (552-194-10)	0 - 1500 mm (0 - 59.4 in)		
	552-185-10 (552-195-10)	0 - 2000 mm (0 - 79.6 in)		
Surface plate type + Point type	552-181-10 (552-191-10)	Outside: 0 - 450 mm (0 - 18 in)	±0.12 mm (±0.0050 in)	±0.12 mm (±0.0050 in)
	552-182-10 (552-192-10)	Outside: 0 - 600 mm (0 - 24 in)		
	552-183-10 (552-193-10)	Outside: 0 - 1000 mm (0 - 40 in)		
	552-184-10 (552-194-10)	Outside: 0 - 1500 mm (0 - 60 in)		
	552-185-10 (552-195-10)	Outside: 0 - 2000 mm (0 - 80 in)		
Surface plate type + Centerline type	552-181-10 (552-191-10)	15.1 - 465 mm (0.6 - 18.6 in)	±0.11 mm (±0.0045 in)	±0.11 mm (±0.0045 in)
	552-182-10 (552-192-10)	15.1 - 615 mm (0.6 - 24.6 in)		
	552-183-10 (552-193-10)	15.1 - 1015 mm (0.6 - 40.6 in)		
	552-184-10 (552-194-10)	15.1 - 1515 mm (0.6 - 60.6 in)		
	552-185-10 (552-195-10)	15.1 - 2015 mm (0.6 - 80.6 in)		

() : Inch/Metric models

Note: The values described in the above table are MPE values when attached to a caliper.

Calipers

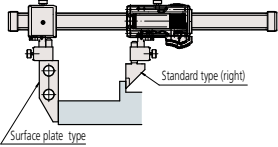
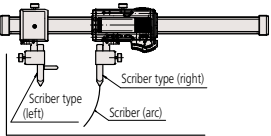
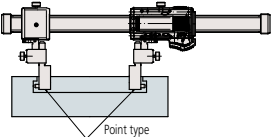
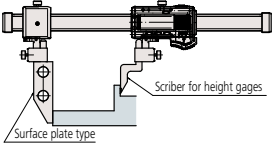
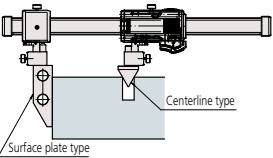
Optional accessories

Interchangeable jaws

04

Calipers

Typical applications

Surface plate type + Standard type  Standard type (right) Surface plate type	Scriber type  Scriber type (left) Scriber type (right) Scriber (arc)
Point type  Point type	Surface plate type + Scriber for height gages  Scriber for height gages Surface plate type
Surface plate type + Centerline type  Centerline type Surface plate type	The above combinations are examples only. Contact us for advice on accuracy when using a contact point in a combination other than as shown above.

Calipers

Measurement example



Optional Accessories

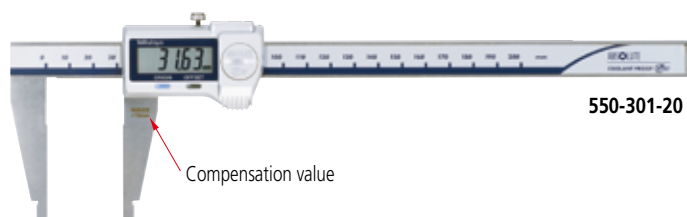
Code No.	Type	Description
264-020	—	USB Input Tool Series USB Keyboard Signal Conversion Type IT-020U
05CZA624	A	Connection cable for IT/DP/MUX (1 m)* ¹
05CZA625	A	Connection cable for IT/DP/MUX (2 m)* ¹
959149	C	Connection cable for IT/DP/MUX (1 m)* ²
959150	C	Connection cable for IT/DP/MUX (2 m)* ²
06AFM380A	A	USB Input Tool Direct (2 m)* ¹
06AFM380C	C	USB Input Tool Direct (2 m)* ²
02AZD730G	IP67	U-WAVE-T
02AZD880G	Buzzer	U-WAVE-T
02AZE200	—	U-WAVE-T mounting bracket
02AZD790A	A	Connection cable for U-WAVE-T (160 mm)* ¹
02AZE140A	A	Connection cable for U-WAVE-T * ¹ For foot switch
02AZD790C	C	Connection cable for U-WAVE-T (160 mm)* ²
02AZE140C	C	Connection cable for U-WAVE-T * ² For foot switch
264-620	IP67	U-WAVE-TC * ¹
264-621	Buzzer	U-WAVE-TC * ¹
264-624	IP67	U-WAVE-TCB * ¹
264-625	Buzzer	U-WAVE-TCB * ¹
02AZF310	IP67	Connecting unit for U-WAVE-TC/TCB * ¹

*1 For IP67 models (up to 300 mm)

*2 For series 550-2XX and 550-22X.

ABSOLUTE Digimatic Caliper SERIES 550 — with Nib Style Jaws

- This model can measure both inside and outside dimensions with a specially shaped jaw.
- The digital display can reduce human error by preventing incorrect reading of measurement results. **550-3XX-20** is rated at IP67 and therefore can be reliably used at the manufacturing site.
- Data output function allows integration into statistical process control and measurement systems. (Refer to page 09-3.)
- ID measurement value: displayed value + (a compensation value displayed on the main unit). OFFSET switch allows to input a compensation value so that the measurement value can be read directly (**Code No. 550-301-20, 550-331-20, 550-311-20 and 550-341-20**). Preset function allows to set a desired starting point (**550-331-20 and 550-341-20**).



SPECIFICATIONS

Metric					
Code No.	Range (mm)* ¹	Resolution (mm)	Maximum permissible error (mm)* ²		Remarks
			EMPE	SMPE	
550-301-20	0 - 200 (10.1 - 210)	0.01	±0.03	±0.03	IP67, with offset
550-331-20	0 - 300 (10.1 - 310)		±0.04	±0.04	IP67, with offset/preset function for easy inside measurement
550-203-10	0 - 450 (20.1 - 470)		±0.05	±0.05	—
550-205-10	0 - 600 (20.1 - 620)		±0.05	±0.05	—
550-207-10	0 - 1000 (20.1 - 1020)		±0.07	±0.07	—

Inch / Metric					
Code No.	Range* ¹	Resolution	Maximum permissible error* ²		Remarks
			EMPE	SMPE	
550-311-20	0 - 8 in/0 - 200 mm (0.404 - 8.4 in/10.26 - 210.16 mm)	0.0005 in/ 0.01 mm	±0.0015 in/ ±0.03 mm	±0.0015 in/ ±0.03 mm	IP67, with offset
550-341-20	0 - 12 in/0 - 300 mm (0.404 - 12.4 in/10.26 - 310.16 mm)		±0.002 in/ ±0.04 mm	±0.002 in/ ±0.04 mm	IP67, with offset/preset function for easy inside measurement
550-223-10	0 - 18 in/0 - 450 mm (0.504 - 18.5 in/12.8 - 462.7 mm)		±0.002 in/ ±0.05 mm	±0.002 in/ ±0.05 mm	—
550-225-10	0 - 24 in/0 - 600 mm (0.504 - 24.5 in/12.8 - 612.7 mm)		±0.003 in/ ±0.07 mm	±0.003 in/ ±0.07 mm	—
550-227-10	0 - 40 in/0 - 1000 mm (1.004 - 41 in/25.5 - 1025.4 mm)		±0.003 in/ ±0.07 mm	±0.003 in/ ±0.07 mm	—

• Power source: SR44 battery (1 pc.), **938882** included as standard (for operational checks)

• Position detection method: ABSOLUTE electromagnetic induction linear encoder

• Response speed: Unlimited

*1 () : Inside measurement

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

DIMENSIONS

Unit: mm

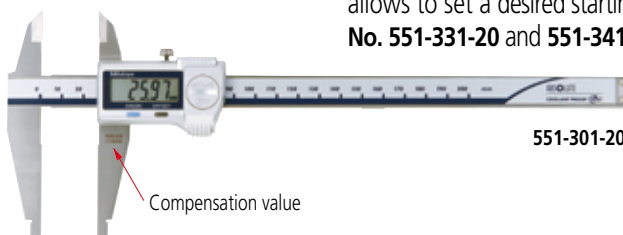
Range (mm)	D	G	S	W	H	t	R
0 - 200 (0 - 8 in)*	60	5 (5.08)*	8	76	16	3	5 (5.08)*
0 - 300 (0 - 12 in)*	75		12	95	20	3.8	
0 - 450 (0 - 18 in)*	100	10 (6.35)*	18	125	25	6	10 (6.35)*
0 - 600 (0 - 24 in)*			24	172	32	8	
0 - 1000 (0 - 40 in)*	140	10 (12.7)*	24	172	32	8	10 (12.7)*

* Inch model

Calipers

ABSOLUTE Digimatic Caliper SERIES 551 — with Nib Style and Standard Jaws

- This model has a smaller jaw for outside measurements and a larger jaw for inside and outside measurements. Use the jaws that are suitable for your application. The jaw for outside measurement has sharp tips that are helpful for measuring thin parts.
- Incorporates Mitutoyo's ABSOLUTE measurement system. No need to reset the origin after switching on.
- The digital display can reduce human error by preventing incorrect reading of measurement results. **551-3XX-20** is rated at IP67 and therefore can be reliably used at the manufacturing site.
- ID measurement value: displayed value + (a compensation value displayed on the main unit). OFFSET switch allows to input a compensation value so that the measurement value can be read directly (**Code No. 551-301-20, 551-331-20, 551-311-20 and 551-341-20**). Preset function allows to set a desired starting point (**Code No. 551-331-20 and 551-341-20**).



