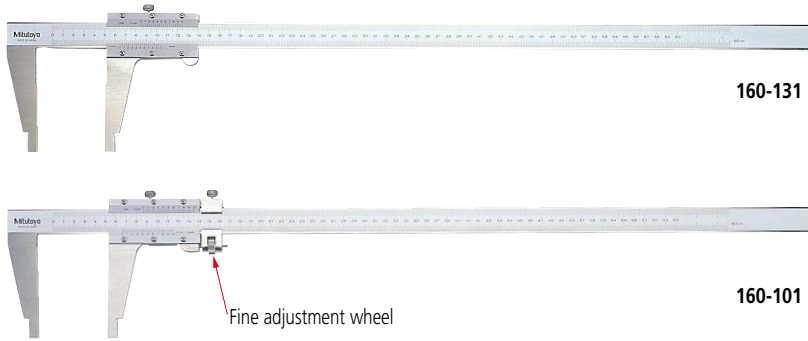


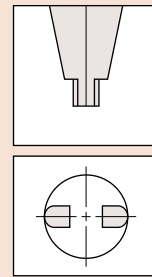
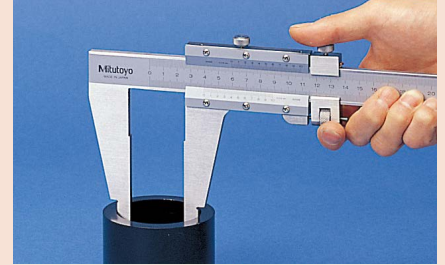
# Calipers

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

- The jaws' measuring faces have a radius for accurate inside diameter (ID) measurement. Inside and outside measurements can be read directly from the upper and lower slider graduations respectively.
- With fine adjustment (Code No. 160-127/128/101/104).



### Measurement example



Radiused jaws for accurate ID measurement

### SPECIFICATIONS

| Metric with inside measurement Vernier scale |                 |                      |                                  |       |                         |
|--|-----------------|----------------------|----------------------------------|-------|-------------------------|
| Code 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  |                      |                                  |       |                         |
| 160-132                                      | 0 (20.1) - 1000 |                      |                                  |       |                         |

\*1 ( ): Minimum dimension in ID measurement

\*2 The Partial Surface Contact Error (EMPE) and Shift Error (SMPE) are terms defined by ISO 13385-1:2019.

| Metric with inside measurement Vernier scale |                 |                      |                                  |       |                      |
|--|-----------------|----------------------|----------------------------------|-------|----------------------|
| Code 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  |                      |                                  |       |                      |
| 160-101                                      | 0 (20.1) - 600  |                      |                                  |       |                      |
| 160-104                                      | 0 (20.1) - 1000 |                      |                                  |       |                      |

\*1 ( ): Minimum dimension in ID measurement

\*2 The Partial Surface Contact Error (EMPE) and Shift Error (SMPE) are terms defined by ISO 13385-1:2019.

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

\*1 ( ): Minimum dimension in ID measurement

\*2 The Partial Surface Contact Error (EMPE) and Shift Error (SMPE) are terms defined by ISO 13385-1:2019.

### Measurement example

