

Mitutoyo

Catalog No. US-1002



Measuring Instruments Catalog

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02-214-0101

Inside Micro Checker

SERIES 515

FEATURES

- The Inside Micro Checker is designed to efficiently check the zero point of a tubular inside micrometer.
- Each measuring block is made of zirconia-based ceramic and it is free from deterioration and dimensional changes over time.

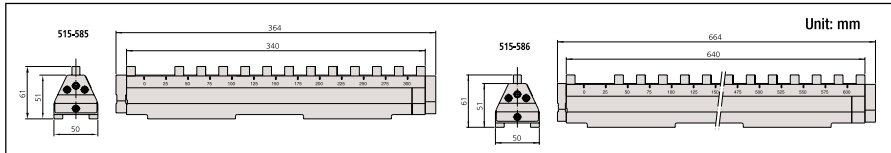


SPECIFICATIONS

Range	Order No.	Length to check
300mm	515-585	25, 50, 75, 100, 125, 150, 175, 200, 225, 250, 275, 300mm
600mm	515-586	25, 50, 75, 100, 125, 150, 175, 200, 225, 250, 275, 300, 325, 350, 375, 400, 425, 450, 475, 500, 525, 550, 575, 600mm



DIMENSION



Bore Gages

SERIES 526 — for Extra Small Holes

These Bore Gages measure diameters of small holes. The radial displacement of split-ball contact is converted to axial displacement of measuring rod, which is shown on the dial indicator.

FEATURES

- **Optional stand (215-120M) is available for efficient measurement of multiple small holes.**



526-172



526-127



Technical Data

Block pitch accuracy: $\pm(0.001+L/150000)\text{mm}^*$

*L = Length to check (mm)

Optional Accessory

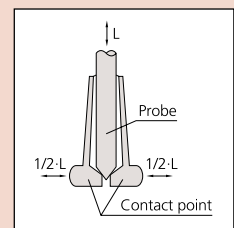
- 602160: Wooden case for 300mm Inside
Micro Checker
- 602163: Wooden case for 600mm Inside
Micro Checker



Technical Data

Accuracy: 4µm
Indication stability: 2µm
Graduation: 0.01mm, 0.001mm

Contact Point



Optional Accessory

215-120M: Bore gage stand



SPECIFICATIONS

Metric

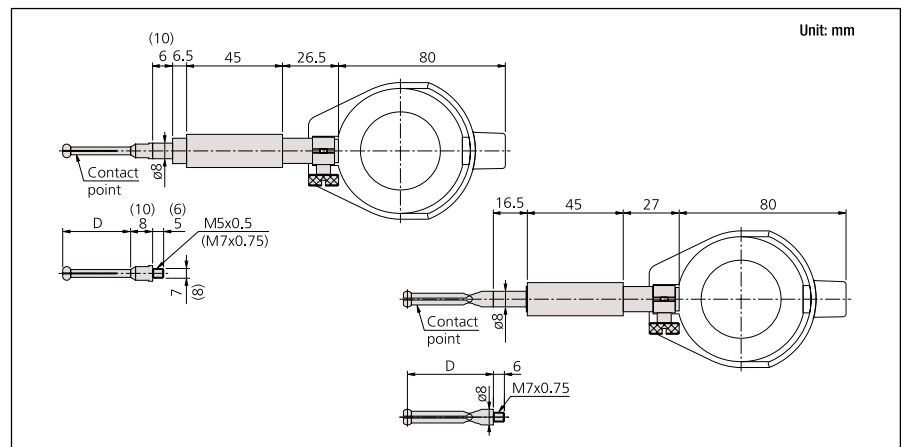
Range	Order No.	Probe depth (D)
0.95 - 1.55mm	526-172*	11.5mm
1.5 - 4mm	526-162*	17.5, 22.5mm
3.7 - 7.3mm	526-152*	32mm
7 - 10mm	526-124	56mm
10 - 18mm	526-125	62mm
0.95 - 1.55mm	526-173*	11.5mm
1.5 - 4mm	526-163*	17.5, 22.5mm
3.7 - 7.3mm	526-153*	32mm
7 - 10mm	526-126	56mm
10 - 18mm	526-127	62mm

