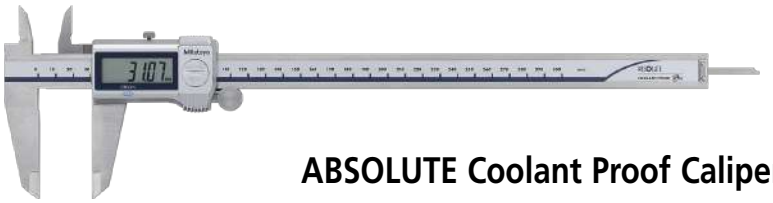
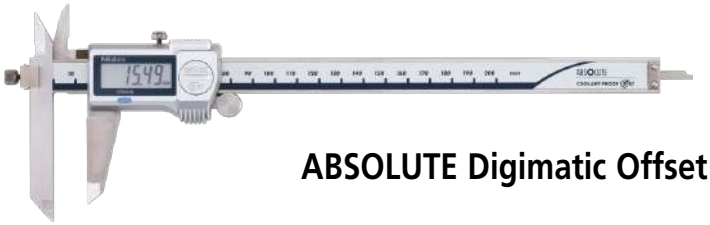
# 04

# Calipers



## ABSOLUTE Coolant Proof Caliper

## ABSOLUTE Digimatic Caliper



## ABSOLUTE Digimatic Offset Caliper

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.

IP67

### 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)

TÜVRheinland CERTIFIED
Dust- and Water-Protected
www.tuv.com
ID 0000040191

### TÜV Rheinland Certification Marks

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

Mitutoyo guarantees the product quality
PROPRIETARY INSPECTION CERTIFICATE
Mitutoyo guarantees the product quality

### 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.

# INDEX

## Calipers



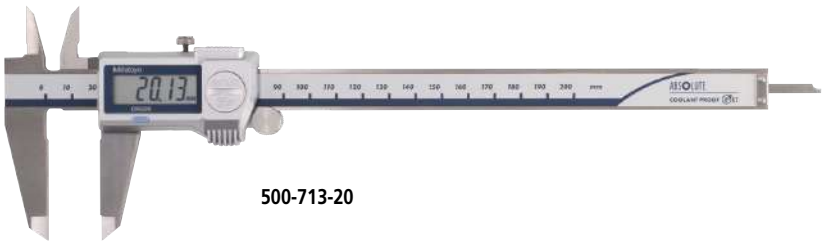


Mitutoyo

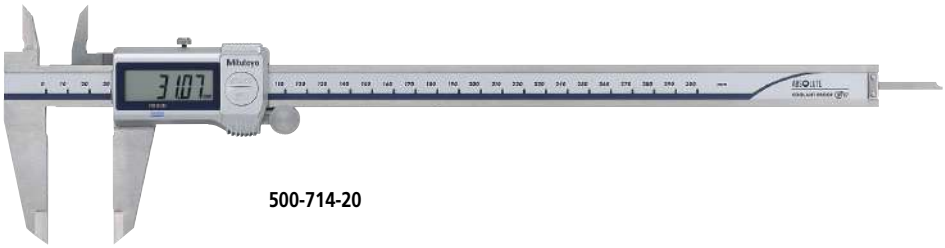
## ABSOLUTE Coolant Proof Caliper
## SERIES 500 — with Dust/Water Protection Conforming to IP67 Level

- 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**

MeasurLink® ENABLED
Data Management Software by Mitutoyo

U-WAVE fit

ABSOLUTE™

IP67

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

PROPRIETARY INSPECTION CERTIFICATE

### 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<br>USB Keyboard Signal Conversion Type<br>**IT-020U** |
| **05CZA624** | A | Connection cable for<br>**IT/DP/MUX** (1 m)*1 |
| **05CZA625** | A | Connection cable for<br>**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<br>**U-WAVE-T** (160 mm) |
| **02AZE140A** | A | Connection cable for<br>**U-WAVE-T**<br>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<br>**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 $E_{MPE}$ | Maximum permissible error (mm)*1 $S_{MPE}$ | Measurement data output port | Mass (g) | Thumb roller | Remarks |
|---|---|---|---|---|---|---|---|---|
| **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 | | Depth bar ø1.9 mm |
| **500-721-20** | 0 - 150 | | | | | 168 | ✓ | Carbide-tipped jaws for outside measurement |
| **500-722-20** | 0 - 200 | | | | | 198 | | |
| **500-723-20** | 0 - 150 | | | | | 168 | — | Carbide-tipped jaws for outside and inside measurement |
| **500-724-20** | 0 - 200 | | | | | 198 | | |
| **500-727-20** | 0 - 150 | | | | | 168 | | |
| **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**

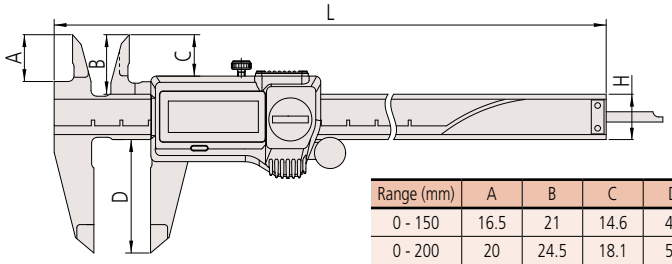
| Code No. | Range | Resolution | Maximum permissible error*1 $E_{MPE}$ | Maximum permissible error*1 $S_{MPE}$ | Measurement data output port | Mass (g) | Thumb roller | Remarks |
|---|---|---|---|---|---|---|---|---|
| **500-720-20** | 0 - 6 in/0 - 150 mm | 0.0005 in/ 0.01 mm | ±0.001 in/ ±0.02 mm | ±0.002 in/ ±0.04 mm | ✓ | 168 | — | Depth bar ø1.9 mm |
| **500-731-20***3 | | | | | — | | ✓ | Carbide-tipped jaws for outside measurement |
| **500-732-20***3 | 0 - 8 in/0 - 200 mm | | | | | 198 | | |
| **500-733-20***3 | 0 - 6 in/0 - 150 mm | | | | | 168 | | Carbide-tipped jaws for outside and inside measurement |
| **500-734-20***3 | 0 - 8 in/0 - 200 mm | | | | | 198 | | |
| **500-735-20** | 0 - 6 in/0 - 150 mm | | | | ✓ | 168 | | Carbide-tipped jaws for outside measurement |
| **500-736-20** | 0 - 8 in/0 - 200 mm | | | | | 198 | | |
| **500-737-20** | 0 - 6 in/0 - 150 mm | | | | | 168 | | Carbide-tipped jaws for outside and inside measurement |
| **500-738-20** | 0 - 8 in/0 - 200 mm | | | | | 198 | | |
| **500-752-20***3 | 0 - 6 in/0 - 150 mm | | | | — | 168 | | — |
| **500-753-20***3 | 0 - 8 in/0 - 200 mm | | | | | 198 | | |
| **500-762-20** | 0 - 6 in/0 - 150 mm | | | | ✓ | 168 | | |
| **500-763-20** | 0 - 8 in/0 - 200 mm | | | | | 198 | | |
| **500-768-20***3 | 0 - 6 in/0 - 150 mm | | | | — | 168 | | Depth bar ø1.9 mm |
| **500-769-20** | | | | | ✓ | 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 ($E_{MPE}$) and Shift Error ($S_{MPE}$) 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

Unit: mm




| Range (mm) | A | B | C | D | H | L |
|---|---|---|---|---|---|---|
| 0 - 150 | 16.5 | 21 | 14.6 | 40 | 16 | 233 |
| 0 - 200 | 20 | 24.5 | 18.1 | 50 | | 290 |
| 0 - 300 | 22 | 27.5 | 19.8 | 64 | 20 | 404 |

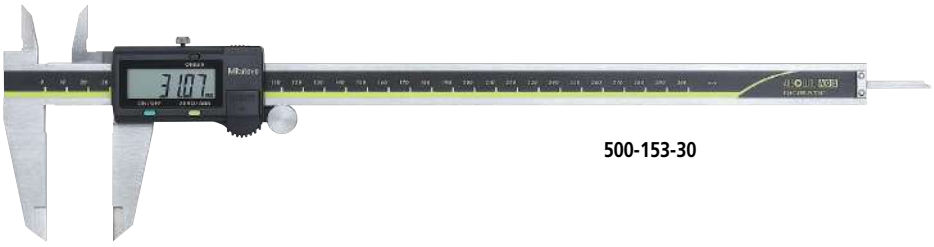
Outside jaw thickness = 3.5 mm for 0 to 150 mm/0 to 200 mm models
3.8 mm for 0 to 300 mm model

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

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

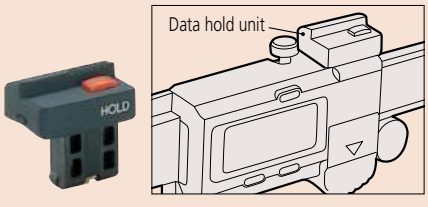
## Optional Accessories

(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<br>USB Keyboard Signal Conversion Type<br>**IT-020U** |
| **959149** | C | Connection cable for<br>**IT/DP/MUX** (1 m) |
| **959150** | C | Connection cable for<br>**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<br>**U-WAVE-T** (160 mm) |
| **02AZE140C** | C | Connection cable for<br>**U-WAVE-T**<br>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<br>**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)* $E_{MPE}$ | Maximum permissible error (mm)* $S_{MPE}$ | Measurement data output port | Mass (g) | Depth bar | Fine adjustment | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| **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** | 0 - 150 | | | | ✓ | 168 | Blade | with thumb roller | |
| **500-154-30** | | | | | | | | | Carbide-tipped jaws for outside measurement |
| **500-155-30** | | | | | | | | | Carbide-tipped jaws for outside and inside measurement |
| **500-158-30** | | | | | | | ø1.9 mm rod | | — |
| **500-181-30** | | | | | — | | Blade | — | |
| **500-152-30** | 0 - 200 | | | | ✓ | 198 | | with thumb roller | |
| **500-156-30** | | | | | | | | | Carbide-tipped jaws for outside measurement |
| **500-157-30** | | | | | | | | | Carbide-tipped jaws for outside and inside measurement |
| **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 | | |
| **500-233-30** | 0 - 150 | | ±0.02 | ±0.04 | | 168 | | | Carbide-tipped jaws for outside measurement |
| **500-234-30** | | | | | | | | | Carbide-tipped jaws for outside and inside measurement |
| **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.







