

## KASON-3000GGW Rail Static Bend Testing Machine



(Picture just for reference)

### Product introduction:

KASON GGW Series static bending test machine for rails is a special test equipment for static bending test of welded rails. The equipment complies with the standards of TB/T1632.1-2005 "Rail Welding Part 1: General Technical Conditions" and GB/T2611-92 "General Technical Requirements for Testing Machines" and GB/T16826-1997 "Electro-hydraulic Universal Testing Machine". It can measure the static bending and deflection of S50, S60, S75 rails, etc. (Four-point bending test can be purchased)

This machine is a new generation of electro-hydraulic servo static bending test machine of our company. It adopts a four-column frame structure with an oil cylinder, and no matter whether it is a load or deformation sensor, it has the characteristics of no grade division throughout the whole process (better than grade division, avoiding conflicts during range conversion). It is mainly manifested in: it has a unique resolution throughout the whole process.

This equipment has multiple protection functions, including hardware and software overload protection, oil temperature over-temperature alarm and high oil pressure safety protection.

Adopt Auto fully digital multi-channel closed-loop measurement and control system.

- The controller is a measurement and control system developed by our company after many years of independent research and development. It is completely developed from the application perspective of the

testing machine industry, and strives to complete the functions required by the testing machine in one stroke. Therefore, in the hardware circuit design, a high-integration, modular design concept is mostly adopted. This system uses SOC (system on chip) and FPGA (large-scale programmable gate array) chips as its core control. In this way, the hardware circuit is simple and reliable, but in program writing, a large amount of code is bound to be used to allocate various functions;

- Modular characteristics:

Program group management, strong scalability; due to the characteristics of small batches and multiple varieties in our testing machine industry, control systems that do not have good scalability cannot survive. Therefore, modular management of the program is necessary!

- Basic functions of the controller:

Without any expansion, the controller has four analog channels on the main board, that is, two load sensor channels and two strain extensometer channels, three digital channels, that is, one displacement sensor channel and a pair of large deformation channels, plus 8 input and 8 output I/O port channels. These input and output channels can at least meet the needs of most electronic testing machines. If an expansion card is installed, two D/A outputs will be available, which can control most hydraulic equipment and flat-push fixtures. This is the advantage of modular design. It can more conveniently expand functions without affecting the existing functions and interface protocols. This is the hardware function of the controller.

As for the accuracy of each parameter, resolution and other digital indicators that customers are concerned about, this product has a resolution of 500,000 codes and an accuracy of 0.5.

- Guarantee of the reliability:

- ① Uses direct welding of components, and most of them are surface mount components, which can effectively avoid the impact of vibration, oxidation, etc. on the controller;
- ② The chips of this controller are all imported industrial-grade devices, which guarantees the stability of the controller in terms of hardware quality.
- ③ In terms of component welding, all are welded by surface mount machines, which avoids the impact of artificial individual differences on circuit board welding.
- ④ The controller is equipped with special personnel to conduct assessment and high and low temperature tests, and is strictly implemented in accordance with the assessment process to further avoid unqualified controllers from being applied to the host.

This machine uses a pull-out photoelectric encoder imported from a Japanese company, with high displacement measurement accuracy. It can not only measure and control the displacement of the pressure head, but also measure and control the deformation of the sample.

- The product uses the internationally renowned ABB motor, which has the advantages of high efficiency, energy saving, large starting torque, good performance, low noise, low vibration, high reliability and easy use and maintenance.
- The machine uses the servo valve produced by the famous brand to replace the traditional nozzle flapper servo valve, which improves pollution resistance and is easy to maintain.
- The machine uses a famous brand flange load sensor, which has high measurement accuracy and good linearity, avoiding many unfavorable factors brought by the use of oil pressure sensors, affecting the accuracy of force value measurement.
- The machine uses a two-way oil cylinder with good sealing, high precision and good consistency.

A low-friction sealing ring is added between the piston and the cylinder body to prevent oil leakage from the oil cylinder, and the joint of the high-pressure hose adopts a ferrule seal.

