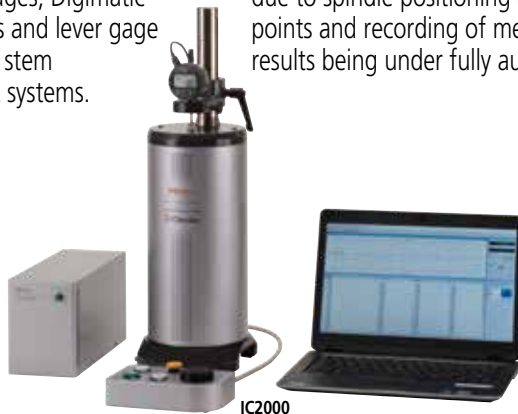


Indicator Calibration

i-Checker IC2000 SERIES 170

- The i-Checker makes it easier to continuously perform high-accuracy inspection of various indicators.
- A wide variety of optional accessories enable the inspection and calibration of many types of gages including dial indicators, lever-type dial indicators, dial test indicators, bore gages, Digimatic indicators, linear gages and lever gage heads that use various stem diameters and support systems.
- Can directly inspect indicators with a stroke of up to 100 mm.
- The pointer of the analog indicator is positioned just before the measuring point automatically in the semi-automatic mode.
- Digital indicators equipped with a data output function are checked very efficiently due to spindle positioning at the inspection points and recording of measurement results being under fully automatic control.



IC2000

SPECIFICATIONS

Code No.	170-402	170-403
Measuring Range	100 mm	
Resolution	0.01 μ m	
Accuracy (20 °C)	vertical orientation	$(0.1 + 0.4L/100) \mu$ m L=Arbitrary length (mm)
	lateral orientation	$(0.15 + 0.6L/100) \mu$ m L=Arbitrary length (mm)
Feed speed	Maximum 10 mm/s	
Drive method	Motor drive (semi-automatic/fully-automatic)	
Measuring Unit	Separate type Linear Encoder	
Measurement method	Semi-automatic measurement	
	Fully automatic measurement (only when using an indicator equipped with data output function)*1*2	
Mass	20 kg	
Operating temperature	20 °C $\pm$ 0.5 °C	
Remarks	with 8 mm bush	with 3/8 in bush

*1 Automatic measurement requires the indicator's connection cable. Additionally some form of indicator, along with the normally connected accessory (the optional accessory for the indicator such as a Digimatic power-supply unit in an EF counter) will be required.

*2 The indicator measured via RS-232C has the capability to receive data from the main unit and output the counter value.



Dial Indicators



Dial Test Indicators



Digimatic Indicators



Linear gages

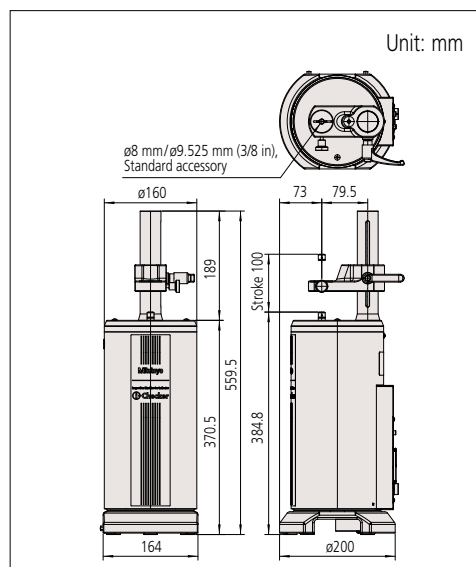


Bore Gages



Lever gage heads

DIMENSIONS



Typical application for Dial Test Indicator Accessory Set



Typical application using dial test indicator attachment set (**02ASK000**)

Product catalog
E12015



Video





Typical application



Stand for bore gage inspection (12AAK824)

Optional accessory

Stand for bore gage inspection (12AAK824)

Note: Can be used for the inspection of bore gages
SERIES 511 standard type and with micrometer
head up to 400 mm. (Refer to pages 08-37 and
08-44 for details.)

Calibrating a dial test indicator



SERIES 170 — UDT-2 Calibration Tester

- **UDT-2** is an accuracy tester for 0.01 mm resolution/graduation dial indicators, dial test indicators and bore gages.
- With the optional stand, inspection of dial bore gages becomes possible.
- Measuring range: 0 to 25 mm.
Accepts $\varnothing 6$ mm, $\varnothing 8$ mm, 1/4 in and 3/8 in indicator stems.



170-102-12

SPECIFICATIONS

Metric				
Code No.	Micrometer head		Accuracy (μ m)	
	Graduation (mm)	Range (mm)	Feed accuracy (25 mm stroke)	Hysteresis
170-102-12	0.001	0 - 25	± 2	0.5

Inch				
Code No.	Micrometer head		Accuracy (in)	
	Graduation (in)	Range (in)	Feed accuracy (25 mm stroke)	Hysteresis
170-101-10	0.0001	0 - 1	± 0.0001	0.00002

SERIES 521 — Calibration Tester

- Accuracy tester for 0.01 mm graduation dial indicators and dial test indicators.
Can also be used to adjust the sensitivity of electronic micrometers.
- Universal bracket accepts any dial indicator, dial test indicator or electronic gage without any additional accessory.
Clamping capacity: $\varnothing 4$ mm to $\varnothing 10$ mm.



521-103

SPECIFICATIONS

Metric				
Code No.	Micrometer head		Accuracy (μ m)	
	Graduation (mm)	Range (mm)	Indication accuracy	Hysteresis
521-103	0.0002	0 - 1	± 0.2	0.2
521-105	0.0002	0 - 5	± 0.8	0.8

Inch				
Code No.	Micrometer head		Accuracy (in)	
	Graduation (in)	Range (in)	Indication accuracy	Hysteresis
521-104	0.00001	0 - 0.05	± 0.00001	0.00001
521-106	0.00001	0 - 0.2	± 0.00003	0.00003

Thickness Gages
SERIES 547, 7

Standard Type (Resolution: 0.01 mm)

- Thickness gages can quickly measure the thickness of thin products such as paper and felt.
- Using a ceramic contact and anvil, there is no need to worry about rust. (except for 547-401A)



547-301A



547-321A

SPECIFICATIONS

Metric					
Code No.	Resolution (mm)	Range (mm)	Measuring depth (mm)	Contact point, Anvil (mm)	Parallelism of Contact point, Anvil (μm)
547-301A	0.01	0 - 10	30	ø10 Flat	10
547-321A	0.01	0 - 10	120	ø10 Flat	10

