



HCM-5 reciprocating friction wear testing machine



国家高新技术企业

Product

Proposal

Jinan HengXu Testing Machine Technology
Co., Ltd

TECHNICAL INFORMATION, DO NOT COMMUNICATE

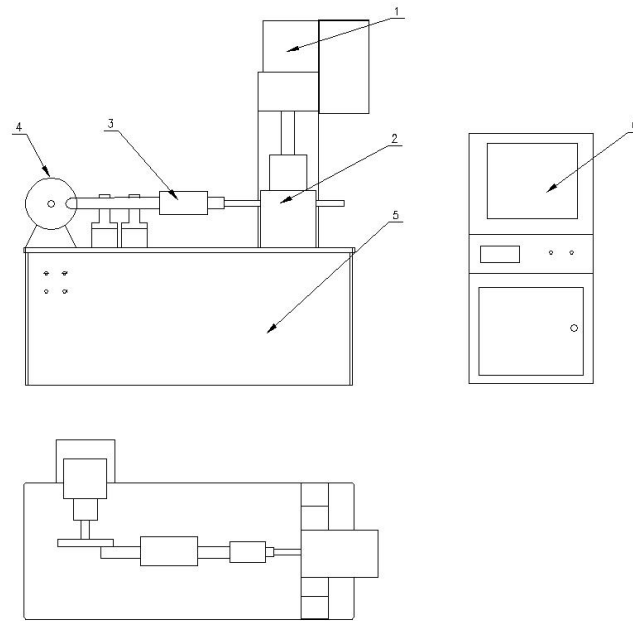


1、 Introduction:

Hengxu testing machine is a high-tech enterprise integrating professional R&D, production and sales. The company took the lead in passing "ISO9001 quality management system certification" in the industry and won the title of "national authoritative testing qualified products" and "national quality service AAA enterprise". The company has the proprietary software HTMS control system and a number of national patents. The company gathers the top research and design experts of friction test technology scheme, professional material mechanics testing machine structure design experts, special engineers and laboratory testing equipment analysis experts in the industry to provide lasting momentum for the company's development.



HCM series reciprocating friction wear testing machine is a kind of heavy-load friction wear testing machine improved according to the sample form structure. It is mainly used to study the reciprocating friction performance of bushing or piston material and surface coating. The equipment has the advantages of stable and reliable reciprocating stroke adjustment, wide adjustment range, high friction measurement accuracy, strong bearing capacity, various test forms, etc. The main friction pairs of the machine are customized cylinder surface, arc surface and other end surface friction pairs, mainly realizing reciprocating friction test. The mainframe of the testing machine adopts industrial control computer for detection and control. The special friction and wear testing machine measurement and control software developed by Hengxu based on high-speed industrial control can draw various parameter curves in real time, so as to realize dynamic and effective detection of the process and improve the measurement accuracy of friction, test force and other parameters. The software is provided with parameter over-preset shutdown or alarm protection.



1-Loading unit; 2-Sample and clamping; 3-Measurement of friction force;4-Reciprocating control unit; 5-Host support; 6-Control unit





Equipment structure appearance drawing (continuous innovation and upgrading of equipment, only for reference)

The advantages of the company's friction and wear equipment are analyzed as follows:

1. Loading mode: this type of testing machine is the first servo motor loading machine introduced by our company in the industry, with strong controllability, low failure rate, stable and reliable performance after years of continuous improvement. The double floating bearing technology, gapless guide technology and buffer cross balance technology are all guarantee for accurate and stable test force, reduce system error, and ensure the accuracy of real-time tracking measurement of test force and friction force;

2. Main structure: during the friction test, the impact of vibration of the motor and accessory parts on the abrasion marks shall be minimized. Therefore, we adopt the integral main body, thickened support plate, and Taiwan Dongyuan servo motor to drive the main shaft. The relevant transmission components also adopt imported precision bearings;

3. Electrical part: the equipment adopts independent embedded industrial controller, industrial metal touch screen and acquisition independent analysis module, which can effectively ensure the impact on the performance of the control part when the equipment vibrates at high speed or when the oil film breaks;

4. Control software: generally, real-time acquisition can be realized by software, but we are self-



developed special software (for the software transformed from universal material testing machine), and professional test schemes can be established according to different standards.

5. Service team: We not only manufacture this equipment (enterprises without R&D strength randomly assemble according to the drawings), but also have independent technical service departments (more than 100 universities and institutes have cooperated with friction and wear testing machines for many years). Specific problems can be analyzed and solved in real time. Meanwhile, Hengxu Testing Machine - Research and Exhibition Center invested and constructed by us in the National New Material Industrial Park has been put into operation, providing a solid base for the later R&D and expansion of the company (there are potential safety hazards, quality and service problems in rented plants and unlicensed manufacturing enterprises).

3、 Main technical specifications:

1. Reciprocating frequency: 1~60 times/min, adjustable
2. Reciprocating stroke: $\leq 200\text{mm}$, adjustable
3. Maximum load: 0~5000N
4. Loading mode: automatic loading
5. Relative error of test force: $\pm 1\%$
6. Measurement range of friction force: $0-10\text{KN} \pm 2\% \text{FS}$
7. Heating module: room temperature~200 °C
8. Data processing: one set of embedded IPC, industrial touch screen and data acquisition and processing system

4、 Main configuration:

1. Tester host (HTM-Hengxu) 1 set
2. Straight slide rail (Intime or Shangyin) 1 set
3. Bearing (Harbin Shaft or NSK) 1 set
4. Main motor (Taiwan Dongyuan) 1 set



- 5. Force sensor (Guangdong Electric Survey) 1 set
- 6. Friction pair fixture 1 set
- 7. Special control system (special computer) 1 set
- 8. Special tools 1 set

5、 Control system

The new friction and wear tester adopts HTMS professional control system and uses the latest control theory to optimize the internal system of the software. The software interface is novel and generous, as shown below:



Main control interface

Introduction to the advantages of the professional friction and wear control system:

- 1. The modular integrated control principle with high stability is adopted to ensure the overall stability of the system;
- 2. The interface is fully compatible, the test parameters can be set with one key, and the test



parameters can be loaded automatically;

3. The curve is tracked in real time in the whole process, and the curve can be enlarged, edited and saved at will. The curve is automatically optimized, and single-point acquisition can be carried out;

4. Real-time data recording, power failure saving function, sharing data output, secondary editing, comparison and processing;

5. Optimization of software control process, uninterrupted innovation and improvement of engineers, and free software upgrading;

4、 Contact us

Tel:+86-0531-85860713, +8615508660930

WeChat/WhatsApp: +8615508660930

QQ: 1538151698

The contact: Janna Tang

Email:cnjntest@163.com

Add:No. 102-1, building 68, Xinmao Qilu science and technology city, No. 299, Zidong avenue, Tianqiao district, Jinan city, Shandong province China

Jinan Hengxu Testing Machine Technology Co.,Ltd