SPECIFICATIONS

Metric					
Code No.	Range (mm)* ¹	Resolution (mm)	Maximum permissible error (mm)* ²		Remarks
			EMPE	SMPE	
551-301-20	0 - 200 (10.1 - 210)	0.01	±0.03	±0.03	IP67, with offset
551-331-20	0 - 300 (10.1 - 310)		±0.04	±0.04	IP67, with offset/preset function for easy inside measurement
551-204-10	0 - 500 (20.1 - 520)		±0.06	±0.06	—
551-206-10	0 - 750 (20.1 - 770)		±0.02	±0.02	
551-207-10	0 - 1000 (20.1 - 1020)		±0.07	±0.07	

Inch / Metric					
Code No.	Range* ¹	Resolution	Maximum permissible error* ²		Remarks
			EMPE	SMPE	
551-311-20	0 - 8 in/0 - 200 mm (0.404 - 8.4 in/10.26 - 210.16 mm)	0.0005 in/ 0.01 mm	±0.0015 in/ ±0.03 mm	±0.0015 in/ ±0.03 mm	IP67, with offset
551-341-20	0 - 12 in/0 - 300 mm (0.404 - 12.4 in/10.26 - 310.16 mm)		±0.002 in/ ±0.04 mm	±0.002 in/ ±0.04 mm	IP67, with offset/preset function for easy inside measurement
551-224-10	0 - 20 in/0 - 500 mm (0.504 - 20.5 in/12.8 - 512.7 mm)		±0.0025 in/ ±0.06 mm	±0.0025 in/ ±0.06 mm	—
551-226-10	0 - 30 in/0 - 750 mm (0.504 - 30.5 in/12.8 - 762.7 mm)		±0.003 in/ ±0.07 mm	±0.003 in/ ±0.07 mm	
551-227-10	0 - 40 in/0 - 1000 mm (1.004 - 40.1 in/25.5 - 1025.4 mm)		±0.003 in/ ±0.07 mm	±0.003 in/ ±0.07 mm	

• Power source: SR44 battery (1 pc.), **938882** included as standard (for operational checks)

• Response speed: Unlimited

*1 (): Inside measurement

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

DIMENSIONS

Unit: mm									
Range (mm)	B	C	D	G	S	H	t	R	
0 - 200 (0 - 8 in)*	30	23.6	60	5 (5.08)*	8	16	3	5 (5.08)*	
0 - 300 (0 - 12 in)*	40	32.2	90		10	20	3.8		
0 - 500 (0 - 20 in)*	56	44.9	150	10 (6.35)*	18	25	6	10 (6.35)*	
0 - 750 (0 - 30 in)*	56								
0 - 1000 (0 - 40 in)*	56	43.8		10 (12.7)*	20	32	8	10 (12.7)*	

* Inch model

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IP67

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Measurement example



Optional Accessories

Code No.	Type	Description
264-020	—	USB Input Tool Series USB Keyboard Signal Conversion Type IT-020U
05CZA624	A	Connection cable for IT/DP/MUX (1 m)* ¹
05CZA625	A	Connection cable for IT/DP/MUX (2 m)* ¹
959149	C	Connection cable for IT/DP/MUX (1 m)* ²
959150	C	Connection cable for IT/DP/MUX (2 m)* ²
06AFM380A	A	USB Input Tool Direct (2 m)* ¹
06AFM380C	C	USB Input Tool Direct (2 m)* ²
02AZD730G	IP67	U-WAVE-T
02AZD880G	Buzzer	U-WAVE-T
02AZE200	—	U-WAVE-T mounting bracket
02AZD790A	A	Connection cable for U-WAVE-T (160 mm)* ¹
02AZE140A	A	Connection cable for U-WAVE-T * ¹ For foot switch
02AZD790C	C	Connection cable for U-WAVE-T (160 mm)* ²
02AZE140C	C	Connection cable for U-WAVE-T * ² For foot switch
264-620	IP67	U-WAVE-TC * ¹
264-621	Buzzer	U-WAVE-TC * ¹
264-624	IP67	U-WAVE-TCB * ¹
264-625	Buzzer	U-WAVE-TCB * ¹
02AZF310	IP67	Connecting unit for U-WAVE-TC/TCB * ¹

*1 For IP67 models (up to 300 mm)

*2 For series **551-2XX** and **551-22X**.

Vernier Caliper SERIES 533 — with Nib Style and Standard Jaws

- Allows inside and outside measurements directly from the upper and lower Vernier scales.
- Main scale and Vernier scale with a satin chrome finish provides better readability.



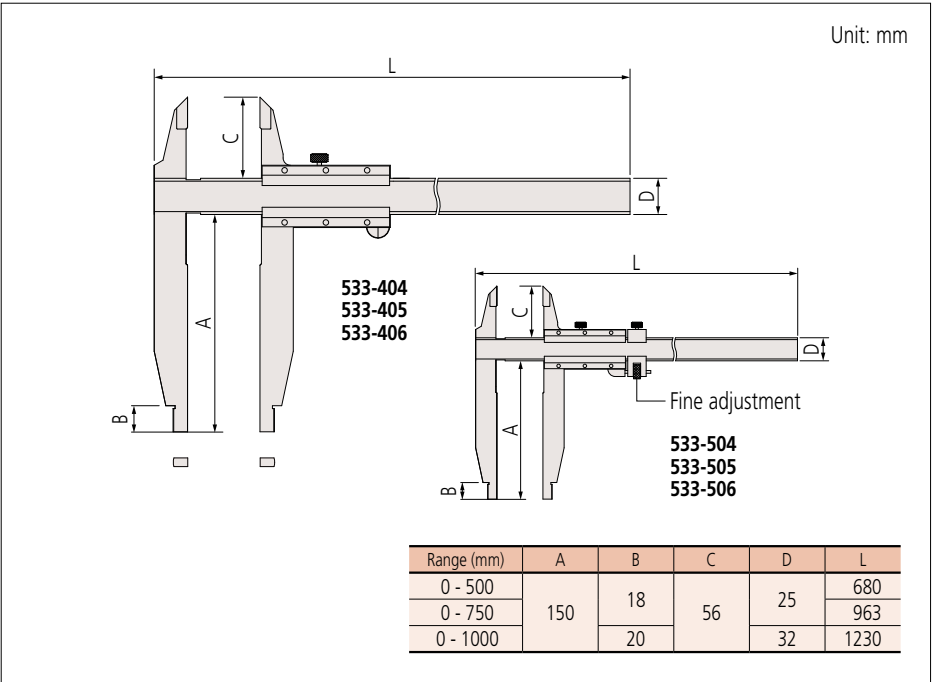
533-404

SPECIFICATIONS

Metric					
Code No.	Range (mm)* ¹	Resolution (mm)	Maximum permissible error (mm)* ²		Remarks
533-404	0 - 500 (20.1 - 520)	0.05	±0.10	±0.10	—
533-405	0 - 750 (20.1 - 770)		±0.12	±0.12	
533-406	0 - 1000 (20.1 - 1020)		±0.15	±0.15	
533-504	0 - 500 (20.1 - 520)	0.02	±0.05	±0.05	with fine adjustment
533-505	0 - 750 (20.1 - 770)		±0.06	±0.06	
533-506	0 - 1000 (20.1 - 1020)		±0.07	±0.07	

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

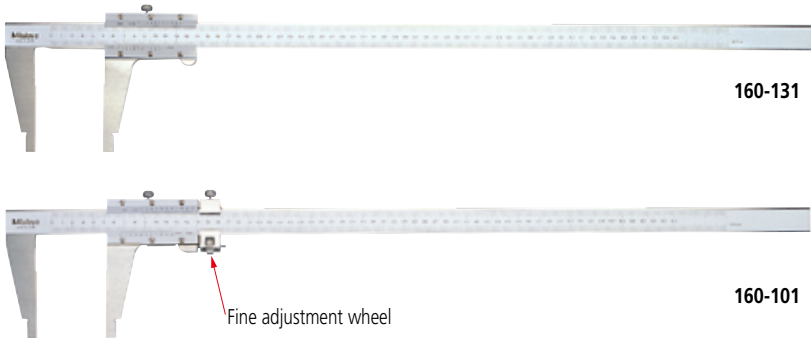
DIMENSIONS



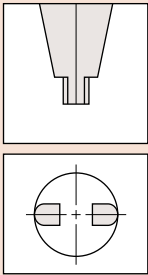
Calipers

Vernier Caliper
SERIES 160 — with Nib Style Jaws and Fine Adjustment

- The jaws' measuring faces have a radius for accurate inside diameter (ID) measurement. Inside and outside measurements can be read directly from the upper and lower slider graduations respectively.
- With fine adjustment (Code No. 160-127/128/101/104).