Mitutoyo

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



Inch / Metric

| Code No. | Range | Resolution | Maximum permissible error* $E_{MPE}$ | Maximum permissible error* $S_{MPE}$ | Measurement data output port | Mass (g) | Depth bar | Fine adjustment | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| **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 | | |
| **500-174-30** | | | | | | | | | Carbide-tipped jaws for outside measurement |
| **500-175-30** | | | | | | | | | Carbide-tipped jaws for outside and inside measurement |
| **500-178-30** | | | | | | | ø0.075 inch rod | | — |
| **500-196-30** | | | | | — | | Blade | | |
| **500-159-30** | | | | | | | | | Carbide-tipped jaws for outside measurement |
| **500-160-30** | | | | | | | | | Carbide-tipped jaws for outside and inside measurement |
| **500-191-30** | | | | | ✓ | | | — | — |
| **500-202-30** | | | | | | | | | |
| **500-172-30** | 0 - 8 in/ 0 - 200 mm | | | | | 198 | | with thumb roller | |
| **500-176-30** | | | | | | | | | Carbide-tipped jaws for outside measurement |
| **500-177-30** | | | | | | | | | Carbide-tipped jaws for outside and inside measurement |
| **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 |

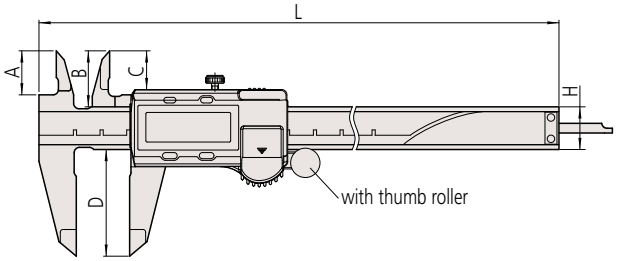
- Power source: SR44 battery (1 pc.), **938882** included as standard (for operational checks)
- Position detection method: ABSOLUTE electromagnetic induction linear encoder
- Battery life: Approx. 5 years under normal use
- Response speed: Unlimited

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

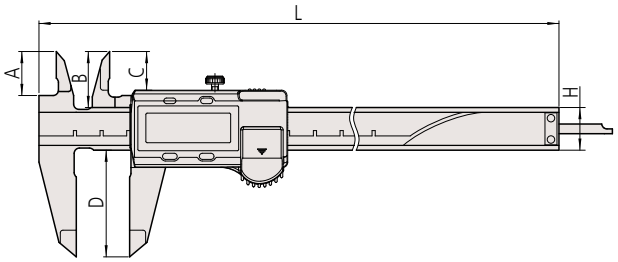
## DIMENSIONS

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 | | 290 |
| 0 - 300 | 22 | 27.5 | 19.8 | 64 | 20 | 404 |

Jaw thickness: 3.5 mm for 0 to 100 mm/0 to 150 mm/0 to 200 mm models and 3.8 mm for 0 to 300 mm model

MeasurLink® ENABLED Data Management Software by Mitutoyo

ABSOLUTE™



# 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.)

500-500-10

## SPECIFICATIONS

**Metric**

| Code No. | Range (mm) | Resolution (mm) | Maximum permissible error (mm)* | | Mass (g) |
|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | |
| **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**

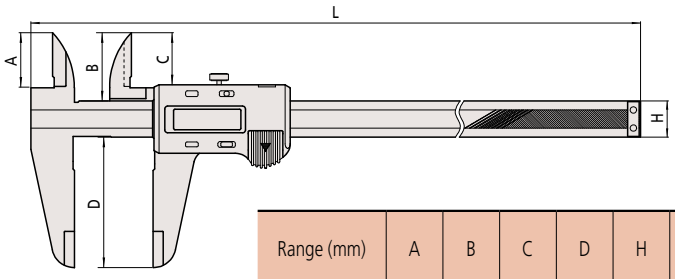
| Code No. | Range | Resolution | Maximum permissible error* | | Mass (g) |
|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | |
| **500-505-10** | 0 - 18 in/0 - 450 mm | 0.0005 in/0.01 mm | ±0.002 in/±0.05 mm | ±0.003 in/±0.07 mm | 1170 |
| **500-506-10** | 0 - 24 in/0 - 600 mm | | | | 1350 |
| **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 ($E_{MPE}$) and Shift Error ($S_{MPE}$) are terms defined by ISO 13385-1:2019.

## DIMENSIONS

Unit: mm



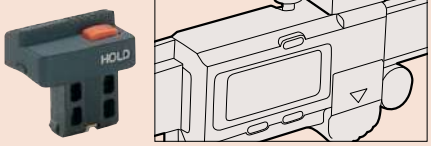

| Range (mm) | A | B | C | D | H | L | Outside jaw width |
|---|---|---|---|---|---|---|---|
| 0 - 450 | 38 | 47 | 35.9 | 90 | 25 | 630 | 6 |
| 0 - 600 | | | | | | 780 | |
| 0 - 1000 | 50 | 60 | 49.8 | 130 | 32 | 1240 | 8 |

## 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.

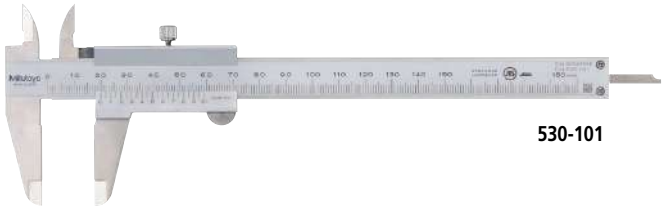
- **Data hold unit**




**959143**

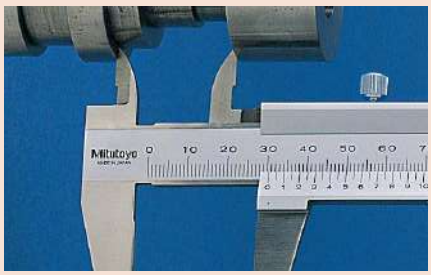
# Vernier Caliper
# SERIES 530 — Standard Model

- 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.

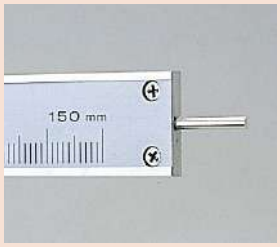


530-101

## Measurement example



## Round depth bar type




530-102

## Carbide-tipped jaws for outside measurement

530-320

## SPECIFICATIONS

**Metric**

| Code No. | Range (mm) | Graduation (mm) | Maximum permissible error (mm)* $E_{MPE}$ | Maximum permissible error (mm)* $S_{MPE}$ | Depth bar | Remarks |
|---|---|---|---|---|---|---|
| 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)* $E_{MPE}$ | Maximum permissible error (mm)* $S_{MPE}$ | Depth bar | Remarks |
|---|---|---|---|---|---|---|
| 530-100 | 0 - 100 | 0.05 | ±0.05 | ±0.07 | ø1.9 mm rod | — |
| 530-102 | 0 - 150 | | | | | — |
| 530-320 | | | | | Blade | Carbide-tipped jaws for outside measurement |
| 530-335 | | | | | | Carbide-tipped jaws for outside and inside measurement |
| 530-321 | 0 - 200 | | | | | Carbide-tipped jaws for outside measurement |
| 530-322 | 0 - 300 | | ±0.08 | ±0.10 | | Carbide-tipped jaws for outside measurement |
| 530-501 | 0 - 600 | | ±0.10 | ±0.12 | — | — |
| 530-502 | 0 - 1000 | | ±0.15 | ±0.17 | | |

**Metric/Inch** with metric/inch double scale

| Code No. | Range | Graduation | Maximum permissible error $E_{MPE}$ | Maximum permissible error $S_{MPE}$ | Depth bar | Remarks |
|---|---|---|---|---|---|---|
| 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 | | | | | | Clamping screw below the slider |
| 530-312 | | 0.02 mm (0.001 in) | ±0.03 mm/ ±0.001 in | ±0.05 mm/ ±0.002 in | | High accuracy model: ±0.03 mm |
| 530-114 | 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) $E_{MPE}$ | Maximum permissible error (in) $S_{MPE}$ | Depth bar | Remarks |
|---|---|---|---|---|---|---|
| 530-105 | 0 - 6 | 0.001 (1/128) | ±0.001/±0.5/128 | ±0.002/±0.5/128 | Blade | — |
| 530-116 | 0 - 8 | | | | | |

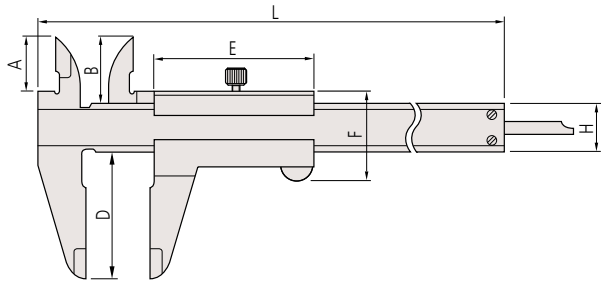
* The Partial Surface Contact Error ($E_{MPE}$) and Shift Error ($S_{MPE}$) are terms defined by ISO 13385-1:2019.

# Vernier Caliper
# SERIES 530 — Standard Model



## DIMENSIONS

Unit: mm



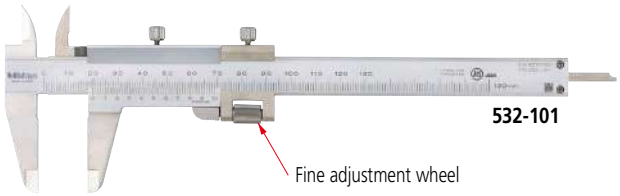

| Range (mm) | A | B | D | E | F | H | L | Outside jaw thickness |
|---|---|---|---|---|---|---|---|---|
| 0 - 100 | 17 | 21.5 | 40 | 53.5 | 30 | 16 | 182 | 3 |
| 0 - 150 | | | | | | | 229 | |
| 0 - 200 | 20.5 | 25 | 50 | | | | 288 | |
| 0 - 300 | 22 | 27.5 | 64 | 66.5 | 36 | 20 | 404 | 3.8 |
| 0 - 600 | 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.




## SPECIFICATIONS

**Metric**

| Code No. | Range (mm) | Graduation (mm) | Maximum permissible error (mm)* | | Depth bar | Remarks |
|---|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | | |
| **532-101** | 0 - 130 | 0.02 | ±0.03 | ±0.05 | Blade | with fine adjustment |
| **532-102** | 0 - 180 | | | | | |
| **532-103** | 0 - 280 | | ±0.04 | ±0.06 | | |

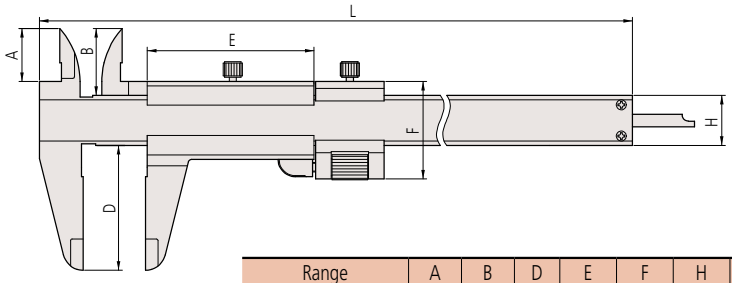
**Metric / Inch** with metric/inch double scale

| Code No. | Range | Graduation | Maximum permissible error* | | Depth bar | Remarks |
|---|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | | |
| **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 | | | | | |
| **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

Unit: mm




| Range | A | B | D | E | F | H | L |
|---|---|---|---|---|---|---|---|
| 0 - 130 mm/0 - 5 in | 17 | 21.5 | 40 | 53.5 | 31.2 | 16 | 229 |
| 0 - 180 mm/0 - 7 in | 20.5 | 25 | 50 | | | | 288 |
| 0 - 280 mm/0 - 11 in | 22 | 27.5 | 64 | 66.5 | 38 | 20 | 404 |

Jaw thickness: 3 mm for 0 to 130 mm/0 to 5 inch and 0 to 180 mm/0 to 7 inch models
3.8 mm for 0 to 280 mm/0 to 11 inch model

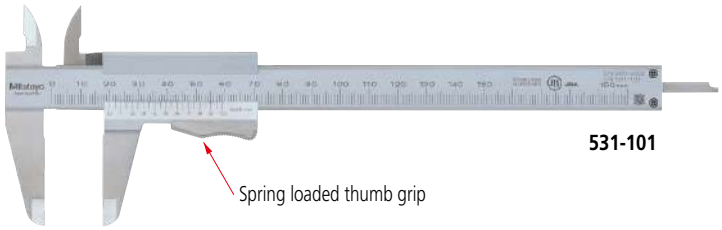


Calipers

# Vernier Caliper
# SERIES 531 — with Thumb Grip



- 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 |
|---|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | | |
| **531-101** | 0 - 150 | 0.05 | ±0.05 | ±0.07 | Blade | — |
| **531-102** | 0 - 200 | | | | | |
| **531-103** | 0 - 300 | | ±0.08 | ±0.10 | | |

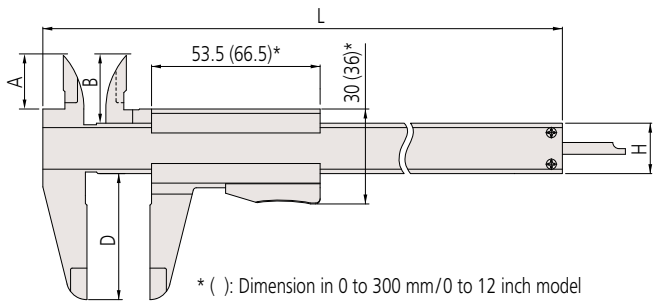
**Metric/Inch** with metric/inch double scale

| Code No. | Range | Graduation | Maximum permissible error* | | Depth bar | Remarks |
|---|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | | |
| **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 ($E_{MPE}$) and Shift Error ($S_{MPE}$) are terms defined by ISO 13385-1:2019.