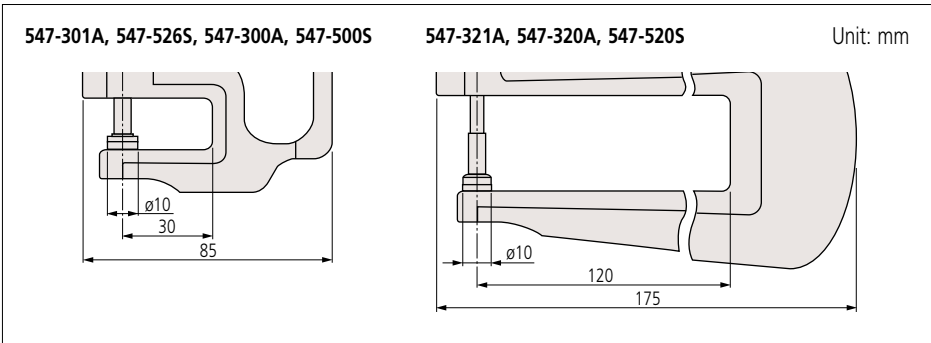
Code No.	Accuracy (μm)	Measuring force (N)	Mass (g)	Remarks	
547-301A	±20	1.5 or less	245	Standard, ceramic point/anvil	
547-321A	±20	1.5 or less	385	Deep throat, ceramic point/anvil	

Inch / Metric					
Code No.	Resolution	Range (in)	Measuring depth	Contact point, Anvil	Parallelism of Contact 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
547-300A	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
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
547-320A	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
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

Code No.	Accuracy	Measuring force (N)	Mass (g)	Remarks	
547-526S*	±0.0002 in/±5 μm	1.5 or less	225	Standard, ceramic point/anvil	
547-300A	±0.001 in/±20 μm	1.5 or less	245	Standard, ceramic point/anvil	
547-500S*	±0.001 in/±20 μm	1.5 or less	225	Standard, ceramic point/anvil	
547-320A	±0.001 in/±20 μm	1.5 or less	385	Deep throat, ceramic point/anvil	
547-520S*	±0.001 in/±20 μm	1.5 or less	380	Deep throat, ceramic point/anvil	

* Using ID-SX Digimatic indicator.

DIMENSIONS



- Display: 6-digit display, sign (7-digit for models with 0.0005 mm resolution)
- Power source: CR2032 battery (1 pc.), included as standard (for operational checks)
- Battery life: Approx. 2.5 years under normal use Approx. 2,700 hours of continuous use
- Response speed: Unlimited (except for scanning measurement)
- Zero-setting (INC system)
- Presetting (ABS system)
- Measuring direction switching
- Tolerance judgment
- Resolution switching (For models with 0.0005 mm resolution)
- Function Lock
- Calibration schedule warning function
- Data output
- Display value holding (when no external device is connected)
- 330° rotary display
- Low battery voltage alarm display
- Error alarm display

Optional Accessories

Refer to page 07-90.

- Measurement Data Management USB-ITPAK V3.0: 06AGR543

Optional Accessories

Code No.	Type	Description
264-020	—	USB Input Tool Series USB Keyboard Signal Conversion Type IT-020U
06AGL011	SF	Connection cable (1 m)
06AGL021	SF	Connection cable (2 m)
06AGQ001F	SF	USB Input Tool Direct (2 m)
264-622	IP67	U-WAVE-TM
264-623	Buzzer	U-WAVE-TM
02AZD810D	—	U-WAVE-R
264-626	IP67	U-WAVE-TMB
264-627	Buzzer	U-WAVE-TMB
02AZF700	—	Connecting unit for U-WAVE-TM/TMB (for ID-C/ID-F Series 12.7 mm/0.5 inch type only)
02AZF670	—	U-WAVE-TM/TMB mounting bracket: for Digimatic Indicators

High Accuracy Type (Resolution: 0.0005 mm)



547-401A

SPECIFICATIONS

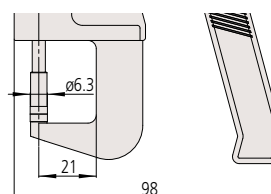
Metric					
Code No.	Resolution (mm)	Range (mm)	Measuring depth (mm)	Contact point, Anvil (mm)	Parallelism of Contact point, Anvil (μm)
547-401A	0.0005 (0.001/0.01 selectable)	0 - 12	21	ø6.3 Flat (Carbide)	3
Code No.	Accuracy (μm)	Measuring force (N)	Mass (g)	Remarks	
547-401A	±3	3.5 or less	275	High accuracy, carbide point anvil	

Inch / Metric					
Code No.	Resolution	Range (in)	Measuring depth	Contact point, Anvil	Parallelism of Contact point, Anvil
547-400A	0.00002/0.00005/ 0.0001/0.0005 in 0.0005/0.001/ 0.01 mm (selectable)	0 - 0.47	21 mm (0.83 in)	ø6.3 mm (ø0.25 in) Flat	0.0001 in/0.003 mm
Code No.	Accuracy	Measuring force (N)	Mass (g)	Remarks	
547-400A	±0.00012 in/±3 μm	3.5 or less	275	High accuracy, carbide point anvil	

DIMENSIONS

547-401A, 547-400A

Unit: mm



Dial Indicator Applications

Thickness Gages
SERIES 547, 7

Standard Type (Graduation: 0.01 mm)

- Integrated moulding of the bezel and crystal ensures protection against water and oil penetration via the front face.



7301A



7321A

SPECIFICATIONS

Metric					
Code No.	Graduation (mm)	Range (mm)	Measuring depth (mm)	Contact point, Anvil (mm)	Parallelism of Contact point, Anvil (μm)
7327A	0.001	0 - 1	30	ø10 Flat	5
7301A	0.01	0 - 10	30	ø10 Flat	5
7305A	0.01	0 - 20	30	ø10 Flat	5
7321A	0.01	0 - 10	120	ø10 Flat	5
7323A	0.01	0 - 20	120	ø10 Flat	5

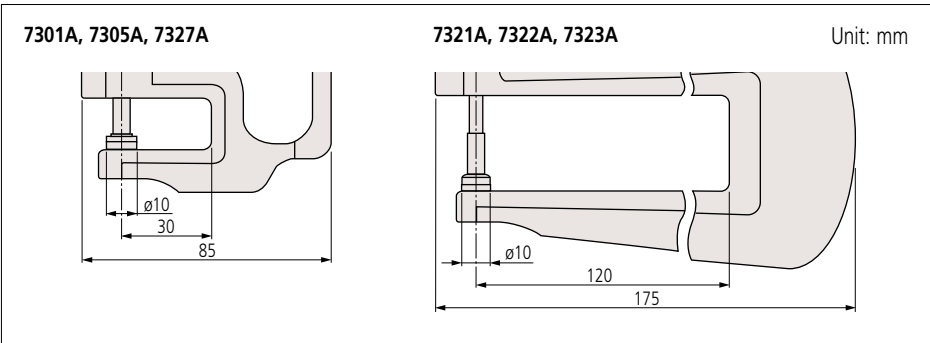
Code No.	Accuracy (μm)	Measuring force (N)	Mass (g)	Remarks
7327A	±5	1.5 or less	225	Fine dial reading, ceramic point/anvil
7301A	±15	1.4 or less	205	Standard, ceramic point/anvil
7305A	±20	2.0 or less	220	Standard, ceramic point/anvil
7321A	±15	1.4 or less	370	Deep throat, ceramic point/anvil
7323A	±22	2.0 or less	370	Deep throat, ceramic point/anvil

