

Calipers

MesurLink[®] ENABLED
Data Management Software by Mitutoyo

ABSOLUTE[™]



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

- IP66 Absolute Digital Caliper (Refer to page D-5 for details on the Absolute function.)
- Lightweight Digimatic Calipers that employ CFRP (Carbon Fiber Reinforced Plastics) in the beam.



552-303-10

SPECIFICATIONS

| Metric | | | | |
|------------|------------------------|-----------------|----------------------------------|-------|
| Order No. | Range (mm)*1 | Resolution (mm) | Maximum permissible error (mm)*2 | |
| | | | EMPE | SMPE |
| 552-302-10 | 0 - 450 (20.1 - 470) | 0.01 | ±0.04 | ±0.04 |
| 552-303-10 | 0 - 600 (20.1 - 620) | | ±0.04 | ±0.04 |
| 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 | | | | |
|---------------|---|-------------------|-----------------------------|--------------------|
| Order No. | Range*1 | Resolution | Maximum permissible error*2 | |
| | | | EMPE | SMPE |
| 552-312-10 | 0 - 18 in/0 - 450 mm (0.504 - 18.5 in/12.8 - 462.7mm) | 0.0005 in/0.01 mm | ±0.002 in/±0.04 mm | ±0.002 in/±0.04 mm |
| 552-313-10 | 0 - 24 in/0 - 600 mm (0.504 - 24.5 in/12.8 - 612.7 mm) | | ±0.002 in/±0.05 mm | ±0.002 in/±0.05 mm |
| 552-314-10 | 0 - 40 in/0 - 1000 mm (1.004 - 41 in/25.5 - 1025.4 mm) | | ±0.004 in/±0.09 mm | ±0.004 in/±0.09 mm |
| 552-315-10 | 0 - 60 in/0 - 1500 mm (1.004 - 61 in/25.5 - 1525.4 mm) | | ±0.005 in/±0.12 mm | ±0.005 in/±0.12 mm |
| 552-316-10 | 0 - 80 in/0 - 2000 mm (1.004 - 81 in/25.5 - 2025.4 mm) | | | |

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

*1 (): Dimension in inside measurement
 *2 Partial Surface Contact Error, EMPE and Shift Error, SMPE are terms (notations) used in 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 D-45 for details.

DIMENSIONS

Unit: mm

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

Measurement example



Functions

- Zero-setting
- Data hold
- Offsetting
- Presetting
- Data output
- Low-power and low-voltage alert
- Counting value composition error
- 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

| Order No. | Type | Description |
|-----------|------|--|
| 05CZA624 | A | Connecting cables for IT/DP/MUX (1 m) |
| 05CZA625 | A | Connecting cables for IT/DP/MUX (2 m) |
| 06AFM380A | A | USB Input Tool Direct (2 m) |
| 02AZD790A | A | Connecting cables for U-WAVE-T (160 mm) |
| 02AZE140A | A | Connecting cables for U-WAVE-T For foot switch |

Calipers

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

- IP66 Absolute Digital Caliper (Refer to page D-5 for details on the Absolute function.)
- Lightweight Digimatic Calipers that employ CFRP (Carbon Fiber Reinforced Plastics) in the beam.



552-151-10

SPECIFICATIONS

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

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

- Dust/Water protection level: IP66 (IEC 60529)*³
- Battery: SR44 (1 pc.), **938882**, for initial operational checks (standard accessory)
- Battery life: Approx. 5,000 hours in continuous use
- Max. response speed: Unlimited
- Material of jaws: Stainless Steel Hardened

*1 (): Dimension in inside measurement

*2 Partial Surface Contact Error, EMPE and Shift Error, SMPE are terms (notations) used in ISO 13385-1:2019.

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

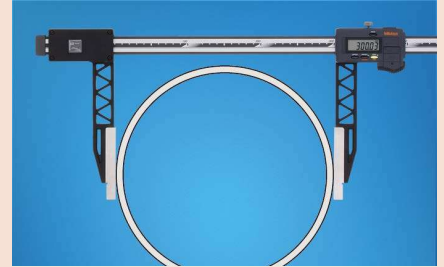
Note: A constant-force mechanism is used in the finger rest; however, this is only an auxiliary mechanism to avoid measurement error caused by excessive measuring force. To measure with good accuracy, use the minimum necessary measuring force for the caliper measuring faces to make sufficient contact with the workpiece. Refer to page D-45 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 | | |

Measurement example



Functions

- Zero-setting
- Data hold
- Offsetting
- Presetting
- Data output
- Low-power and low-voltage alert
- Counting value composition error
- Automatic power on/off, inch/mm reading (inch/mm models)

