

Mitutoyo

Catalog No. US-1002



Measuring Instruments Catalog

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02-214-0101

Depth Micrometer

SERIES 329, 129, 229 — Interchangeable Rod Type

FEATURES

- $\phi 4$ mm interchangeable rods, with lapped measuring end, provide a wide measuring range.
- The rod length can be adjusted in 25mm increments.
- With ratchet stop for constant force.
- With measuring rod clamp.
- With SPC output (series 329).
- With digit counter (series 229).



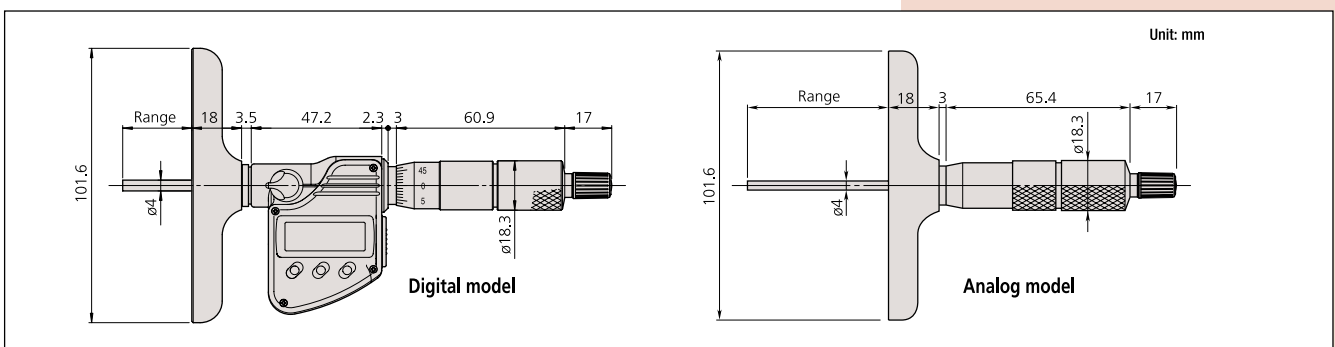
SPECIFICATIONS

Metric		Digital model	
Range	Order No.	Remarks (base / rod)	
0 - 150mm	329-250	101.6 x 16mm	w/ 6 rods
0 - 300mm	329-251	101.6 x 16mm	w/ 12 rods

Metric		Digit counter model	
Range	Order No.	Remarks (base / rod)	
0 - 25mm	229-101	63.5 x 16mm	w/ 1 rod
0 - 25mm	229-102	101.6 x 16mm	w/ 1 rod
0 - 50mm	229-109	63.5 x 16mm	w/ 2 rods
0 - 50mm	229-113	101.6 x 16mm	w/ 2 rods

Metric			
Range	Order No.	Remarks (base / rod)	
0 - 25mm	129-154	63.5 x 16mm	w/ 1 rods
0 - 25mm	129-155	101.6 x 16mm	w/ 1 rods
0 - 50mm	129-109	63.5 x 16mm	w/ 2 rods
0 - 50mm	129-113	101.6 x 16mm	w/ 2 rods
0 - 75mm	129-110	63.5 x 16mm	w/ 3 rods
0 - 75mm	129-114	101.6 x 16mm	w/ 3 rods
0 - 100mm	129-111	63.5 x 16mm	w/ 4 rods
0 - 100mm	129-115	101.6 x 16mm	w/ 4 rods
0 - 150mm	129-112	63.5 x 16mm	w/ 6 rods
0 - 150mm	129-116	101.6 x 16mm	w/ 6 rods

DIMENSION



Technical Data

Accuracy: $\pm 3\mu\text{m}$ for micrometer head feed (excluding quantizing error for digital models)
 $\pm(2+L/75)\mu\text{m}$ for interchangeable rod, L = Max. measuring length (mm)
 Fraction rounded up

Resolution*: 0.001mm
 Graduation**: 0.01mm

Flatness of reference face: 1.3 μm for 63.5mm width base,
 2 μm for 101.6mm width base

Flatness of measuring rod face: 0.3 μm
 Parallelism between reference face and measuring rod face:
 (4+L/50) μm , L = Max. measuring length (mm)
 Fraction rounded up

