

HST-BP300 Rotating Bending Fatigue Testing Machine



Picture is for reference only

1.Application

This kind of machine is suitable to test the fatigue strength of metals or other materials. It is designed and manufactured fully according to the current standard GB4337-2015 "method for rotary bending fatigue tests of metallic materials" and Standard ZBN71006-87 "Technical conditions of pure bending fatigue testers". The testing machine is usually used to test the bending fatigue limit σ_{-1} of metals under the action of symmetrical repeatedly alternating bending force.

It is used for the cantilever pure bending fatigue test of ferrous metal and its alloy materials under small temperature and high temperature conditions to determine the fatigue performance of metal circular cross-section specimens subjected to bending moment under rotating condition.

The cantilever beam structure is composed of a frame, an AC high-speed motor and a driver, a measurement and control system, a loading weight, a controller, a lubricating device, a protection device, and the like, and a rotation counter is provided on the device.

2.Feature

2.1 Loading capacity: the maximum load is 100N, the minimum load unit is 0.01N, the accuracy is $\pm 1\%$, and each weight combination satisfies any loading requirement between 0.01 and 300N;

- 2.2 loading force arm: 200mm;
- 2.3 The static radial runout of the force point is $\geq 0.02\text{mm}$;
- 2.4 The dynamic radial runout of the force point is $< 0.05\text{mm}$;
- 2.5 Rotating speed: freely set between $\leq \text{rpm}$ and rpm under loading conditions to meet the requirements of different tests. The set speed is constant and fluctuates $\pm 0.5\%$;
- 2.6 The temperature gradient of the test part is not more than $15\text{ }^{\circ}\text{C}$.
- 2.7 The average tropical length: $\geq 5\text{mm}$;
- 2.8 Thermocouple: K-type galvanic couple and its matching high-precision compensation wire, or platinum-iridium galvanic couple and matching high-precision compensation wire;
- 2.9 The maximum number of counts: 109;
- 2.10 Relative error of bending distance: $\pm 1\%$;
- 2.11 with safe and reliable power off and motor overheat protection;
- 2.12 Real-time monitoring of test information: It is necessary to ensure that the high temperature furnace in operation is automatically stopped and an alarm is issued after the sample is broken, and the information on the breakage is prevented from being dropped.