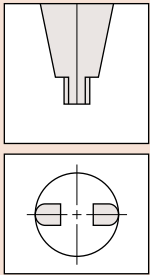
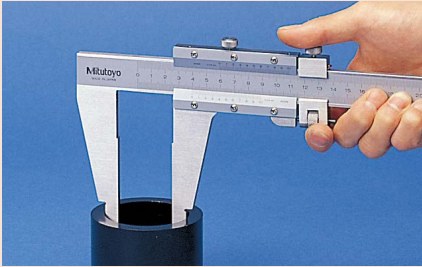


Vernier Caliper SERIES 160 — with Nib Style Jaws and Fine Adjustment

Measurement example

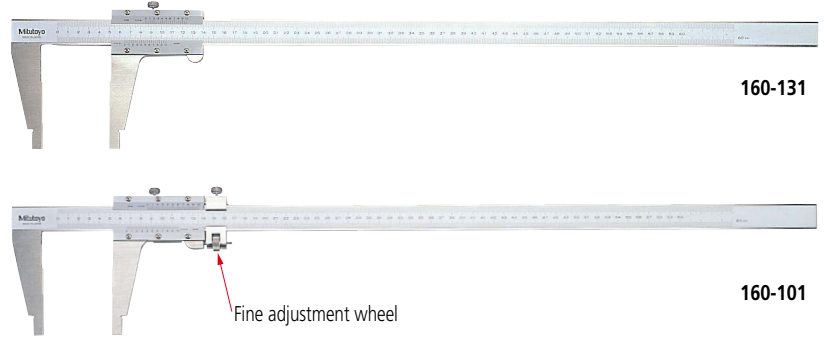


Radiused jaws for accurate ID measurement

Measurement example



- 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).



SPECIFICATIONS

Metric		with inside measurement vernier scale			
Order No.	Range (mm)*1	Minimum reading (mm)	Maximum permissible error (mm)*2		Remarks
			EMPE	SMPE	
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, EMPE and Shift Error, SMPE are terms (notations) used in ISO 13385-1:2019.

Metric		with inside measurement vernier scale			
Order No.	Range (mm)*1	Minimum reading (mm)	Maximum permissible error (mm)*2		Remarks
			EMPE	SMPE	
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, EMPE and Shift Error, SMPE are terms (notations) used in ISO 13385-1:2019.

Metric / Inch		with metric/inch double scale			
Order No.	Range*1	Minimum reading	Maximum permissible error*2		Remarks
			EMPE	SMPE	
160-150	0 - 300 mm / 0 - 12 in (10.1 - 300 mm / 0.398 - 12 in)	0.02 mm / 0.001 in	±0.04 mm / ±0.0015 in	±0.04 mm / ±0.0015 in	+10 mm / 0.394 in to reading in inside measurement
160-151	0 - 450 mm / 0 - 18 in (20.1 - 450 mm / 0.791 - 18 in)		±0.05 mm / ±0.002 in	±0.05 mm / ±0.002 in	+20 mm / 0.787 in to reading in inside measurement
160-153	0 - 600 mm / 0 - 24 in (20.1 - 600 mm / 0.791 - 24 in)		±0.07 mm / ±0.003 in	±0.07 mm / ±0.003 in	
160-155	0 - 1000 mm / 0 - 40 in (20.1 - 1000 mm / 0.791 - 24 in)				

*1 (): Minimum dimension in ID measurement

*2 Partial Surface Contact Error, EMPE and Shift Error, SMPE are terms (notations) used in ISO 13385-1:2019.