*Provided with setting rings

0.001mm graduation
(w/ 2109SB-10)

0.01mm graduation
(w/ 2046SB)

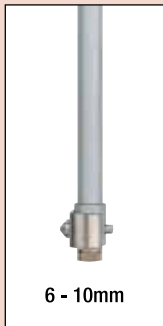
DIMENSION



Technical Data

Accuracy: 5µm
Indication stability: 2µm
Graduation: 0.01mm, 0.001mm

Contact Point



6 - 10mm



10 - 18.5mm

Bore Gages

SERIES 511 — for Small Holes

FEATURES

- Its interchangeable anvils are made of alloyed steel.
- The dial indicator is fully protected by a rugged cover.



511-204

SPECIFICATIONS

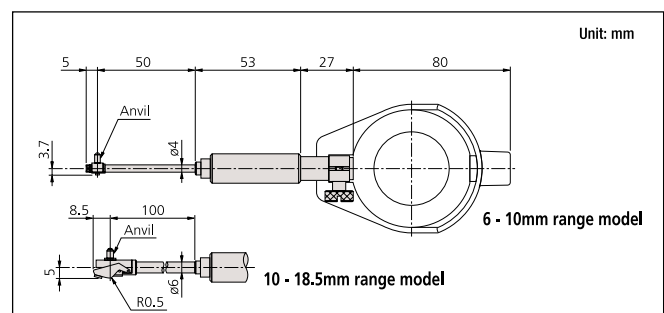
Metric

Range	Order No.	Probe depth
6 - 10mm	511-210	50mm
10 - 18.5mm	511-203	100mm
6 - 10mm	511-211	50mm
10 - 18.5mm	511-204	100mm

0.001mm graduation
(w/ 2109SB-10)

0.01mm graduation
(w/ 2046SB)

DIMENSION



Bore Gages

SERIES 511

Mitutoyo offers a complete selection of Bore Gages, all of them with interchangeable anvils and necessary accessories to perform close tolerance ID measurements.

FEATURES

- Most popular Bore Gages.
- Carbide-tipped contact points for durability.
- The dial indicator is fully protected by a rugged cover.
- Optional extension rods can be attached for measuring deep holes.
- Economy Bore Gage Sets are also available.

SPECIFICATIONS

Metric Individual					
Range	Order No.	Probe depth	Range	Order No.	Probe depth
18 - 35mm	511-721	100mm	18 - 35mm	511-711	100mm
35 - 60mm	511-722	150mm	35 - 60mm	511-712	150mm
50 - 150mm	511-723	150mm	50 - 150mm	511-713	150mm
100 - 160mm	511-724	150mm	100 - 160mm	511-714	150mm
160 - 250mm	511-725	250mm	160 - 250mm	511-715	250mm
250 - 400mm	511-726	250mm	250 - 400mm	511-716	250mm

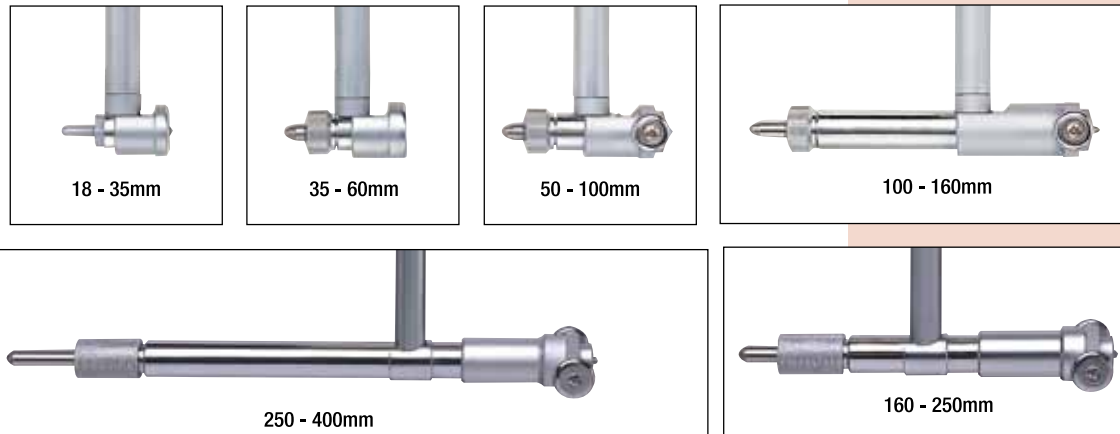
Metric Bore Gage Sets		
Range	Order No.	Number of probes
18 - 150mm	511-922	3
18 - 150mm	511-921	3