Measurement example



Radiused jaws for accurate ID measurement

SPECIFICATIONS

Metric		with inside measurement Vernier scale			
Code No.	Range (mm)*1	Minimum reading (mm)	Maximum permissible error (mm)*2		Remarks
			EMPE	SMPE	
160-130	0 (20.1) - 450	0.05	±0.10	±0.10	without fine adjustment
160-131	0 (20.1) - 600				
160-132	0 (20.1) - 1000		±0.15	±0.15	

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

Metric		with inside measurement Vernier scale			
Code No.	Range (mm)*1	Minimum reading (mm)	Maximum permissible error (mm)*2		Remarks
			EMPE	SMPE	
160-127	0 (10.1) - 300	0.02	±0.04	±0.04	with fine adjustment
160-128	0 (20.1) - 450		±0.05	±0.05	
160-101	0 (20.1) - 600				
160-104	0 (20.1) - 1000		±0.07	±0.07	

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

Metric/Inch		with metric/inch double scale			
Code No.	Range*1	Minimum reading	Maximum permissible error*2		Remarks
			EMPE	SMPE	
160-150	0 - 300 mm/0 - 12 in (10.1 - 300 mm/0.398 - 12 in)	0.02 mm/ 0.001 in	±0.04 mm/ ±0.0015 in	±0.04 mm/ ±0.0015 in	+10 mm/0.394 in to reading in inside measurement
160-151	0 - 450 mm/0 - 18 in (20.1 - 450 mm/0.791 - 18 in)		±0.05 mm/ ±0.002 in	±0.05 mm/ ±0.002 in	+20 mm/0.787 in to reading in inside measurement
160-153	0 - 600 mm/0 - 24 in (20.1 - 600 mm/0.791 - 24 in)		±0.07 mm/ ±0.003 in	±0.07 mm/ ±0.003 in	
160-155	0 - 1000 mm/0 - 40 in (20.1 - 1000 mm/0.791 - 24 in)				

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

Measurement example



Inch		with inside measurement Vernier scale			
Code No.	Range (in)* ¹	Minimum reading (in)	Maximum permissible error (in)* ²		Remarks
			<i>E</i> _{MPE}	<i>S</i> _{MPE}	
160-124	0 (0.304) - 12	0.001	±0.0015	±0.0015	—
160-116	0 (0.504) - 18		±0.002	±0.002	
160-102	0 (0.504) - 24		±0.003	±0.003	
160-105	0 (1.004) - 40		±0.003	±0.003	

*1 (): Minimum dimension in ID measurement

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

Inch / Metric		with inch/metric double scale			
Code No.	Range* ¹	Minimum reading	Maximum permissible error** ²		Remarks
			<i>E</i> _{MPE}	<i>S</i> _{MPE}	
160-125	0 - 12 in/0 - 300 mm (0.304 - 12 in/7.72 - 300 mm)	0.001 in/ 0.02 mm	±0.0015 in/ ±0.04 mm	±0.0015 in/ ±0.04 mm	+0.3 in/7.62 mm to reading in inside measurement
160-119	0 - 18 in/0 - 450 mm (0.504 - 18 in/12.8 - 450 mm)		±0.002 in/ ±0.05 mm	±0.002 in/ ±0.05 mm	+0.5 in/12.7 mm to reading in inside measurement
160-103	0 - 24 in/0 - 600 mm (0.504 - 24 in/12.8 - 600 mm)		±0.003 in/ ±0.07 mm	±0.003 in/ ±0.07 mm	+1 in/25.4 mm to reading in inside measurement
160-106	0 - 40 in/0 - 1000 mm (1.004 - 40 in/25.5 - 1000 mm)		±0.003 in/ ±0.07 mm	±0.003 in/ ±0.07 mm	+1 in/25.4 mm to reading in inside measurement

*1 (): Minimum dimension in ID measurement

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

DIMENSIONS

Unit: mm

The diagram illustrates the dimensions of a vernier caliper. The main beam has a total length L. The distance between the two jaws is E. The distance from the end of the beam to the center of the jaws is F. The height of the beam is H. The distance from the end of the beam to the center of the jaws is F. The distance from the end of the beam to the center of the jaws is F. The distance from the end of the beam to the center of the jaws is F. The distance from the end of the beam to the center of the jaws is F. The distance from the end of the beam to the center of the jaws is F. The distance from the end of the beam to the center of the jaws is F. The distance from the end of the beam to the center of the jaws is F. The distance from the end of the beam to the center of the jaws is F. The distance from the end of the beam to the center of the jaws is F. The distance from the end of the beam to the center of the jaws is F. 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* Without fine adjustment

Calipers

Long Jaw Vernier Caliper
SERIES 534

- Long jaws for measuring hard-to-reach workpiece features. Suitable for measuring outside diameter of workpieces such as large pipes or spherical objects.
- Inside and outside measurements can be read directly from the upper and lower slider graduations respectively.



SPECIFICATIONS

Metric		with inside measurement Vernier scale			
Code No.	Range (mm)* ¹	Graduation (mm)	Maximum permissible error (mm)* ²		Remarks
			<i>E</i> _{MPE}	<i>S</i> _{MPE}	
534-109	0 (10.1) - 300	0.05	±0.07	±0.07	without fine adjustment
534-110	0 (20.1) - 500		±0.13	±0.13	

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

Metric / Inch		with metric/inch double scale			Remarks
Code No.	Range* ¹	Graduation	Maximum permissible error* ²		
			EMPE	SMPE	
534-101	0 - 300 mm/0 - 12 in (10.1 - 300 mm/0.398 - 12 in)	0.05 mm/ 1/128 in	±0.07 mm/ ±0.5/128 in	±0.07 mm/ ±0.5/128 in	+10 mm/0.394 in to reading in inside measurement without fine adjustment
534-105	0 - 300 mm/0 - 12 in (10.1 - 300 mm/0.398 - 12 in)	0.02 mm/ 0.001 in	±0.04 mm/ ±0.0015 in	±0.04 mm/ ±0.0015 in	
534-102	0 - 500 mm/0 - 20 in (20.1 - 500 mm/0.791 - 20 in)	0.05 mm/ 1/128 in	±0.13 mm/ ±0.5/128 in	±0.13 mm/ ±0.5/128 in	+20 mm/0.787 in to reading in inside measurement without fine adjustment
534-106		0.02 mm/ 0.001 in	±0.06 mm/ ±0.0025 in	±0.06 mm/ ±0.0025 in	
534-103	0 - 750 mm/0 - 30 in (20.1 - 750 mm/0.791 - 30 in)	0.05 mm/ 1/128 in	±0.16 mm/ ±1/128 in	±0.16 mm/ ±1/128 in	
534-107		0.02 mm/ 0.001 in	±0.08 mm/ ±0.003 in	±0.08 mm/ ±0.003 in	
534-104	0 - 1000 mm/0 - 40 in (20.1 - 1000 mm/0.791 - 40 in)	0.05 mm/ 1/128 in	±0.2 mm/ ±1/128 in	±0.2 mm/ ±1/128 in	
534-108		0.02 mm/ 0.001 in	±0.1 mm/ ±0.004 in	±0.1 mm/ ±0.004 in	

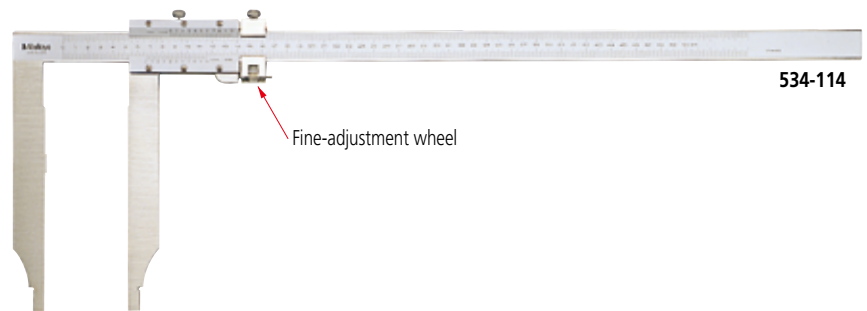
*1 (): Minimum dimension in ID measurement
*2 The Partial Surface Contact Error (EMPE) and Shift Error (SMPE) are terms defined by ISO 13385-1:2019.
Note: For external dimensions, refer to page 04-28.

Measurement example



Long Jaw Vernier Caliper SERIES 534

- Long jaws for measuring hard-to-reach workpiece features. Suitable for measuring outside diameter of workpieces such as large pipes or spherical objects.
- Inside and outside measurements can be read directly from the upper and lower slider graduations respectively.
- Fine adjustment for more accurate measurement.



SPECIFICATIONS

Metric		with inside measurement Vernier scale			
Code No.	Range (mm)* ¹	Graduation (mm)	Maximum permissible error (mm)* ²		Remarks
534-113	0 (10.1) - 300	0.02	±0.04	±0.04	with fine adjustment
534-114	0 (20.1) - 500		±0.06	±0.06	
534-115	0 (20.1) - 750		±0.08	±0.08	
534-116	0 (20.1) - 1000		±0.10	±0.10	

*1 (): Minimum dimension in ID measurement

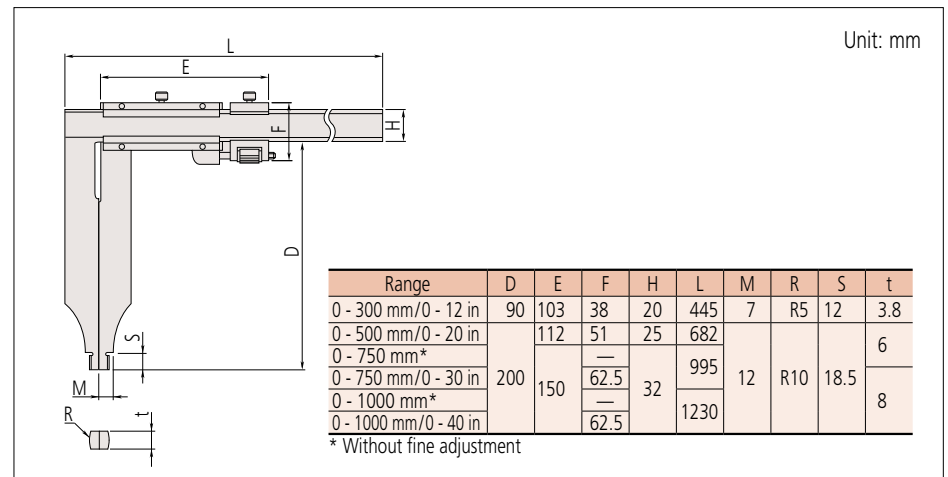
*2 The Partial Surface Contact Error (E_{MPE}) and Shift Error (S_{MPE}) are terms defined by ISO 13385-1:2019.