Inch					
Code No.	Graduation (in)	Range (in)	Measuring depth (in)	Contact point, Anvil (in)	Parallelism of Contact point, Anvil (in)
7326A	0.0001	0 - 0.05	1.18	ø0.39 Flat	0.0002
7300A	0.001	0 - 0.5	1.18	ø0.39 Flat	0.0005
7304A	0.001	0 - 1	1.18	ø0.39 Flat	0.0005
7322A	0.001	0 - 1	4.72	ø0.39 Flat	0.0005

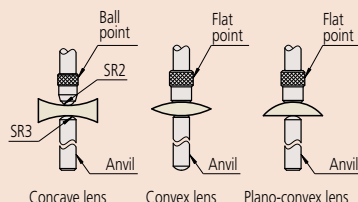
Code No.	Accuracy (in)	Measuring force (N)	Mass (g)	Remarks
7326A	±0.0002	2.0 or less	205	Fine dial reading, ceramic point/anvil
7300A	±0.001	1.8 or less	205	Standard, ceramic point/anvil
7304A	±0.002	1.8 or less	220	Standard, ceramic point/anvil
7322A	±0.002	1.8 or less	370	Deep throat, ceramic point/anvil

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

DIMENSIONS



Typical applications



- Display: 6-digit display, sign (7-digit for models with 0.0005 mm resolution)
- Power source: CR2032 battery (1 pc.), included as standard (for operational checks)
- Battery life: Approx. 2.5 years under normal use
Approx. 2,700 hours of continuous use
- Response speed: Unlimited (except for scanning measurement)
- Zero-setting (INC system)
- Presetting (ABS system)
- Measuring direction switching
- Tolerance judgment
- Resolution switching (For models with 0.0005 mm resolution)
- Function Lock
- Calibration schedule warning function
- Data output
- Display value holding (when no external device is connected)
- 330° rotary display
- Low battery voltage alarm display
- Error alarm display

Optional Accessories

Refer to page 07-90.

- Measurement Data Management **USB-ITPAK V3.0: 06AGR543**

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.



547-313A

7313A

SPECIFICATIONS

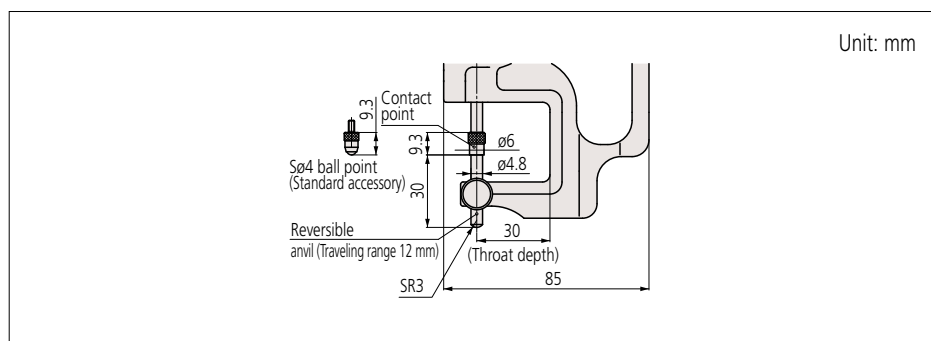
Metric					
Code No.	Resolution (mm)	Range (mm)	Measuring depth (mm)	Contact point, Anvil (mm)	Parallelism of Contact point, Anvil (μm)
547-313A	0.01	0 - 10	30	ø6 Flat (Contact point) ø4.8 Flat (Anvil)	12
Code No.	Accuracy (μm)	Measuring force (N)	Mass (g)	Remarks	
547-313A	±20	1.5 or less	265	Lens thickness	
Inch / Metric					
Code No.	Resolution	Range (in)	Measuring depth	Contact point, Anvil	Parallelism of Contact point, Anvil
547-312A	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
547-512A*	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
Code No.	Accuracy	Measuring force (N)	Mass (g)	Remarks	
547-312A	±0.001 in/±20 μm	1.5 or less	265	Lens thickness	
547-512A*	±0.001 in/±20 μm	1.5 or less	240	Lens thickness	

* Using ID-SX Digimatic indicator.

Metric					
Code No.	Graduation (mm)	Range (mm)	Measuring depth (mm)	Contact point, Anvil (mm)	Parallelism of Contact point, Anvil (μm)
7313A	0.01	0 - 10	30	ø6 Flat (Contact point) ø4.8 Flat (Anvil)	5
Code No.	Accuracy (μm)	Measuring force (N)	Mass (g)	Remarks	
7313A	±15	1.4 or less	215	Lens thickness	
Inch					
Code No.	Graduation (in)	Range (in)	Measuring depth (in)	Contact point, Anvil (in)	Parallelism of Contact point, Anvil (in)
7312A	0.001	0 - 0.5	1.18	ø0.24 Flat (Contact point) ø0.19 Flat (Anvil)	0.0005
Code No.	Accuracy (in)	Measuring force (N)	Mass (g)	Remarks	
7312A	±0.001	1.8 or less	215	Lens thickness	

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

DIMENSIONS



Unit: mm

Thickness Gages
SERIES 547, 7

Pipe gage measurement

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



547-360A

7360A

SPECIFICATIONS

Metric				
Code No.	Resolution (mm)	Range (mm)	Measuring depth (mm)	Contact point, Anvil (mm)
547-360A	0.01	0 - 10	20	ø3 Flat (Contact point) ø3.5 Ball (Anvil)

Code No.	Accuracy (μm)	Measuring force (N)	Mass (g)	Remarks
547-360A	±20	1.5 or less	230	Pipe gage

Inch / Metric				
Code No.	Resolution	Range (in)	Measuring depth	Contact point, Anvil
547-361A	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)
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)

Code No.	Accuracy	Measuring force (N)	Mass (g)	Remarks
547-361A	±0.001 in/±20 μm	1.5 or less	230	Pipe gage
547-561S	±0.001 in/±20 μm	1.5 or less	215	Pipe gage

* Using ID-SX Digimatic indicator.

