Vernier Caliper

SERIES 531 — with Thumb Clamp

FEATURES

- The slider moves only when the springloaded thumb grip is depressed.
- Can measure outside and inside diameter (OD and ID), depth, and steps.

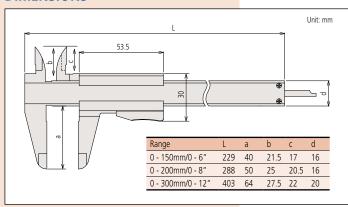
Technical Data

Accuracy: Refer to the list of specifications.
Graduation: 0.05mm, 0.05mm (1/128") or .001" (1/128")

High accuracy type: 0.02mm or 0.02mm (.001")

Thumb grip

DIMENSIONS



SPECIFICATIONS

Metric							
Range	Order No.	Accuracy	Depth bar	Remarks			
0 - 150mm	531-101	±0.05mm	Blade	_			
0 - 200mm	531-102	±0.05mm	Blade	_			
0 - 300mm	531-103	±0.08mm	Blade	_			

^{*}Graduation: 0.02mm

Metric/Inch with metric/inch double scale						
Range	Order No.	Accuracy	Depth bar	Inch graduation	Remarks	
0 - 150mm	531-122	±0.05mm	Blade	1/128"	with inch/mm conversion label	
0 - 150mm	531-128*	±0.03mm	Blade	.001"	High accuracy model	
0 - 200mm	531-108	±0.05mm	Blade	1/128"	_	
0 - 200mm	531-129*	±0.03mm	Blade	.001"	High accuracy model	
0 - 300mm	531-109	±0.08mm	Blade	1/128"	_	
0 - 300mm	531-112*	±0.04mm	Blade	.001"	High accuracy model	

^{*}Graduation: 0.02mm

Vernier Caliper

SERIES 522 — Parallax-Free Type

Technical Data

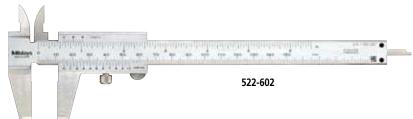
Accuracy: Refer to the list of specifications.

Graduation: 0.05mm (1/128")

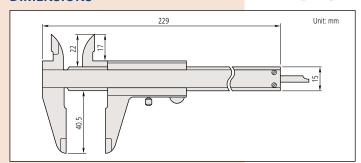
High accuracy type: 0.02mm (.001")

FEATURES

- The main and vernier scales are flush-fitted to eliminate parallax errors because of the diamond-shape (octagonal) cross section of the main scale.
- Can measure outside and inside diameter (OD and ID), depth, and steps.
- With locking screw below the slider.



DIMENSIONS



SPECIFICATIONS

Metric							
Range O	rder No.	Accuracy	Depth bar	Remarks			
0 - 150mm 5 2	22-600	±0.05mm	Blade	_			
0 - 150mm 5 2	22-606*	±0.03mm	Blade	High accuracy model			

*Graduation: 0.02mm

Metric/Inch with metric/inch double scale						
Range	Order No.	Accuracy	Depth bar	Inch resolution	Remarks	
0 - 150mm	522-601	±0.05mm	Blade	1/128"	_	
0 - 150mm	522-602*	±0.03mm	Blade	.001"	High accuracy model	

^{*}Graduation: 0.02mm



ABSOLUTE Digimatic & Vernier Caliper

SERIES 550, 160 — with Nib Style Jaws

FEATURES

- The rounded faces of the jaws are ideal for accurate inside diameter (ID) measurement.
- Inside and outside measurements can be read directly from the upper and lower vernier scales (Series 160).
- Fine-adjustment type is available (Series 160).
- Parallax-free vernier scale type is available for easy and positive measurement (Series

Main scale graduations

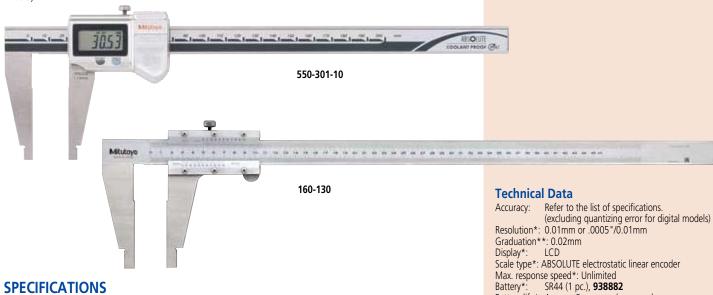
• SPC output (Series 550).