## DIMENSIONS

Unit: mm




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

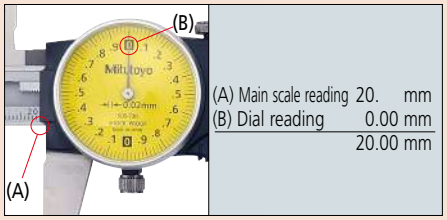
| Range | A | B | D | H | L |
|---|---|---|---|---|---|
| 0 - 150 mm/0 - 6 in | 17 | 21.5 | 40 | 16 | 229 |
| 0 - 200 mm/0 - 8 in | 20.5 | 25 | 50 | | 288 |
| 0 - 300 mm/0 - 12 in | 22 | 27.5 | 64 | 20 | 404 |

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

- 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.


## Reading




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

## SPECIFICATIONS

**Metric**

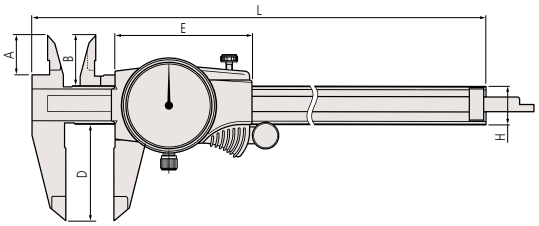
| Code No. | Range (mm) | Graduation (mm) | Maximum permissible error (mm)*2 $E_{MPE}$ | Maximum permissible error (mm)*2 $S_{MPE}$ | Remarks |
|---|---|---|---|---|---|
| **505-730** | 0 - 150 | 0.02, 2/rev | ±0.03 | ±0.05 | — |
| **505-734** | | | | | Carbide-tipped jaws for outside measurement |
|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

**Inch**

| Code No. | Range (in) | Graduation (in) | Maximum permissible error (in)*2 $E_{MPE}$ | Maximum permissible error (in)*2 $S_{MPE}$ | Remarks |
|---|---|---|---|---|---|
| **505-740J** | 0 - 6 | 0.001, 0.2/rev | ±0.001 | ±0.002 | — |
| **505-742J***1 | | 0.001, 0.1/rev | | | |
| **505-742-56J** | | | | | |
| **505-742-51J** | | | | | |
| **505-736***1 | | | | | Carbide-tipped jaws for outside measurement |
| **505-738***1 | | | | | Carbide-tipped jaws for outside and inside measurement |
| **505-744** | | 0.001, 0.2/rev | | | Carbide-tipped jaws for outside measurement |
| **505-742-52J** | | 0.001, 0.1/rev | | | — |
| **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 | | | |
| **505-737***1 | | 0.001, 0.2/rev | | | Carbide-tipped jaws for outside measurement |
| **505-739***1 | | | | | Carbide-tipped jaws for outside and inside measurement |
| **505-749** | 0 - 12 | | | | — |
| **505-746***1 | | 0.001, 0.1/rev | | | |
| **505-750** | | 0.001, 0.2/rev | | | Carbide-tipped jaws for outside measurement |
| **505-747***1 | | 0.001, 0.1/rev | | | |
| **505-748***1 | | | | | Carbide-tipped jaws for outside and inside measurement |

*1 Silver cover type
*2 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) | A | B | D | E | H | L |
|---|---|---|---|---|---|---|
| 0 - 150 | 16.5 | 21 | 40 | 57.2 | 16 | 231 |
| 0 - 200 | 20 | 24.5 | 50 | | | 288 |
| 0 - 300 | 22 | 27.5 | 64 | 70.2 | 20 | 404 |

Outside jaw thickness: 3.5 mm
(**505-745**: 3.8 mm)

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

- Digimatic Calipers employ CFRP (Carbon-Fiber Reinforced Plastics) in the beam and jaws. Leightweight 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 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| 552-302-10 | 0 - 450 (20.1 - 470) | 0.01 | ±0.04 | ±0.04 |
| 552-303-10 | 0 - 600 (20.1 - 620) | | | |
| 552-304-10 | 0 - 1000 (20.1 - 1020) | | ±0.05 | ±0.05 |
| 552-305-10 | 0 - 1500 (20.1 - 1520) | | ±0.09 | ±0.09 |
| 552-306-10 | 0 - 2000 (20.1 - 2020) | | ±0.12 | ±0.12 |

**Inch / Metric**

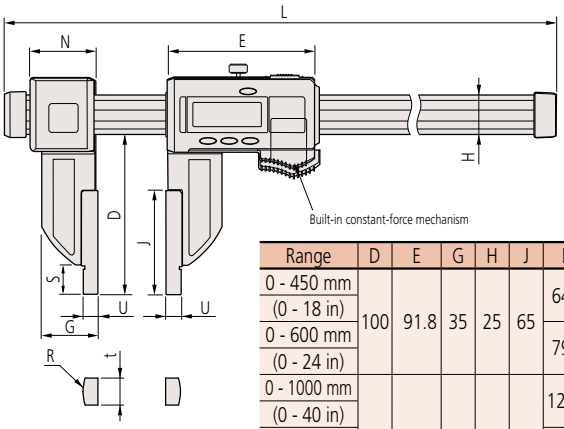
| Code No. | Range*1 | Resolution | Maximum permissible error*2 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| 552-312-10 | 0 - 18 in/0 - 450 mm (0.504 - 18.5 in/12.8 - 462.7mm) | 0.0005 in/0.01 mm | ±0.002 in/±0.04 mm | ±0.002 in/±0.04 mm |
| 552-313-10 | 0 - 24 in/0 - 600 mm (0.504 - 24.5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

Unit: mm




| Range | D | E | G | H | J | L | N | R | S | t | U |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 - 450 mm | 100 | 91.8 | 35 | 25 | 65 | 640 | 41.2 | R10 | 18 | 8 | 10 |
| (0 - 18 in) | | | | | | | | | | | (0.25 in) |
| 0 - 600 mm | | | | | | 790 | | | | | 10 |
| (0 - 24 in) | | | | | | | | | | | (0.25 in) |
| 0 - 1000 mm | 150 | 113.8 | 45 | 32 | 100 | 1230 | 62.8 | | 24 | | 10 |
| (0 - 40 in) | | | | | | | | | | | (0.5 in) |
| 0 - 1500 mm | | | | | | 1740 | | | | | 10 |
| (0 - 60 in) | | | | | | | | | | | (0.5 in) |
| 0 - 2000 mm | | | | | | 2250 | | | | | 10 |
| (0 - 80 in) | | | | | | | | | | | (0.5 in) |

MeasurLink® ENABLED Data Management Software by Mitutoyo

ABSOLUTE™

IP66

Dust- and Water-Protected TÜVRheinland CERTIFIED www.tuv.com ID 0000022582

## 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 |

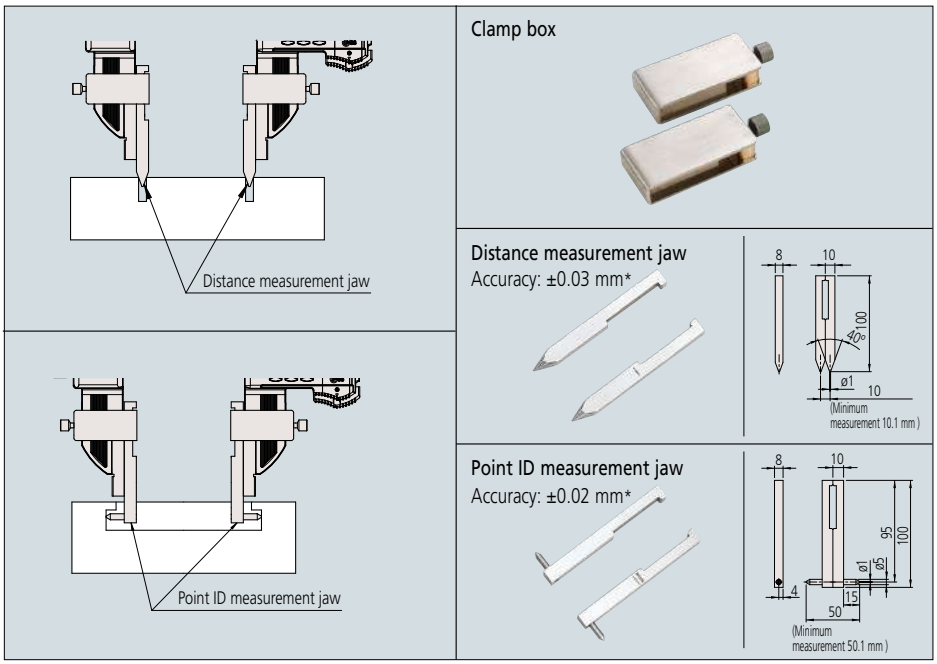
## Optional accessories

**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.

# 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.

552-151-10

## SPECIFICATIONS

**Metric**

| Code No. | Range (mm)*1 | Resolution (mm) | Maximum permissible error (mm)*2 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **552-150-10** | 0 - 450 (20.1 - 470) | 0.01 | ±0.06 | ±0.06 |
| **552-151-10** | 0 - 600 (20.1 - 620) | | | |
| **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 |

**Inch / Metric**

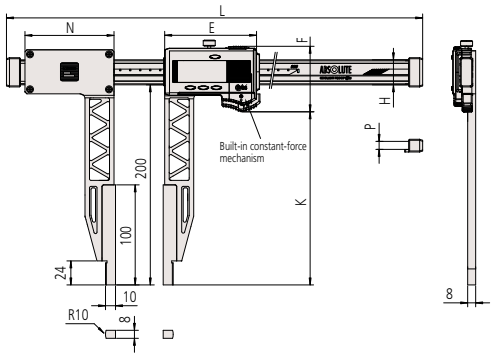
| Code No. | Range*1 | Resolution | Maximum permissible error*2 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **552-160-10** | 0 - 18 in/0 - 450 mm (0.504 - 18.5 in/12.8 - 462.7 mm) | 0.0005 in/0.01 mm | ±0.0025 in/±0.06 mm | ±0.0025 in/±0.06 mm |
| **552-161-10** | 0 - 24 in/0 - 600 mm (0.504 - 24.5 in/12.8 - 612.7 mm) | | | |
| **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 ($E_{MPE}$) 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

Unit: mm




| Range | E | F | H | K | L | N | P |
|---|---|---|---|---|---|---|---|
| 0 - 450 mm | 91.8 | 65.5 | 25 | 173 | 680 | 89 | 8 |
| 0 - 600 mm | | | | | 830 | | |
| 0 - 1000 mm | 113.8 | 73 | 32 | 170.5 | 1280 | 110 | 12 |
| 0 - 1500 mm | | | | | 1790 | | |
| 0 - 2000 mm | | | | | 2300 | | |

MeasurLink® ENABLED Data Management Software by Mitutoyo

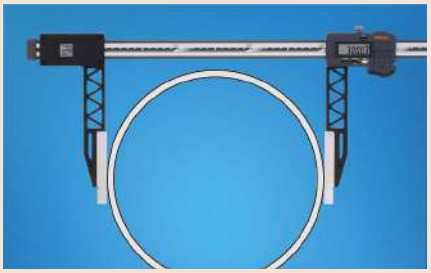
ABSOLUTE™

IP66

Dust- and Water-Protected

TÜVRheinland CERTIFIED www.tuv.com ID 0000022582

## 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 |

MeasurLink® ENABLED Data Management Software by Mitutoyo

ABSOLUTE™

IP66

Dust- and Water-Protected

TÜVRheinland CERTIFIED www.tuv.com ID 0000022582

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

- Digimatic Calipers employ CFRP (Carbon-Fiber Reinforced Plastics) in the beam and jaws. Leightweight 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 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **552-155-10** | 0 - 450 (20.1 - 470) | 0.01 | ±0.04 | ±0.04 |
| **552-156-10** | 0 - 600 (20.1 - 620) | | ±0.04 | ±0.04 |

**Inch/Metric**

| Code No. | Range*1 | Resolution | Maximum permissible error*2 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **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 | ±0.002 in/±0.04 mm | ±0.002 in/±0.04 mm |
| **552-166-10** | 0 - 24 in/0 - 600 mm (0.504 - 24.5 in/12.8 - 612.7 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

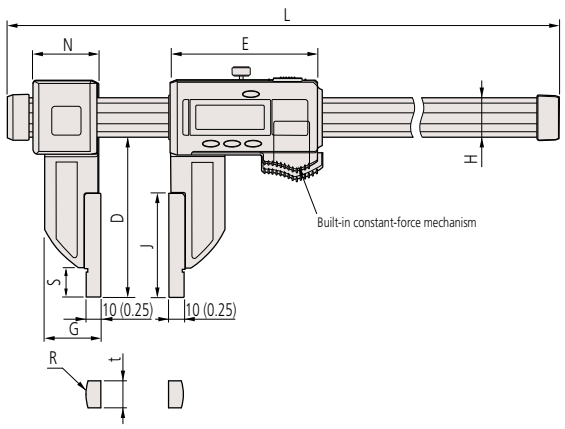
*2 The Partial Surface Contact Error ($E_{MPE}$) and Shift Error ($S_{MPE}$) are terms defined by ISO 13385-1:2019.