Optional Accessories

| Order No. | Type | Description |
|-----------|------|--|
| 05CZA624 | A | Connecting cables for IT/DP/MUX (1 m) |
| 05CZA625 | A | Connecting cables for IT/DP/MUX (2 m) |
| 06AFM380A | A | USB Input Tool Direct (2 m) |
| 02AZD790A | A | Connecting cables for U-WAVE-T (160 mm) |
| 02AZE140A | A | Connecting cables for U-WAVE-T For foot switch |



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

- IP66 Absolute Digital Caliper (Refer to page D-5 for details on the Absolute function.)
- Lightweight Digimatic Calipers that employ CFRP (Carbon Fiber Reinforced Plastics) in the beam.
- The measuring faces (jaws) are made from zirconia, which is a ceramic material. This makes 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
- Offsetting
- Presetting
- Data output
- Low-power and low-voltage alert
- Counting value composition error
- 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

| Order No. | Type | Description |
|-----------|------|--|
| 05CZA624 | A | Connecting cables for IT/DP/MUX (1 m) |
| 05CZA625 | A | Connecting cables for IT/DP/MUX (2 m) |
| 06AFM380A | A | USB Input Tool Direct (2 m) |
| 02AZD790A | A | Connecting cables for U-WAVE-T (160 mm) |
| 02AZE140A | A | Connecting cables for U-WAVE-T For foot switch |

SPECIFICATIONS

| Metric | | | | |
|------------|--------------------------|-----------------|--|-------|
| Order No. | Range (mm)* ¹ | Resolution (mm) | Maximum permissible error (mm)* ² | |
| | | | EMPE | SMPE |
| 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 | | | | |
|---------------|---|-------------------|---|--------------------|
| Order No. | Range* ¹ | Resolution | Maximum permissible error* ² | |
| | | | EMPE | SMPE |
| 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
- Battery: SR44 (1 pc.), **938882**, for initial operational checks (standard accessory)
- Battery life: Approx. 5,000 hours in continuous use
- Max. response speed: Unlimited
- Material of jaws: Zirconia

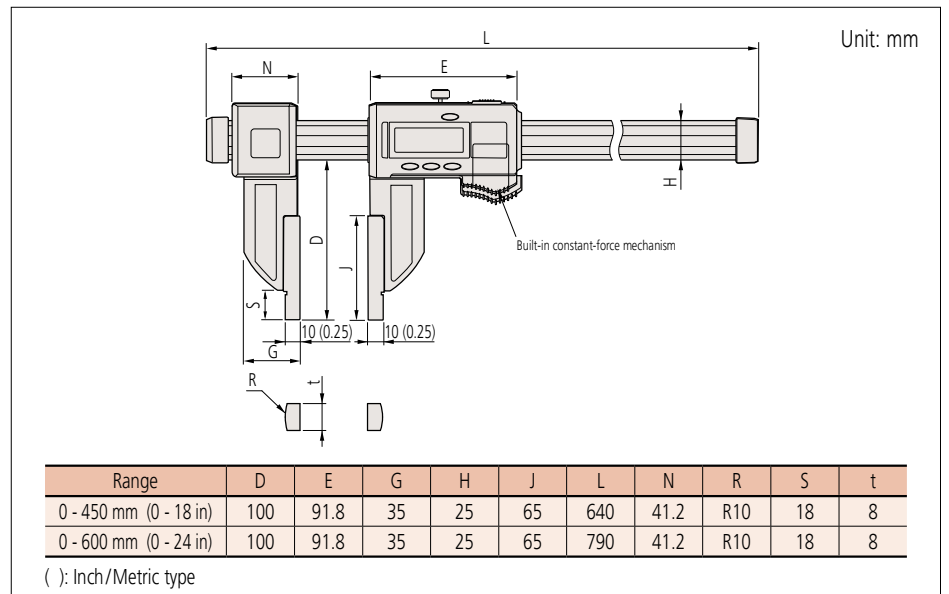
*1 (): Dimension in inside measurement

*2 Partial Surface Contact Error, EMPE and Shift Error, SMPE are terms (notations) used in 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 D-45 for details.

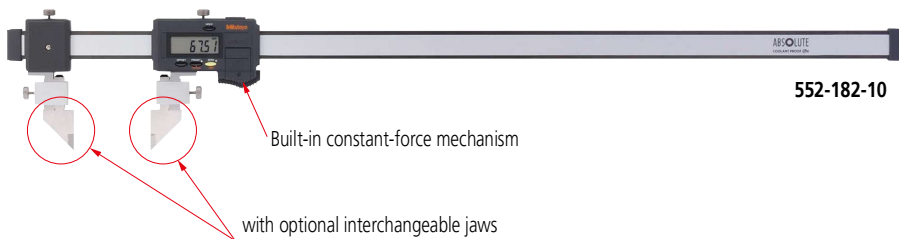
DIMENSIONS



Calipers

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

- IP66 Absolute Digital Caliper (Refer to page D-5 for a description of Absolute measurement.)
- The range of applications can be expanded by using interchangeable jaws (optional).