Measuring rod diameter: 4mm
 Display*: LCD
 Battery*: SR44 (1 pc.), 938882
 Battery life*: Approx. 8 months under normal use
 *Digital models **Analog models

Function of Digital Model

Preset, Zero-setting, Data hold, Automatic power ON/OFF, Data output, Preset inch/mm conversion (inch/mm models)
 Alarm: Low voltage, Counting value composition error

Optional Accessory for Digital Model

05CZA662: SPC cable with data switch (1m)
 05CZA663: SPC cable with data switch (2m)



Depth Gage

SERIES 128

Technical Data

Accuracy: $\pm 3\mu\text{m}$ for micrometer head feed
 Graduation: 0.01mm
 Flatness of reference face: $1.3\mu\text{m}$ for 63.5mm width base,
 $2\mu\text{m}$ for 101.6mm width base
 Flatness of measuring rod face: $0.3\mu\text{m}$



FEATURES

- $\phi 4\text{mm}$ measuring face.
- With spindle clamp.
- With carbide-tipped measuring face model is available.
- With ratchet stop for constant force.



SPECIFICATIONS

Metric		
Range	Order No.	Remarks (base)
0 - 25mm	128-101	63.5 x 16mm
0 - 25mm	128-103*	63.5 x 16mm
0 - 25mm	128-102	101.6 x 16mm
0 - 25mm	128-104*	101.6 x 16mm

*with carbide-tipped measuring rod

Depth Micro Checker

SERIES 515

FEATURES

- The Depth Micro Checker is designed to efficiently check the zero point of a depth micrometer.

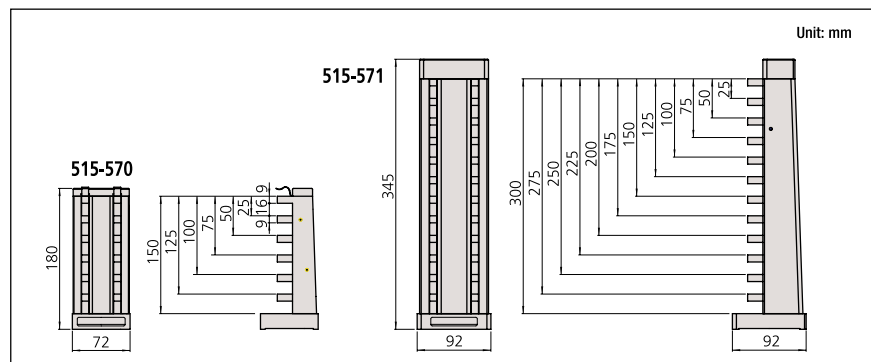


SPECIFICATIONS

Metric		
Range	Order No.	Remarks (length to check)
0 - 150mm	515-570	25, 50, 75, 100, 125, 150mm
0 - 300mm	515-571	25, 50, 75, 100, 125, 150, 175, 200, 225, 250, 275, 300mm

Inch		
Range	Order No.	Remarks (length to check)
0 - 6"	515-575	1", 2", 3", 4", 5", 6"

DIMENSION



Technical Data

Block pitch accuracy: $\pm(1+L/150)\mu\text{m}$,
 L = Length to check (mm)
 Anvil block accuracy: $\pm 0.5\mu\text{m}$