Inch		with inside measurement Vernier scale			
Code No.	Range (in)* ¹	Graduation (in)	Maximum permissible error (in)* ²		Remarks
534-117	0 (0.304) - 12	0.001	±0.0015	±0.0015	with fine adjustment
534-118	0 (0.804) - 20		±0.0025	±0.0025	
534-119	0 (0.804) - 30		±0.003	±0.003	
534-120	0 (0.804) - 40		±0.004	±0.004	

*1 (): Minimum dimension in ID measurement

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

DIMENSIONS



Calipers

Offset Caliper
SERIES 573 — ABSOLUTE Digimatic Type

- The beam-mounted jaw can be adjusted to facilitate measurement of stepped sections.



573-602-20

SPECIFICATIONS

Metric		Digimatic model		
Code No.	Range (mm)	Resolution (mm)	Maximum permissible error (mm)*2	
			EMPE	SMPE
573-601-20	0 - 150	0.01	±0.02	±0.04
573-611-20*1	0 - 150			
573-602-20	0 - 200			
573-612-20*1	0 - 200		±0.03	±0.05
573-604-20	0 - 300			
573-614-20*1	0 - 300			

Inch / Metric		Digimatic model		
Code No.	Range	Resolution	Maximum permissible error*2	
			EMPE	SMPE
573-701-20	0 - 6 in/0 - 150 mm	0.0005 in/0.01 mm	±0.001 in/±0.02 mm	±0.002 in/±0.04 mm
573-702-20	0 - 8 in/0 - 200 mm			
573-704-20	0 - 12 in/0 - 300 mm		±0.0015 in/±0.03 mm	±0.0025 in/±0.05 mm

- Dust/Water protection level: IP67 (IEC 60529)*3
 - Power source: SR44 battery (1 pc.), 938882 included as standard (for operational checks)
 - Battery life: Approx. 5 years under normal use
 - Position detection method: ABSOLUTE electromagnetic induction linear encoder
 - Response speed: Unlimited
- *1 Without thumb roller
*2 The Partial Surface Contact Error (EMPE) and Shift Error (SMPE) are terms defined by ISO 13385-1:2019.
*3 Rustproofing shall be applied after use if caliper was in contact with coolant.

DIMENSIONS

Unit: mm

Digimatic model

Code No.	Model	Range (mm)	A	B	C	D	G	H	N	W	t
573-601-20	Digimatic model	0 - 150	16.5	21	14.6	40	10	16	(18)	95	3.5
573-602-20		0 - 200	20	24.5	18.1	50			(4.5)		
573-604-20		0 - 300	22	27.5	19.8	64			(23.5)		

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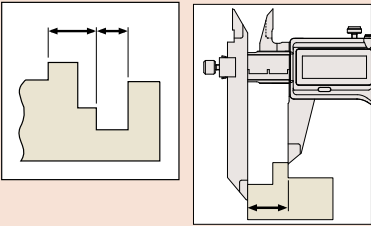
U-WAVE^{fit}

ABSOLUTE[™]

IP67

Dust- and Water-Protected
www.tuv.com
ID 0000045042

Measurement example



Optional Accessories

Code No.	Type	Description
264-020	—	USB Input Tool Series USB Keyboard Signal Conversion Type IT-020U
05CZA624	A	Connection cable for IT/DP/MUX (1 m)
05CZA625	A	Connection cable for IT/DP/MUX (2 m)
06AFM380A	A	USB Input Tool Direct (2 m)
02AZD730G	IP67	U-WAVE-T
02AZD880G	Buzzer	U-WAVE-T
02AZE200	—	U-WAVE-T mounting bracket
02AZD790A	A	Connection cable for U-WAVE-T (160 mm)
02AZE140A	A	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
02AZF310	IP67	Connecting unit for U-WAVE-TC/TCB

Offset Caliper SERIES 536 — Vernier Type

- The beam-mounted jaw can be adjusted to facilitate measurement of stepped sections.



536-101

SPECIFICATIONS

Metric Analog model				
Code No.	Range (mm)	Graduation (mm)	Maximum permissible error (mm)*	
			<i>E</i> _{MPE}	<i>S</i> _{MPE}
536-101	0 - 150	0.05	±0.05	±0.07
536-102	0 - 200			
536-103	0 - 300		±0.08	±0.10

Metric				
Code No.	Range (mm)	Graduation (mm)	Maximum permissible error (mm)*	
			<i>E</i> _{MPE}	<i>S</i> _{MPE}
536-221	0 - 150	0.05	±0.05	±0.07
536-222	0 - 200			
536-223	0 - 300		±0.08	±0.10

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

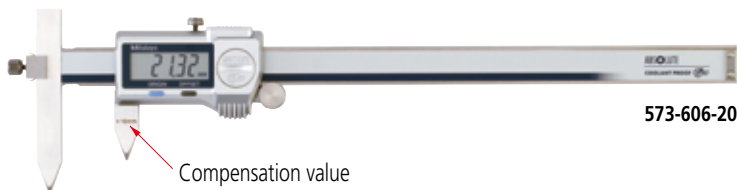
DIMENSIONS

Unit: mm											
Code No.	Model	Range (mm)	A	B	C	D	G	H	N	W	t
536-101	Analog model	0 - 150	17	21.5	17	40	10	16	(18) (4)	95	3
536-102		0 - 200	20.5	25	20.5	50					
536-103		0 - 300	22	27.5	22	64	15	20	(23.5)	135	3.8

Calipers

Offset Centerline Caliper SERIES 573 — ABSOLUTE Digimatic Type

- Specially designed for center-to-center hole diameter measurements on the same and offset planes. The beam-mounted jaw can be adjusted to facilitate the measurement of stepped sections.
- Direct reading of pitch measurement is available due to the offset-value setting function.



573-606-20

Compensation value

SPECIFICATIONS

Metric Digimatic model		Resolution (mm)	Maximum permissible error (mm)*2	
Code No.	Range (mm)		EMPE	SMPE
573-605-20	10.1 - 160	0.01		±0.03
573-615-20*1	10.1 - 160			
573-606-20	10.1 - 210			±0.04
573-616-20*1	10.1 - 210			
573-608-20	10.1 - 310			
573-618-20*1	10.1 - 310			

Inch / Metric Digimatic model		Resolution	Maximum permissible error*2	
Code No.	Range		EMPE	SMPE
573-705-20	0.404 - 6.4 in/10.26 - 160.16 mm	0.0005 in/0.01 mm		±0.0015 in/±0.03 mm
573-706-20	0.404 - 8.4 in/10.26 - 210.16 mm			±0.0015 in/±0.04 mm
573-708-20	0.404 - 12.4 in/10.26 - 310.16 mm			

- Dust/Water protection level: IP67 (IEC 60529)*3
- Power source: SR44 battery (1 pc.), **938882** included as standard (for operational checks)
- Battery life: Approx. 5 years under normal use
- Position detection method: ABSOLUTE electromagnetic induction linear encoder
- Response speed: Unlimited
- *1 Without thumb roller
- *2 The Partial Surface Contact Error (EMPE) and Shift Error (SMPE) are terms defined by ISO 13385-1:2019.
- *3 Rustproofing shall be applied after use if caliper was in contact with coolant.

DIMENSIONS

Digimatic model		Unit: mm			
Range	H	W	t	Applicable hole	
10.26 - 160.16 mm/0.404 - 6.4 in	16	75	3.5	ø1.5 - ø9.5 mm	
10.26 - 210.16 mm/0.404 - 8.4 in					
10.26 - 310.16 mm/0.404 - 12.4 in	20	100	3.8		

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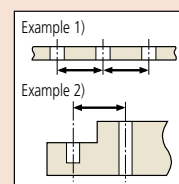
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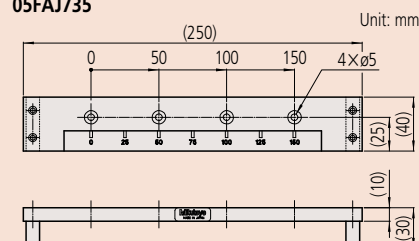
Measurement example



Optional Accessories

Code No.	Type	Description
264-020	—	USB Input Tool Series USB Keyboard Signal Conversion Type IT-020U
05CZA624	A	Connection cable for IT/DP/MUX (1 m)
05CZA625	A	Connection cable for IT/DP/MUX (2 m)
06AFM380A	A	USB Input Tool Direct (2 m)
02AZD730G	IP67	U-WAVE-T
02AZD880G	Buzzer	U-WAVE-T
02AZE200	—	U-WAVE-T mounting bracket
02AZD790A	A	Connection cable for U-WAVE-T (160 mm)
02AZE140A	A	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
02AZF310	IP67	Connecting unit for U-WAVE-TC/TCB

Inspection equipment for offset caliper 05FAJ735



Offset Centerline Caliper SERIES 536 — Vernier Type

- Specially designed for center-to-center hole diameter measurements on the same and offset planes. The beam-mounted jaw can be adjusted to facilitate the measurement of stepped sections.