- The high-pressure internal meshing gear pump is used, with a patented two-piece eccentric gap filling and radial and axial pressure compensation design, which is highly efficient. Low pressure pulsation, stable pressure, and noise below 60dB.

### Technical parameters:

- It has hardware and software dual loading safety devices.
- It has a safety cover for specimen fracture.
- It is equipped with a computer control system, capable of displaying load force, deflection displacement, storage and printing records.
- The maximum load is: 3000kN, and the indication accuracy is less than 1% FS.
- The rated load is: 2700kN.
- The moving speed of the pressure head: 0.7mm/s~1.2mm/s.
- The piston stroke of the oil cylinder: Max300mm,
- The accuracy of the displacement sensor: less than 1% FS. (such as 20mm≤0.2mm)
- The support span: 1000±5mm and 1200±5mm are interchangeable; the support arc radius: 100±5mm.
- The arc radius of the pressure head is 300±5mm, the thickness is 75mm, the width is 180mm, and the hardness of the pressure head is HRC50-55.
- Power supply voltage: 380V/9KW, 220V/200W, 50Hz.
- Effective force measurement range: 2%-100% of the maximum load
- Load resolution: 1/500000 of the full scale (no internal and external division, only one resolution for the whole range, no range conversion conflict)
- Rail sample length: 1.2m-1.3m
- Main machine dimensions (length × width × height): 2.14m × 1.0m × height 2.6m.
- Main machine weight: about 9700kg

### Standard configuration:

- Host system----- 1 set
- Hydraulic system----- 1 set
- Electronic control system----- 1 set
- Computer----- 1 set
- Printer: (HP, color inkjet)----- 1 set
- Operating software----- 1 set
- Technical documents: Instruction manual, foundation installation drawing, packing list, certificate of conformity, etc.
- Pull-out displacement sensor ----- 1 set
- Famous brand flange load sensor ----- 1 set
- Famous brand ABB motor----- 1 set
- Servo valve----- 1 set
- High-pressure internal gear pump ----- 1 set



## Authentication Certificate of Quality Management System

Registration No.19922Q01072R0S

This is to certify that

**Jinan Kason Testing Equipment Co., Ltd.**

Unified Social Credit Code: 9137010458994939X0

Registered/Production Address: No. 4715, Jingshi West Road,  
 Huaiyin District, Jinan City, Shandong Province

Office Address: Room 2-1108, Harmony Square, Huaiyin District, Jinan City

Is in conformity with :

**GB/T 19001-2016/ISO 9001:2015**

The certificate is valid for the following scope :

Assembly and sales of testing machines

This certificate should be used effectively with the legal requirements of the administrative license, qualification license, compulsory certification, which the certification scope involved.

In the case that the organization regularly receives surveillance assessments, the certificate shall be valid when used together with the Quick Response Code.

Date of Issue: 2022-07-19  
 Date of Expiry: 2025-07-18  
 Date of Initial Certification: 2022-07-19

*Prof. Han Lin*  
 General Manager



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 管理体系  
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 CNAS C182-M

China Standard Huaxin (Beijing)  
 Certification Center Co.,Ltd.



Address of Certification Authority: 5 Floor, YuQuan Building, No.3 Shijingshan Road, Shijingshan District, Beijing Tel: 010-88255986 P.C.: 100049  
 Note: The detailed information is available on the Certification and Accreditation Administration of the People's Republic of China official website (www.cnca.gov.cn) the authority's website(www.cshcc.cn) and the Quick Response Code on the left.



## MACHINERY DIRECTIVE ATTESTATION OF CONFORMITY

Technical file of the company mentioned below has been inspected and audit has been completed successfully.

2006/42/EC Machinery Directive Annex VIII has been taken as references for these processes.