SPECIFICATIONS

Metric	Digital model

Range*	Order No.	Accuracy	Remarks			
0 - 200mm (10 - 210mm)	550-301-10	±0.03mm	IP67			
0 - 300mm (10 - 310mm)	550-331-10	±0.04mm	IP67, with offset/preset function for easy inside measurement			
0 - 450mm (20 - 470mm)	550-203-10	±0.05mm	_			
0 - 600mm (20 - 620mm)	550-205-10	±0.05mm	_			
0 - 1000mm (20 - 1020mm)	550-207-10	±0.07mm	_			

^{*():} Inside measurement

Inch/Metric	Digit	al m	nod	el
		_		_

Range*	Order No.	Accuracy	Remarks
0 - 8" (.4" - 8.4")	550-311-10	±.0015"	IP67
0 - 12" (.4" - 12.4")	550-341-10	±.002"	IP67, with offset/preset function for easy inside measurement
0 - 18" (.5" - 18.5")	550-223-10	±.002"	_
0 - 24" (.5" - 24.5")	550-225-10	±.002"	_
0 - 40" (1" - 41")	550-227-10	±.003"	_

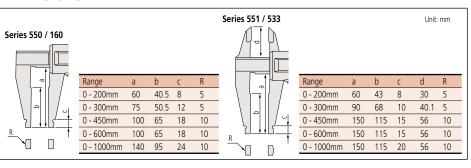
^{*():} Inside measurement

Metric with metric/metric double scale

Range*	Order No.	Accuracy	Remarks
0 (20) - 450mm	160-130	±0.10mm	_
0 (20) - 600mm	160-131	±0.10mm	_
0 (20) - 1000mm	160-132	±0.15mm	_

^{*():} Minimum dimension in inside measurement

DIMENSIONS



Battery life*: Approx. 3 years under normal use (1 year: 300mm models) (3.5 years: over 300mm models)

Dust/Water protection level*: IP67 (models up to 300mm) *Digital models **Analog models

Functions of Digital Model

Origin-set, Zero-setting, Data output, inch/mm conversion

(inch/mm models)

Low voltage, Counting value composition error

Optional Accessories for Digital Model

05CZA624: SPC cable with data switch (1m)* 05CZA625: SPC cable with data switch (2m)*

02AZD790A: SPC cable for U-WAVE w/ data switch (160mm)*

959143: Data hold unit

959149: SPC cable with data switch (1m) 959150: SPC cable with data switch (2m)

02AZD790C: SPC cable for U-WAVE w/ data switch (160mm)

*For IP67 models (up to 300mm)







Round surface of jaws for accurate CD measurement









(Refer to page VIII for details.)

Technical Data

Refer to the list of specifications. Accuracy:

(excluding quantizing error for digital models)

Resolution: 0.01mm or .0005"/0.01mm

Display: LCD

Scale type: ABSOLUTE electrostatic linear encoder

Max. response speed: Unlimited Battery: SR44 (1 pc.), **938882**Battery life: Approx. 3 years under normal use

(1 year: 300mm models) (3.5 years: over 300mm models) Dust/Water protection level: IP67 (models up to 300mm)

Functions of Digital Model

Origin-set, Zero-setting, Data output, inch/mm conversion

(inch/mm models)

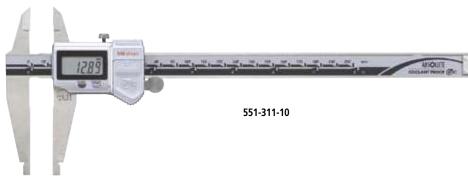
Low voltage, Counting value composition error Alarm:

ABSOLUTE Digimatic Caliper

SERIES 551, 533 — with Nib Style and Standard Jaws

FEATURES

- The rounded faces of the jaws are ideal for accurate inside diameter (ID) measurement.
- SPC output. (Series 551)
- Inside and outside measurements can be read directly from the upper and lower vernier scales (Series 533).