Metric				
Code No.	Graduation (mm)	Range (mm)	Measuring depth (mm)	Contact point, Anvil (mm)
7360A	0.01	0 - 10	20	ø3 Flat (Contact point) ø3.5 Ball (Anvil)

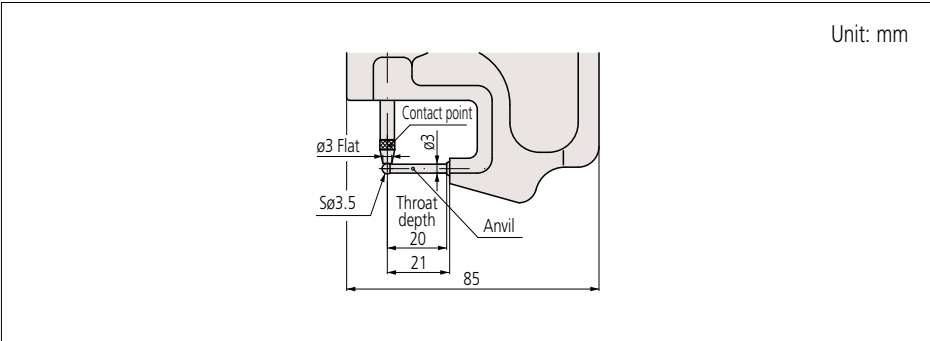
Code No.	Accuracy (μm)	Measuring force (N)	Mass (g)	Remarks
7360A	±15	1.4 or less	200	Pipe gage

Inch				
Code No.	Graduation (in)	Range (in)	Measuring depth (in)	Contact point, Anvil (in)
7361A	0.001	0 - 0.5	0.8	ø0.12 Flat (Contact point) ø0.14 Ball (Anvil)

Code No.	Accuracy (in)	Measuring force (N)	Mass (g)	Remarks
7361A	±0.001	1.8 or less	200	Pipe gage

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

DIMENSIONS



- Display: 6-digit display, sign (7-digit for models with 0.0005 mm resolution)
- Power source: CR2032 battery (1 pc.), included as standard (for operational checks)
- Battery life: Approx. 2.5 years under normal use
Approx. 2,700 hours of continuous use
- Response speed: Unlimited (except for scanning measurement)
- Zero-setting (INC system)
- Presetting (ABS system)
- Measuring direction switching
- Tolerance judgment
- Resolution switching (For models with 0.0005 mm resolution)
- Function Lock
- Calibration schedule warning function
- Data output
- Display value holding (when no external device is connected)
- 330° rotary display
- Low battery voltage alarm display
- Error alarm display

Optional Accessories

Refer to page 07-90.

- Measurement Data Management **USB-ITPAK V3.0: 06AGR543**

- Display: 6-digit display, sign (7-digit for models with 0.0005 mm resolution)
- Power source: CR2032 battery (1 pc.), included as standard (for operational checks)
- Battery life: Approx. 2.5 years under normal use
Approx. 2,700 hours of continuous use
- Response speed: Unlimited (except for scanning measurement)
- Zero-setting (INC system)
- Presetting (ABS system)
- Measuring direction switching
- Tolerance judgment
- Resolution switching (For models with 0.0005 mm resolution)
- Function Lock
- Calibration schedule warning function
- Data output
- Display value holding (when no external device is connected)
- 330° rotary display
- Low battery voltage alarm display
- Error alarm display

Optional Accessories

Refer to page 07-90.

- Measurement Data Management **USB-ITPAK V3.0: 06AGR543**

Blade thickness measurement

- Measuring faces of the contact point and anvil are blade-shaped (thickness: 1 mm). Suitable for measuring narrow grooves.



547-315A

7315A

SPECIFICATIONS

Metric					
Code No.	Resolution (mm)	Range (mm)	Measuring depth (mm)	Contact point, Anvil (mm)	Parallelism of Contact point, Anvil (μm)
547-315A	0.01	0 - 10	30	t=1 Blade	10
Code No.	Accuracy (μm)	Measuring force (N)	Mass (g)	Remarks	
547-315A	±20	1.5 or less	260	Blade thickness	

Inch / Metric					
Code No.	Resolution	Range (in)	Measuring depth	Contact point, Anvil	Parallelism of Contact point, Anvil
547-316A	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
547-516A*	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
Code No.	Accuracy	Measuring force (N)	Mass (g)	Remarks	
547-316A	±0.001 in/±20 μm	1.5 or less	260	Blade thickness	
547-516A*	±0.001 in/±20 μm	1.5 or less	240	Blade thickness	

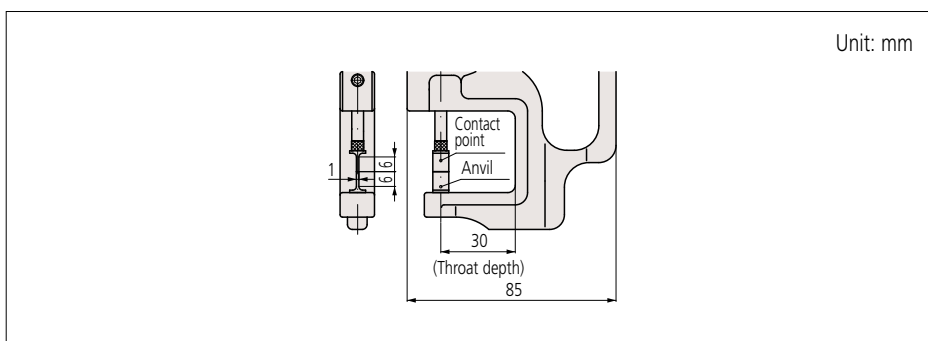
* Using **ID-SX** Digimatic indicator.

Metric					
Code No.	Graduation (mm)	Range (mm)	Measuring depth (mm)	Contact point, Anvil (mm)	Parallelism of Contact point, Anvil (μm)
7315A	0.01	0 - 10	30	t=1 Blade	5
Code No.	Accuracy (μm)	Measuring force (N)	Mass (g)	Remarks	
7315A	±15	1.4 or less	220	Blade thickness	

Inch					
Code No.	Graduation (in)	Range (in)	Measuring depth (in)	Contact point, Anvil (in)	Parallelism of Contact point, Anvil (in)
7316A	0.001	0 - 0.5	1.18	t=0.04 Blade	0.0005
Code No.	Accuracy (in)	Measuring force (N)	Mass (g)	Remarks	
7316A	±0.001	1.8 or less	220	Blade thickness	

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

DIMENSIONS



Dial Indicator Applications

Contact Force Gage
SERIES 546

- Contact Force Gages are widely used to determine the measuring force applied by an instrument to a workpiece, as well as contact forces of electrical relays, micro-switches, valves and precision springs.
- Thanks to the miniature anti-friction bearing in the fulcrum, stable measurement is guaranteed.
- 2 types are available: Standard and peak hold.