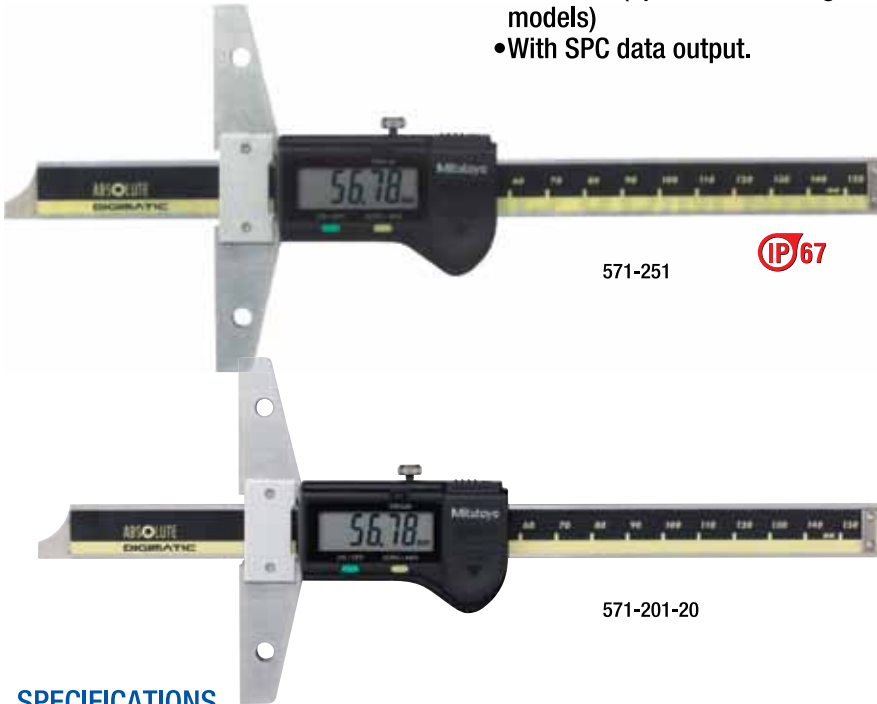


ABSOLUTE Digimatic Depth Gage

SERIES 571

FEATURES

- ABSOLUTE Digimatic Depth Gage can keep track of the origin point once set for the entire life of the battery.
- Base and measuring faces are hardened and micro-lapped.
- Optional wider extension base are available. (up to 450mm range models)
- With SPC data output.



SPECIFICATIONS

Metric		
Range	Order No.	Base (W x T)
0 - 150mm	571-201-20 / 571-251*	100 x 6mm
0 - 200mm	571-202-20 / 571-252*	100 x 6mm
0 - 300mm	571-203-20	100 x 6mm
0 - 450mm	571-204-10	250 x 10mm
0 - 600mm	571-205-10	250 x 10mm
0 - 750mm	571-206-10	250 x 10mm
0 - 1000mm	571-207-10	250 x 10mm

*IP67 Coolant Proof model

Inch/Metric		
Range	Order No.	Base (W x T)
0 - 6"	571-211-20 / 571-261*	3.93" x .23"
0 - 8"	571-212-20 / 571-262*	3.93" x .23"
0 - 12"	571-213-10	3.93" x .23"
0 - 18"	571-214-10	9.8" x .39"
0 - 24"	571-215-10	9.8" x .39"
0 - 30"	571-216-10	9.8" x .39"
0 - 40"	571-217-10	9.8" x .39"

*IP67 Coolant Proof model

DIMENSION

Range	L	Base thickness
0 - 150mm	237	6
0 - 200mm	287	6
0 - 300mm	403	6
0 - 450mm	635	10
0 - 600mm	785	10
0 - 750mm	935	10
0 - 1000mm	1200	10

Mitutoyo

SPC



IP67

ABSOLUTE
Absolute System Patented by MITUTOYO

Technical Data

Accuracy: ±0.02mm (≤200mm), ±0.03mm (≤300mm)
±0.05mm (≤600mm), ±0.06mm (≤750mm),
±0.07mm (≤1000mm)
(excluding quantizing error)
Resolution: 0.01mm or .0005"/0.01mm
Repeatability: 0.01mm
Display: LCD
Length standard: ABSOLUTE electrostatic capacitance
(electromagnetic induction)* type linear
encoder
Max. response speed: Unlimited
Battery: SR44 (1 pc.), 938882
Battery life: Approx. 20,000 hours (3 years)* under
normal use
Dust/Water protection level: IP67*
*Coolant Proof models

Function

Origin-set, Zero-setting, Automatic power on/off, Data
output, inch/mm conversion (inch/mm models)
Alarm: Low voltage, Counting value composition error

Optional Accessory

- 959143: Data hold unit
- 959149: SPC cable with data switch (1m)
- 959150: SPC cable with data switch (2m)
- 05CZA624: SPC cable with data switch (1m)*
- 05CZA625: SPC cable with data switch (2m)*
- : Extension base (see page 179.)

*For Coolant Proof models



Measurement data output
function is available with a
water-resistant SPC cable.