*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

Unit: mm




| Range | D | E | G | H | J | L | N | R | S | t |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 - 450 mm (0 - 18 in) | 100 | 91.8 | 35 | 25 | 65 | 640 | 41.2 | R10 | 18 | 8 |
| 0 - 600 mm (0 - 24 in) | | | | | | 790 | | | | |

( ): Inch/Metric type



Calipers

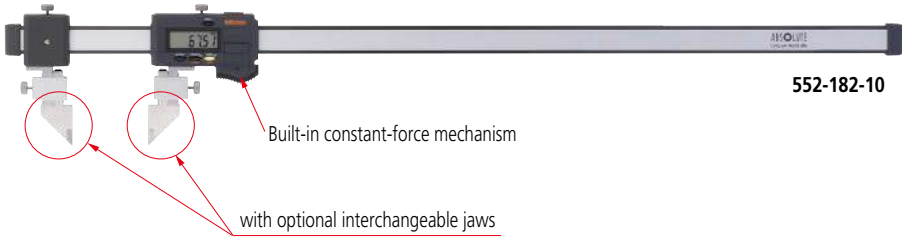




Mitutoyo

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

- Digimatic Calipers employ CFRP (Carbon-Fiber Reinforced Plastics) in the beam and jaws. Leightweight 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 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **552-181-10** | 0 - 450 | 0.01 | ±0.04 | |
| **552-182-10** | 0 - 600 | | | |
| **552-183-10** | 0 - 1000 | | ±0.05 | |
| **552-184-10** | 0 - 1500 | | ±0.09 | |
| **552-185-10** | 0 - 2000 | | ±0.12 | |

**Inch / Metric**

| Code No. | Range | Resolution | Maximum permissible error*1 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **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 | | ±0.002 in/±0.05 mm | |
| **552-194-10** | 0 - 60 in/0 - 1500 mm | | ±0.004 in/±0.09 mm | |
| **552-195-10** | 0 - 80 in/0 - 2000 mm | | ±0.005 in/±0.12 mm | |

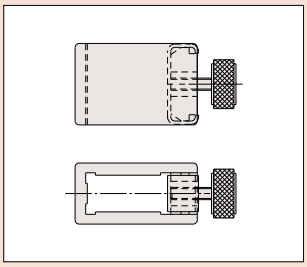
- Dust/Water protection level: IP66 (IEC 60529)*2
- Power source: SR44 battery (1 pc.), **938882** included as standard (for operational checks)
- Battery life: Approx. 5,000 hours in continuous use
- Response speed: Unlimited

*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 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.

## 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 |

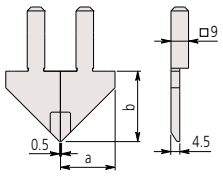
# Optional accessories

Interchangeable jaws

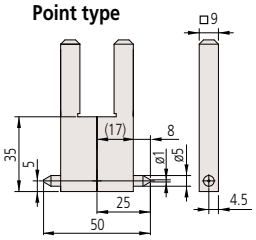
## SPECIFICATIONS

Unit: mm

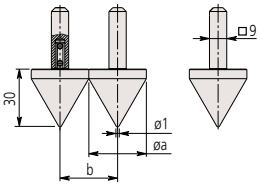
**Standard type**



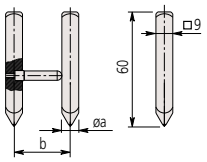

**Point type**



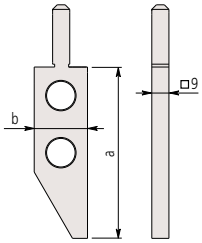

**Centerline Type**



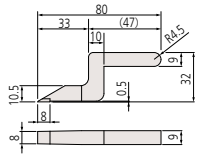

**Scriber Type**




**Surface Plate Type**




**Scriber for height gages**




### 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 | **07CZA041**×2 pcs. | 25 mm | 50 mm |
| 07CZA059 | **07CZA048**×2 pcs. | 1 in | 2 in |

### Centerline Type

| Code No. | Components | a | b |
|---|---|---|---|
| 07CZA057 | **07CZA039**×2 pcs. | 30 mm | 30 mm |
| 07CZA060 | **07CZA047**×2 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* $E_{MPE}$ | Maximum permissible error* $S_{MPE}$ |
|---|---|---|---|---|
| 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) | | |
| | **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) | — | ±0.09 mm (±0.0035 in) |
| | | Outside: 0 - 450 mm (0 - 18 in) | ±0.09 mm (±0.0035 in) | — |
| | **552-182-10** (**552-192-10**) | Inside: 50.1 - 650 mm (2.004 - 26 in) | — | ±0.09 mm (±0.0035 in) |
| | | Outside: 0 - 600 mm (0 - 24 in) | ±0.09 mm (±0.0035 in) | — |
| | **552-183-10** (**552-193-10**) | Inside: 50.1 - 1050 mm (2.004 - 42 in) | — | ±0.10 mm (±0.0040 in) |
| | | Outside: 0 - 1000 mm (0 - 40 in) | ±0.10 mm (±0.0040 in) | — |
| | **552-184-10** (**552-194-10**) | Inside: 50.1 - 1550 mm (2.004 - 62 in) | — | ±0.14 mm (±0.0055 in) |
| | | Outside: 0 - 1500 mm (0 - 60 in) | ±0.14 mm (±0.0055 in) | — |
| | **552-185-10** (**552-195-10**) | Inside: 50.1 - 2050 mm (2.004 - 82 in) | — | ±0.17 mm (±0.0070 in) |
| | | Outside: 0 - 2000 mm (0 - 80 in) | ±0.17 mm (±0.0070 in) | — |
| Centerline type | **552-181-10** (**552-191-10**) | 30.1 - 480 mm (1.204 - 19.2 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) | | ±0.10 mm (±0.0040 in) |
| | **552-184-10** (**552-194-10**) | 30.1 - 1530 mm (1.204 - 61.2 in) | | ±0.13 mm (±0.0055 in) |
| | **552-185-10** (**552-195-10**) | 30.1 - 2030 mm (1.204 - 81.2 in) | | ±0.16 mm (±0.0065 in) |
| Scriber type | **552-181-10** (**552-191-10**) | 30.1 - 480 mm (1.204 - 19.2 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) | | ±0.15 mm (±0.0060 in) |
| | **552-185-10** (**552-195-10**) | 30.1 - 2030 mm (1.204 - 81.2 in) | | ±0.18 mm (±0.0070 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) | |
| | **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) | ±0.11 mm (±0.0045 in) | |
| | **552-184-10** (**552-194-10**) | 0 - 1500 mm (0 - 59.4 in) | ±0.15 mm (±0.0060 in) | |
| | **552-185-10** (**552-195-10**) | 0 - 2000 mm (0 - 79.6 in) | ±0.18 mm (±0.0070 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) | — |
| | **552-182-10** (**552-192-10**) | Outside: 0 - 600 mm (0 - 24 in) | ±0.12 mm (±0.0050 in) | — |
| | **552-183-10** (**552-193-10**) | Outside: 0 - 1000 mm (0 - 40 in) | ±0.13 mm (±0.0055 in) | — |
| | **552-184-10** (**552-194-10**) | Outside: 0 - 1500 mm (0 - 60 in) | ±0.17 mm (±0.0070 in) | — |
| | **552-185-10** (**552-195-10**) | Outside: 0 - 2000 mm (0 - 80 in) | ±0.20 mm (±0.0080 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) |
| | **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) | | ±0.12 mm (±0.0050 in) |
| | **552-184-10** (**552-194-10**) | 15.1 - 1515 mm (0.6 - 60.6 in) | | ±0.16 mm (±0.0065 in) |
| | **552-185-10** (**552-195-10**) | 15.1 - 2015 mm (0.6 - 80.6 in) | | ±0.19 mm (±0.0075 in) |

( ): Inch/Metric models

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

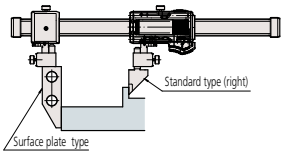
## Optional accessories

Interchangeable jaws

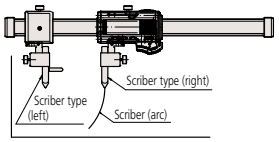


### Typical applications

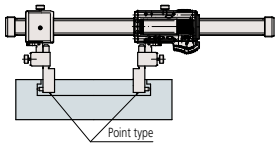
**Surface plate type + Standard type**



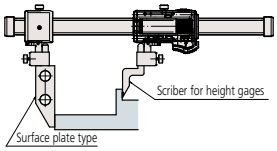

**Scriber type**



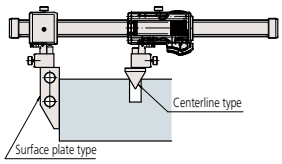

**Point type**




**Surface plate type + Scriber for height gages**




**Surface plate type + Centerline 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

MeasurLink® ENABLED Data Management Software by Mitutoyo

U-WAVE fit

ABSOLUTE™

IP67

Dust- and Water-Protected

TÜVRheinland CERTIFIED 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)*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**).


**550-301-20**

## SPECIFICATIONS

**Metric**

| Code No. | Range (mm)*1 | Resolution (mm) | Maximum permissible error (mm)*2 $E_{MPE}$ | Maximum permissible error (mm)*2 $S_{MPE}$ | Remarks |
|---|---|---|---|---|---|
| **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) | | | | — |
| **550-207-10** | 0 - 1000 (20.1 - 1020) | | ±0.07 | ±0.07 | — |

**Inch / Metric**

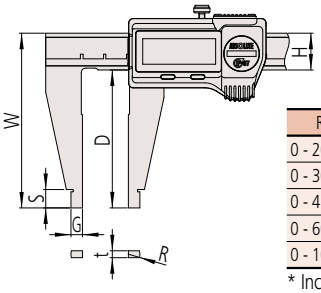
| Code No. | Range*1 | Resolution | Maximum permissible error*2 $E_{MPE}$ | Maximum permissible error*2 $S_{MPE}$ | Remarks |
|---|---|---|---|---|---|
| **550-311-20** | 0 - 8 in/0 - 200 mm (0.404 - 8.4 in/10.26 - 210.16 mm) | 0.0005 in/ 0.01 mm | ±0.0015 in/ ±0.03 mm | ±0.0015 in/ ±0.03 mm | IP67, 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) | | | | — |
| **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 ($E_{MPE}$) and Shift Error ($S_{MPE}$) 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)* | | | | | | | |
| 0 - 1000 (0 - 40 in)* | 140 | 10 (12.7)* | 24 | 172 | 32 | 8 | 10 (12.7)* |