0.001mm graduation (w/ 2109SB-10) 0.01mm graduation (w/ 2046SB)

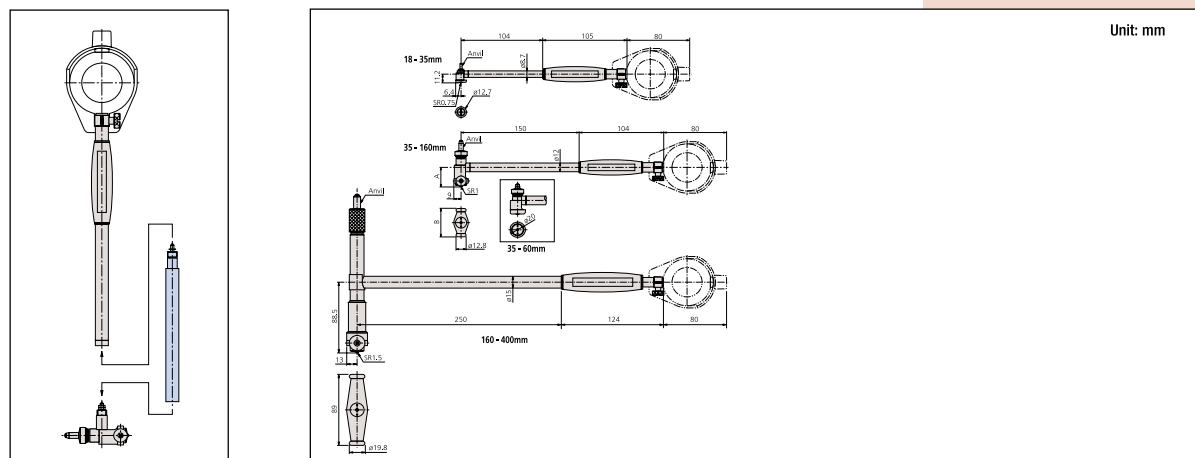


511-173

Contact Point



DIMENSION



Unit: mm

Technical Data

Accuracy: 5μm
Indication stability: 2μm
Graduation: 0.01mm, 0.001mm

Optional Accessory

- 953549: 125mm Extension rod for 18-35mm
- 953552: 125mm Extension rod for 35-160mm
- 953557: 125mm Extension rod for 160-400mm
- 953550: 250mm Extension rod for 18-35mm
- 953553: 250mm Extension rod for 35-160mm
- 952361: 250mm Extension rod for 160-400mm
- 953551: 500mm Extension rod for 18-35mm
- 953554: 500mm Extension rod for 35-160mm
- 953558: 500mm Extension rod for 160-400mm
- 953555: 750mm Extension rod for 35-160mm
- 953559: 750mm Extension rod for 160-400mm
- 953556: 1000mm Extension rod for 35-160mm
- 953560: 1000mm Extension rod for 160-400mm