533-404

Optional Accessories for Digital Model

05CZA624: SPC cable with data switch (1m)* **05CZA625**: SPC cable with data switch (2m)*

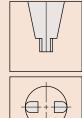
02AZD790A: SPC cable for U-WAVE w/ data switch (160mm)*

Data hold unit 959143:

SPC cable with data switch (1m) SPC cable with data switch (2m) 959149: 959150

02AZD790C: SPC cable for U-WAVE w/ data switch (160mm) *For IP67 models (up to 300mm)





Round surface of jaws for accurate CD measurement

SPECIFICATIONS

Metric _____ Digital model

Range*	Order No.	Accuracy	Remarks
0 - 200mm (10 - 210mm)	551-301-10	±0.03mm	IP67
0 - 300mm (10 - 310mm)	551-331-10	±0.04mm	IP67, with offset/preset function for easy inside measurement
0 - 500mm (20 - 520mm)	551-204-10	±0.06mm	_
0 - 750mm (20 - 770mm)	551-206-10	±0.06mm	_
0 - 1000mm (20 - 1020mm)	551-207-10	±0.07mm	_

^{*():} inside measurement

Inch/Metric Digital model

Range*	Order No.	Accuracy	Remarks
0 - 8" (.4" - 8.4")	551-311-10	±.0015"	IP67
0 - 12" (.4" - 12.4")	551-341-10	±.002"	IP67, with offset/preset function for easy inside measurement
0 - 20" (.5" - 20.5")	551-224-10	±.0025"	_
0 - 30" (.5" - 30.5")	551-226-10	±.0025"	_
0 - 40" (1" - 41")	551-227-10	±.003"	_

^{*():} inside measurement

Metric with metric/metric double scale

Range*	Order No.	Accuracy	Remarks
0 (20) - 500mm	533-404	±0.10mm	_
0 (20) - 750mm	533-405	±0.12mm	_
0 (20) - 1000mm	533-406	±0.15mm	_

^{*():} inside measurement



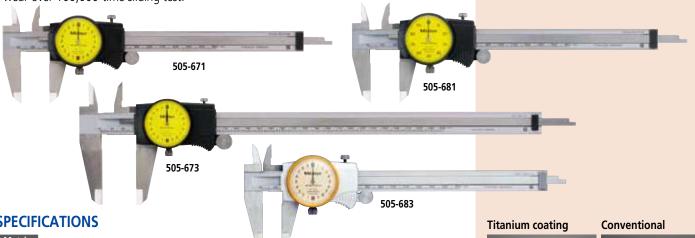
Dial Caliper

SERIES 505

FEATURES

- Newly designed dial movement for ultra smooth sliding and high shock protection.
- Titanium coating is applied to the sliding surfaces to enhance the durability (except for 0 - 300mm and 0 - 12 " model). No wear over 100,000-time sliding test.
- Can measure outside and inside diameter (OD and ID), depth, and steps.
- Clamping screw atop the slider.
- Special models available with carbidetipped outside and inside jaws.





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Metric					
Range	Order No.	Accuracy	Graduation	Remarks	
0 - 100mm	505-680	±0.015mm	0.01mm, 1mm/rev	_	
0 - 150mm	505-671 / 505-683*	±0.03mm	0.02mm, 2mm/rev	_	
0 - 150mm	505-707	±0.03mm	0.02mm, 2mm/rev	Carbide-tipped jaws for outside measurement	
0 - 150mm	505-711	±0.03mm	0.02mm, 2mm/rev	Carbide-tipped jaws for outside and inside measurement	
0 - 150mm	505-681 / 505-685*	±0.02mm	0.01mm, 1mm/rev	_	
0 - 200mm	505-672 / 505-684*	±0.03mm	0.02mm, 2mm/rev	_	
0 - 200mm	505-682 / 505-686*	±0.03mm	0.01mm, 1mm/rev	_	
0 - 300mm	505-673	±0.04mm	0.02mm, 2mm/rev	_	