* Inch model



Calipers

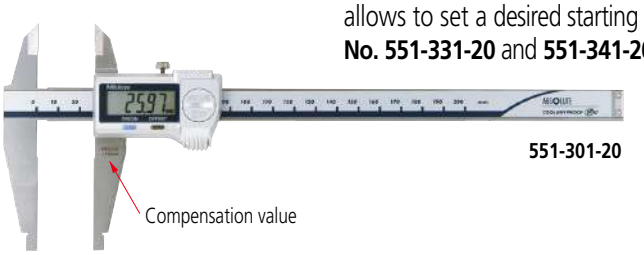




Mitutoyo

# 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**).




551-301-20

## SPECIFICATIONS

**Metric**

| Code No. | Range (mm)*1 | Resolution (mm) | Maximum permissible error (mm)*2 | | Remarks |
|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | |
| **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) | | | | |
| **551-207-10** | 0 - 1000 (20.1 - 1020) | | ±0.07 | ±0.07 | |

**Inch/Metric**

| Code No. | Range*1 | Resolution | Maximum permissible error*2 | | Remarks |
|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | |
| **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) | | | | |
| **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 | |

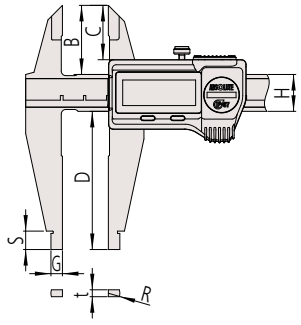
- Power source: SR44 battery (1 pc.), **938882** included as standard (for operational checks)
- Response speed: Unlimited

*1 ( ): Inside measurement

*2 The Partial Surface Contact Error ($E_{MPE}$) and Shift Error ($S_{MPE}$) 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

MeasurLink® ENABLED Data Management Software by Mitutoyo

U-WAVE fit

ABSOLUTE™

IP67

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

### Measurement example

### Optional Accessories

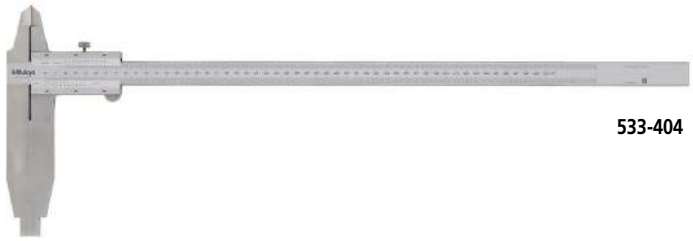
| Code No. | Type | Description |
|---|---|---|
| **264-020** | — | USB Input Tool Series USB Keyboard Signal Conversion Type **IT-020U** |
| **05CZA624** | A | Connection cable for **IT/DP/MUX** (1 m)*1 |
| **05CZA625** | A | Connection cable for **IT/DP/MUX** (2 m)*1 |
| **959149** | C | Connection 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

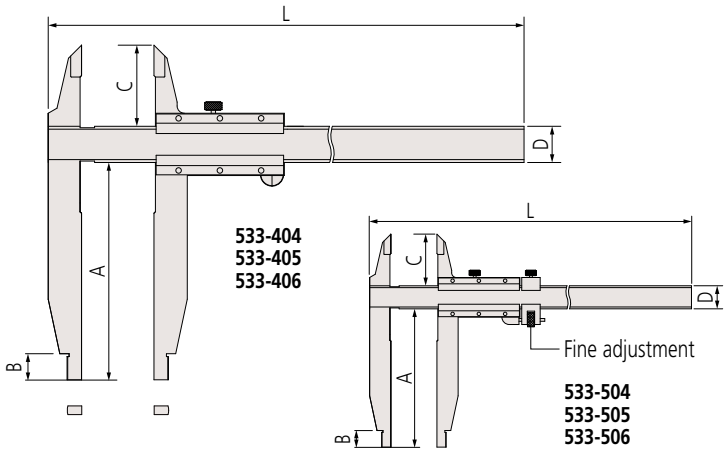
**Metric**

| Code No. | Range (mm)*1 | Resolution (mm) | Maximum permissible error (mm)*2 | | Remarks |
|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | |
| **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

Unit: mm




| Range (mm) | A | B | C | D | L |
|---|---|---|---|---|---|
| 0 - 500 | 150 | 18 | 56 | 25 | 680 |
| 0 - 750 | | | | | 963 |
| 0 - 1000 | | 20 | | 32 | 1230 |



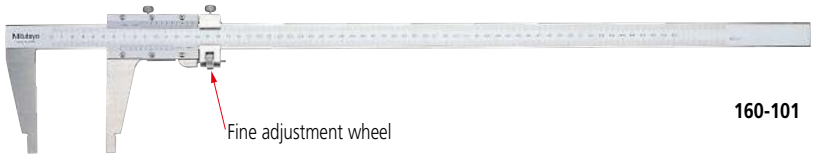
Calipers

# 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**).

**160-131**




**160-101**

## SPECIFICATIONS

**Metric** with inside measurement Vernier scale

| Code No. | Range (mm)*1 | Minimum reading (mm) | Maximum permissible error (mm)*2 | | Remarks |
|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | |
| **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 ($E_{MPE}$) and Shift Error ($S_{MPE}$) 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 |
|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | |
| **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 | |

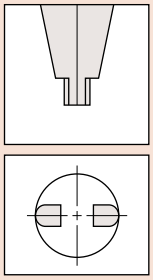
*1 ( ): Minimum dimension in ID measurement
*2 The Partial Surface Contact Error ($E_{MPE}$) and Shift Error ($S_{MPE}$) are terms defined by ISO 13385-1:2019.

**Metric/Inch** with metric/inch double scale

| Code No. | Range*1 | Minimum reading | Maximum permissible error*2 | | Remarks |
|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | |
| **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) | | | | |
| **160-155** | 0 - 1000 mm/0 - 40 in (20.1 - 1000 mm/0.791 - 24 in) | | ±0.07 mm/ ±0.003 in | ±0.07 mm/ ±0.003 in | |

*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.

### Measurement example



Radiused jaws for accurate ID measurement

### Measurement example

**Inch** with inside measurement Vernier scale

| Code No. | Range (in)*1 | Minimum reading (in) | Maximum permissible error (in)*2 | | Remarks |
|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | |
| **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 | | | | |
| **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.

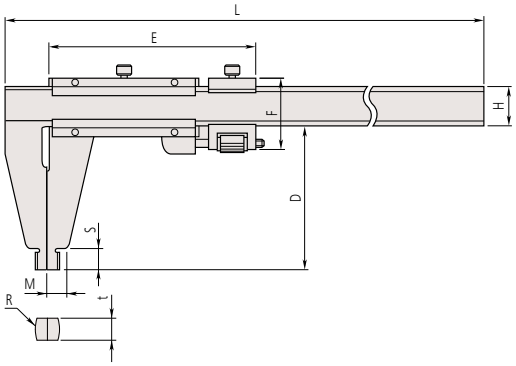
**Inch/Metric** with inch/metric double scale

| Code No. | Range*1 | Minimum reading | Maximum permissible error*2 | | Remarks |
|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | |
| **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) | | | | |
| **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




| Range | D | E | F | H | L | M | R | S | t |
|---|---|---|---|---|---|---|---|---|---|
| 0 - 300 mm/0 - 12 in | 75 | 103 | 38 | 20 | 445 | 10 | R5 | 12 | 3.8 |
| 0 - 450 mm* | 100 | 89 | — | 25 | 630 | 14.8 | R10 | 18 | 6 |
| 0 - 450 mm/0 - 18 in | | 112 | 51 | | | | | | |
| 0 - 600 mm* | | 89 | — | | 780 | | | | |
| 0 - 600 mm/0 - 24 in | | 112 | 51 | | | | | | |
| 0 - 1000 mm* | 140 | 111 | — | 32 | 1240 | 17 | | 24 | 8 |
| 0 - 1000 mm/0 - 40 in | | 150 | 62.5 | | | | | | |

* Without fine adjustment





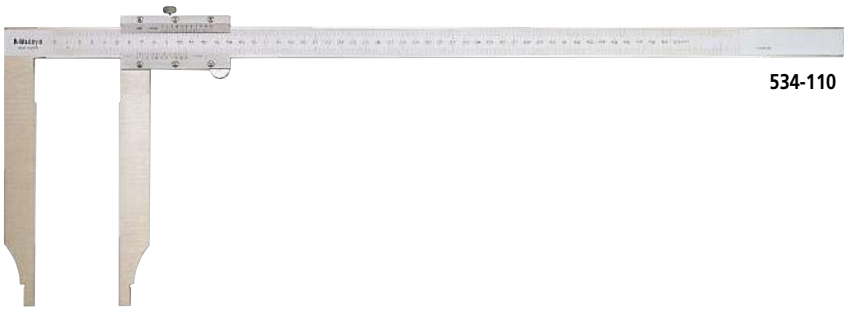


Mitutoyo

# 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.



534-110

## SPECIFICATIONS

**Metric** with inside measurement Vernier scale

| Code No. | Range (mm)*1 | Graduation (mm) | Maximum permissible error (mm)*2 | | Remarks |
|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | |
| 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 ($E_{MPE}$) and Shift Error ($S_{MPE}$) are terms defined by ISO 13385-1:2019.

Calipers

**Metric/Inch** with metric/inch double scale

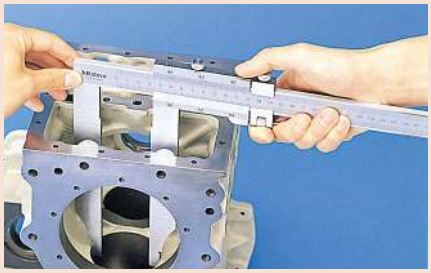
| Code No. | Range*1 | Graduation | Maximum permissible error*2 | | Remarks |
|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | |
| 534-101 | 0 - 300 mm/0 - 12 in (10.1 - 300 mm/0.398 - 12 in) | 0.05 mm/ 1/128 in | ±0.07 mm/ ±0.5/128 in | ±0.07 mm/ ±0.5/128 in | +10 mm/0.394 in to reading in 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 ($E_{MPE}$) and Shift Error ($S_{MPE}$) are terms defined by ISO 13385-1:2019.
Note: For external dimensions, refer to page 04-28.

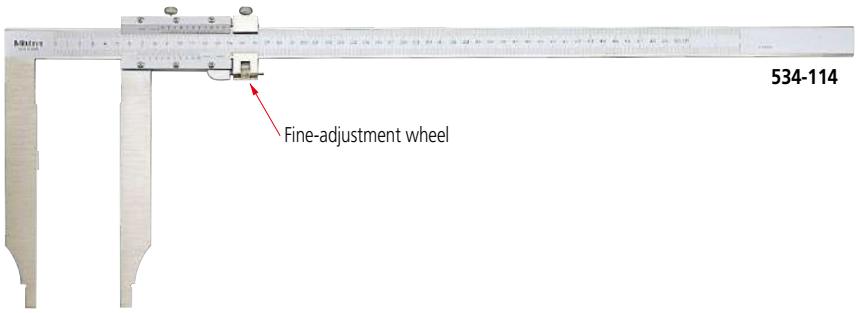
# Long Jaw Vernier Caliper
# SERIES 534



## Measurement example



- 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 |
|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | |
| **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

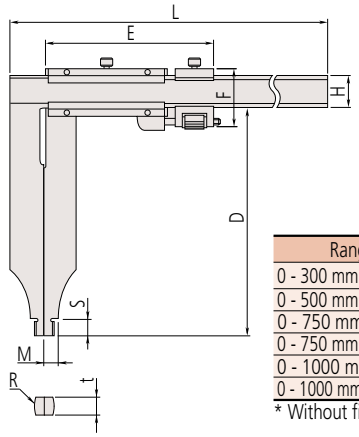
| Code No. | Range (in)*1 | Graduation (in) | Maximum permissible error (in)*2 | | Remarks |
|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | |
| **534-117** | 0 (0.304) - 12 | 0.001 | ±0.0015 | ±0.0015 | with fine adjustment |
| **534-118** | 0 (0.804) - 20 | | ±0.0025 | ±0.0025 | |
| **534-119** | 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

Unit: mm




| Range | D | E | F | H | L | M | R | S | t |
|---|---|---|---|---|---|---|---|---|---|
| 0 - 300 mm/0 - 12 in | 90 | 103 | 38 | 20 | 445 | 7 | R5 | 12 | 3.8 |
| 0 - 500 mm/0 - 20 in | 200 | 112 | 51 | 25 | 682 | 12 | R10 | 18.5 | 6 |
| 0 - 750 mm* | | 150 | — | 32 | 995 | | | | |
| 0 - 750 mm/0 - 30 in | | | 62.5 | | | | | | 8 |
| 0 - 1000 mm* | | | — | | 1230 | | | | |
| 0 - 1000 mm/0 - 40 in | | | 62.5 | | | | | | |