Bore Gages

SERIES 511 — Short Leg Type

FEATURES

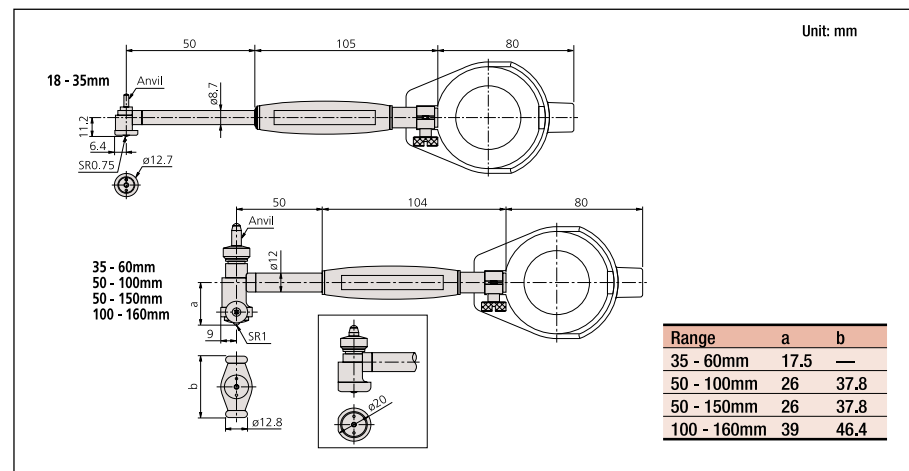
- Compact and lightweight because of the short length below the grip.
- Carbide-tipped contact point for durability.

SPECIFICATIONS

Metric		
Range	Order No.	Probe depth
18 - 35mm	511-771	50mm
35 - 60mm	511-772	50mm
50 - 150mm	511-773	50mm
100 - 160mm	511-774	50mm
18 - 35mm	511-766	50mm
35 - 60mm	511-767	50mm
50 - 150mm	511-768	50mm
100 - 160mm	511-769	50mm

0,001mm graduation (w/ 2109SB-10) 0,01mm graduation (w/ 2046SB)

DIMENSION

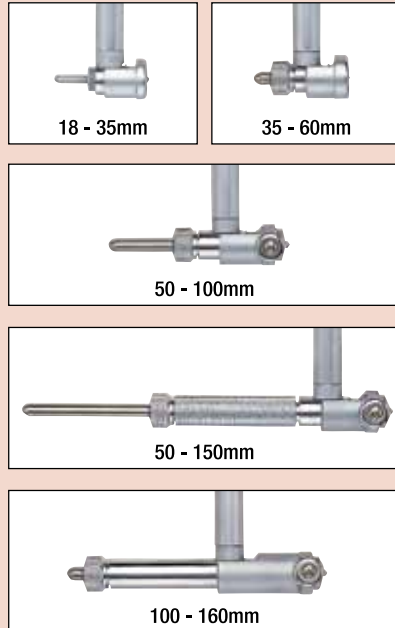


511-766

Technical Data

Accuracy: 5µm
Indication stability: 2µm
Graduation: 0.01mm, 0.001mm

Contact Point



Bore Gages

SERIES 511 — for Blind Holes

FEATURES

- Can measure ID at position close to the bottom of blind holes.

SPECIFICATIONS

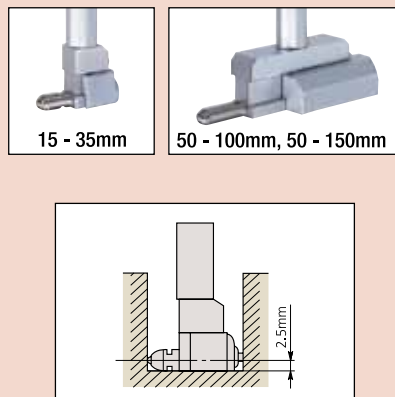
Metric		
Range	Order No.	Probe depth
15 - 35mm	511-421	150mm
35 - 60mm	511-422	150mm
50 - 100mm	511-423	150mm
50 - 150mm	511-424	150mm
15 - 35mm	511-411	150mm
35 - 60mm	511-412	150mm
50 - 100mm	511-413	150mm
50 - 150mm	511-414	150mm

0,001mm graduation (w/ 2109SB-10) 0,01mm graduation (w/ 2046SB)