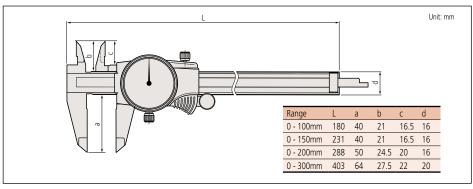
^{*}Silver cover type

Inch	

Range	Order No.	Accuracy	Graduation	Remarks
0 - 4"	505-674	±.001"	.001", .1"/rev	_
0 - 6"	505-675 / 505-689*	±.001"	.001", .1"/rev	_
0 - 6"	505-708	±.001"	.001", .1"/rev	Carbide-tipped jaws for outside measurement
0 - 6"	505-712	±.001"	.001", .1"/rev	Carbide-tipped jaws for outside and inside measurement
0 - 8"	505-676 / 505-690*	±.002"	.001", .1"/rev	_
0 - 8"	505-709	±.002"	.001", .1"/rev	Carbide-tipped jaws for outside measurement
0 - 8"	505-713	±.002"	.001", .1"/rev	Carbide-tipped jaws for outside and inside measurement
0 - 12"	505-720	±.002"	.001", .2"/rev	_
0 - 12"	505-677*	±.002"	.001", .1"/rev	_
0 - 12"	505-721	±.002"	.001", .2"/rev	Carbide-tipped jaws for outside measurement
0 - 12"	505-710*	±.002"	.001", .1"/rev	Carbide-tipped jaws for outside measurement
0 - 12"	505-714*	±.002"	.001", .1"/rev	Carbide-tipped jaws for outside and inside measurement

^{*}Silver cover type

DIMENSIONS









Wear: 0µm

Wear: 4µm

Technical Data

Accuracy: Refer to the list of specifications. Dial reading: Refer to the list of specifications.

ABSOLUTE Coolant Proof Carbon Fiber Caliper

SERIES 552 — with Interchangeable Jaws





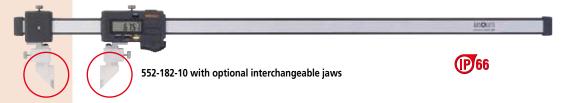


(Refer to page VIII for details.)

FEATURES

- The range of applications can be expanded by using interchangeable jaws (optional).
- Quick and easy exchanging of jaws due to the unique clamping mechanism. (A pair of clamping wheels is a standard accessory.)
- Provided with preset function for setting a desired starting point, which allows direct readout of offset measurements.
- SPC data output.

Inch/Motric



Technical Data

Accuracy: Refer to the list of specifications. (excluding quantizing error)

Resolution: 0.01mm or .0005"/0.01mm

Display: LCD

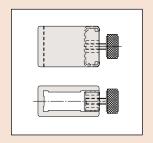
Scale type: ABSOLUTE electromagnetic linear encoder

Max. response speed: Unlimited Battery: SR44 (1 pc.), **938882**

Battery life: Approx. 5,000 hours in continuous use

Dust/Water protection level: IP66

Standard accessory: Jaw clamps (2 pcs.), **05GZA033**



Functions

Origin-set, Zero-setting, Presetting, Offsetting, Data hold, Automatic power on/off, Data output, inch/mm conversion (inch/mm models)

Alarm: Low voltage, Counting value composition error

Optional Accessories

05CZA624: SPC cable with data switch (1m) **05CZA625**: SPC cable with data switch (2m)

02AZD790A: SPC cable for U-WAVE w/ data switch (160mm)

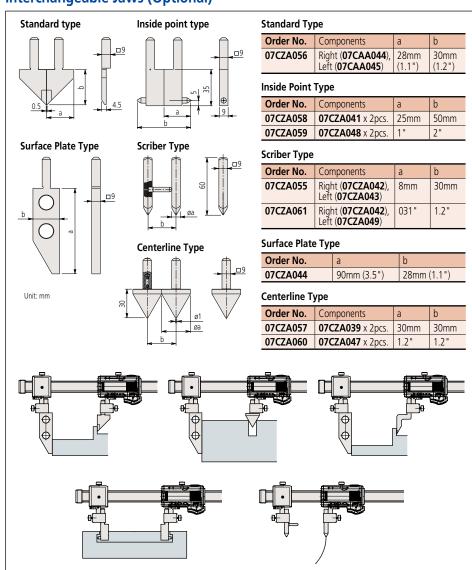


SPECIFICATIONS

Metric		
Range	Order No.	Accuracy
0 - 450mm	552-181-10	±0.04mm
0 - 600mm	552-182-10	±0.04mm
0 - 1000mm	552-183-10	±0.05mm
0 - 1500mm	552-184-10	±0.09mm
0 - 2000mm	552-185-10	±0.12mm