SPECIFICATIONS

| Metric | | | | |
|------------|------------|-----------------|----------------------------------|--------------|
| Order No. | Range (mm) | Resolution (mm) | Maximum permissible error (mm)*1 | |
| | | | <i>E</i> MPE | <i>S</i> MPE |
| 552-181-10 | 0 - 450 | 0.01 | ±0.04 | |
| 552-182-10 | 0 - 600 | | ±0.05 | |
| 552-183-10 | 0 - 1000 | | ±0.09 | |
| 552-184-10 | 0 - 1500 | | ±0.12 | |
| 552-185-10 | 0 - 2000 | | | |

| Inch / Metric | | | | |
|---------------|-----------------------|-------------------|-----------------------------|--------------|
| Order No. | Range | Resolution | Maximum permissible error*1 | |
| | | | <i>E</i> MPE | <i>S</i> MPE |
| 552-191-10 | 0 - 18 in/0 - 450 mm | 0.0005 in/0.01 mm | ±0.002 in/±0.04 mm | |
| 552-192-10 | 0 - 24 in/0 - 600 mm | | ±0.002 in/±0.05 mm | |
| 552-193-10 | 0 - 40 in/0 - 1000 mm | | ±0.004 in/±0.09 mm | |
| 552-194-10 | 0 - 60 in/0 - 1500 mm | | ±0.005 in/±0.12 mm | |
| 552-195-10 | 0 - 80 in/0 - 2000 mm | | | |

- Dust/Water protection level: IP66 (IEC 60529)*2
 - Battery: SR44 (1 pc.), **938882**, for initial operational checks (standard accessory)
 - Battery life: Approx. 5,000 hours in continuous use
 - Max. response speed: Unlimited
- *1 Partial Surface Contact Error, *E*MPE and Shift Error, *S*MPE are terms (notations) used in 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 D-45 for details.

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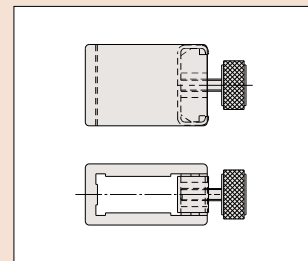
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Functions

- Zero-setting
 - Data hold
 - Offsetting
 - Presetting
 - Data output
 - Low-power and low-voltage alert
 - Counting value composition error
 - 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

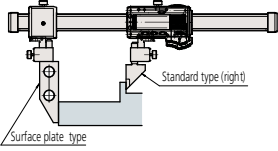
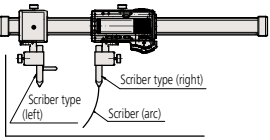
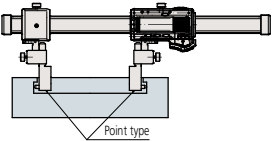
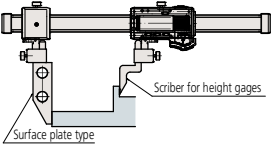
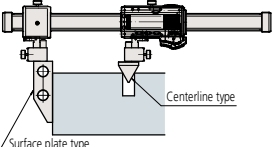
| Order No. | Type | Description |
|-----------|------|--|
| 05CZA624 | A | Connecting cables for IT/DP/MUX (1 m) |
| 05CZA625 | A | Connecting cables for IT/DP/MUX (2 m) |
| 06AFM380A | A | USB Input Tool Direct (2 m) |
| 02AZD790A | A | Connecting cables for U-WAVE-T (160 mm) |
| 02AZE140A | A | Connecting cables for U-WAVE-T For foot switch |

Calipers

Optional accessories

Interchangeable jaws

Typical applications

| | |
|---|---|
| <p>Surface plate type + Standard type</p>  <p>Standard type (right)</p> <p>Surface plate type</p> | <p>Scriber type</p>  <p>Scriber type (right)</p> <p>Scriber type (left)</p> <p>Scriber (arc)</p> |
| <p>Point type</p>  <p>Point type</p> | <p>Surface plate type + Scriber for height gages</p>  <p>Scriber for height gages</p> <p>Surface plate type</p> |
| <p>Surface plate type + Centerline type</p>  <p>Centerline type</p> <p>Surface plate type</p> | <p>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.</p> |

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