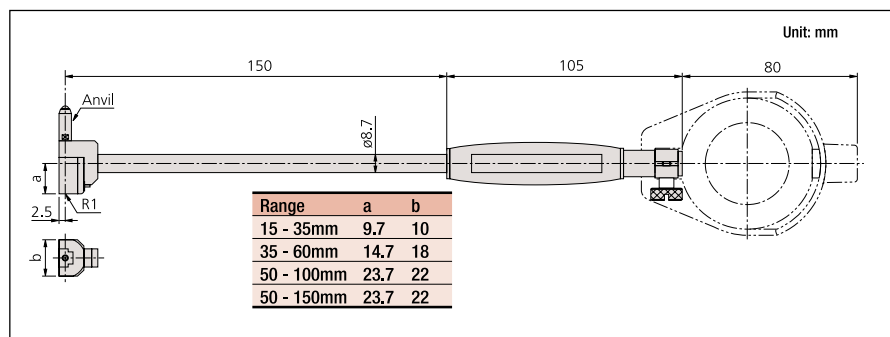
Technical Data

Accuracy: 5µm
Indication stability: 2µm
Graduation: 0.01mm, 0.001mm

Contact Point



DIMENSION



Bore Gages

SERIES 511 — with Micrometer Head

FEATURES

- Interchangeable anvil is attached to a micrometer head for accurate dimensional setting.
- Wide measuring range with sub-anvils.
- Carbide ball contact point for durability.
- Extension rods (optional) can be attached for measuring deep holes.
- Optional Setting Rings offer the best method of zero-setting Bore Gages.



511-813

SPECIFICATIONS

Metric		
Range	Order No.	Probe depth
60 - 100mm	511-823	150mm
100 - 160mm	511-824	150mm
150 - 250mm	511-825	250mm
250 - 400mm	511-826	250mm
400 - 600mm	511-827	250mm
600 - 800mm	511-828	250mm
60 - 100mm	511-813	150mm
100 - 160mm	511-814	150mm
150 - 250mm	511-815	250mm
250 - 400mm	511-816	250mm
400 - 600mm	511-817	250mm
600 - 800mm	511-818	250mm

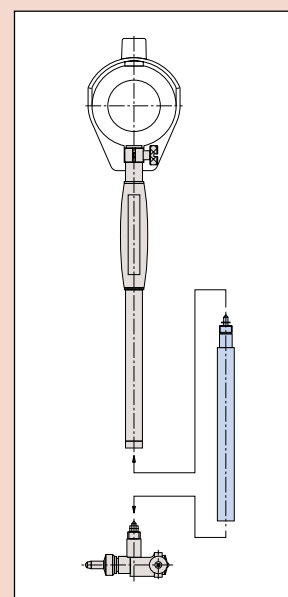
0.001mm graduation (w/ 2109SB-10) 0.01mm graduation (w/ 2046SB)

Technical Data

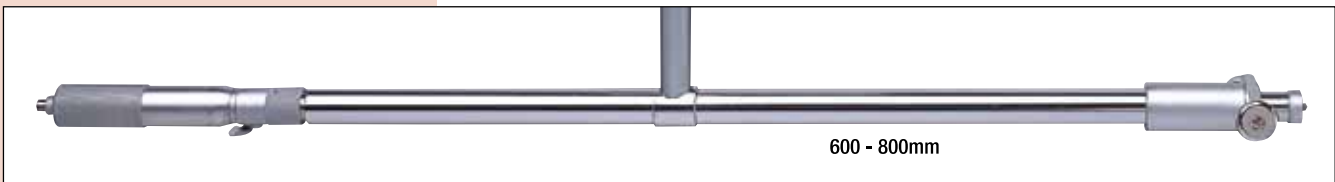
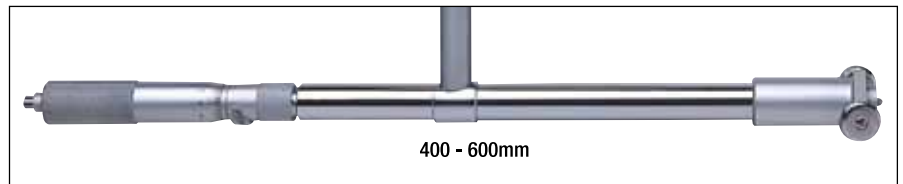
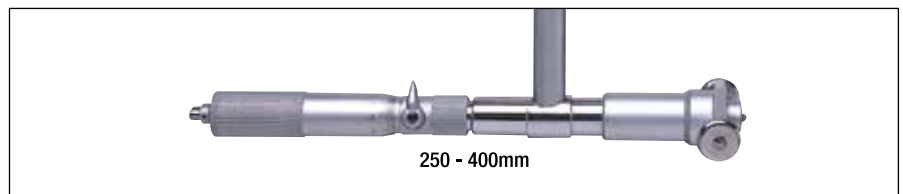
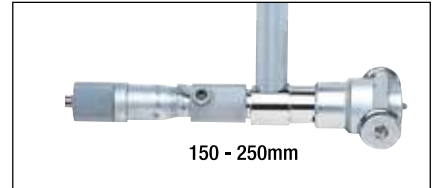
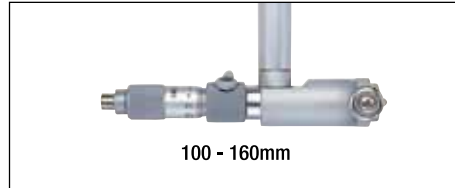
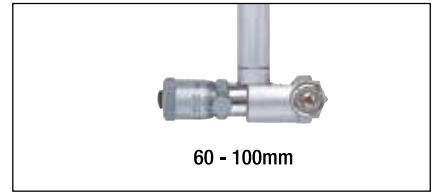
Accuracy: 5µm
Indication stability: 2µm
Graduation: 0.01mm, 0.001mm

