

Dial Indicator Applications

Comparison measuring instruments which ensure high quality, high accuracy and reliability.

Thickness Gages SERIES 547, 7

MeasurLink ENABLED

Data Management Software by Mitutoyo

- With a single touch, the dial thickness gage can quickly measure the thickness of small parts, paper, felt, etc.
- For models using a ceramic contact and anvil, there is no need to worry about rust.
- Watertight assembly of bezel and crystal prevents water or oil from penetrating the dial indicator.

Standard Type (Resolution: 0.01 mm)



547-301



547-321

High Accuracy Type (Resolution: 0.001 mm)



547-401

Standard Type (Graduation: 0.01 mm)



7301A



7321A

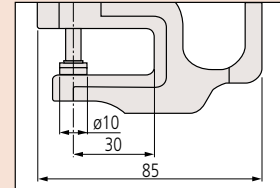
MeasurLink ENABLED

Data Management Software by Mitutoyo

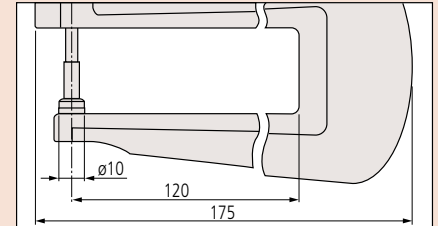
Products equipped with the measurement data output function can be connected to the measurement data network system MeasurLink® (refer to page A-25 for details).

DIMENSIONS

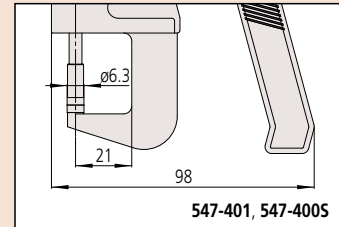
Unit: mm



7301A, 7305A, 7327A, 547-301, 547-526S, 547-300S, 547-500S, 547-320S, 547-520S



7321A, 7323A, 7322A, 547-321, 547-320S, 547-520S



547-401, 547-400S

Technical Data

- Display: 6-digit LCD, sign
- Battery: SR44 (1 pc.), **938882** for initial operational checks (standard accessory)
- Battery life: Approx. 7,000 hours of continuous use
Approx. 1.2 years under normal use
- Maximum response speed: Not restricted (except for scanning measurement)

Functions

- Zero-setting (INC system)
- Presetting (ABS system)
- Direction switching
- Tolerance judgment
- Resolution switching (For 0.001 mm or 0.00005 inch resolution models)
- Calculation: $f(x) = Ax$
- Function Lock
- Data output
- Display value holding (when no external device is connected)
- 330° rotary display
- Low battery voltage alarm display
- Error alarm display

Optional Accessories

- SPC Cable: **905338** (1 m)
905409 (2 m)
- USB Input Tool Direct (2 m): **06AFM380F**
- Connecting Cables for **U-WAVE-T** (160 mm): **02AZD790F**
- For foot switch: **02AZE140F**
- Digimatic Mini-Processor **DP-1VA LOGGER**: **264-505**

Lens thickness measurement

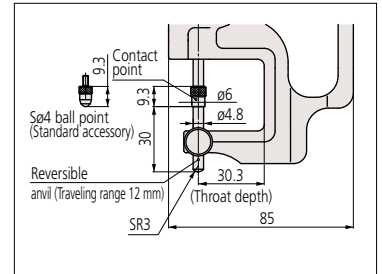
- Thickness of concave-convex lenses and surfaces can be measured. (Contact point, Anvil: hardened steel)
- Anvils and contact points are interchangeable to enable concave surfaces to be measured.



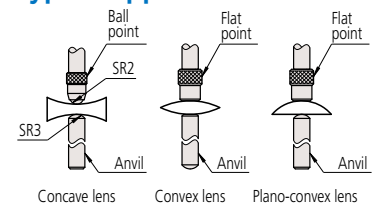
- Provided with a ball point as standard.

DIMENSIONS

Unit: mm



Typical applications



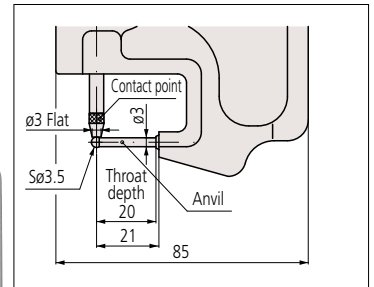
Tube thickness measurement

- Pipe wall thickness, thickness of curved boards can be measured. (Contact point, Anvil: hardened steel)



DIMENSIONS

Unit: mm



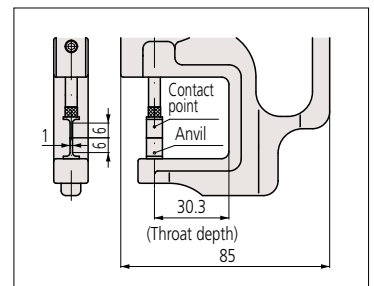
Groove thickness measurement

- Ideal for measuring narrow grooves on round objects.
- The measuring faces of the contact point and anvil are in the shape of a 1 mm-thick blade.



