HST-HBM3000L Gantry Brinell Hardness Tester

(Picture just for reference)

Product introduction:

The HST-HBM3000L Gantry Brinell Hardness Tester is a new generation product of our company. It adopts the latest fully automatic closed-loop sensor control technology. Feedback the force process and the magnitude to the differential level, forever eliminating the overload or underload fluctuation caused by the hydraulic or motor deceleration error, or the friction of the spindle knife edge with the increase of the use time of the traditional weight and lever amplifying loading system.

Features:

The portal structure can precisely control the lifting, loading and unloading movements of the beam;

The main shaft components and load sensors are installed on the lifting beam;

The ball screw is directly driven by the stepless servo motor;

Test force from 62.5-3000Kgf;

Optional fully automatic measurement of Brinell hardness indentation.

Structure introduction:

The instrument adopts a gantry mechanism: it consists of a combined base, a mobile platform, a column, an upper beam, a precision ball screw, and a servo motor, among which the servo motor is an imported well-known brand. Beam lifting and loading and unloading movements can be precisely controlled.

Spindle components and load sensors are installed on the lifting beam. During the test, the size of the test force is sent to the control system through the sensor in time. There is also a movable worktable on the large platform. Driven by a stepping motor, the ball screw drives along the linear guide rail to make the tested workpiece enter and exit the test position. The operation console is equipped with a touch screen and an emergency stop button, and the adjustment of all test parameters and the control of test functions can be completed on the touch screen. The special numerical control system of the hardness tester is composed of a computer, a stepping motor, a driver, a load sensor, a signal converter and other components. During the test, the load signal is sent by the load sensor and transmitted to the numerical control processor. The precise action of the stepper motor is controlled by the numerical control processor, which realizes the full closed-loop control of the test force and ensures that the test force is strictly controlled within the allowable range.

Introduction of main institutions:

Loading mechanism: The fully closed-loop control sensor loading technology is adopted, without any load impact error, the monitoring frequency is 100HZ, and the internal control accuracy of the whole process reaches 0.5%; the loading system is directly connected to the load sensor without any intermediate structure, and the load sensor directly measures and monitors the pressure head The load on the sensor is adjusted and adjusted, the coaxial loading technology, the lever-free structure, is not affected by friction and other factors; the lead screw lifting loading system of the non-traditional closed-loop control system uses double linear frictionless bearings to execute the probe stroke, so There is almost no need to consider the aging and errors caused by any lead screw system;

Mobile worktable operating mechanism: the accuracy of workpiece feeding, positioning, loading, load retention and automatic reset is ensured by stepping motor;

Electrical control mechanism: high-grade electrical control box, well-known brand electrical components, servo control system, etc.;

Safety protection device: limit switch is used for all strokes to ensure the operation of the equipment in a safe area; except for the necessary exposed components, the rest adopts a cover structure.

Operation and display: computer touch screen control, ergonomic design, beautiful and practical.

The indentation was measured using a reading microscope. Or fully automatic Brinell hardness measuring system.

The indenter can automatically return 50mm to protect the indenter and measuring mechanism from damage and corrosion due to high temperature.

Application range:

Determination of Brinell hardness of ferrous metals, non-ferrous metals and bearing alloys;

It has a wide range of applications and is suitable for precise measurement of parallel planes, and the measurement of curved surfaces is stable and reliable.

Technical Parameters:

Maximum height of test workpiece	950mm
Control system	Computer touch screen control
Measuring range:	4-650HBW
Test force	62.5, 187.5, 250, 500, 750, 1000, 1500, 3000, kgf

Motor Type	Servo Motor
Transmission mode	ball screw
Loading time	1-99 seconds adjustable
Distance between two columns	1350mm (customizable)
Table moving distance	1000mm (customizable)
Spindle lateral movement distance	600mm (customizable)
Dimensions: host	2000*1800*2180mm
Power supply	220V, 50/60Hz
Workbench size	1500×1000mm (length×width)
Net weight	about 2500kg