Vernier Depth Gage

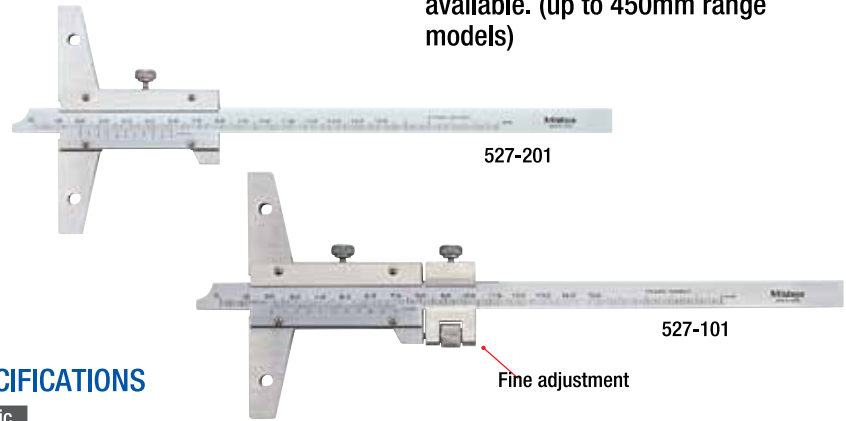
SERIES 527

FEATURES

- Base and measuring faces are hardened and micro-lapped.
- Made of hardened stainless steel.
- Optional wider extension base are available. (up to 450mm range models)

Technical Data

Accuracy: Refer to the list of specifications.
Graduation: 0.05mm, 0.02mm



SPECIFICATIONS

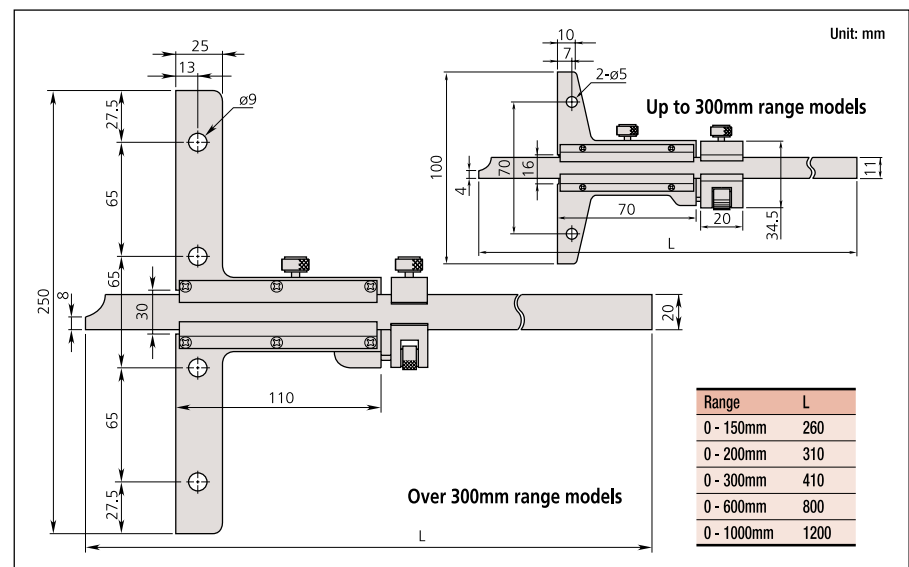
Metric

Range	Order No.	Vernier reading	Accuracy	Remarks [base (W x T) / others]
0 - 150mm	527-201	0.05mm	±0.05mm	100 x 6.5mm
0 - 150mm	527-121	0.02mm	±0.03mm	100 x 6.5mm
0 - 150mm	527-101	0.02mm	±0.03mm	100 x 6.5mm with fine adjustment
0 - 200mm	527-202	0.05mm	±0.05mm	100 x 6.5mm
0 - 200mm	527-122	0.02mm	±0.03mm	100 x 6.5mm
0 - 200mm	527-102	0.02mm	±0.03mm	100 x 6.5mm with fine adjustment
0 - 300mm	527-203	0.05mm	±0.08mm	100 x 6.5mm
0 - 300mm	527-123	0.02mm	±0.04mm	100 x 6.5mm
0 - 300mm	527-103	0.02mm	±0.04mm	100 x 6.5mm with fine adjustment
0 - 600mm	527-204	0.05mm	±0.10mm	250 x 10mm
0 - 600mm	527-104	0.02mm	±0.05mm	250 x 10mm with fine adjustment
0 - 1000mm	527-205	0.05mm	±0.15mm	250 x 10mm
0 - 1000mm	527-105	0.02mm	±0.07mm	250 x 10mm with fine adjustment