DIMENSIONS

Unit: mm



Dial Indicator Applications

Comparison measuring instruments which ensure high quality, high accuracy and reliability.

Thickness Gages SERIES 547, 7

SPECIFICATIONS

| Metric | | | | | | | | | |
|-----------|-------------------------|------------|----------------------|--|--|---------------|---------------------|----------|------------------------------------|
| Order No. | Resolution (mm) | Range (mm) | Measuring depth (mm) | Contact point, Anvil (mm) | Parallelism of Contact point, Anvil (μm) | Accuracy (μm) | Measuring force (N) | Mass (g) | Remarks |
| 547-401 | 0.001/0.01 (selectable) | 0 - 12 | 21 | ø6.3 Flat (Carbide) | 3 | ±3 | 3.5 or less | 280 | High accuracy, carbide point anvil |
| 547-301 | 0.01 | 0 - 10 | 30 | ø10 Flat | 10 | ±20 | 1.5 or less | 255 | Standard, ceramic point/anvil |
| 547-321 | 0.01 | 0 - 10 | 120 | ø10 Flat | 10 | ±20 | 1.5 or less | 425 | Deep throat, ceramic point/anvil |
| 547-313 | 0.01 | 0 - 10 | 30 | ø6 Flat (Contact point) ø4.8 Flat (Anvil) | 10 | ±20 | 1.5 or less | 275 | Lens thickness |
| 547-315 | 0.01 | 0 - 10 | 30 | t=1 Blade | 10 | ±20 | 1.5 or less | 270 | Groove thickness |
| 547-360 | 0.01 | 0 - 10 | 20 | ø3 Flat (Contact point) ø3.5 Ball (Anvil) | — | ±20 | 1.5 or less | 250 | Tube thickness |

| Inch/Metric | | | | | | | | | |
|-------------|---------------------|------------|------------------|--|-------------------------------------|------------------|---------------------|----------|------------------------------------|
| Order No. | Resolution | Range (in) | Measuring depth | Contact point, Anvil | Parallelism of Contact point, Anvil | Accuracy | Measuring force (N) | Mass (g) | Remarks |
| 547-400S | 0.00005 in/0.001 mm | 0 - 0.47 | 21 mm (0.83 in) | ø6.3 mm (ø0.25 in) Flat | 0.0001 in/0.003 mm | ±0.0001 in/±3 μm | 3.5 or less | 290 | High accuracy, carbide point anvil |
| 547-526S* | 0.0001 in/0.001 mm | 0 - 0.47* | 30 mm (1.18 in) | ø10 mm (ø0.39 in) Flat | 0.0002 in/0.005 mm | ±0.0002 in/±5 μm | 1.5 or less | 225 | Standard, ceramic point/anvil |
| 547-300S | 0.0005 in/0.01 mm | 0 - 0.4 | 30 mm (1.18 in) | ø10 mm (ø0.39 in) Flat | 0.005 in/0.01 mm | ±0.001 in/±20 μm | 1.5 or less | 255 | Standard, ceramic point/anvil |
| 547-500S* | 0.0005 in/0.01 mm | 0 - 0.47* | 30 mm (1.18 in) | ø10 mm (ø0.39 in) Flat | 0.005 in/0.01 mm | ±0.001 in/±20 μm | 1.5 or less | 225 | Standard, ceramic point/anvil |
| 547-320S | 0.0005 in/0.01 mm | 0 - 0.4 | 120 mm (4.72 in) | ø10 mm (ø0.39 in) Flat | 0.005 in/0.01 mm | ±0.001 in/±20 μm | 1.5 or less | 400 | Deep throat, ceramic point/anvil |
| 547-520S* | 0.0005 in/0.01 mm | 0 - 0.47* | 120 mm (4.72 in) | ø10 mm (ø0.39 in) Flat | 0.005 in/0.01 mm | ±0.001 in/±20 μm | 1.5 or less | 380 | Deep throat, ceramic point/anvil |
| 547-312S | 0.0005 in/0.01 mm | 0 - 0.4 | 30 mm (1.18 in) | ø6 mm (ø0.24 in) Flat (Contact point) ø4.8 mm (ø0.19 in) Flat (Anvil) | 0.005 in/0.01 mm | ±0.001 in/±20 μm | 1.5 or less | 275 | Lens thickness |
| 547-512S* | 0.0005 in/0.01 mm | 0 - 0.47* | 30 mm (1.18 in) | ø6 mm (ø0.24 in) Flat (Contact point) ø4.8 mm (ø0.19 in) Flat (Anvil) | 0.005 in/0.01 mm | ±0.001 in/±20 μm | 1.5 or less | 240 | Lens thickness |
| 547-316S | 0.0005 in/0.01 mm | 0 - 0.4 | 30 mm (1.18 in) | t=1 mm (0.04 in) Blade | 0.005 in/0.01 mm | ±0.001 in/±20 μm | 1.5 or less | 270 | Groove thickness |
| 547-516S* | 0.0005 in/0.01 mm | 0 - 0.47* | 30 mm (1.18 in) | t=1 mm (0.04 in) Blade | 0.005 in/0.01 mm | ±0.001 in/±20 μm | 1.5 or less | 260 | Groove thickness |
| 547-361S | 0.0005 in/0.01 mm | 0 - 0.4 | 20 mm (0.79 in) | ø3 mm (ø0.12 in) Flat (Contact point) ø3.5 mm (ø0.14 in) Ball (Anvil) | — | ±0.001 in/±20 μm | 1.5 or less | 240 | Tube thickness |
| 547-561S* | 0.0005 in/0.01 mm | 0 - 0.47* | 20 mm (0.79 in) | ø3 mm (ø0.12 in) Flat (Contact point) ø3.5 mm (ø0.14 in) Ball (Anvil) | — | ±0.001 in/±20 μm | 1.5 or less | 215 | Tube thickness |

