



HRT-A05G High temperature reciprocating abrasion testing machine specification

One.Product Description

HRT-A05G reciprocating abrasion testing machine is a comprehensive upgrade, Is a widely used reciprocating friction and abrasion testing machine, mainly used to study the friction properties of materials or surface coatings. The equipment has the advantages of stable and reliable reciprocating stroke adjustment, wide range of adjustment, high precision of friction measurement, various test forms and so on.

The main friction pair of the machine adopts standard ball friction and pin-disk friction, which can realize the choice of ball-disk pin-disk reciprocating, rotating and ring-ring friction. The testing machine adopts computer detection and control, and the special friction and abrasion testing machine measurement and control software developed by Heng Xu based on high-speed industrial control can draw the parameter curve in real time. The point acquisition frequency can be as high as 100KHZ, so as to effectively realize the dynamic and effective detection of the process, and improve the measurement accuracy of the friction force, test force and other parameters. The software is provided with shutdown or alarm protection when the parameters exceed preset. Instrument design is exquisite, easy to install and debug, software interface clear humanized, easy to operate.

First,the friction mode of the testing machine is the upper pin / pin shaft and the lower friction disc, which forms a sliding friction pair through the reciprocating movement of the disc, and the size of the pin shaft or pin can be changed by replacing the chuck;

Second,the testing machine can monitor the friction, test force, temperature in the friction process in real time, and calculate the friction coefficient, you can judge the change of the parameters to analyze and judge the state of friction: running-in (initial fluctuation) - smooth (smooth fluctuation or fretting) - initial damage (friction, Significant fluctuations in the coefficient of friction) to



complete failure (sudden increase or sharp fluctuations in friction, coefficient of friction, which may also be accompanied by a sudden increase in temperature).

Third, the testing machine has a high temperature heating function, the maximum temperature can reach 1200°C, the system is equipped with bearing lubrication cooling system and high temperature alarm system, for long-term operation is the system stability monitoring and testing.

Fourth, the testing machine by the main frame to carry the transmission components, stress components, sensor measurement components, at the same time with a dedicated control system, The control system is mainly composed of electrical components, driving system and executive components. The coordinated action of each component is controlled by the experimental test system installed on the industrial computer. During the experiment, the real-time data is collected, analyzed and saved by the data processing software system.

Fifth, the accessories of the equipment include the fixtures, special tooling and tools required for the test, and some vulnerable accessories including pressure heads, briquettes, screws, etc.



Reference picture of product appearance



Two、 Specification Data and Configurations

Specification Data	Configurations
<p>1. Max test force: 800N, error $\pm 1\%$</p> <p>2. Loading mode: closed loop software, automatic loading.</p> <p>3. Max force value: 100kg</p> <p>4. Reciprocating frequency: 0~10 Hz</p> <p>5. Line speed: 0.01mm/s~100mm/s, based on 5mm stroke calculation, adjustable, error$\pm 5\%$</p> <p>6. Friction type: Surface-to-surface friction of pin on disk;</p> <p>7. Reciprocating stroke: 0~20mm</p> <p>8. Test temperature: room temperature~1200°C, error$\pm 2^\circ\text{C}$, multi-segment program setting (optional module)</p> <p>9. Temperature measurement method: thermocouple</p> <p>10. On-line grinding measurement: magnetolectric induction measurement (optional module)</p> <p>11. Wear measurement resolution: 0.001 mm</p> <p>12. Lifting height: 0~50 mm</p> <p>13. Guide rail accuracy: ΔC is not higher than $5\mu\text{m}$, ΔD is not higher than $8\mu\text{m}$.</p> <p>14. Time display and control: 10S-9999H (frequency and reciprocation mode)</p> <p>15. Data processing: a set of special computer processing system as standard</p>	<p>1. Host computer: 1 set</p> <p>2. Combined constant loading system: 1 set</p> <p>3. Main motor: 1 set</p> <p>4. Servo controller: 1 set</p> <p>5. High temperature control system 1 set</p> <p>6. Industrial control systems 1 set</p> <p>7. Sensors: 1 set</p> <p>8. Demonstration sample: 2 pcs</p> <p>9. Feeding cup: 1 pcs</p> <p>10. Loading and unloading sample tools: 1 set</p> <p>11. Standard tool kit: 1 set</p> <p>12. Adjusting bulb: 1 pcs</p> <p>13. Color HP printers: 1 set</p> <p>14. The product instruction manual: 1 copy</p> <p>15. Product quality certificate: 1 copy</p> <p>16. Product packing list: 1 copy</p>



<p>16.Friction measurement method: strain measurement</p> <p>17. Driving power: 2KW</p> <p>18.Software function: The equipment configuration software can realize the integrated display of load, friction, friction temperature, reciprocating frequency and friction coefficient. Real-time rendering of the parameters of the curve, save real-time data.</p>	
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Three. Functions and features

First,loading mode: this type of testing machine adopts automatic loading, strong controllability, low failure rate, After years of continuous improvement, the performance is stable and reliable, and the double floating bearing technology, gap-free guidance technology and buffer balance technology are the guarantee of accurate and stable test force, which reduces the system error and ensures the accuracy of real-time tracking measurement of test force and friction force.

Second,the main structure: the test should be to minimize the impact of the motor and ancillary components vibration on the wear marks, the use of Taiwan TECO servo motor drive spindle, the relevant bearings also use P4 grade precision bearings;

Third,the electrical part: the equipment adopts an independent analysis module, which effectively guarantees the influence of the equipment on the performance of the control part when the equipment is high speed or the film is broken and violently shaken;

Fourth,control software: the software can realize real - time data acquisition and self - developed special software. it can set up professional test scheme according to different standards. it has the function of saving and exporting data form.

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