Inch

Range	Order No.	Vernier reading	Accuracy	Remarks [base (W x T) / others]
0 - 6"	527-111	.001"	±.001"	3.93" x .25" with fine adjustment
0 - 8"	527-112	.001"	±.001"	3.93" x .25" with fine adjustment
0 - 12"	527-113	.001"	±.0015"	9.8" x .39" with fine adjustment
0 - 24"	527-114	.001"	±.002"	9.8" x .39" with fine adjustment
0 - 40"	527-115	.001"	±.003"	9.8" x .39" with fine adjustment

DIMENSION

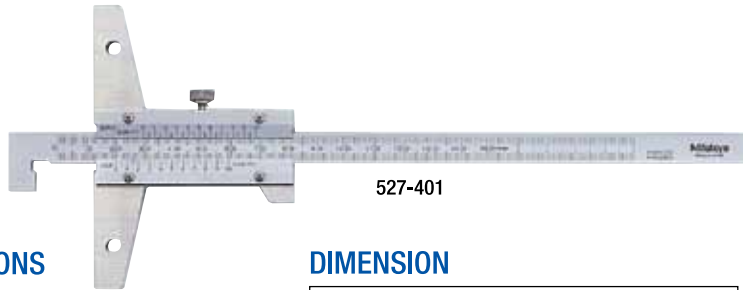


Vernier Depth Gage

SERIES 527 — Hook End Type

FEATURES

- The end of the main scale is hook-shaped to allow depth and thickness measurements of a projected portion or lip in a hole, in addition to standard depth measurement.
- With fine adjustment models are available.
- Optional wider extension base are available.

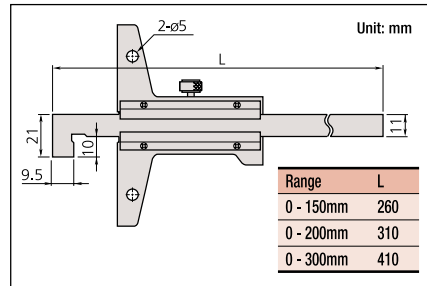


SPECIFICATIONS

Metric			
Range	Order No.	Vernier reading	Accuracy
0 - 150mm	527-401	0.05mm	±0.05mm
0 - 200mm	527-402	0.05mm	±0.05mm
0 - 300mm	527-403	0.05mm	±0.08mm

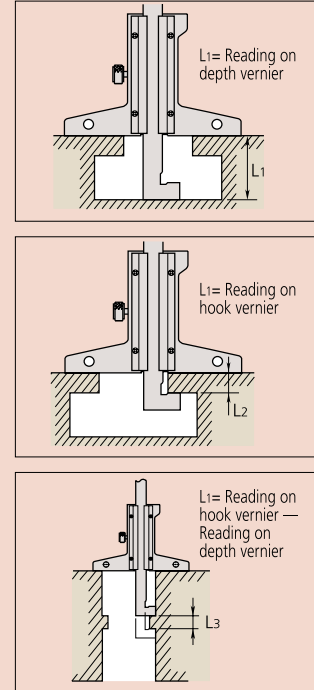
Metric with fine adjustment			
Range	Order No.	Vernier reading	Accuracy
0 - 150mm	527-411	0.02mm	±0.03mm
0 - 200mm	527-412	0.02mm	±0.03mm
0 - 300mm	527-413	0.02mm	±0.04mm

DIMENSION



Technical Data

Accuracy: Refer to the list of specifications.
 Graduation: 0.05mm or 0.02mm
 Base size: 100 x 6.5mm (W x T)