Optional Accessory

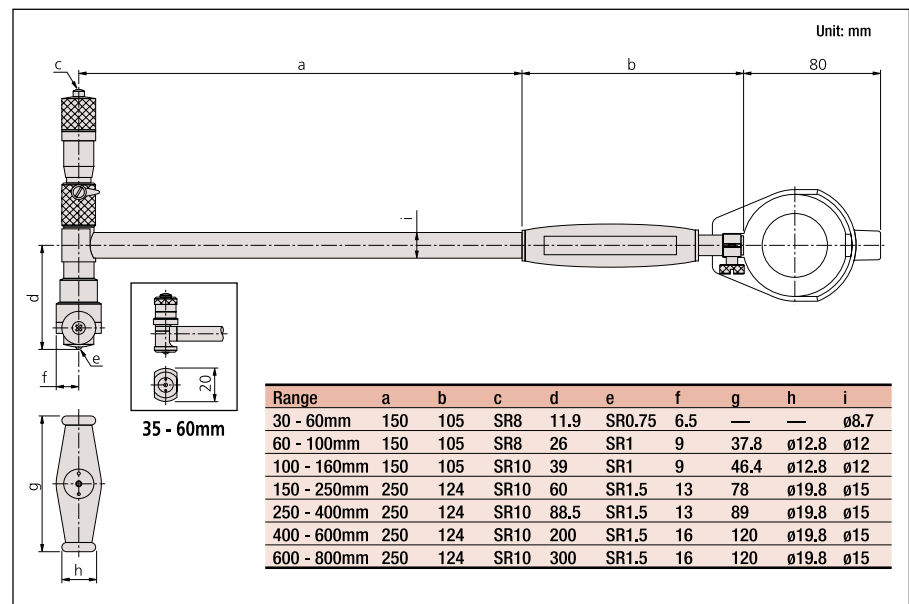
- 953549: 125mm Extension rod for 18-35mm
- 953552: 125mm Extension rod for 35-160mm
- 953557: 125mm Extension rod for 160-400mm
- 953550: 250mm Extension rod for 18-35mm
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- 953554: 500mm Extension rod for 35-160mm
- 953558: 500mm Extension rod for 160-400mm
- 953555: 750mm Extension rod for 35-160mm
- 953559: 750mm Extension rod for 160-400mm
- 953556: 1000mm Extension rod for 35-160mm
- 953560: 1000mm Extension rod for 160-400mm



Contact Point



DIMENSION



ABSOLUTE Digimatic Bore Gage

SERIES 511

This ABSOLUTE Digimatic bore gages are exclusively designed for ID measurement.

FEATURES

- The minimum value holding function provides the easy of detection of hole diameter.



- Up to three sets of master value and upper/lower tolerance value can be memorized.
- An analog bar indicator is integrated to enhance the intuition in reading.
- GO/±NG judgment is performed by setting the upper and lower tolerances.
- Up to four rods (250mm or 500mm) can be used.