Company Name : **Jinan Kason Testing Equipment Co., Ltd.**  
 Company Address : No.4715, Jingshi West Road, Huaiyin District, Jinan, Shandong, China  
 Related Directives and Annex : **2006/42/EC Machinery Directive/Annex VIII**  
 Related Standards : **EN ISO 12100:2010; EN 60204-1:2018**  
 Product Name : **Testing Machine**  
 Report No and Date : TCF-JKTE230605-MD

Product Brand/Model/Type : WDS-1, WDS-2, WDS-3, WDS-5, WDS-10, WDS-20, WDS-30, WDS-50, WDS-100, WDS-200, WDS-300, WDW-1E, WDW-2E, WDW-3E, WDW-5E, WDW-10E, WDW-20E, WDW-30E, WDW-50E, WDW-100E, WDW-200E, WDW-300E, WDW-500E, WDW-600E, WDW-1000E, ETM103, ETM203, ETM303, ETM503, ETM104, ETM204, ETM304, ETM504, ETM105, WE-300D, WE-600D, WE-1000D, WE-2000D, HUT305S, HUT605S, HUT105S, HUT126S, WEW-300D, WEW-600D, WEW-1000D, WEW-1200D, WEW-2000D, WEW-3000D, HUT305E, HUT605E, HUT105E, HUT126E, HUT-A306E, HUT-A206E, WAW-300D, WAW-600D, WAW-1000D, WAW-1200E, WAW-2000E, WAW-3000, WAW-2000A, WAW-3000A, WAW-4000A, HUT-A206W, HUT-A306W, HUT-A406W, HUT305W, HUT605W, HUT105W, HUT126W, WAL, LAW, HUT-L, JB-300, JB-300B, JB-500B, JBS-300, JBS-500, JBS-300, JBS-500, JBDW-300, JBDW-500, CST-50, VU-2Y, VU-1S, DWC-40, DWC-60, DWC-80, DWC-100, DWC-196, YES-1000, YES-2000, YES-3000, YAW-1000, YAW-300, YAW-2000, YAW-3000, YAW-5000, NDS-200, NDS-500, NDS-1000, NDS-2000, NDW-200, NDW-500, NDW-1000, NDW-2000, NDW-3000, NDW-5000, NDW-10000, EZ-1, EZ-3, EZ-10, JWJ-10, TIS, TLW, HWS, PLS-20, PLS-50, PLS-100, PLS-300, PLS-500, PLS-1000, KASON-1, RDJ-10, RDJ-20, RDJ-50, RDJ-100, DWTT-20000, DWTT-30000, DWTT-40000, DWTT-50000, DWTT-80000, DWTT-100000, PIT-302, PIT-302M, PIT-502, PIT-502M, PIT-302T, PIT-502T, PIT-302W, PIT-302TW, PIT-502TW, PIT302CW, PIT452CW, PIT602CW, PIT752CW, PIT302CT, PIT452CT, PIT752CT, PTD302W, PTD502W, PTD302T, PTD502T, PTD302CW, PTD302CT, PTD452CW, PTD452CT, PTD752CW, PTD752CT, PTD302G, HCT106, HCT206, HCT306, KSCTM, HYJ, HEZ-3, HEZ-5, HEZ-10, HEZ-20, KSBT-10, KASON 370.02, KASON 370.05, KASON 370.10, KASON 370.25, KASON 370.50, MMW, GBW-60B, GBS-60B, HUT, ETM, XNR, GW-40, GW-50, MRS, MMU, MRH, GBW, GW, LSW, HBT, GLY, GCJ-1000, GWQ-1000, GNZ-1000, GQR-1000, GJR-300, GSS-1000, GMS-100, GTW-500, GQC-5, GGG-100, HR-150A, HRD-150, HRS-150, XHR, HB, HVS, HV, HBRV, W-20, HBA-1, LHT, Q-2A, MP-2, XQ-2B, XD-30M, 4XCE, 4XB, JSZ, MOPAO, MPT, P, MP, BG, LBG-32, MPJ-35, Q-Z, Q-100B, SQ, Q-3A, QG-4, LSQ, LDQ, GTQ-5000A, GTQ-5000B, DTQ, ZXQ, 4XC, HST, KASON, KS, KSCUT, HTR, HTPR, HTB, HSTR-455, HTV, HTMV, HTBRV, METRPRESS, MPJ

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