Inch/Metric							
Range	Order No.	Accuracy					
0 - 18"	552-191-10	±.002"					
0 - 24"	552-192-10	±.002"					
0 - 40"	552-193-10	±.002"					
0 - 60"	552-194-10	±.004"					
0 - 80"	552-195-10	±.005"					

Interchangeable Jaws (Optional)



ABSOLUTE Coolant Proof Carbon Fiber Caliper

SERIES 552

FEATURES

- Lightweight Digimatic Calipers that employ CFRP (Carbon Fiber Reinforced Plastics) in the beam and jaws.
- Highly durable and easy to handle.
- The range of applications can be expanded by using the optional attachments.
- Direct readout of inside measurements from the LCD. (Offset value can be set easily by using the Offset key.)
- Preset function for setting a desired starting point.
- SPC data output.
- Special model available with ceramic jaws suitable for measuring magnetic products.







(Refer to page VIII for details.)



SPECIFICATIONS

Metric

Range*	Order No. (standard / long jaws / ceramic jaws)	Accuracy (standard / long jaws / ceramic jaws)
0 (20) - 450mm	552-302-10 / 552-150-10 / 552-155-10	±0.04mm / ±0.06mm / ±0.04mm
0 (20) - 600mm	552-303-10 / 552-151-10 / 552-156-10	±0.04mm / ±0.06mm / ±0.04mm
0 (20) - 1000mm	552-304-10 / 552-152-10	±0.05mm / ±0.07mm
0 (20) - 1500mm	552-305-10 / 552-153-10	±0.09mm / ±0.11mm
0 (20) - 2000mm	552-306-10 / 552-154-10	±0.12mm / ±0.14mm

 $^{^{\}star}(\,$): Minimum dimension in inside measurement

Inch/Metric

Range*	Order No. (standard / long jaws / ceramic jaws)	Accuracy (standard / long jaws / ceramic jaws)
0 (.5") - 18"	552-312-10 / 552-160-10 / 552-165-10	±.002" / ±.0025" / ±.002"
0 (.5") - 24"	552-313-10 / 552-161-10 / 552-166-10	±.002" / ±.0025" / ±.002"
0 (1") - 40"	552-314-10 / 552-162-10	±.002" / ±.003"
0 (1") - 60"	552-315-10 / 552-163-10	±.004" / ±.0045"
0 (1") - 80"	552-316-10 / 552-164-10	±.005" / ±.0055"

^{*():} Minimum dimension in inside measurement

Technical Data

Accuracy: Refer to the list of specifications. (excluding quantizing error)
Resolution: 0.01mm or .0005"/0.01mm

Display: LCD

Scale type: ABSOLUTE electromagnetic linear encoder

Max. response speed: Unlimited

Battery: SR44 (1 pc.), **938882**Battery life: Approx. 5,000 hours in continuous use

Dust/Water protection level: IP66

Functions

Origin-set, Zero-setting, Presetting, Offsetting, Data hold, Automatic power on/off, Data output, inch/mm conversion (inch/mm models)

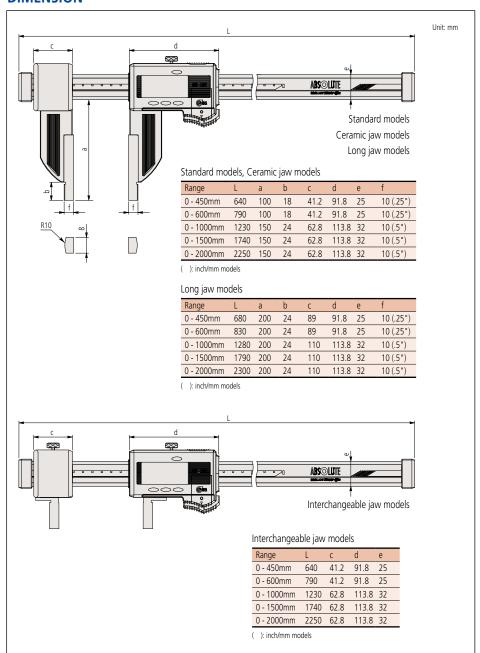
Alarm: Low voltage, Counting value composition error