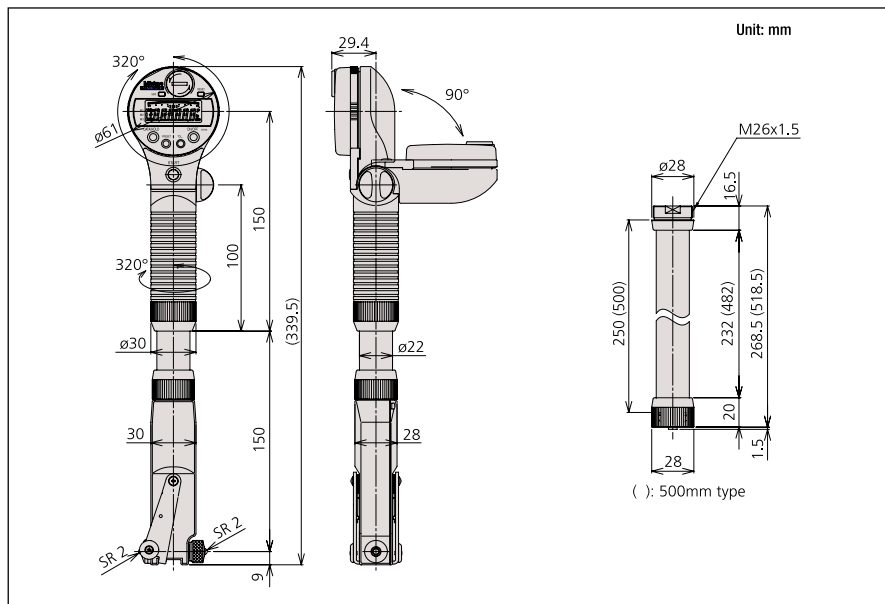


511-521

SPECIFICATIONS

Metric		
Range	Order No.	Probe depth
45 - 100mm	511-501	150mm
100 - 160mm	511-502	150mm

DIMENSION



Mitutoyo

SPC

ABSOLUTE®
Absolute System Patented by MITUTOYO

Technical Data

Resolution: 0.001mm
Display: LCD
Battery: SR44 (1 pc.) (938882)
Battery life: Approx. 9 months for normal use
Dust/Water protection level: Conforming to IP53

Functions

Origin-set, Zero-Setting, Presetting, Power on/off, inch/mm conversion (inch/mm type only), Data output, GO/±NG tolerance judgment
Alarm: Low battery voltage, scale contamination, overflow error, tolerance limit setting error

Optional Accessory

21DZA089: Extension rod 250 mm
21DZA081: Extension rod 500 mm
516-118-10: Origin setup metric rectangular gauge block set
516-119-10: Origin setup metric square gauge block set
905338: SPC cable (1m)
905409: SPC cable (2m)



Origin setup gauge block set

Example:
using four extension rods.