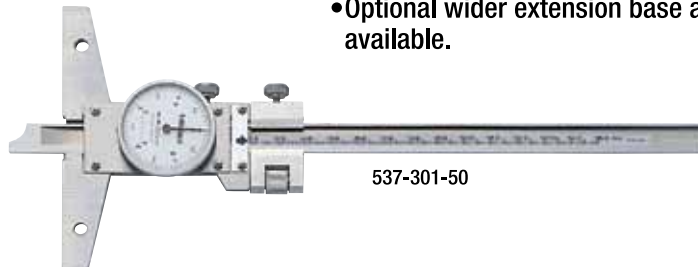


Dial Depth Gage

SERIES 527 — with Fine Adjustment

FEATURES

- Easier and faster reading of dial.
- Made of hardened stainless steel.
- Base and measuring faces are hardened and micro-lapped.
- Optional wider extension base are available.

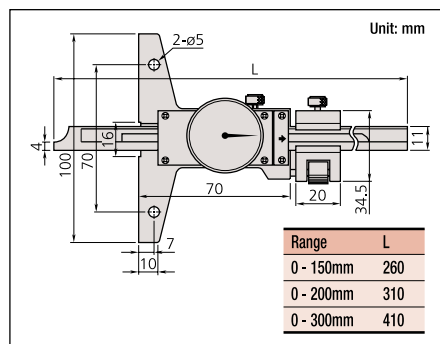


SPECIFICATIONS

Metric			
Range	Order No.	Dial reading	Accuracy
0 - 150mm	527-301-50	0.05mm	±0.05mm
0 - 200mm	527-302-50	0.05mm	±0.05mm
0 - 300mm	527-303-50	0.05mm	±0.08mm

Inch			
Range	Order No.	Dial reading	Accuracy
0 - 6"	527-311-50	.001"	±.001"
0 - 8"	527-312-50	.001"	±.001"
0 - 12"	527-313-50	.001"	±.0015"

DIMENSION



Technical Data

Accuracy: Refer to the list of specifications.
 Dial reading: 0.05mm
 Base size: 100 x 6.5mm (W x T)

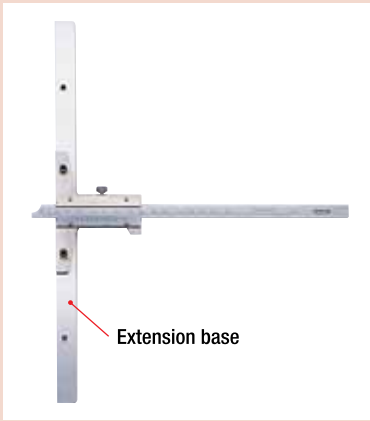


Extension Bases

Optional Accessory for Depth Gage

FEATURES

- Attached to the base (reference face) plate of a depth gage to extend its span.
- These extension base cannot be attached to 0 - 600mm, 0 - 1000mm, 0-24" and 0-40" range models.



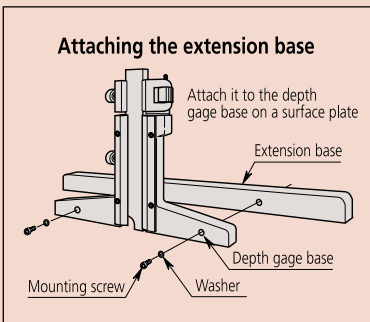
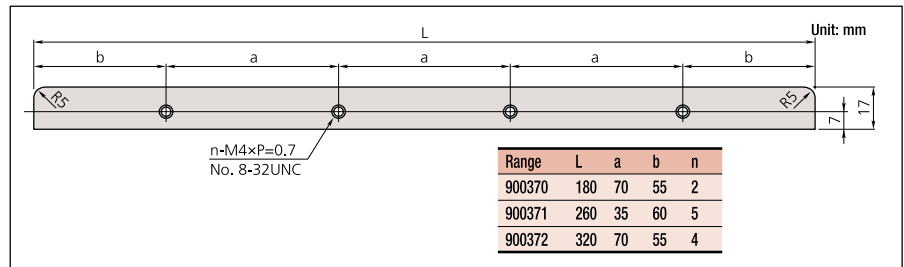
900372

SPECIFICATIONS

Metric			
Size	Order No.	Remarks (dimension A, B / n)	
180mm	900370	70mm, 55mm	2
260mm	900371	35mm, 60mm	5
320mm	900372	70mm, 55mm	4