Measurement example of contact force on a relay



SPECIFICATIONS

mN-scale models

Standard				Peak hold			
Code No.	Graduation (mN)	Range (mN)	Accuracy (graduation)	Code No.	Graduation (mN)	Range (mN)	Accuracy (graduation)
546-112	2	6 - 50	±0.5	—	—	—	—
546-113	5	10 - 100		546-133	5	10 - 100	±0.5
546-114	10	30 - 300		546-134	10	30 - 300	

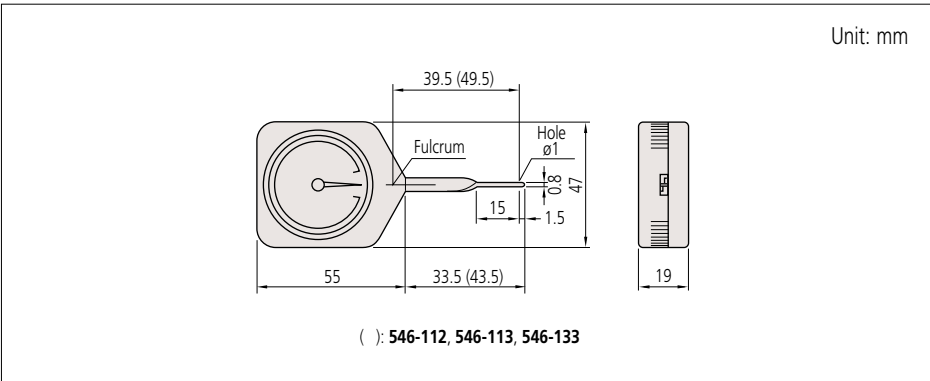
Note: Please note that these products are only available in their standard forms; they cannot be customized for special sizes or specifications.

N-scale models

Standard				Peak hold			
Code No.	Graduation (N)	Range (N)	Accuracy (graduation)	Code No.	Graduation (N)	Range (N)	Accuracy (graduation)
546-115	0.02	0.06 - 0.5	±0.5	546-135	0.02	0.06 - 0.5	±0.5
546-116	0.05	0.1 - 1		546-136	0.05	0.1 - 1	
546-117	0.05	0.15 - 1.5		546-137	0.05	0.15 - 1.5	
546-118	0.1	0.3 - 3		546-138	0.1	0.3 - 3	
546-119	0.2	0.6 - 5		546-139	0.2	0.6 - 5	

Note: Please note that these products are only available in their standard forms; they cannot be customized for special sizes or specifications.

DIMENSIONS



Dial Snap Gage SERIES 201

Optional accessories

Dial protection cover: **21DZA000**

Recommended dial indicators/ Digimatic indicators (optional)

• Metric models:

2046AB: Dial indicator (Graduation: 0.01 mm)

2109AB-10: Dial indicator (Graduation: 0.001 mm)

543-700B: Digimatic Indicator (Resolution:
0.0005/0.001/0.01 mm)

• Inch models:

2414AB: Dial indicator (Graduation: 0.001 in)

2805AB-10: Dial indicator (Graduation: 0.0001 in)

543-702B: Digimatic Indicator (Resolution:
0.00002/0.00005/0.0001/0.0005 in
(0.0005/0.001/0.01 mm))

- Designed for quick Go/±No-go judgment of diameters of cylinders and shafts in machining processes.
- Enables single-handed comparative measurements of a cylinder diameter, etc. while workpiece processing is taking place.
- The dial indicator and protection cover are optional.
- Some digimatic/dial indicators cannot be used with the dial snap gage. Consult Mitutoyo before using dial indicators which are not recommended.
- Measuring faces: Carbide.
- Anvil positioning range: 25 mm/1 in. Adjustment nut: adjusts the setting anvil to the nominal size required within the measuring range.
- Clamp: clamps the setting anvil at the required position.



201-101

Note: The dial indicator and dial protection cover are optional.

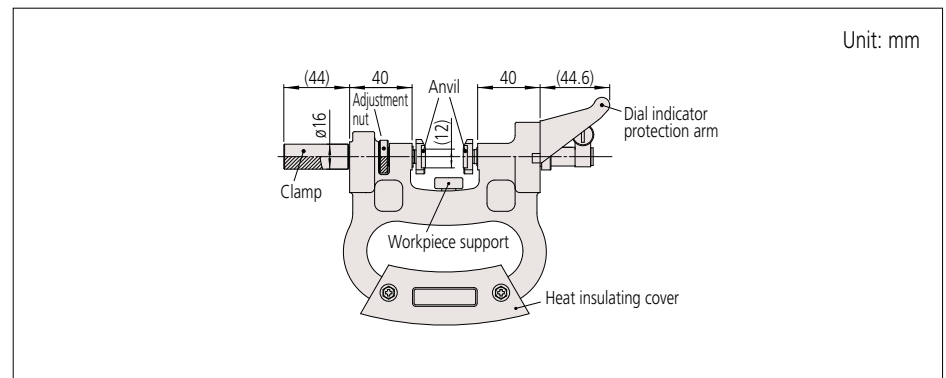
SPECIFICATIONS

Metric			
Code No.	Range (mm)	Parallelism (μm)	Measuring force* (N)
201-101	0 - 25	5	15±3
201-102	25 - 50		
201-103	50 - 75		
201-104	75 - 100		
201-105	100 - 125		
201-106	125 - 150		
201-107	150 - 175		
201-108	175 - 200		
201-109	200 - 225		
201-110	225 - 250		
201-111	250 - 275		
201-112	275 - 300		

Inch			
Code No.	Range (in)	Parallelism (in)	Measuring force* (N)
201-151	0 - 1	0.00025	15±3
201-152	1 - 2		
201-153	2 - 3		
201-154	3 - 4		
201-155	4 - 5		
201-156	5 - 6		
201-157	6 - 7		
201-158	7 - 8		
201-159	8 - 9		
201-160	9 - 10		
201-161	10 - 11		
201-162	11 - 12		

* Measuring force is that force present before an indicator is installed and is determined at the point where the spindle is retracted 1 mm from the rest position.

DIMENSIONS



Unit: mm

Stands

SERIES 7 — Magnetic Stands

- Mitutoyo magnetic stands clamp to iron or steel surfaces with a strong force and are indispensable for temporarily mounting a dial test indicator (or dial indicator) onto a machine tool or fixture for general alignment applications.
- Vertical/horizontal mounting holes and bushes are available for attaching dial test indicators and dial indicators.
- Models **7014-10**, **7014E-10**, **7015-10**, **7031-10**, **7032-10** and **7033-10** have a dovetail groove in the swivel holder for attaching dial test indicators that are equipped with a dovetail.