536-105

SPECIFICATIONS

Metric		Analog model		
Code No.	Range (mm)	Graduation (mm)	Maximum permissible error (mm)*	
			E_{MPE}	S_{MPE}
536-105	10.1 - 150	0.05		±0.05
536-106	10.1 - 200			±0.05
536-107	10.1 - 300			±0.08

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

DIMENSIONS

Unit: mm

Range (mm)	H	W	t	Applicable hole
10 - 150	16	75	3	ø1.5 - ø9.5 mm
10 - 200	16	75	3	ø1.5 - ø9.5 mm
10 - 300	20	100	3.8	ø1.5 - ø9.5 mm

Calipers

ABSOLUTE Back-Jaw Centerline Caliper
SERIES 573 — Center-to-Center & Edge-to-Center Types

- Specially designed to measure hole Center-to-Center and Edge-to-Center distances. Provided with jaws on the back of the slider, measurements can be read easily from above.
- Direct reading of pitch measurement is possible due to the offset-value setting function.

Edge-to-center distance type

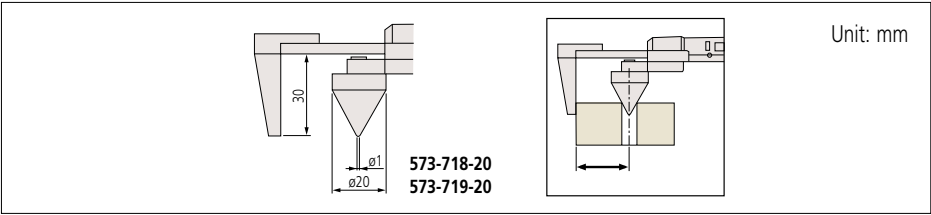


SPECIFICATIONS

Code No.	Range (mm)	Resolution (mm)	Maximum permissible error (mm)*2	
			EMPE	SMPE
573-718-20*1	10.1 - 200	0.01		±0.10
573-719-20*1	10.1 - 300			±0.15

- Power source: SR44 battery (1 pc.), 938882 included as standard (for operational checks)
- Position detection method: ABSOLUTE electromagnetic induction linear encoder
- Response speed: Unlimited
- *1 Applicable hole diameter: ø1.5 - ø19.5 mm
- *2 The Partial Surface Contact Error (EMPE) and Shift Error (SMPE) are terms defined by ISO 13385-1:2019.

DIMENSIONS



Center-to-center distance type

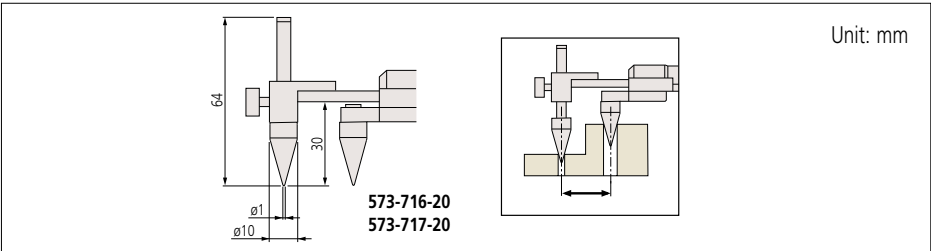


SPECIFICATIONS

Code No.	Range (mm)	Resolution (mm)	Maximum permissible error (mm)*2	
			EMPE	SMPE
573-716-20*1	10.1 - 200	0.01		±0.10
573-717-20*1	10.1 - 300			±0.15

- Power source: SR44 battery (1 pc.), 938882 included as standard (for operational checks)
- Position detection method: ABSOLUTE electromagnetic induction linear encoder
- Response speed: Unlimited
- *1 Applicable hole diameter: ø1.5 - ø19.5 mm
- *2 The Partial Surface Contact Error (EMPE) and Shift Error (SMPE) are terms defined by ISO 13385-1:2019.

DIMENSIONS



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IP67

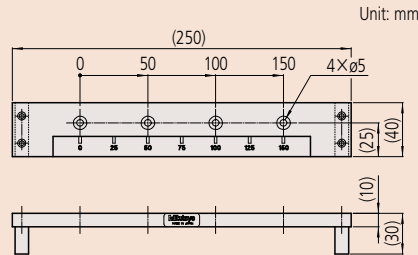
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Optional Accessories

Code No.	Type	Description
264-020	—	USB Input Tool Series USB Keyboard Signal Conversion Type IT-020U
05CZA624	A	Connection cable for IT/DP/MUX (1 m)
05CZA625	A	Connection cable for IT/DP/MUX (2 m)
06AFM380A	A	USB Input Tool Direct (2 m)
02AZD730G	IP67	U-WAVE-T
02AZD880G	Buzzer	U-WAVE-T
02AZE200	—	U-WAVE-T mounting bracket
02AZD790A	A	Connection cable for U-WAVE-T (160 mm)
02AZE140A	A	Connection cable for U-WAVE-T For foot switch

Inspection equipment for center-to-center type*



* Inspection equipment for Edge-to-center type is available by special order.

Calipers

Blade Type Caliper
SERIES 573 — ABSOLUTE Digimatic Type

- The thin blade-type jaws fit into very small grooves and make previously difficult outside measurements far easier to obtain.
- The outside measuring faces are carbide tipped.



573-634-20

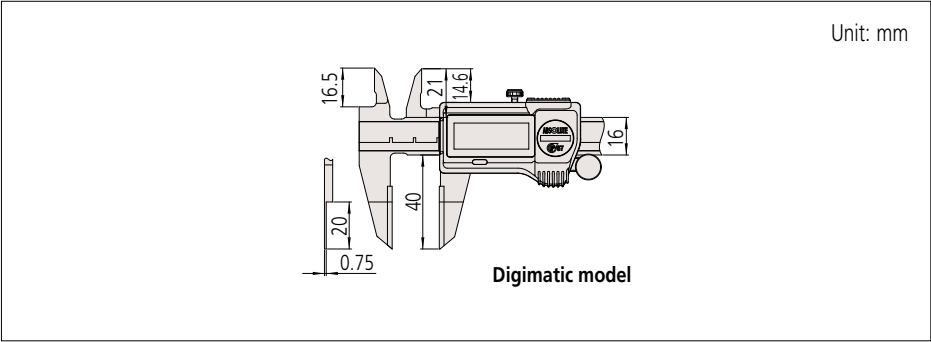
SPECIFICATIONS

Metric		Digimatic model		
Code No.	Range (mm)	Resolution (mm)	Maximum permissible error (mm)*2	
			EMPE	SMPE
573-634-20	0 - 150	0.01	±0.02	±0.04
573-635-20*1	0 - 150			

Inch / Metric		Digimatic model		
Code No.	Range	Resolution	Maximum permissible error*2	
			EMPE	SMPE
573-734-20	0 - 6 in/0 - 150 mm	0.0005 in/0.01 mm	±0.001 in/±0.02 mm	±0.002 in/±0.04 mm

- Dust/Water protection level: IP67 (IEC 60529)*3
 - Power source: SR44 battery (1 pc.), **938882** included as standard (for operational checks)
 - Battery life: Approx. 5 years under normal use
 - Position detection method: ABSOLUTE electromagnetic induction linear encoder
 - Response speed: Unlimited
- *1 Without thumb roller
*2 The Partial Surface Contact Error (EMPE) and Shift Error (SMPE) are terms defined by ISO 13385-1:2019.
*3 Rustproofing shall be applied after use if caliper was in contact with coolant.

DIMENSIONS



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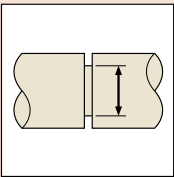
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IP67

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Measurement example



Optional Accessories (for series 573)

Code No.	Type	Description
264-020	—	USB Input Tool Series USB Keyboard Signal Conversion Type IT-020U
05CZA624	A	Connection cable for IT/DP/MUX (1 m)
05CZA625	A	Connection cable for IT/DP/MUX (2 m)
06AFM380A	A	USB Input Tool Direct (2 m)
02AZD730G	IP67	U-WAVE-T
02AZD880G	Buzzer	U-WAVE-T
02AZE200	—	U-WAVE-T mounting bracket
02AZD790A	A	Connection cable for U-WAVE-T (160 mm)
02AZE140A	A	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
02AZF310	IP67	Connecting unit for U-WAVE-TC/TCB

Blade Type Caliper SERIES 536 — Vernier Type

- The thin blade-type jaws fit into very small grooves and make previously difficult outside measurements far easier to obtain.
- The outside measuring faces are carbide tipped.



536-134

SPECIFICATIONS

Metric		Analog model		
Code No.	Range (mm)	Graduation (mm)	Maximum permissible error (mm)*	
			<i>E</i> _{MPE}	<i>S</i> _{MPE}
536-134	0 - 150	0.05	±0.05	±0.07
536-135	0 - 200		±0.05	±0.07
536-136	0 - 300		±0.08	±0.10

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

DIMENSIONS

Unit: mm

Analog model

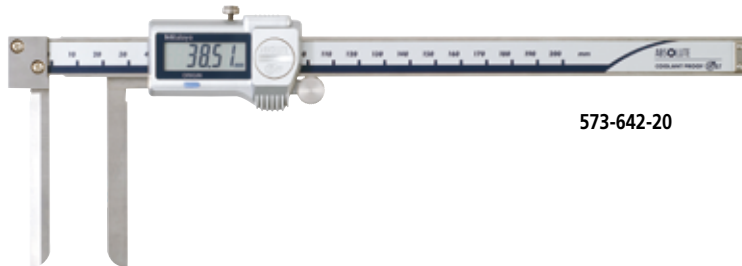
Range (mm)	A	B	C	D	d	e	H	t
0 - 150	17	21.5	17	40	20	0.75	16	3
0 - 200	20.5	25	20.5	50	25			
0 - 300	22	27.5	22	64	30	1	20	3.8

Calipers

ABSOLUTE Inside Caliper SERIES 573 — Knife-edge/Inside Groove/Point Jaw Type

- Specially designed for inside measurements. Select the right model for your workpiece shape.

