

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

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)



7301



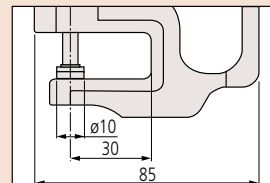
7321

MeasurLink[®] ENABLED
Data Management Software by Mitutoyo

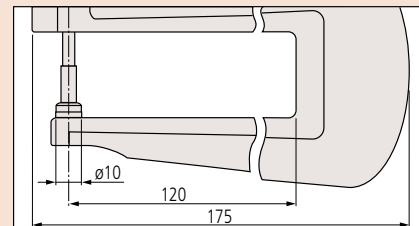
Products equipped with the measurement data output function can be connected to the measurement data network system MeasurLink (refer to page A-5 for details).

DIMENSIONS

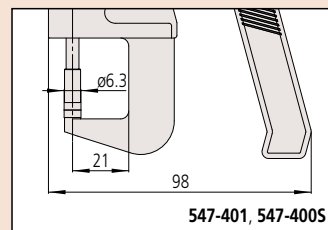
Unit: mm



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



7321, 7323, 7322S, 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)
(Refer to pages A-27 to A-29 for details.)
- USB Input Tool Direct (2 m): **06AFM380F**
(Refer to page A-13 for details.)
- Connecting Cables for **U-WAVE-T** (160 mm):
02AZD790F
For foot switch: **02AZE140F**
(Refer to pages A-19 to A-21 for details.)
- Digimatic Mini-Processor **DP-1VA LOGGER**: **264-505**

Lens thickness measurement

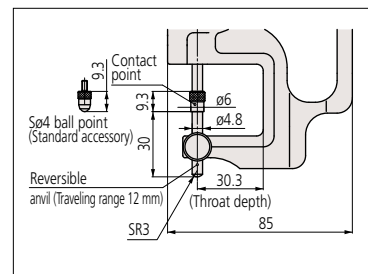
- Thickness of concave-convex lenses and surfaces can be measured. (Contact point, Anvil: hardened steel)
- Anvils and contact points are interchangeable to enable concave surfaces to be measured.



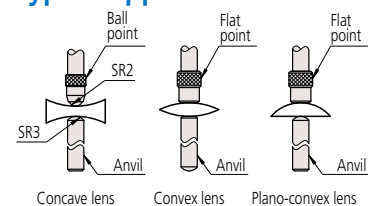
- Provided with a ball point as standard.

DIMENSIONS

Unit: mm



Typical applications



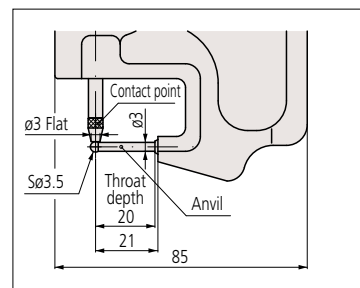
Tube thickness measurement

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



DIMENSIONS

Unit: mm

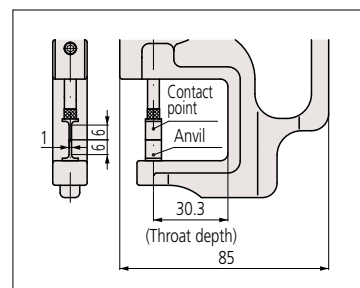


Groove thickness measurement



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)	0.005 in/0.01 mm	±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)	0.005 in/0.01 mm	±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
7327	0.001	0 - 1	30	ø10 Flat	5	±5	1.5 or less	230	Fine dial reading, ceramic point/anvil
7301	0.01	0 - 10	30	ø10 Flat	5	±15	1.4 or less	218	Standard, ceramic point/anvil
7305	0.01	0 - 20	30	ø10 Flat	5	±20	2.0 or less	236	Standard, ceramic point/anvil
7321	0.01	0 - 10	120	ø10 Flat	5	±15	1.4 or less	377	Deep throat, ceramic point/anvil
7323	0.01	0 - 20	120	ø10 Flat	5	±22	2.0 or less	371	Deep throat, ceramic point/anvil
7313	0.01	0 - 10	30	ø6 Flat (Contact point) ø4.8 Flat (Anvil)	5	±15	1.4 or less	220	Lens thickness
7315	0.01	0 - 10	30	t=1 Blade	5	±15	1.4 or less	220	Groove thickness
7360	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
7326S	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
7300S	0.001	0 - 0.5	1.18	ø0.39 Flat	0.0005	±0.001	1.8 or less	205	Standard, ceramic point/anvil
7304S	0.001	0 - 1	1.18	ø0.39 Flat	0.0005	±0.002	2.0 or less	220	Standard, ceramic point/anvil
7322S	0.001	0 - 1	1.18	ø0.39 Flat	0.0005	±0.002	2.0 or less	370	Deep throat, ceramic point/anvil
7312S	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
7316S	0.001	0 - 0.5	1.18	t=0.04 Blade	0.0005	±0.001	1.8 or less	220	Groove thickness
7361S	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).

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- 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



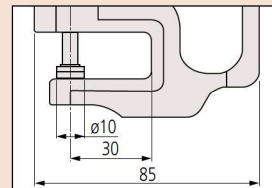
7321A

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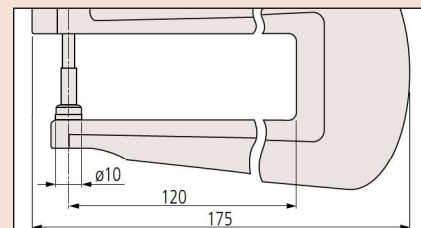
Products equipped with the measurement data output function can be connected to the measurement data network system MeasurLink[®] (refer to page A-25 for details).

DIMENSIONS

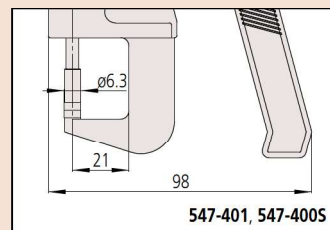
Unit: mm



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**

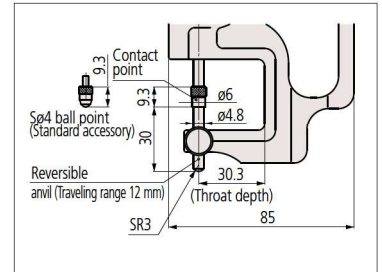
Lens thickness measurement

- 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.

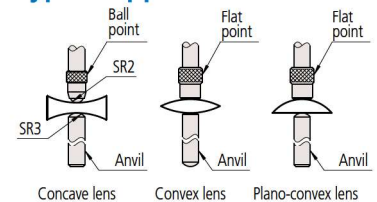


DIMENSIONS

Unit: mm



Typical applications



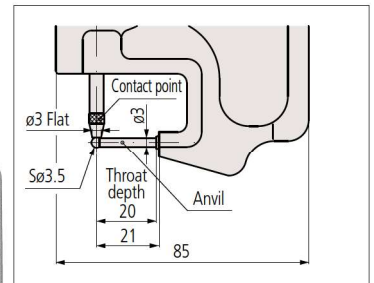
Tube thickness measurement

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



DIMENSIONS

Unit: mm



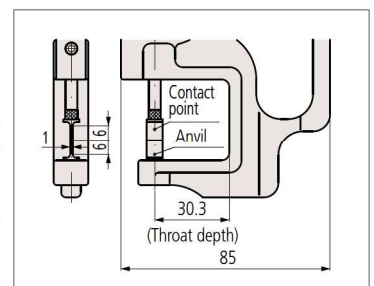
Groove thickness measurement

- 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



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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).