7010-10



7011-10



7012-10



7014-10
(magnetic clamping is non-switchable)



7033-10



7031-10



7032-10

07

Indicators

Standards

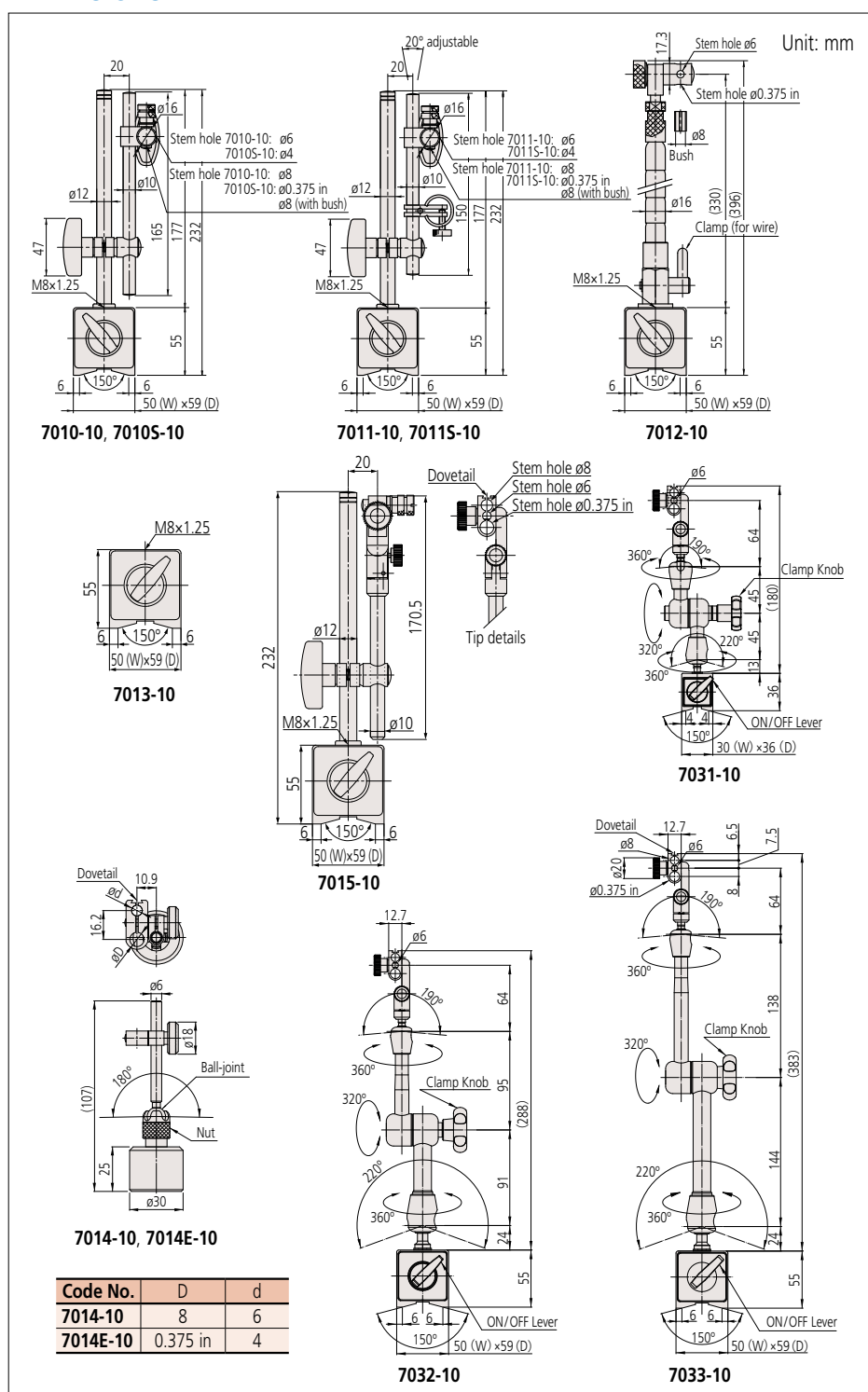
*2 Back plunger type (**1160A**, etc.) cannot be attached.

*2 Back plunger type (**1160A**, etc.) cannot be attached.

*3 When attaching a compact dial indicator (outer frame diameter 31, 36 or 40 mm), select a back cover type with a lug.

*4 Use with a dial test indicator or SERIES 1 dial indicator (compact or lightweight type) is recommended.

DIMENSIONS



Code No.	D	d
7014-10	8	6
7014E-10	0.375 in	4

Stands

Dial Gage Stands
SERIES 7

- Dial Gage Stands are designed for comparison measurements of size using a dial indicator or Digimatic Indicator. An anvil is provided as standard.
- Anvil: ø58 mm serrated anvil, ø58 mm flat anvil, 90 mm square anvil and domed anvil (optional)
- Vertical fine adjustment is available with one-touch control thanks to the parallel spring suspension.



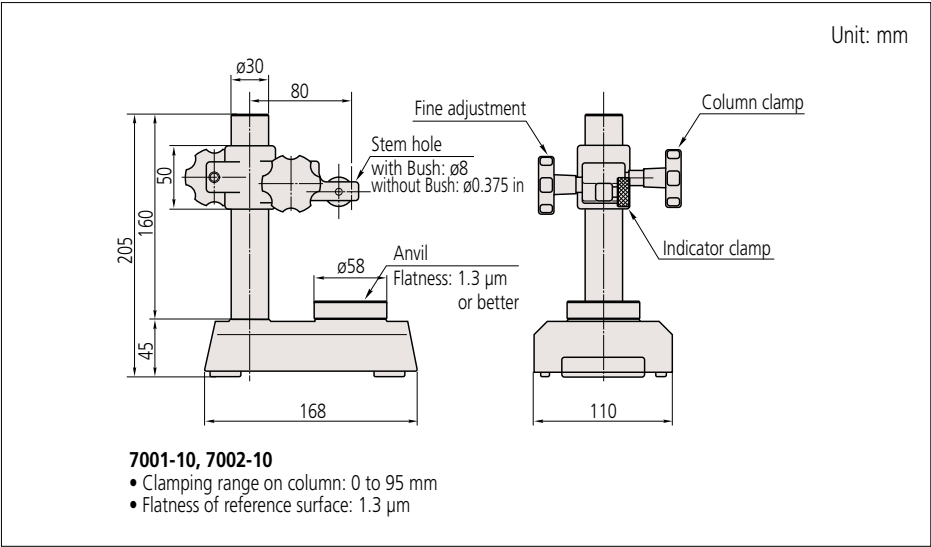
7002-10
(with ø58 mm non-serrated anvil)

SPECIFICATIONS

Metric			
Code No.	Clamping range on column (mm)	Stem hole (mm)	Remarks
7001-10	0 to 95	ø8, ø0.375 in	With serrated anvil
7002-10			With flat anvil

Note 1: Perpendicularity of the stem hole to the anvil is better than 0.4 mm/100 mm
Note 2: Take note that when mounting high-accuracy Linear Gages (with resolution of 0.1 µm or better) to these stands, accuracy may be affected depending on the perpendicularity of the mounting hole to the top surface of the anvil (cosine effect).
Note 3: Compact dial indicators (bezel ø31, ø36) are not suitable for use with these stands.