Inch			
Size	Order No.	Remarks (dimension A, B / n)	
7"	900367	2.76", 2.17"	2
10"	900368	1.38", 2.36"	5
12"	900369	2.76", 2.17"	4

DIMENSION

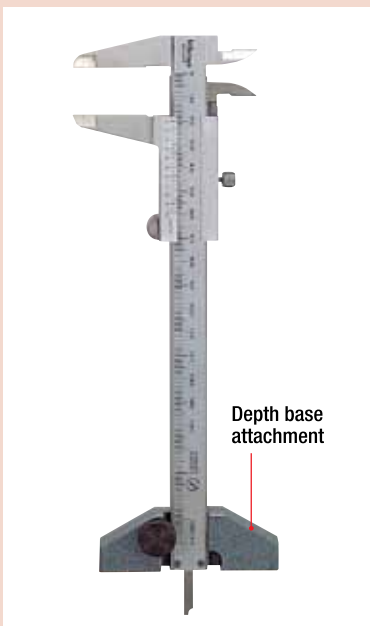


Depth Base Attachment

Optional Accessory for Caliper

FEATURES

- For 100mm, 150mm, 200mm, 300mm, 4", 6", 8" and 12" vernier and dial calipers which have a depth measuring bar.
- Finely grounded base surface and secure locking clamp.

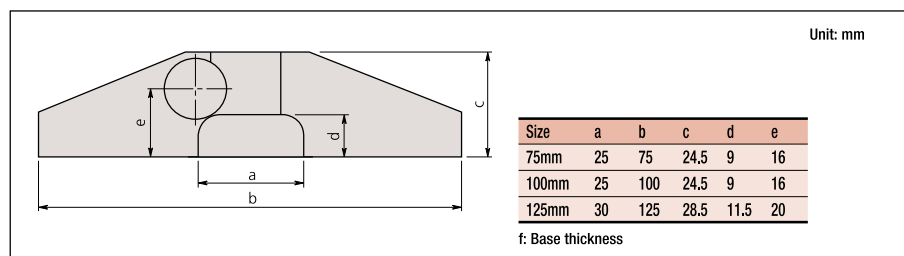


050084

SPECIFICATIONS

Metric		
Size	Order No.	Remarks (applicable measuring range of caliper)
75mm	050083	100mm, 15mm, 200mm, 4", 6" and 8"
100mm	050084	100mm, 15mm, 200mm, 4", 6" and 8"
125mm	050085	300mm and 12"