Knife-edge type



573-642-20

Inside groove type



573-645-20

Point jaw type



573-646-20

SPECIFICATIONS

Metric		Digimatic model			
Code No.	Range (mm)	Resolution (mm)	Maximum permissible error (mm)*3		Remarks
			EMPE	SMPE	
573-642-20	10 - 200	0.01		±0.05	Knife-edge type, Measurable min.
573-643-20*1	10 - 200				Knife-edge type, Measurable min.
573-645-20*2	10.1 - 160				Inside groove type, Measurable min.
573-647-20*1	10.1 - 160				Inside groove type, Measurable min.
573-646-20*2	20.1 - 170		±0.03	±0.03	Point jaw type, Measurable min.
573-648-20*1	20.1 - 170				Point jaw type, Measurable min.

Inch / Metric		Digimatic model			
Code No.	Range	Resolution	Maximum permissible error*3		Remarks
			EMPE	SMPE	
573-742-20	0.4 - 8 in/ 10 - 200 mm	0.0005 in/ 0.01 mm		±0.002 in/ ±0.05 mm	Knife-edge type, Measurable min.
573-745-20*2	0.404 - 6.4 in/ 10.26 - 160.16 mm			±0.0015 in/ ±0.03 mm	Inside groove type, Measurable min.
573-746-20*2	0.804 - 6.8 in/ 20.42 - 170.32 mm			±0.0015 in/ ±0.03 mm	Point jaw type, Measurable min.

- Dust/Water protection level: IP67 (IEC 60529)*4
- Power source: SR44 battery (1 pc.), **938882** included as standard (for operational checks)
- Battery life: Approx. 5 years under normal use
- Position detection method: ABSOLUTE electromagnetic induction linear encoder
- Response speed: Unlimited

*1 Without thumb roller

*2 Includes the offsetting function, which indicates the actual measurement value.

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

*4 Rustproofing shall be applied after use if caliper was in contact with coolant.

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Measurement example



Optional Accessories

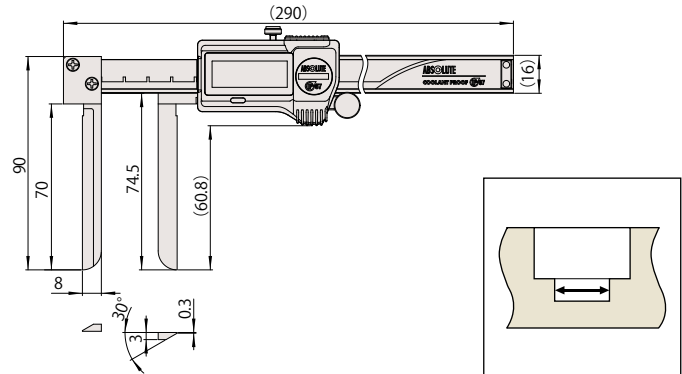
Code No.	Type	Description
264-020	—	USB Input Tool Series USB Keyboard Signal Conversion Type IT-020U
05CZA624	A	Connection cable for IT/DP/MUX (1 m)
05CZA625	A	Connection cable for IT/DP/MUX (2 m)
06AFM380A	A	USB Input Tool Direct (2 m)
02AZD730G	IP67	U-WAVE-T
02AZD880G	Buzzer	U-WAVE-T
02AZE200	—	U-WAVE-T mounting bracket
02AZD790A	A	Connection cable for U-WAVE-T (160 mm)
02AZE140A	A	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
02AZF310	IP67	Connecting unit for U-WAVE-TC/TCB

Note: **U-WAVE-TC/TCB** cannot be used with Knife-edge Type (573-642-20, 573-643-20 and 573-742-20).

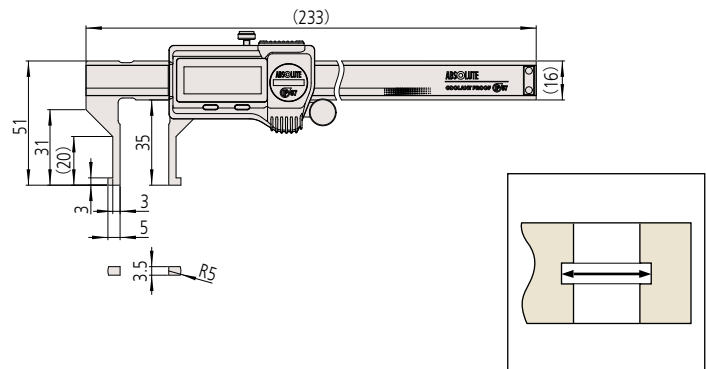
DIMENSIONS

Unit: mm

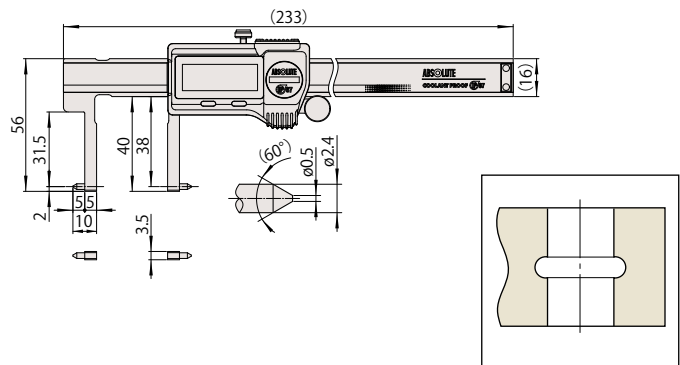
Knife-edge type: 573-642-20, 573-643-20, 573-742-20



Inside groove type: 573-645-20, 573-647-20, 573-745-20



Point jaw type: 573-646-20, 573-648-20, 573-746-20

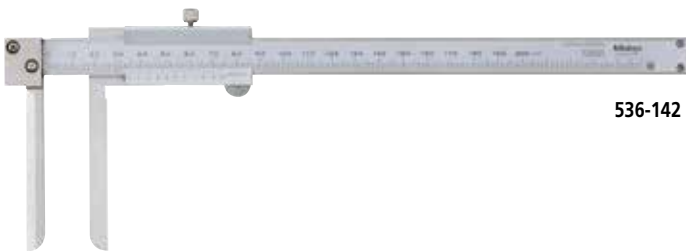


Calipers

ABSOLUTE Inside Caliper
SERIES 536 — Knife-edge/Inside Groove/Point Jaw Type

- Specially designed for inside measurement. Select the right model for your workpiece shape.

Knife-edge type



536-142

Inside groove type



536-145

Point jaw type



536-146

SPECIFICATIONS

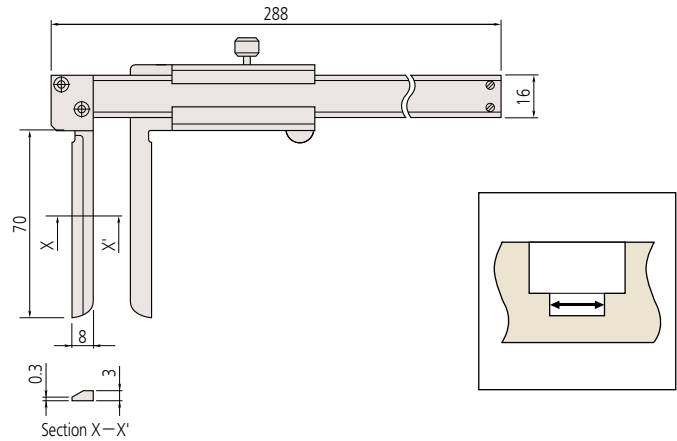
Metric		Analog model			
Code No.	Range (mm)	Graduation (mm)	Maximum permissible error (mm)*		Remarks
			EMPE	SMPE	
536-142	10 - 200	0.05		±0.12	Knife-edge type, Measurable min.
536-145	10.1 - 150			±0.05	Inside groove type, Measurable min.
536-146	20.1 - 150				Point jaw type, Measurable min.
536-147	30.1 - 300			±0.08	Point jaw type, Measurable min.
536-148	70.1 - 450			±0.10	Point jaw type, Measurable min.
536-149	70.1 - 600			±0.12	Point jaw type, Measurable min.

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

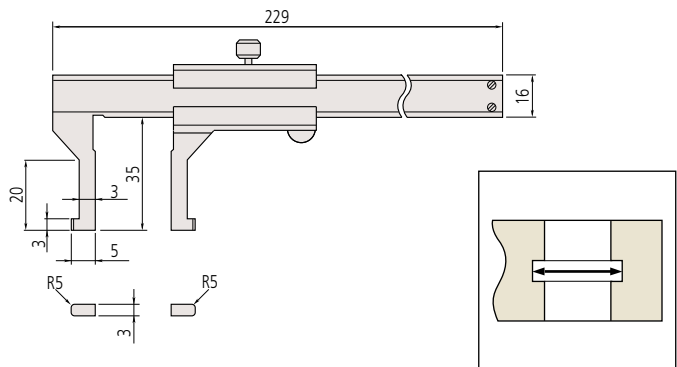
DIMENSIONS

Knife-edge type: 536-142

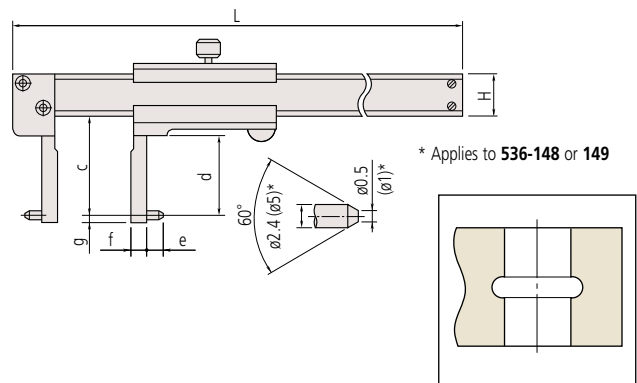
Unit: mm



Inside groove type: 536-145



Point jaw type: 536-146, 147, 148, 149



Range (mm)	c	d	e	f	g	H	L
150	38	31	5	5	2	16	229
300	98	89		10		20	403
450	145	136	10	25	5	25	610
600							750

Note: Models with a measuring range of more than 300 mm have slightly different appearance. For details, contact our Customer Support Center.

