# Height Gages

## Nomenclature

**Vernier Height Gage**

- Main pole
- Sub pole
- Column
- Slider
- Vernier scale
- Scriber clamp
- Clamp box, scriber
- Bracket, scriber
- Measuring face, scriber
- Scriber
- Reference surface, column
- Base
- Reference surface, base

**Mechanical Digit Height Gage**

- Main pole
- Sub pole
- Column
- Feed handle
- Counter, upward
- Counter, downward
- Reset button
- Hand-pointer
- Dial
- Power ON/OFF key
- Zero set button / ABS (Absolute) button
- Hold / data button
- Preset mode, ball diameter compensation mode button
- Number up/down button, presetting
- Direction switch / digit shift button, presetting
- Base
- Reference surface, base

**Digimatic Height Gage**

- Fine adjuster for main scale
- Column
- Fine feed nut, slider
- Clamp
- Slider clamp
- Slider
- Bracket, scriber
- Clamp box, scriber
- Measuring face, scriber
- Scriber
- Base
- Reference surface, base

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*Quick Guide to Precision Measuring Instruments*
How to read

● Vernier Height gage

Main scale
Vernier scale

Graduation 0.02mm
(1) Main scale 79 mm
(2) Vernier 0.36 mm
Reading 79.36 mm

● Dial Height gage

Main scale
Dial

Graduation 0.02mm
(1) Main scale 34 mm
(2) Dial 0.32 mm
Reading 34.32 mm

● Mechanical Digit Height gage

Measuring upwards from a reference surface

Reference surface
Scriber

Counter 122 mm
Dial 0.11 mm
Reading 122.11 mm

Measuring downwards from a reference surface

Reference surface
Scriber

Counter 125 mm
Dial 0.11 mm
Reading 125.11 mm

General notes on using the height gage

1. Make sure that the base is free of burrs that would otherwise adversely affect scribing and measuring stability. If there is a burr, remove it by using an oilstone.
2. Keep the leaf spring of the slider and reference face of the main scale clean. Accumulated dust might cause poor sliding.
3. Tighten the slider clamp to prevent the slider from moving during scribing.
4. The scriber edge might move by up to 0.01 mm when the slider clamp is tightened. Check the movement by using a test indicator.
5. The parallelism between the scriber mounting bracket, scriber measuring face, and reference surface of the base is 0.01 mm or less. Avoid moving the scriber forward or backwards during measurement because movement can cause errors.
6. Use the fine feed to ensure accurate adjustment to final position.
7. Be aware of possible parallax error on vernier instruments and always read the scales from the normal direction.