SPECIFICATION

Setting Rings

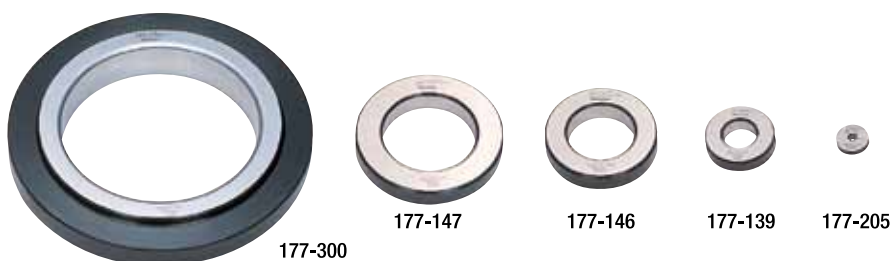
Size	Order No.	Accuracy
1mm	177-220	±1.5µm
1.1mm	177-222	±1.5µm
1.2mm	177-225	±1.5µm
1.3mm	177-227	±1.5µm
1.4mm	177-230	±1.5µm
1.75mm	177-236	±1.5µm
2mm	177-239	±1.5µm
2.25mm	177-242	±1.5µm
2.5mm	177-208	±1.5µm
2.75mm	177-246	±1.5µm
3mm	177-248	±1.5µm
3.25mm	177-250	±1.5µm
3.5mm	177-252	±1.5µm
3.75mm	177-255	±1.5µm
4mm	177-204	±1.5µm
4.5mm	177-257	±1.5µm
5mm	177-205	±1.5µm
5.5mm	177-263	±1.5µm
6mm	177-267	±1.5µm
6.5mm	177-271	±1.5µm
7mm	177-275	±1.5µm
8mm	177-125	±1.5µm
10mm	177-126	±1.5µm
12mm	177-284	±1.5µm
14mm	177-132	±1.5µm
16mm	177-177	±1.5µm
17mm	177-133	±1.5µm
20mm	177-286	±1.5µm
25mm	177-139	±1.5µm
30mm	177-288	±1.5µm
35mm	177-140	±1.5µm
40mm	177-290	±1.5µm
45mm	177-178	±1.5µm
50mm	177-146	±1.5µm
60mm	177-292	±1.5µm
62mm	177-314	±1.5µm
70mm	177-147	±1.5µm
75mm	177-316	±1.5µm
80mm	177-294	±1.5µm
87mm	177-318	±1.5µm
90mm	177-148	±1.5µm
100mm	177-296	±1.5µm
125mm	177-298	±2.5µm
150mm	177-300	±2.5µm
175mm	177-302	±2.5µm
200mm	177-304	±2.5µm
225mm	177-306	±2.5µm
250mm	177-308	±2.5µm
275mm	177-310	±2.5µm
300mm	177-312	±2.5µm

Setting Ring

SERIES 177 — Accessories for Inside Micrometers, Holtest and Dial Bore Gages

FEATURES

- Used for quick zero adjustment of dial bore gages, Holtest, and inside micrometers.
- Actual inside diameter is marked on each ring.



Technical Data

Tolerance between the nominal size and the actual diameter:

- ±0.01mm for ø1 - 45mm setting rings
- ±0.02mm for ø50 - 300mm setting rings
- ±.0004" for .1" - 1.8" DIA. setting rings
- ±.0008" for 2" - 12" DIA. setting rings

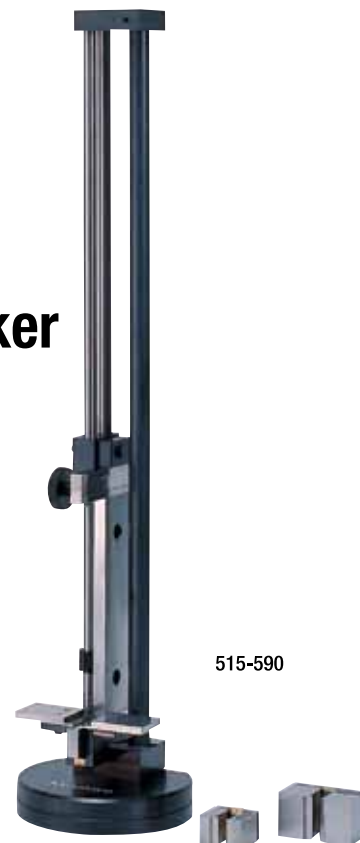
Cylindricity: 1.0µm for ø1 - 60mm setting rings

- 1.5µm for ø62 - 90mm setting rings
- 2.0µm for ø100 - 150mm setting rings
- 2.5µm for ø175 - 225mm setting rings
- 3.0µm for ø250 - 300mm setting rings
- .00004" for .1" - 2.4" DIA. setting rings
- .00006" for 2.5" - 3.6" DIA. setting rings
- .00008" for 4" - 6" DIA. setting rings
- .00010" for 7" - 9" DIA. setting rings
- .00012" for 10" - 12" DIA. setting rings

Bore Gage Zero Checker

SERIES 515

The Bore Gage Zero Checker allows easy zero adjustment of dial bore gages with ranges of 18mm through 400mm using gauge blocks.



SPECIFICATIONS

Order No.	Applicable range
515-590	18 -400mm