* Using ID-SX Digimatic indicator.

| Metric | | | | | | | | | |
|-----------|-----------------|------------|----------------------|--|--|---------------|---------------------|----------|--|
| Order No. | Graduation (mm) | Range (mm) | Measuring depth (mm) | Contact point, Anvil (mm) | Parallelism of Contact point, Anvil (μm) | Accuracy (μm) | Measuring force (N) | Mass (g) | Remarks |
| 7327A | 0.001 | 0 - 1 | 30 | ø10 Flat | 5 | ±5 | 1.5 or less | 230 | Fine dial reading, ceramic point/anvil |
| 7301A | 0.01 | 0 - 10 | 30 | ø10 Flat | 5 | ±15 | 1.4 or less | 218 | Standard, ceramic point/anvil |
| 7305A | 0.01 | 0 - 20 | 30 | ø10 Flat | 5 | ±20 | 2.0 or less | 236 | Standard, ceramic point/anvil |
| 7321A | 0.01 | 0 - 10 | 120 | ø10 Flat | 5 | ±15 | 1.4 or less | 377 | Deep throat, ceramic point/anvil |
| 7323A | 0.01 | 0 - 20 | 120 | ø10 Flat | 5 | ±22 | 2.0 or less | 371 | Deep throat, ceramic point/anvil |
| 7313A | 0.01 | 0 - 10 | 30 | ø6 Flat (Contact point) ø4.8 Flat (Anvil) | 5 | ±15 | 1.4 or less | 220 | Lens thickness |
| 7315A | 0.01 | 0 - 10 | 30 | t=1 Blade | 5 | ±15 | 1.4 or less | 220 | Groove thickness |
| 7360A | 0.01 | 0 - 10 | 20 | ø3 Flat (Contact point) ø3.5 Ball (Anvil) | — | ±15 | 1.4 or less | 220 | Tube thickness |

| Inch | | | | | | | | | |
|-----------|-----------------|------------|----------------------|--|--|---------------|---------------------|----------|--|
| Order No. | Graduation (in) | Range (in) | Measuring depth (in) | Contact point, Anvil (in) | Parallelism of Contact point, Anvil (in) | Accuracy (in) | Measuring force (N) | Mass (g) | Remarks |
| 7326A | 0.0001 | 0 - 0.05 | 1.18 | ø0.39 Flat | 0.0002 | ±0.0002 | 2.0 or less | 205 | Fine dial reading, ceramic point/anvil |
| 7300A | 0.001 | 0 - 0.5 | 1.18 | ø0.39 Flat | 0.0005 | ±0.001 | 1.8 or less | 205 | Standard, ceramic point/anvil |
| 7304A | 0.001 | 0 - 1 | 1.18 | ø0.39 Flat | 0.0005 | ±0.002 | 1.8 or less | 220 | Standard, ceramic point/anvil |
| 7322A | 0.001 | 0 - 1 | 4.72 | ø0.39 Flat | 0.0005 | ±0.002 | 1.8 or less | 370 | Deep throat, ceramic point/anvil |
| 7312A | 0.001 | 0 - 0.5 | 1.18 | ø0.24 Flat (Contact point) ø0.19 Flat (Anvil) | 0.0005 | ±0.001 | 1.8 or less | 215 | Lens thickness |
| 7316A | 0.001 | 0 - 0.5 | 1.18 | t=0.04 Blade | 0.0005 | ±0.001 | 1.8 or less | 220 | Groove thickness |
| 7361A | 0.001 | 0 - 0.5 | 0.8 | ø0.12 Flat (Contact point) ø0.14 Ball (Anvil) | — | ±0.001 | 1.8 or less | 200 | Tube thickness |

Note 1: The dial indicator needs to be reset when a contact point is replaced.

Note 2: The stated accuracy of Digimatic indicators does not include an allowance for quantizing error (±1 count).