* Without fine adjustment



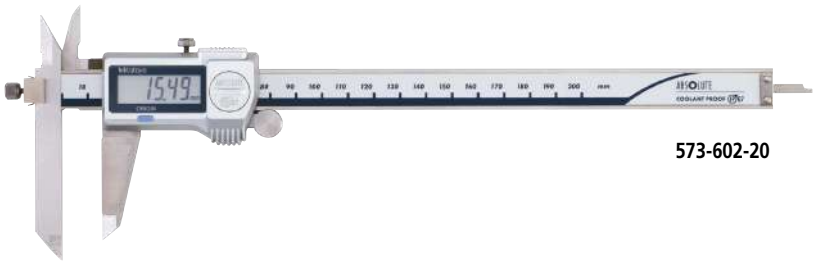


Mitutoyo

# 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 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **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 | | | |
| **573-604-20** | 0 - 300 | | ±0.03 | ±0.05 |
| **573-614-20***1 | 0 - 300 | | | |

**Inch/Metric** Digimatic model

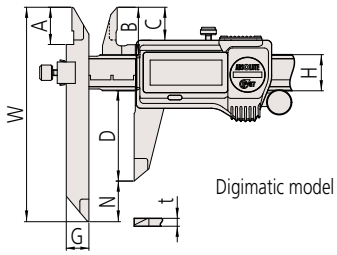
| Code No. | Range | Resolution | Maximum permissible error*2 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **573-701-20** | 0 - 6 in/0 - 150 mm | 0.0005 in/0.01 mm | ±0.001 in/±0.02 mm | ±0.002 in/±0.04 mm |
| **573-702-20** | 0 - 8 in/0 - 200 mm | | | |
| **573-704-20** | 0 - 12 in/0 - 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 ($E_{MPE}$) 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.

## DIMENSIONS

Unit: mm

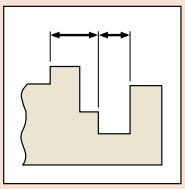


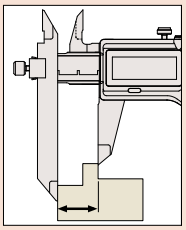

Digimatic model

| 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 | 15 | 20 | (23.5) | 135 | 3.8 |

MeasurLink® ENABLED Data Management Software by Mitutoyo
U-WAVE fit
ABSOLUTE™
IP67
Dust- and Water-Protected TÜVRheinland CERTIFIED 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)* | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **536-101** | 0 - 150 | 0.05 | ±0.05 | ±0.07 |
| **536-102** | 0 - 200 | | | |
| **536-103** | 0 - 300 | | ±0.08 | ±0.10 |

**Metric**

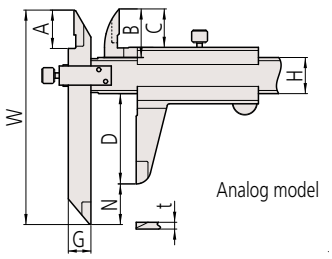
| Code No. | Range (mm) | Graduation (mm) | Maximum permissible error (mm)* | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **536-221** | 0 - 150 | 0.05 | ±0.05 | ±0.07 |
| **536-222** | 0 - 200 | | | |
| **536-223** | 0 - 300 | | ±0.08 | ±0.10 |

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



## DIMENSIONS

Unit: mm




Analog model

| 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) | 95 | 3 |
| **536-102** | | 0 - 200 | 20.5 | 25 | 20.5 | 50 | | | (4) | | |
| **536-103** | | 0 - 300 | 22 | 27.5 | 22 | 64 | 15 | 20 | (23.5) | 135 | 3.8 |





Mitutoyo

# 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

## SPECIFICATIONS

**Metric** Digimatic model

| Code No. | Range (mm) | Resolution (mm) | Maximum permissible error (mm)*2 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **573-605-20** | 10.1 - 160 | 0.01 | | ±0.03 |
| **573-615-20***1 | 10.1 - 160 | | | |
| **573-606-20** | 10.1 - 210 | | | |
| **573-616-20***1 | 10.1 - 210 | | | |
| **573-608-20** | 10.1 - 310 | | | ±0.04 |
| **573-618-20***1 | 10.1 - 310 | | | |

**Inch / Metric** Digimatic model

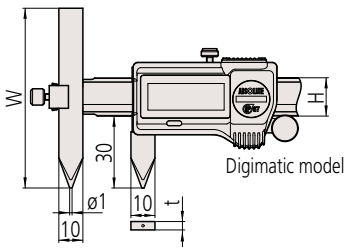
| Code No. | Range | Resolution | Maximum permissible error*2 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **573-705-20** | 0.404 - 6.4 in/10.26 - 160.16 mm | 0.0005 in/0.01 mm | | ±0.0015 in/±0.03 mm |
| **573-706-20** | 0.404 - 8.4 in/10.26 - 210.16 mm | | | |
| **573-708-20** | 0.404 - 12.4 in/10.26- 310.16 mm | | | ±0.0015 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 ($E_{MPE}$) 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.

## DIMENSIONS

Unit: mm

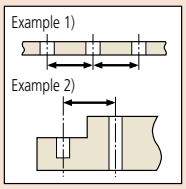



Digimatic model

| 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 | |

MeasurLink® ENABLED Data Management Software by Mitutoyo
U-WAVE fit
ABSOLUTE™
IP67
Dust- and Water-Protected TÜVRheinland CERTIFIED www.tuv.com ID 0000045042

## Measurement example



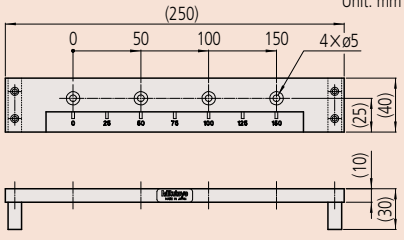

## Optional Accessories

| 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** |

## Inspection equipment for offset caliper

**05FAJ735**

Unit: mm



# 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

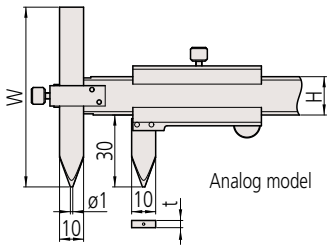
**Metric** Analog model

| 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 | | | |
| **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




Analog model

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

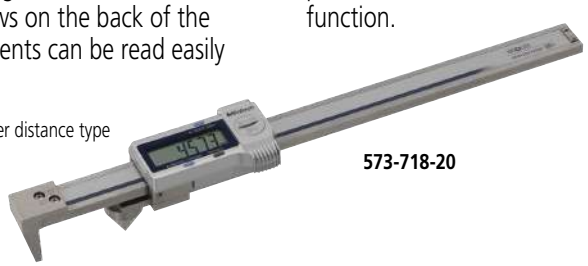


Calipers

# 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



573-718-20

## SPECIFICATIONS

Metric

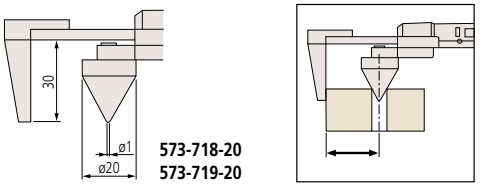
| Code No. | Range (mm) | Resolution (mm) | Maximum permissible error (mm)*2 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **573-718-20***1 | 10.1 - 200 | 0.01 | | ±0.10 |
| **573-719-20***1 | 10.1 - 300 | | | ±0.15 |

- 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 ($E_{MPE}$) and Shift Error ($S_{MPE}$) are terms defined by ISO 13385-1:2019.

## DIMENSIONS

Unit: mm




573-718-20
573-719-20

Center-to-center distance type

573-716-20

## SPECIFICATIONS

Metric

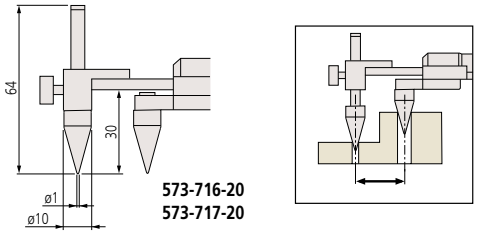
| Code No. | Range (mm) | Resolution (mm) | Maximum permissible error (mm)*2 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **573-716-20***1 | 10.1 - 200 | 0.01 | | ±0.10 |
| **573-717-20***1 | 10.1 - 300 | | | ±0.15 |

- 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 ($E_{MPE}$) and Shift Error ($S_{MPE}$) are terms defined by ISO 13385-1:2019.

## DIMENSIONS

Unit: mm




573-716-20
573-717-20

MeasurLink® ENABLED
Data Management Software by Mitutoyo

ABSOLUTE™

IP67

Dust- and Water-Protected

TÜVRheinland CERTIFIED
www.tuv.com ID 0000045042

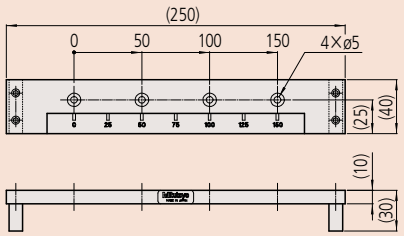
## Optional Accessories

| 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*

**05FAJ735**

Unit: mm




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

MeasurLink® ENABLED
Data Management Software by Mitutoyo

U-WAVE fit

ABSOLUTE™

Applicable models: **series 573**

IP67

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

## Measurement example

## Optional Accessories (for series 573)

| Code No. | Type | Description |
|---|---|---|
| **264-020** | — | USB Input Tool Series<br>USB Keyboard Signal Conversion Type<br>**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**<br>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** |

# Point Caliper
# SERIES 573, 536 — ABSOLUTE Digimatic and Vernier Types

- Narrow-tip jaws fit into very small grooves and tracks, making many previously difficult outside measurements far easier to obtain.

573-621-20

## SPECIFICATIONS

**Metric** Digimatic model

| Code No. | Range (mm) | Resolution (mm) | Maximum permissible error (mm)*2 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **573-621-20** | 0 - 150 | 0.01 | ±0.02 | ±0.04 |
| **573-625-20** | 0 - 150 | | | |
| **573-622-20***1 | 0 - 150 | | | |
| **573-626-20***1 | 0 - 150 | | | |

**Inch/Metric** Digimatic model

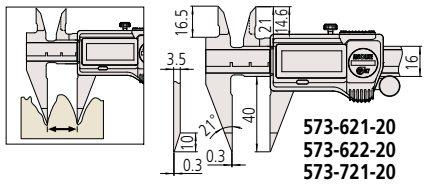
| Code No. | Range | Resolution | Maximum permissible error*2 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **573-721-20** | 0 - 6 in/0 - 150 mm | 0.0005 in/0.01 mm | ±0.001 in/±0.02 mm | ±0.002 in/±0.04 mm |
| **573-725-20** | | | | |

- 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
- With depth bar

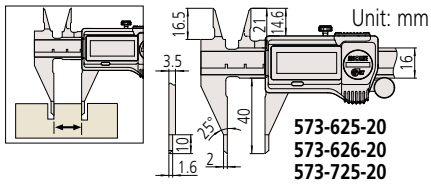
*1 Without thumb roller
*2 The Partial Surface Contact Error ($E_{MPE}$) and Shift Error ($S_{MPE}$) are terms defined by ISO 13385-1:2019.
*3 Rustproofing shall be applied after use if caliper was in contact with coolant.