Optional Accessories

05CZA624: SPC cable with data switch (1m) **05CZA625**: SPC cable with data switch (2m)

02AZD790A: SPC cable for U-WAVE w/ data switch (160mm)

DIMENSION





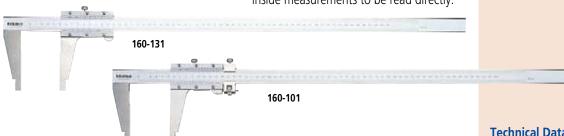


Vernier Caliper

SERIES 160 — with Nib Style Jaws and Fine Adjustment

FEATURES

- The jaws have round measuring faces for accurate inside diameater (ID) measurement.
- With fine adjustment (excepting 160-130/131/132/133/134).
- The single main scale models feature an additional (offset) vernier scale to enable inside measurements to be read directly.



SPECIFICATIONS

Metric with inside measurement vernier scale

Range*	Order No.	Accuracy	Graduations	Remarks		
0 (20) - 450mm	160-130	±0.10mm	0.05mm	without fine adjustment		
0 (20) - 600mm	160-131	±0.10mm	0.05mm	without fine adjustment		
0 (20) - 1000mm	160-132	±0.15mm	0.05mm	without fine adjustment		
0 (20) - 1500mm	160-133	±0.22mm	0.05mm	without fine adjustment		
0 (20) - 2000mm	160-134	±0.28mm	0.05mm	without fine adjustment		

 $^{*(\;\;)}$: Minimum dimension in ID measurement

Metric with inside measurement vernier scale

Range*	Order No.	Accuracy	Graduations	Remarks
0 (10) - 300mm	160-127	±0.04mm	0.02mm	_
0 (20) - 450mm	160-128	±0.05mm	0.02mm	_
0 (20) - 600mm	160-101	±0.05mm	0.02mm	_
0 (20) - 1000mm	160-104	±0.07mm	0.02mm	_
0 (20) - 1500mm	160-110	±0.1mm	0.02mm	_
0 (20) - 2000mm	160-113	±0.12mm	0.02mm	_

^{*():} Minimum dimension in ID measurement

Metric/Inch	with metric/inch double scale
weuric/inch	— with metric/inch doluble scale

Range*	Order No.	Accuracy	Graduations	Remarks
0 (10) - 300mm	160-150	±0.04mm	0.02mm/.001"	+10mm/.394" to reading in inside measurement
0 (20) - 450mm	160-151	±0.05mm	0.02mm/.001"	+20mm/.787" to reading in inside measurement
0 (20) - 600mm	160-153	±0.05mm	0.02mm/.001"	+20mm/.787" to reading in inside measurement
0 (20) - 1000mm	160-155	±0.07mm	0.02mm/.001"	+20mm/.787" to reading in inside measurement
0 (20) - 1500mm	160-157	±0.1mm	0.02mm/.001"	+20mm/.787" to reading in inside measurement
0 (20) - 2000mm	160-159	±0.12mm	0.02mm/.001"	+20mm/.787" to reading in inside measurement

^{*():} Minimum dimension in ID measurement

Inch with inside measurement vernier scale

Range*	Order No.	Accuracy	Graduations	Remarks
0 (.3") - 12"	160-124	±.0015"	.001"	_
0 (.5") - 18"	160-116	±.002"	.001"	_
0 (.5") - 24"	160-102	±.002"	.001"	_
0 (1") - 40"	160-105	±.003"	.001"	_
0 (1") - 60"	160-111	±.004"	.001"	_
0 (1") - 80"	160-114	±.005"	.001"	_

 $^{^{\}star}(\,\,$): Minimum dimension in ID measurement

Inch/Metric with inch/metric double scale

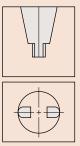
Range*	Order No.	Accuracy	Graduations	Remarks
0 (.3") - 12"	160-125	±.0015"	.001"/0.02mm	+.3"/7.62mm to reading in inside measurement
0 (.5") - 18"	160-119	±.002"	.001"/0.02mm	+.5"/12.7mm to reading in inside measurement
0 (.5") - 24"	160-103	±.002"	.001"/0.02mm	+.5"/12.7mm to reading in inside measurement
0 (1") - 40"	160-106	±.003"	.001"/0.02mm	+1"/25.4mm to reading in inside measurement
0 (1") - 60"	160-112	±.004"	.001"/0.02mm	+1"/25.4mm to reading in inside measurement
0 (1") - 80"	160-115	±.005"	.001"/0.02mm	+1"/25.4mm to reading in inside measurement

 $^{^{\}star}(\,\,$): Minimum dimension in ID measurement

Technical Data

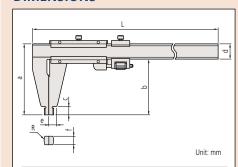
Accuracy: Refer to the list of specifications. Graduation: Refer to the list of specifications.