Calipers

Neck Caliper
SERIES 573, 536 — ABSOLUTE Digimatic and Vernier Types

- Can measure wall thickness, inside bores, and recesses.



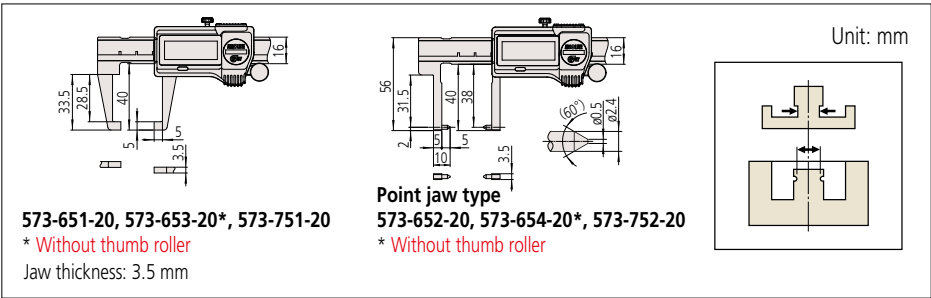
573-651-20

SPECIFICATIONS

Metric					Inch / Metric				
Digimatic model					Digimatic model				
Code No.	Range (mm)	Resolution (mm)	Maximum permissible error (mm)*3		Code No.	Range	Resolution	Maximum permissible error*3	
573-651-20	0 - 150	0.01	±0.03		573-751-20	0 - 6 in/ 0 - 150 mm	0.0005 in/ 0.01 mm	±0.0015 in/ ±0.03 mm	
573-652-20*1	0 - 150				573-752-20*1	0 - 6 in/ 0 - 150 mm			
573-653-20*2	0 - 150								
573-654-20*1*2	0 - 150								

- Dust/Water protection level: IP67 (IEC 60529)*4
- Power source: SR44 battery (1 pc.), **938882** included as standard (for operational checks)
- Battery life: Approx. 5 years under normal use
- Position detection method: ABSOLUTE electromagnetic induction linear encoder
- Response speed: Unlimited
- *1 Point jaw type
- *2 Without thumb roller
- *3 The Partial Surface Contact Error (*E_{MPE}*) and Shift Error (*S_{MPE}*) are terms defined by ISO 13385-1:2019.
- *4 Rustproofing shall be applied after use if caliper was in contact with coolant.

DIMENSIONS



Point jaw type



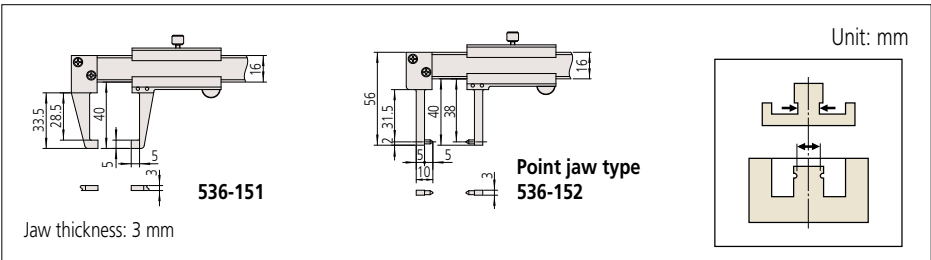
536-152

SPECIFICATIONS

Metric				
Analog model				
Code No.	Range (mm)	Graduation (mm)	Maximum permissible error (mm)*1	
536-151	0 - 150	0.05	±0.05	
536-152*2				

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

DIMENSIONS



536-151

Point jaw type
536-152

Jaw thickness: 3 mm

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Applicable models: series 573



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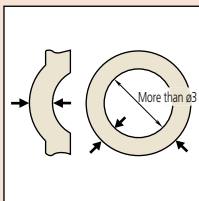
Measurement example



Optional Accessories (for series 573)

Code No.	Type	Description
264-020	—	USB Input Tool Series USB Keyboard Signal Conversion Type IT-020U
05CZA624	A	Connection cable for IT/DP/MUX (1 m)
05CZA625	A	Connection cable for IT/DP/MUX (2 m)
06AFM380A	A	USB Input Tool Direct (2 m)
02AZD730G	IP67	U-WAVE-T
02AZD880G	Buzzer	U-WAVE-T
02AZE200	—	U-WAVE-T mounting bracket
02AZD790A	A	Connection cable for U-WAVE-T (160 mm)
02AZE140A	A	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
02AZF310	IP67	Connecting unit for U-WAVE-TC/TCB

Measurement example



Optional Accessories (for series 573)

Code No.	Type	Description
264-020	—	USB Input Tool Series USB Keyboard Signal Conversion Type IT-020U
05CZA624	A	Connection cable for IT/DP/MUX (1 m)
05CZA625	A	Connection cable for IT/DP/MUX (2 m)
06AFM380A	A	USB Input Tool Direct (2 m)
02AZD730G	IP67	U-WAVE-T
02AZD880G	Buzzer	U-WAVE-T
02AZE200	—	U-WAVE-T mounting bracket
02AZD790A	A	Connection cable for U-WAVE-T (160 mm)
02AZE140A	A	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
02AZF310	IP67	Connecting unit for U-WAVE-TC/TCB

Tube Thickness Caliper SERIES 573, 536 — ABSOLUTE Digimatic and Vernier Types

- The beam-mounted jaw is a round bar that facilitates measurements of tube wall thickness.
- Data output function allows integration into statistical process control and measurement systems. (Refer to page 09-3.)



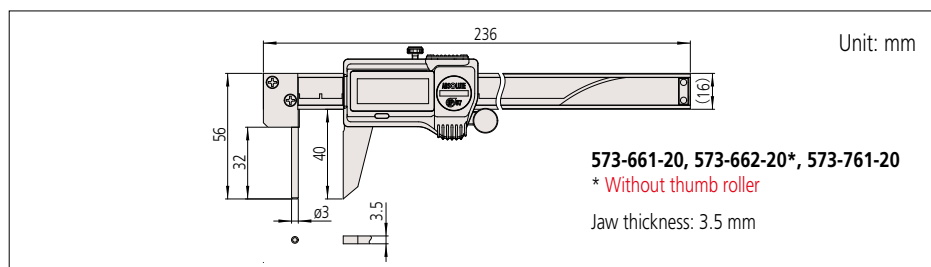
573-661-20

SPECIFICATIONS

Metric Digimatic model					Inch / Metric Digimatic model				
Code No.	Range (mm)	Resolution (mm)	Maximum permissible error (mm)*2		Code No.	Range	Resolution	Maximum permissible error*2	
573-661-20	0 - 150	0.01	EMPE	SMPE	573-761-20	0 - 6 in/ 0 - 150 mm	0.0005 in/ 0.01 mm	EMPE	SMPE
573-662-20*1	0 - 150		±0.05					±0.002 in/ ±0.05 mm	

- Dust/Water protection level: IP67 (IEC 60529)*3
- Power source: SR44 battery (1 pc.), **938882** included as standard (for operational checks)
- Battery life: Approx. 5 years under normal use
- Position detection method: ABSOLUTE electromagnetic induction linear encoder
- Response speed: Unlimited
- *1 Without thumb roller
- *2 The Partial Surface Contact Error (EMPE) and Shift Error (SMPE) are terms defined by ISO 13385-1:2019.
- *3 Rustproofing shall be applied after use if caliper was in contact with coolant.

DIMENSIONS



573-661-20, 573-662-20*, 573-761-20

* Without thumb roller

Jaw thickness: 3.5 mm



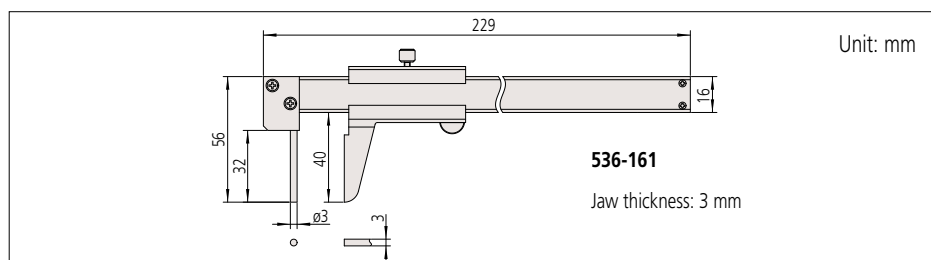
536-161

SPECIFICATIONS

Metric Analog model				
Code No.	Range (mm)	Graduation (mm)	Maximum permissible error (mm)*	
536-161	0 - 150	0.05	EMPE	SMPE
			±0.05	

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

DIMENSIONS



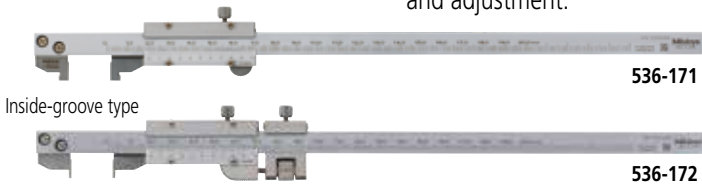
536-161

Jaw thickness: 3 mm

Calipers

Hook Type Vernier Caliper
SERIES 536

- Can measure width of grooves and lands inside bores and recesses.
- **536-172** is equipped with a fine-adjustment wheel to enable precise feed and adjustment.