DIMENSIONS



Optional Accessories

101462: Hardened steel serrated anvil
(standard accessory for **7001-10**)

Unit: mm

Hardened steel

101461: Hardened steel non-serrated anvil
(standard accessory for **7002-10**)

Unit: mm

Hardened steel

101463: Hardened steel domed anvil* (optional)
* Not available for **7007-10**.

Unit: mm

Hardened steel



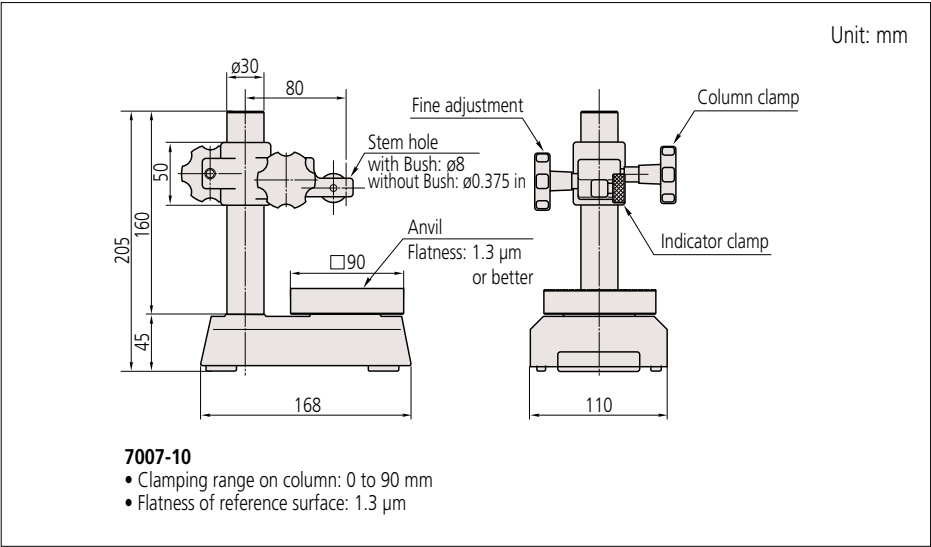
7007-10
(with 90 mm square semi-serrated anvil)

SPECIFICATIONS

Metric			
Code No.	Clamping range on column (mm)	Stem hole (mm)	Remarks
7007-10	0 to 90	ø8, ø0.375 in	With square anvil

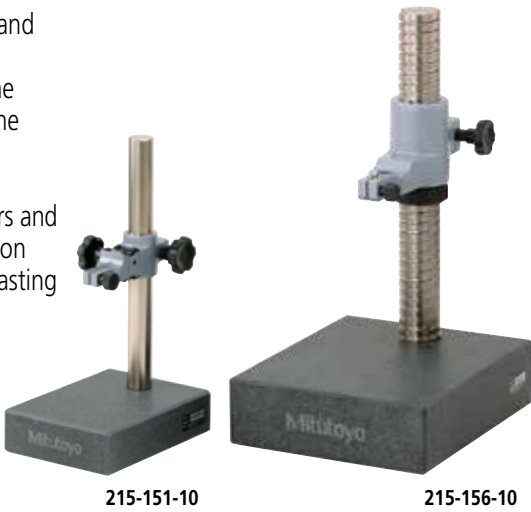
Note 1: Perpendicularity of the stem hole to the anvil is better than 0.4 mm/100 mm
Note 2: Take note that when mounting high-accuracy Linear Gages (with resolution of 0.1 µm or better) to these stands, accuracy may be affected depending on the perpendicularity of the mounting hole to the top surface of the anvil (cosine effect).
Note 3: Compact dial indicators (bezel ø31, ø36) are not suitable for use with these stands.

DIMENSIONS



SERIES 215 — Granite Base Comparator Stands

- The plates are made of natural stone and will hardly deteriorate over time. (While the appearance of natural stone base varies according to the source, the high stability for which this material is known can always be relied upon.)
- The rigid granite base is free from burrs and pileups due to its fine-grain composition and less viscosity compared with casting iron. The flatness is always accurate.



Optional Accessories

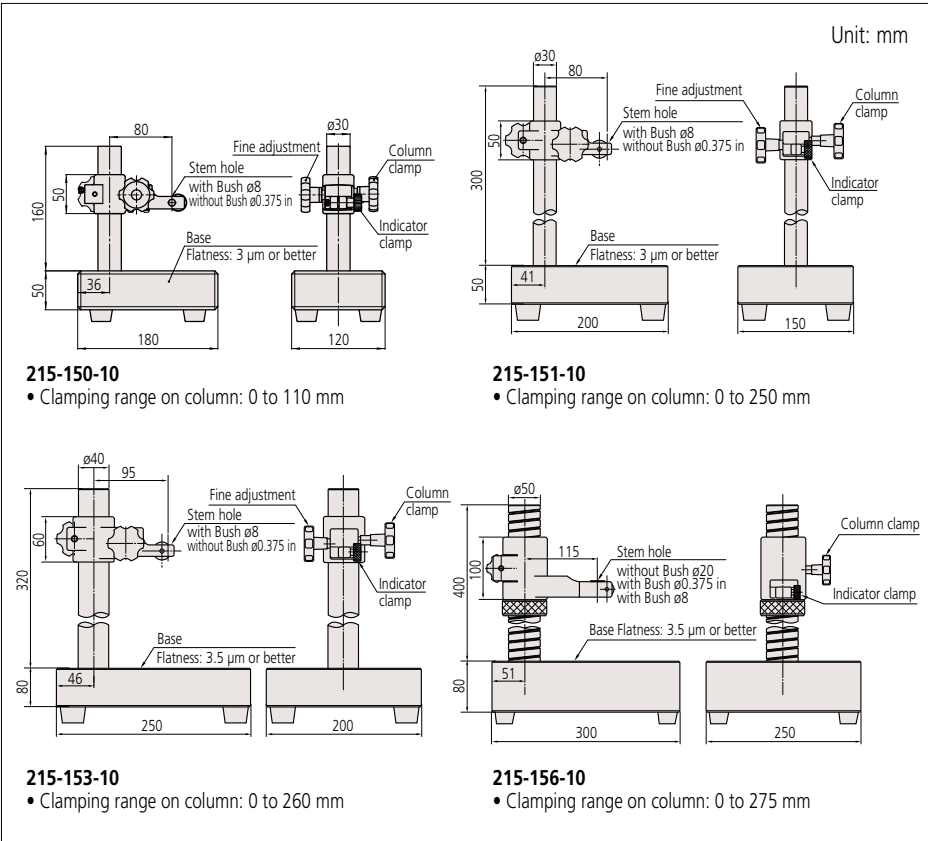
ø15 mm bush (for 215-156-10, 215-505-10):
21JAA331