Round-faced jaws for accurate ID

DIMENSIONS



Range	L	a	b	С	d	е	f	R
0 - 300mm	445	95	25	12	20	10	3.8	R5
0 - 450mm	630	125	100	18	25	14.8	6	R10
0 - 600mm	780	125	100	18	25	14.8	6	R10
0 - 1000mm	1240	172	140	24	32	17	10	R10
0 - 1500mm	1800	212	180	30	32	19	10	R10
0 - 2000mm	2300	220	180	30	40	23	12	R10

Long Jaw Vernier Caliper

SERIES 534

534-110

FEATURES

• Long jaws for measuring hard-to-reach workpiece features.



SPECIFICATIONS

Metric with inside measurement vernier scale

Range*	Order No.	Accuracy	Graduation	Remarks
0 (10) - 300mm	534-109	±0.07mm	0.05mm	without fine adjustment
0 (20) - 500mm	534-110	±0.13mm	0.05mm	without fine adjustment

^{*():} Minimum dimension in inside measurement

Metric with inside measurement vernier scale

Range*		Order No.	Accuracy	Graduation	Remarks
0 (10) - 3	300mm	534-113	±0.04mm	0.02mm	_
0 (20) - 5	500mm	534-114	±0.06mm	0.02mm	_
0 (20) - 7	750mm	534-115	±0.08mm	0.02mm	_
0 (20) - 1	1000mm	534-116	±0.10mm	0.02mm	_

 $[\]star$ (): Minimum dimension in inside measurement

Metric/Inch with metric/inch double scale

Range*	Order No.	Accuracy	Graduation	Remarks
0 (10) - 300mm	534-101	±0.07mm	0.05mm/ 1/128"	+10mm/.394" to reading in inside measurement
0 (10) - 300mm	534-105	±0.04mm	0.02mm/.001"	+10mm/.394" to reading in inside measurement
0 (20) - 500mm	534-102	±0.13mm	0.05mm/ 1/128"	+20mm/.787" to reading in inside measurement
0 (20) - 500mm	534-106	±0.06mm	0.02mm/.001"	+20mm/.787" to reading in inside measurement
0 (20) - 700mm	534-103	±0.16mm	0.05mm/ 1/128"	+20mm/.787" to reading in inside measurement
0 (20) - 700mm	534-107	±0.08mm	0.02mm/.001"	+20mm/.787" to reading in inside measurement
0 (20) - 1000mm	534-104	±0.20mm	0.05mm/ 1/128"	+20mm/.787" to reading in inside measurement
0 (20) - 1000mm	534-108	±0.10mm	0.02mm/.001"	+20mm/.787" to reading in inside measurement

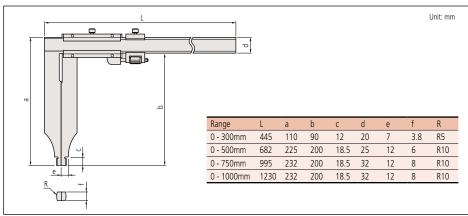
^{*():} Minimum dimension in inside measurement

Inch with inside measurement vernier scale

Range*	Order No.	Accuracy	Graduation	Remarks		
0 (.3") - 12"	534-117	±.002"	.001"	_		
0 (.8") - 20"	534-118	±.003"	.001"	_		
0 (.8") - 30"	534-119	±.004"	.001"	_		
0 (.8") - 40"	534-120	±.004"	.001"	_		

^{*():} Minimum dimension in inside measurement

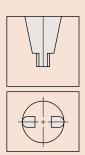
DIMENSIONS



Technical Data

Accuracy: Refer to the list of specifications. Graduation: Refer to the list of specifications.





Round-faced jaws for accurate ID measurement