

GWB-200JA Extensometer Calibrator



The GWB-200JA extensometer calibrator is a pure mechanical high-precision displacement micrometer instrument. According to the JJG762-92 extensometer verification regulations, it is specifically designed for calibrating various types of extensometers and is also widely used for verifying displacement sensors as well as corresponding dial indicators and micrometers.

Structure and Reading Method of GWB-200JA Extensometer Calibrator

1. This instrument consists of a precision differential probe and a measurement bracket. The calibration device features a modular design. The precision differential probe and its support arms can be combined in various configurations and positions, complemented by an extended column attachment. It is equipped with diverse sample types including cylindrical, plate, and blade configurations, enabling convenient calibration of tensile gauges across multiple specifications. Users may also customize precision deformation measurements by installing specialized accessories tailored to their specific testing requirements.

2. The precision differential probe consists of a sliding rod, a measuring rod sleeve, and a reading

inner tube.

The device consists of a main cylinder, a reading outer cylinder, and a high-precision thread assembly, with a maximum measurement range of 25 mm.

Minimum division (vernier scale) 0.0002 mm; division of rotating outer cylinder 0.002 mm.

The displacement change reading is:

$$L = (a + 0.001b + 0.0001c) - (a_0 + 0.001b_0 + 0.001c_0)$$

Where: a-millimeter scale reading of the inner cylinder

b-outer cylinder scale reading

c-marked reading

a₀, b₀, c₀ are the readings before the corresponding displacement change

Precision Differential Cylinder for GWB-200JA Extensometer Calibrator

II. Technical Accuracy Indicators

1. The maximum gauge length L_{max} of the measuring extensometer is 500 mm.
2. Measure the mounting hole diameter of the upper support arm: φ10; φ28
3. The axial scale of the differential probe reading inner cylinder is 0.5 mm/groove
4. The vernier scale of the inner cylinder of the differential probe reading is 0.0002 mm per grid.
5. The circumference scale of the outer cylinder of the differential probe reading is 0.002 mm/groove.
6. Precision Indicators of High-Precision Differential Measuring Head

Calibrator indication error:

Range within 0.5 mm $\leq 0.5 \mu\text{m}$ absolute error

For ranges above 0.5 mm, the relative error per point is $\leq 0.10\%$.

Reference standard :

JJF1096-2002 Calibration Specification for Extensometer Calibrator

ISO9513:1999 Calibration of the Extensometer for Uniaxial Test of Metal Materials

JJG762-1992 Verification Regulation for Extensometers

Calibration of a 0.5-grade extensometer is feasible