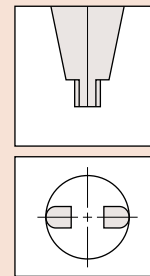
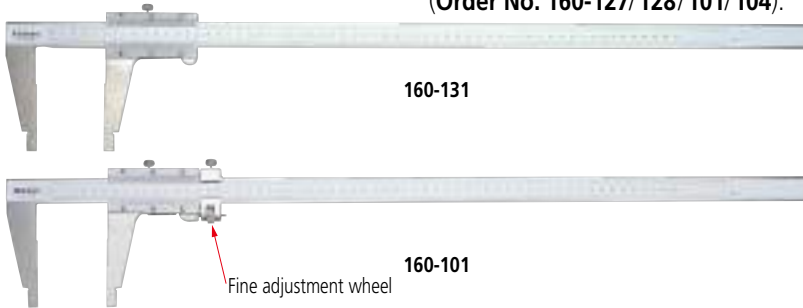


# Calipers

An industry standard measuring tool

## Vernier Caliper SERIES 160 — with Nib Style Jaws and Fine Adjustment

- Inside and outside measurements can be read directly from the upper and lower vernier scales.
- The jaws have radiused measuring faces for accurate inside diameter (ID) measurement.
- With fine adjustment (Order No. 160-127/128/101/104).



Radiused jaws for accurate ID measurement

### SPECIFICATIONS

Metric \_\_\_\_\_ with inside measurement vernier scale

Order No.	Range (mm)* <sup>1</sup>	Minimum reading (mm)	Maximum permissible error (mm)* <sup>2</sup>		Remarks
			$E_{MPE}$	$S_{MPE}$	
160-130	0 (20.1) - 450	0.05	±0.10	±0.10	without fine adjustment
160-131	0 (20.1) - 600		±0.10	±0.10	
160-132	0 (20.1) - 1000		±0.15	±0.15	

\*1 ( ): Minimum dimension in ID measurement

\*2 Partial Surface Contact Error,  $E_{MPE}$  and Shift Error,  $S_{MPE}$  are terms (notations) used in ISO 13385-1:2019.

Metric \_\_\_\_\_ with inside measurement vernier scale

Order No.	Range (mm)* <sup>1</sup>	Minimum reading (mm)	Maximum permissible error (mm)* <sup>2</sup>		Remarks
			$E_{MPE}$	$S_{MPE}$	
160-127	0 (10.1) - 300	0.02	±0.04	±0.04	with fine adjustment
160-128	0 (20.1) - 450		±0.05	±0.05	
160-101	0 (20.1) - 600		±0.05	±0.05	
160-104	0 (20.1) - 1000		±0.07	±0.07	

\*1 ( ): Minimum dimension in ID measurement

\*2 Partial Surface Contact Error,  $E_{MPE}$  and Shift Error,  $S_{MPE}$  are terms (notations) used in ISO 13385-1:2019.

Metric / Inch \_\_\_\_\_ with metric/inch double scale

Order No.	Range (mm)* <sup>1</sup>	Minimum reading	Maximum permissible error (mm)* <sup>2</sup>		Remarks
			$E_{MPE}$	$S_{MPE}$	
160-150	0 (10.1) - 300	0.02 mm/ 0.001 in	±0.04	±0.04	+10 mm/0.394 in to reading in inside measurement
160-151	0 (20.1) - 450		±0.05	±0.05	+20 mm/0.787 in to reading in inside measurement
160-153	0 (20.1) - 600		±0.05	±0.05	
160-155	0 (20.1) - 1000		±0.07	±0.07	

\*1 ( ): Minimum dimension in ID measurement

\*2 Partial Surface Contact Error,  $E_{MPE}$  and Shift Error,  $S_{MPE}$  are terms (notations) used in ISO 13385-1:2019.

Inch \_\_\_\_\_ with inside measurement vernier scale

Order No.	Range (in)* <sup>1</sup>	Minimum reading (in)	Maximum permissible error (in)* <sup>2</sup>		Remarks
			$E_{MPE}$	$S_{MPE}$	
160-124	0 (0.304) - 12	0.001	±0.0015	±0.0015	—
160-116	0 (0.504) - 18		±0.002	±0.002	
160-102	0 (0.504) - 24		±0.002	±0.002	
160-105	0 (1.004) - 40		±0.003	±0.003	

\*1 ( ): Minimum dimension in ID measurement

\*2 Partial Surface Contact Error,  $E_{MPE}$  and Shift Error,  $S_{MPE}$  are terms (notations) used in ISO 13385-1:2019.

Inch / Metric \_\_\_\_\_ with inch/metric double scale

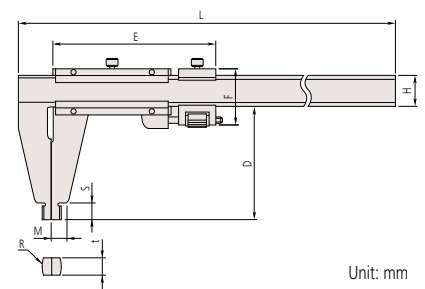
Order No.	Range (in)* <sup>1</sup>	Minimum reading	Maximum permissible error (in)* <sup>2</sup>		Remarks
			$E_{MPE}$	$S_{MPE}$	
160-125	0 (0.304) - 12	0.001 in/ 0.02 mm	±0.0015	±0.0015	+0.3 in/7.62 mm to reading in inside measurement
160-119	0 (0.504) - 18		±0.002	±0.002	+0.5 in/12.7 mm to reading in inside measurement
160-103	0 (0.504) - 24		±0.002	±0.002	
160-106	0 (1.004) - 40		±0.003	±0.003	

\*1 ( ): Minimum dimension in ID measurement

\*2 Partial Surface Contact Error,  $E_{MPE}$  and Shift Error,  $S_{MPE}$  are terms (notations) used in ISO 13385-1:2019.



### DIMENSIONS



Unit: mm

Range	D	E	F	H	L	M	R	S	t
0 - 300 mm/0 - 12 in	75	103	38	20	445	10	R5	12	3.8
0 - 450 mm*	89	—	—	25	630	14.8	R10	18	6
0 - 450 mm/0 - 18 in	100	112	51	—	—	—	R10	18	6
0 - 600 mm*	100	89	—	25	780	14.8	R10	18	6
0 - 600 mm/0 - 24 in	100	112	51	—	—	—	R10	18	6
0 - 1000 mm*	111	—	—	32	1240	17	R10	24	8
0 - 1000 mm/0 - 40 in	140	150	62.5	—	—	—	R10	24	8

\* Without fine adjustment