DIMENSION

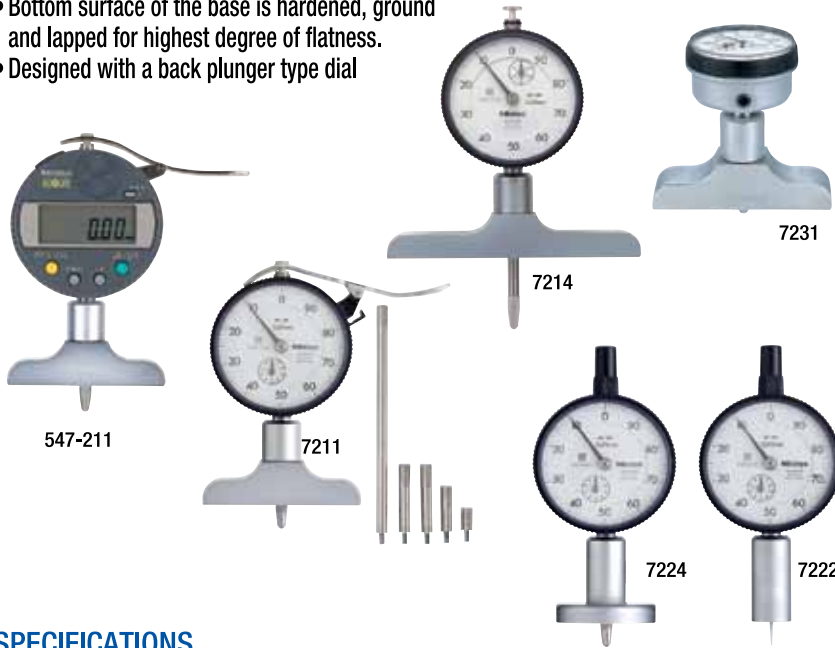


ABSOLUTE Digimatic/ Dial Depth Gage

SERIES 547, 7

FEATURES

- ABSOLUTE Digimatic Depth Gage can keep track of the origin point once set for the entire life of the battery. (series 547)
- Wide probing range is available with the supplied extension rod.
- Bottom surface of the base is hardened, ground and lapped for highest degree of flatness.
- Designed with a back plunger type dial indicator for upward facing readings. (7231, 7237, 7238)
- With SPC data output. (series 547)



SPECIFICATIONS

Metric		Digital Type			
Range	Order No.	Stroke	Accuracy	Extension rod	Base (W x T, flatness)
0 - 200mm	547-211	12mm	±20µm	5 pcs. (10, 20, 30, 30, 100mm)	63.5 x 16mm, 5µm
0 - 200mm	547-212	12mm	±20µm	5 pcs. (10, 20, 30, 30, 100mm)	101.6 x 16mm, 5µm
0 - 200mm	547-251	12mm	±5µm	5 pcs. (10, 20, 30, 30, 100mm)	63.5 x 16mm, 2µm
0 - 200mm	547-252	12mm	±5µm	5 pcs. (10, 20, 30, 30, 100mm)	101.6 x 16mm, 2µm

0.01mm graduation
 0.001mm graduation

Metric		Dial Type			
Range	Order No.	Stroke	Accuracy	Extension rod	Base (W x T, flatness)
0 - 10mm	7210*	10mm	±15µm	—	40 x 16mm, 5µm
0 - 200mm	7211	10mm	±15µm	5 pcs. (10, 20, 30, 30, 100mm)	63.5 x 16mm, 5µm
0 - 200mm	7212	10mm	±15µm	5 pcs. (10, 20, 30, 30, 100mm)	101.6 x 16mm, 5µm
0 - 210mm	7213	30mm	±30µm	3 pcs. (30, 60, 90mm)	63.5 x 16mm, 5µm
0 - 210mm	7214	30mm	±30µm	3 pcs. (30, 60, 90mm)	101.6 x 16mm, 5µm
0 - 200mm	7220	10mm	±15µm	5 pcs. (10, 20, 30, 30, 100mm)	100 x 18mm, 5µm
0 - 200mm	7221	10mm	±15µm	5 pcs. (10, 20, 30, 30, 100mm)	150 x 18mm, 5µm
0 - 10mm	7222*	10mm	±15µm	5 pcs. (10, 20, 30, 30, 100mm)	ø16mm, 5µm
0 - 10mm	7223	10mm	±15µm	5 pcs. (10, 20, 30, 30, 100mm)	ø25mm, 5µm
0 - 10mm	7224	10mm	±15µm	5 pcs. (10, 20, 30, 30, 100mm)	ø40mm, 5µm
0 - 200mm	7231	5mm	±15µm	5 pcs. (10, 20, 30, 30, 100mm)	63.5 x 16mm, 5µm

*with needle probe



Technical Data of Digital Mode

Accuracy: Refer to the list of specifications. (excluding quantizing error for digital models)
Resolution: 0.001mm, 0.01mm
Flatness of base face: 5µm or 2µm
Contact point: Carbide-tipped ball point or needle
Measuring force: 1.5N
Display: LCD
Battery: SR44 (1 pc.), 938882
Battery life: Approx. 5000 hours under normal use

Technical Data of Dial Mode

Accuracy: Refer to the list of specifications. (excluding quantizing error for digital models)
Dial reading: 0.01mm
Flatness of base face: 5µm or 2µm
Contact point: Carbide-tipped ball point (needle point: 7210, 7222)
Measuring force: 1.4N (2.5N: 7213, 7214, 7217, 7218)

Function of Digital Model

Origin-set, Zero-setting, Data hold, Data output, inch/mm conversion (inch/mm models)
Alarm: Low voltage, Counting value composition error

Optional Accessory for Digital Model

905338: SPC cable (1m)
905409: SPC cable (2m)

DIMENSION

Unit: mm