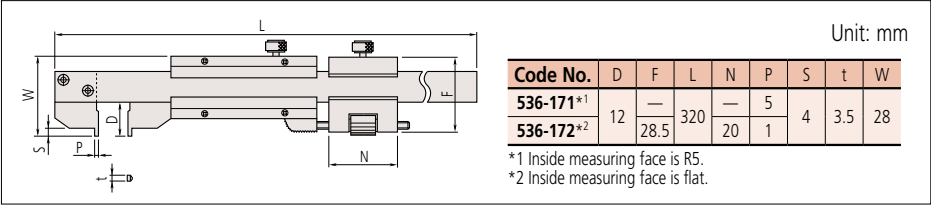


SPECIFICATIONS

Code No.	Range (mm)*1	Graduation (mm)	Maximum permissible error (mm)*2		Remarks
			EMPE	SMPE	
536-171	0 - 200 (10.1 - 200)	0.02	±0.03	±0.03	—
536-172	0 - 200 (2.1 - 200)				with fine adjustment

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

DIMENSIONS



Swivel Vernier Caliper
SERIES 536 — Moving Jaw Type

- The moving jaw can be rotated to measure sectioned shafts.
- Can measure outside and inside dimensions, depth, and steps.

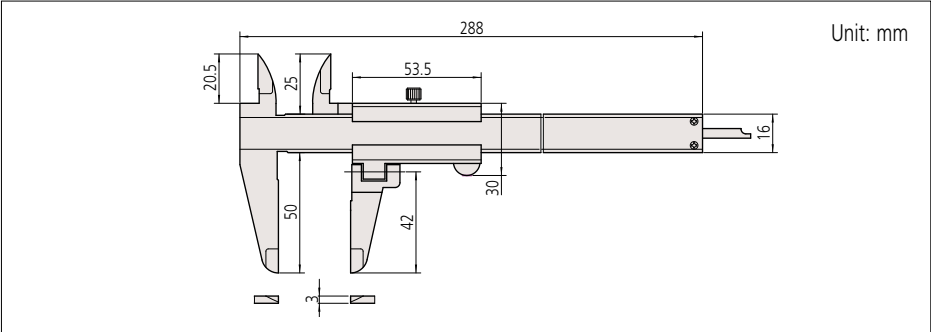


SPECIFICATIONS

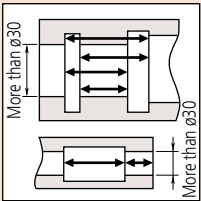
Code No.	Range (mm)	Graduation (mm)	Maximum permissible error (mm)*		Remarks
			EMPE	SMPE	
536-212	0 - 200	0.05	±0.05	±0.07	with depth bar

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

DIMENSIONS



Measurement example



Measurement example



Measurement example



Technical Explanation

Measurement procedure



A consistently low measuring force can be guaranteed by only taking measurements when the pointer is between the two fiducial lines.

Optional Accessories

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

ABSOLUTE Low Force Caliper SERIES 573

- Due to the low measuring force, this caliper is ideal for measuring elastic workpieces such as plastic and rubber parts.
- Easily allows fine feeding by using the thumb roller.
- Measuring force: 0.5 N to 1.0 N



573-191-30

SPECIFICATIONS

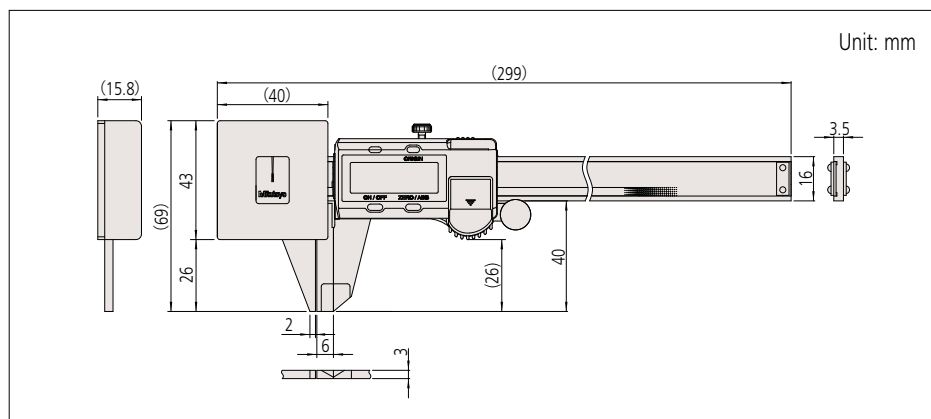
Metric				
Code No.	Range (mm)	Resolution (mm)	Maximum permissible error (mm)*	
			EMPE	SMPE
573-191-30	0 - 180	0.01	±0.05	

Inch / Metric				
Code No.	Range	Resolution	Maximum permissible error*	
			EMPE	SMPE
573-291-30	0 - 7 in/0 - 180 mm	0.0005 in/0.01 mm	±0.002 in/±0.05 mm	

- Power source: SR44 battery (1 pc.), **938882** included as standard (for operational checks)
- Position detection method: ABSOLUTE electromagnetic inductive linear encoder
- Response speed: Unlimited
- * The Partial Surface Contact Error (EMPE) and Shift Error (SMPE) are terms defined by ISO 13385-1:2019.

Note: Dedicated for outside measurement (depth bar is not fitted).

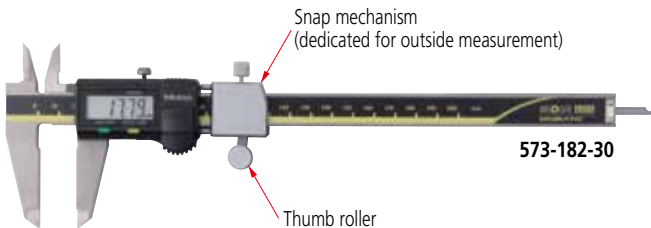
DIMENSIONS



Unit: mm

ABSOLUTE Snap Caliper
SERIES 573

- Features a 'snap action' movement control of the slider via a spring-loaded mechanism attached to a movable clamp on the beam.
- Enables quick and efficient repetitive Go/No-Go inspection of a specific dimension on mass-produced parts by just moving a lever.
- The slider can be retracted by up to 2 mm from the measuring position.
- Measuring force: 7 to 14 N



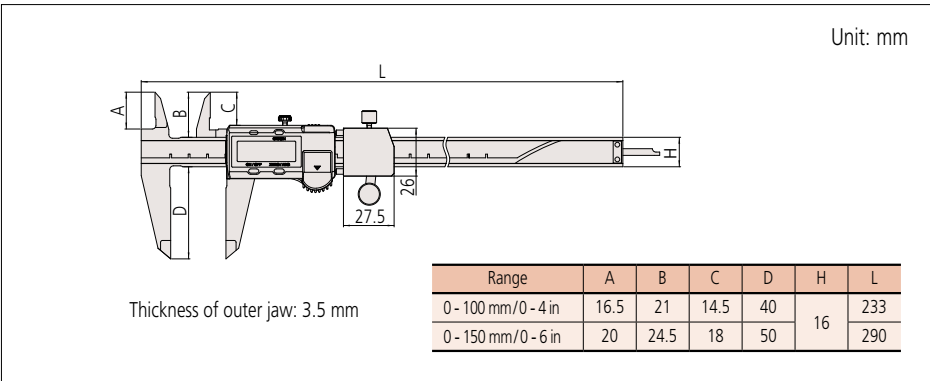
SPECIFICATIONS

Metric				
Code No.	Range (mm)	Resolution (mm)	Maximum permissible error (mm)*	
			<i>E</i> _{MPE}	<i>S</i> _{MPE}
573-181-30	0 - 100	0.01	±0.02	±0.04
573-182-30	0 - 150			

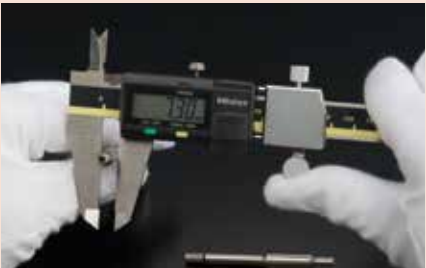
Inch / Metric				
Code No.	Range	Resolution	Maximum permissible error*	
			<i>E</i> _{MPE}	<i>S</i> _{MPE}
573-281-30	0 - 4 in/0 - 100 mm	0.0005 in/0.01 mm	±0.001 in/±0.02 mm	±0.002 in/±0.04 mm
573-282-30	0 - 6 in/0 - 150 mm			

- Power source: SR44 battery (1 pc.), **938882** included as standard (for operational checks)
 - Position detection method: ABSOLUTE electromagnetic inductive linear encoder
 - Response speed: Unlimited
- * The Partial Surface Contact Error (*E*_{MPE}) and Shift Error (*S*_{MPE}) are terms defined by ISO 13385-1:2019.

DIMENSIONS



Measurement example



Optional Accessories

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