## DIMENSIONS

Unit: mm




573-621-20
573-622-20
573-721-20




573-625-20
573-626-20
573-725-20

536-121

## SPECIFICATIONS

**Metric** Analog model

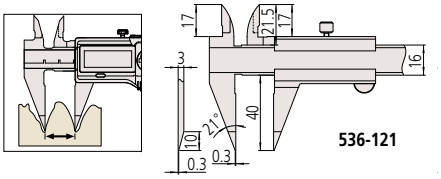
| Code No. | Range (mm) | Graduation (mm) | Maximum permissible error (mm)* | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **536-121** | 0 - 150 | 0.05 | ±0.05 | ±0.07 |

- With depth bar

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

## DIMENSIONS

Unit: mm




536-121



Calipers





Mitutoyo

# 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 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| 573-634-20 | 0 - 150 | 0.01 | ±0.02 | ±0.04 |
| 573-635-20*1 | 0 - 150 | | | |

**Inch / Metric** Digimatic model

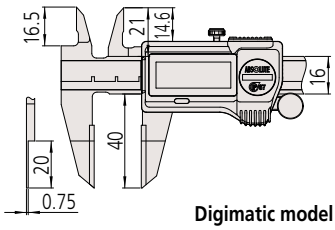
| Code No. | Range | Resolution | Maximum permissible error*2 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| 573-734-20 | 0 - 6 in/0 - 150 mm | 0.0005 in/0.01 mm | ±0.001 in/±0.02 mm | ±0.002 in/±0.04 mm |

- 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 ($E_{MPE}$) 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.

## DIMENSIONS

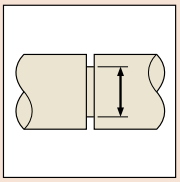
Unit: mm




Digimatic model

MeasurLink® ENABLED Data Management Software by Mitutoyo
U-WAVE fit
ABSOLUTE™
IP67
Dust- and Water-Protected TÜVRheinland CERTIFIED www.tuv.com ID 0000045042

### Measurement example

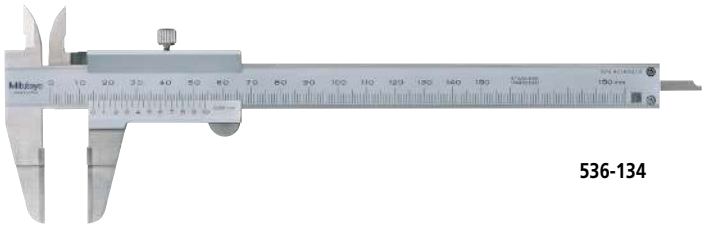


### Optional Accessories (for series 573)

| 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

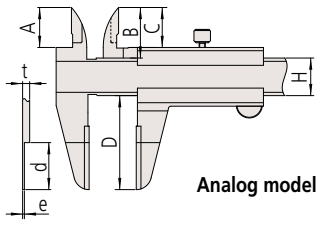
**Metric** Analog model

| Code No. | Range (mm) | Graduation (mm) | Maximum permissible error (mm)* | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **536-134** | 0 - 150 | 0.05 | ±0.05 | ±0.07 |
| **536-135** | 0 - 200 | | | |
| **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

Compensation value

**Point jaw type**

573-646-20

Compensation value

## SPECIFICATIONS

**Metric** Digimatic model

| Code No. | Range (mm) | Resolution (mm) | Maximum permissible error (mm)*3 $E_{MPE}$ | Maximum permissible error (mm)*3 $S_{MPE}$ | Remarks |
|---|---|---|---|---|---|
| **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 | 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 $E_{MPE}$ | Maximum permissible error*3 $S_{MPE}$ | Remarks |
|---|---|---|---|---|---|
| **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 | | | | 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 ($E_{MPE}$) 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.

MeasurLink® ENABLED Data Management Software by Mitutoyo

U-WAVE fit

ABSOLUTE™

IP67

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

### Measurement example

### Optional Accessories

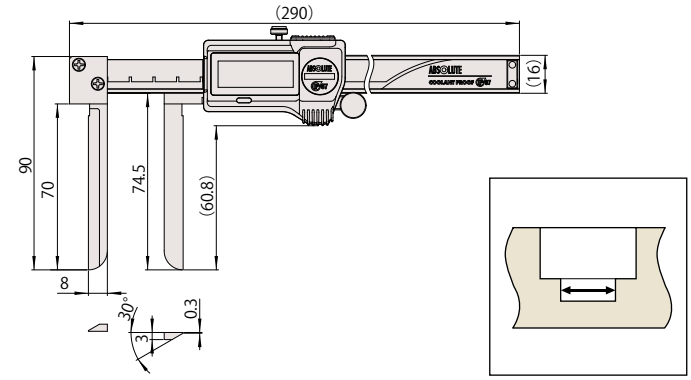
| Code No. | Type | Description |
|---|---|---|
| **264-020** | — | USB Input Tool Series USB Keyboard Signal Conversion Type **IT-020U** |
| **05CZA624** | A | Connection cable for **IT/DP/MUX** (1 m) |
| **05CZA625** | A | Connection cable for **IT/DP/MUX** (2 m) |
| **06AFM380A** | A | USB Input Tool 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** |

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

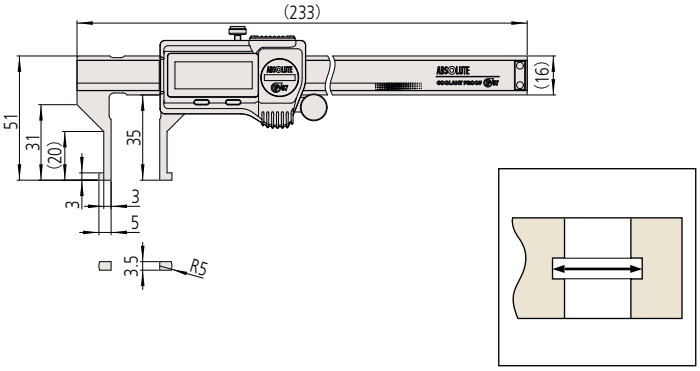
## DIMENSIONS

Unit: mm

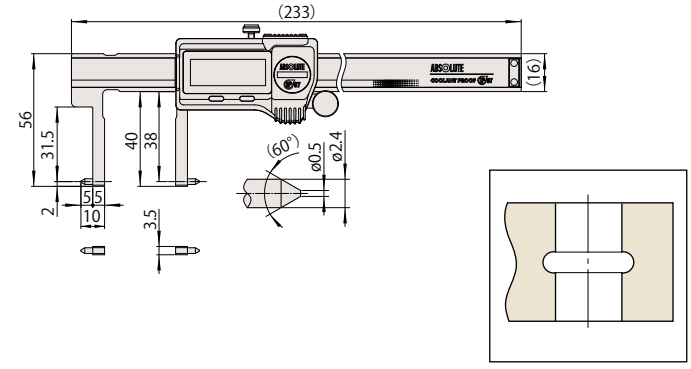
**Knife-edge type: 573-642-20, 573-643-20, 573-742-20**




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




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

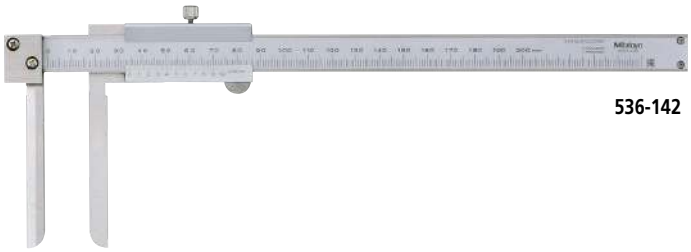


# ABSOLUTE Inside Caliper
# SERIES 536 — Knife-edge/Inside Groove/Point Jaw Type



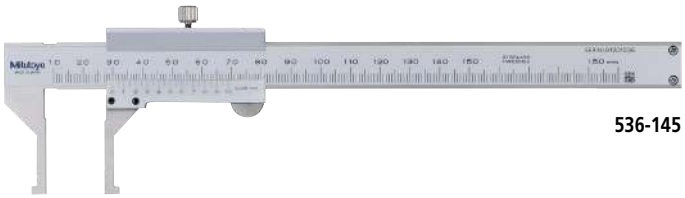
- Specially designed for inside measurement. Select the right model for your workpiece shape.

**Knife-edge type**



**536-142**

**Inside groove type**



**536-145**

**Point jaw type**

**536-146**



## SPECIFICATIONS

**Metric** Analog model

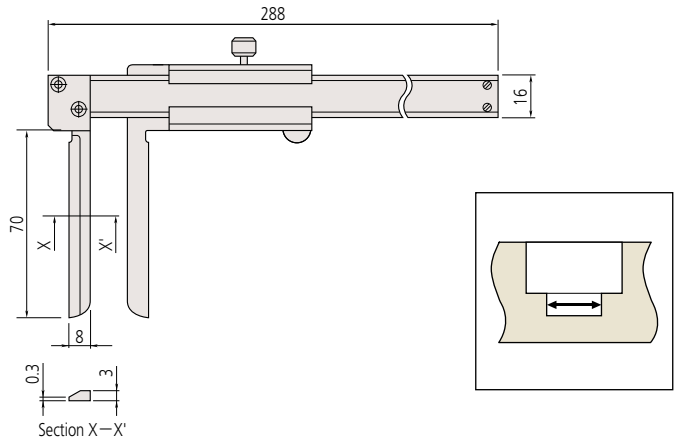
| Code No. | Range (mm) | Graduation (mm) | Maximum permissible error (mm)* | | Remarks |
|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | |
| **536-142** | 10 - 200 | 0.05 | | ±0.12 | Knife-edge type, Measurable min. |
| **536-145** | 10.1 - 150 | | | ±0.05 | Inside groove type, Measurable 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 ($E_{MPE}$) and Shift Error ($S_{MPE}$) are terms defined by ISO 13385-1:2019.

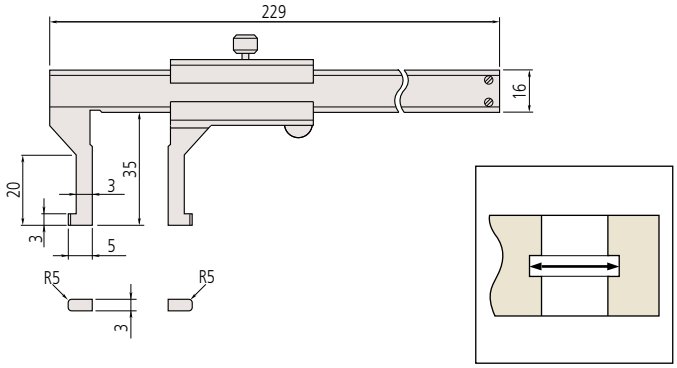
## DIMENSIONS

### Knife-edge type: 536-142

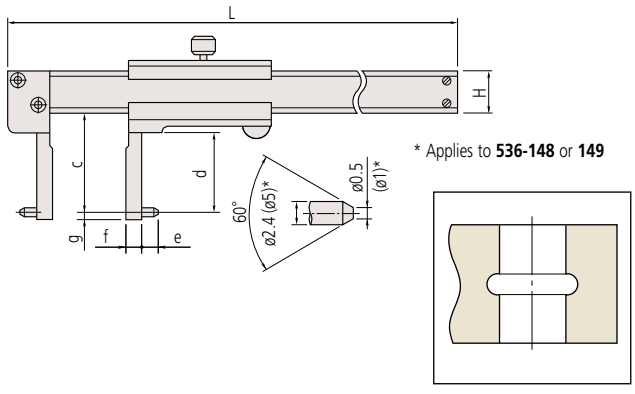
Unit: mm




### Inside groove type: 536-145




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




* Applies to **536-148** or **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.

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

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

573-651-20

## SPECIFICATIONS

**Metric** Digimatic model

| Code No. | Range (mm) | Resolution (mm) | Maximum permissible error (mm)*3 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| 573-651-20 | 0 - 150 | 0.01 | ±0.03 | |
| 573-652-20*1 | 0 - 150 | | | |
| 573-653-20*2 | 0 - 150 | | | |
| 573-654-20*1*2 | 0 - 150 | | | |

**Inch / Metric** Digimatic model

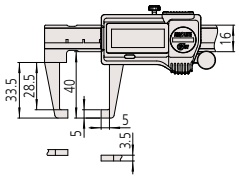
| Code No. | Range | Resolution | Maximum permissible error*3 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| 573-751-20 | 0 - 6 in/ 0 - 150 mm | 0.0005 in/ 0.01 mm | ±0.0015 in/ ±0.03 mm | |
| 573-752-20*1 | 0 - 6 in/ 0 - 150 mm | | | |

- 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

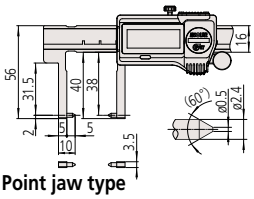
*1 Point jaw type
*2 Without thumb roller
*3 The Partial Surface Contact Error ($E_{MPE}$) and Shift Error ($S_{MPE}$) are terms defined by ISO 13385-1:2019.
*4 Rustproofing shall be applied after use if caliper was in contact with coolant.