SPECIFICATIONS

Code No.	Granite base size (WxDxH) (mm)	Clamping range on column (mm)	Stem hole (mm)	Remarks
215-150-10	120x180x50	0 to 110	ø8, ø0.375 in	With fine adjustment of 1 mm range
215-151-10	150x200x50	0 to 250		
215-153-10	200x250x80	0 to 260		
215-156-10	300x250x80	0 to 275	ø8, ø0.375 in, ø20	With fine adjustment over entire travel

Note 1: Perpendicularity of the stem hole to the anvil is better than 0.2 mm/100 mm.
Note 2: Take note that when mounting high-accuracy Linear Gages (with resolution of 0.1 µm or better) to these stands, accuracy may be affected depending on the perpendicularity of the mounting hole to the top surface of the anvil (cosine effect).
Note 3: Compact dial indicators (bezel ø31, ø36) are not suitable for use with these stands.

DIMENSIONS



Example of attaching the Digimatic Indicator



Digimatic Indicator ID-H.

Optional Accessories

Refer to page 07-101.

SERIES 215 — Cast Iron Base Comparator Stands

- Comparator Stands are designed for comparison measurements of size using a dial indicator or Digimatic Indicator.
- The partially serrated anvil prevents very flat workpieces from wringing to it.



215-405-10

SPECIFICATIONS

Code No.	Anvil	Clamping range on column (mm)	Micromotion mechanism (Adjustment range)	Stem hole (mm)
215-405-10	Square semi-serrated anvil (110×110 mm)	0 to 235	Vertical fine adjustment (1 mm)	ø0.375 in, ø8 with Bush
215-505-10	Square semi-serrated anvil (150×150 mm)	0 to 275	Micromotion screw	ø20, ø0.375 in with Bush, ø8 with Bush

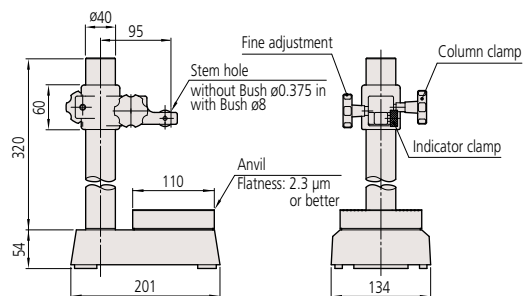
Note 1: Perpendicularity of the stem hole to the anvil is better than 0.4 mm/100 mm.

Note 2: Take note that when mounting high-accuracy Linear Gages (with resolution of 0.1 µm or better) to these stands, accuracy may be affected depending on the perpendicularity of the mounting hole to the top surface of the anvil (cosine effect).

Note 3: Compact dial indicators (bezel ø31, ø36) are not suitable for use with these stands.

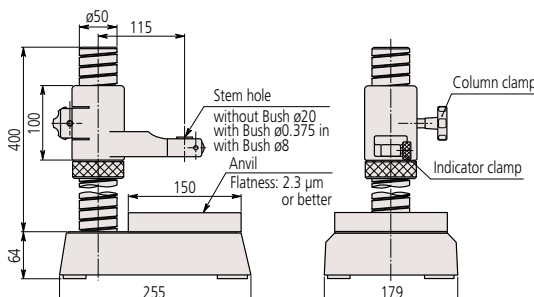
DIMENSIONS

Unit: mm



215-405-10

- Clamping range on column: 0 to 235 mm



215-505-10

- Clamping range on column: 0 to 275 mm

SERIES 519 — Transfer Stands

- Transfer Stands are designed for comparison measurements of size using a dial indicator or Digimatic Indicator.



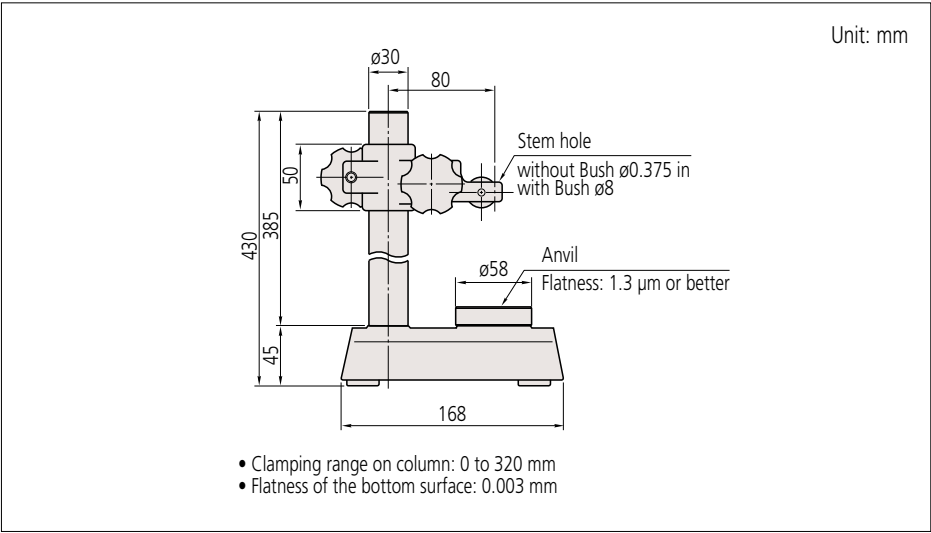
519-109-10
(with a serrated anvil)

SPECIFICATIONS

Metric				
Code No.	Anvil	Clamping range on column (mm)	Micromotion adjustment range (mm)	Stem hole (mm)
519-109-10	With a serrated anvil (ø58 mm)	0 to 320	1	ø0.375 in, ø8 with Bush

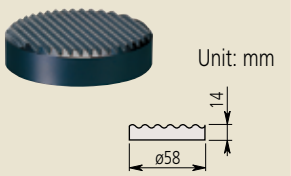
Note 1: Perpendicularity of the stem hole to the anvil is better than 0.4 mm/100 mm.
Note 2: Take note that when mounting high-accuracy Linear Gages (with resolution of 0.1 µm or better) to these stands, accuracy may be affected depending on the perpendicularity of the mounting hole to the top surface of the anvil (cosine effect).
Note 3: Compact dial indicators (bezel ø31, ø36) are not suitable for use with these stands.

DIMENSIONS

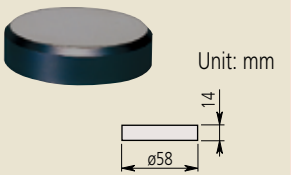


Optional Accessories

101462: Hardened steel serrated anvil (standard accessory)



101461: Hardened steel non-serrated anvil (optional)



101463: Hardened steel domed anvil (optional)

