

JIS

JAPANESE INDUSTRIAL STANDARD

**Vernier, dial and
digital callipers**

 **JIS B 7507**—1993

Translated and Published

by

Japanese Standards Association

**In the event of any doubt arising,
the original Standard in Japanese is to be final authority**

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Errata are also provided to subscribers of JIS (English edition) in *Monthly Information*.



1. Scope This Japanese Industrial Standard specifies vernier callipers of 1000 mm or under in maximum measuring length, among those for general use which measure the external dimensions and internal dimensions to 0.1 mm, 0.05 mm, 0.02 mm or 0.01 mm in scale intervals, minimum indicating quantities or minimum reading values (hereafter, referred to as "vernier callipers").

Remarks 1. The standards cited in this Standard are as given in the following:

JIS B 7506 Gauge blocks

JIS G 4303 Stainless steel bars

JIS G 4401 Carbon tool steels

JIS Z 8103 Glossary of terms used in instrumentation

2. The International standards corresponding to this Standard are as given in the following:

ISO 3599 Vernier callipers reading to 0.1 and 0.05 mm

ISO 6906 Vernier callipers reading to 0.02 mm

2. Definitions For the purposes of this Standard, main definitions are in accordance with JIS Z 8103, and others are in accordance with the following:

(1) vernier callipers A measuring instrument capable of reading a distance between each measuring faces with the beam scale and vernier scale or dial scale, by sliding a slider which has jaws with measuring faces parallel to those on the beam along the beam, which provides jaws with measuring faces for external measurement and internal measurement at one end, or with electronics type digital indication.

(2) vernier scale A scale for reading the further subdivided beam scale, which is obtained by dividing the scale of $(n-1)$ of the beam scale into equal parts of n or $\frac{n}{2}$. This is also called sub-scale.

(3) dial scale A circular plate scale for reading by a rotary pointer, magnifying the travelling amount of the slider mechanically by gears or the like.

(4) electronics type digital indication A numerical indication being expressed, by detecting the travelling amount of the slider on the basis of the beam and counting this by an electronics circuit.

(5) instrumental error A value subtracted the true value to be indicated from the reading of the vernier calliper.

3. Nomenclature The nomenclature of the main parts of the vernier callipers shall be in accordance with Figs. 1, 2, 3 and 4.