## DIMENSIONS

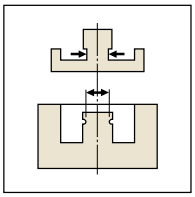
Unit: mm



**573-651-20, 573-653-20*, 573-751-20**
* Without thumb roller
Jaw thickness: 3.5 mm



**Point jaw type**
**573-652-20, 573-654-20*, 573-752-20**
* Without thumb roller



**Point jaw type**

536-152

## SPECIFICATIONS

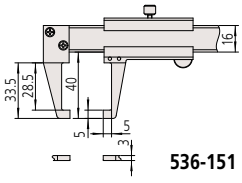
**Metric** Analog model

| Code No. | Range (mm) | Graduation (mm) | Maximum permissible error (mm)*1 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| 536-151 | 0 - 150 | 0.05 | ±0.05 | |
| 536-152*2 | | | | |

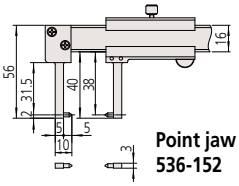
*1 The Partial Surface Contact Error ($E_{MPE}$) and Shift Error ($S_{MPE}$) are terms defined by ISO 13385-1:2019.
*2 Point jaw type

## DIMENSIONS

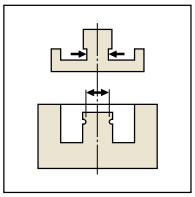
Unit: mm



536-151



**Point jaw type**
**536-152**



Jaw thickness: 3 mm

MeasurLink® ENABLED
Data Management Software by Mitutoyo

U-WAVE fit

ABSOLUTE™

Applicable models: **series 573**

IP67

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

## 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** |

MeasurLink® ENABLED Data Management Software by Mitutoyo

U-WAVE fit

ABSOLUTE™

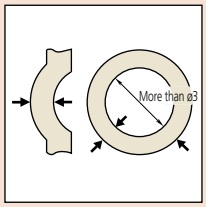
Applicable models: **series 573**

IP67

Dust- and Water-Protected

TÜVRheinland CERTIFIED www.tuv.com ID 0000045042

## 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

| Code No. | Range (mm) | Resolution (mm) | Maximum permissible error (mm)*2 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **573-661-20** | 0 - 150 | 0.01 | ±0.05 | |
| **573-662-20***1 | 0 - 150 | | | |

**Inch / Metric** Digimatic model

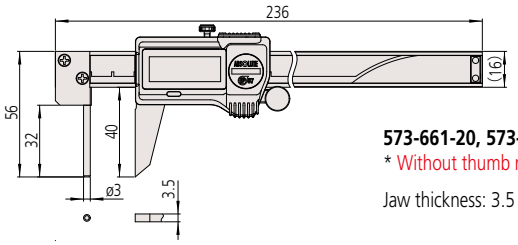
| Code No. | Range | Resolution | Maximum permissible error*2 | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **573-761-20** | 0 - 6 in/ 0 - 150 mm | 0.0005 in/ 0.01 mm | ±0.002 in/ ±0.05 mm | |

- 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

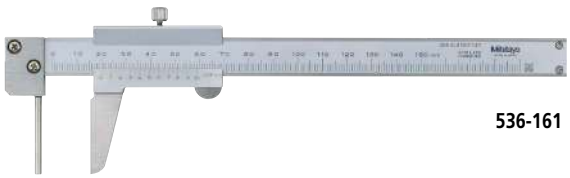
*1 Without thumb roller
*2 The Partial Surface Contact Error ($E_{MPE}$) and Shift Error ($S_{MPE}$) are terms defined by ISO 13385-1:2019.
*3 Rustproofing shall be applied after use if caliper was in contact with coolant.

## DIMENSIONS

Unit: mm




**573-661-20, 573-662-20*, 573-761-20**
* Without thumb roller
Jaw thickness: 3.5 mm



**536-161**

## SPECIFICATIONS

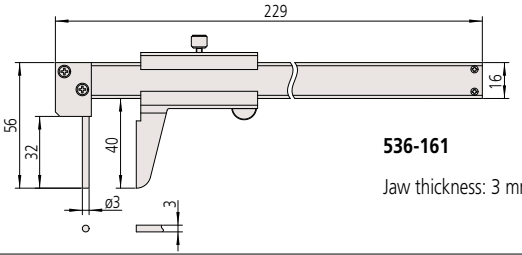
**Metric** Analog model

| Code No. | Range (mm) | Graduation (mm) | Maximum permissible error (mm)* | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **536-161** | 0 - 150 | 0.05 | ±0.05 | |

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

## DIMENSIONS

Unit: mm




**536-161**
Jaw thickness: 3 mm

## 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.

**536-171**

Inside-groove type

**536-172**

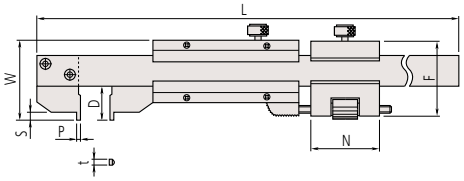
### SPECIFICATIONS

Metric

| Code No. | Range (mm)*1 | Graduation (mm) | Maximum permissible error (mm)*2 | | Remarks |
|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | |
| **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 ($E_{MPE}$) and Shift Error ($S_{MPE}$) are terms defined by ISO 13385-1:2019.

### DIMENSIONS

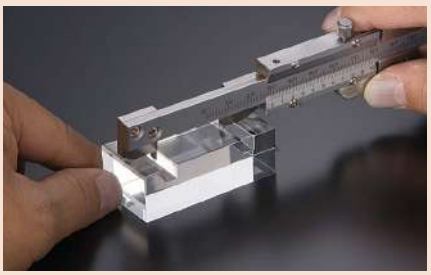


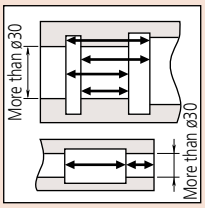

Unit: mm

| Code No. | D | F | L | N | P | S | t | W |
|---|---|---|---|---|---|---|---|---|
| **536-171***1 | 12 | — | 320 | — | 5 | 4 | 3.5 | 28 |
| **536-172***2 | | 28.5 | | 20 | 1 | | | |

*1 Inside measuring face is R5.
*2 Inside measuring face is flat.

### Measurement example






## 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.

**536-212**

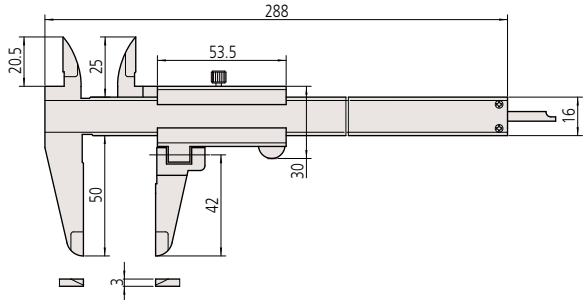
### SPECIFICATIONS

Metric

| Code No. | Range (mm) | Graduation (mm) | Maximum permissible error (mm)* | | Remarks |
|---|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ | |
| **536-212** | 0 - 200 | 0.05 | ±0.05 | ±0.07 | with depth bar |

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

### DIMENSIONS




Unit: mm

### Measurement example

MeasurLink® ENABLED
Data Management Software by Mitutoyo

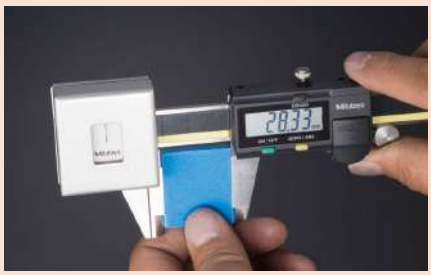
ABSOLUTE™

# 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

## 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** |

## SPECIFICATIONS

**Metric**

| Code No. | Range (mm) | Resolution (mm) | Maximum permissible error (mm)* | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **573-191-30** | 0 - 180 | 0.01 | ±0.05 | |

**Inch/Metric**

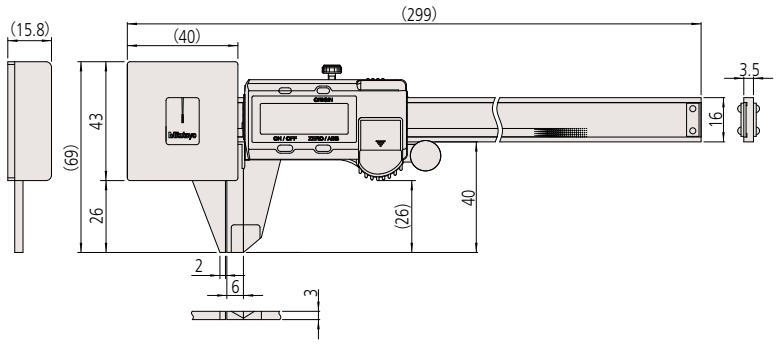
| Code No. | Range | Resolution | Maximum permissible error* | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **573-291-30** | 0 - 7 in/0 - 180 mm | 0.0005 in/0.01 mm | ±0.002 in/±0.05 mm | |

- 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 ($E_{MPE}$) and Shift Error ($S_{MPE}$) are terms defined by ISO 13385-1:2019.
Note: Dedicated for outside measurement (depth bar is not fitted).

## DIMENSIONS

Unit: mm






Calipers





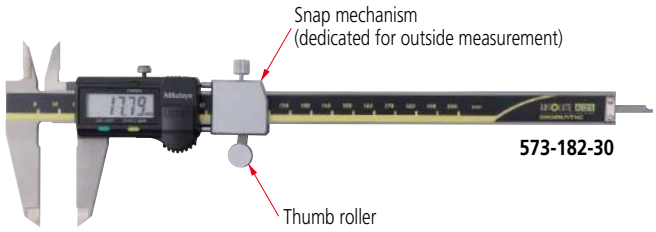
Mitutoyo

MeasurLink® ENABLED
Data Management Software by Mitutoyo
ABSOLUTE™

# 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)* | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **573-181-30** | 0 - 100 | 0.01 | ±0.02 | ±0.04 |
| **573-182-30** | 0 - 150 | | | |

**Inch/Metric**

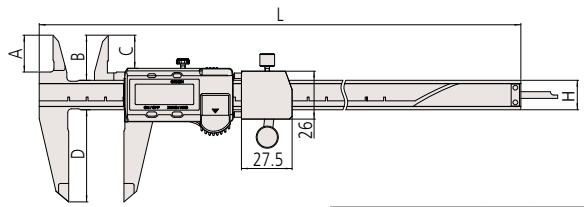
| Code No. | Range | Resolution | Maximum permissible error* | |
|---|---|---|---|---|
| | | | $E_{MPE}$ | $S_{MPE}$ |
| **573-281-30** | 0 - 4 in/0 - 100 mm | 0.0005 in/0.01 mm | ±0.001 in/±0.02 mm | ±0.002 in/±0.04 mm |
| **573-282-30** | 0 - 6 in/0 - 150 mm | | | |

- 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

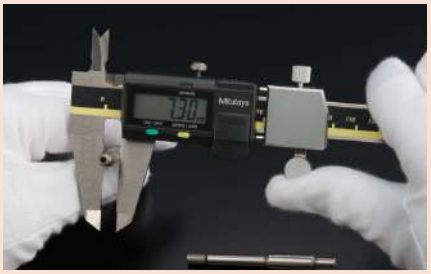
Unit: mm




Thickness of outer jaw: 3.5 mm

| Range | A | B | C | D | H | L |
|---|---|---|---|---|---|---|
| 0 - 100 mm/0 - 4 in | 16.5 | 21 | 14.5 | 40 | 16 | 233 |
| 0 - 150 mm/0 - 6 in | 20 | 24.5 | 18 | 50 | | 290 |

## 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 |