

# Computer Control Electromechanical Universal Testing Machine

**Brand: JNG**

**Model: JG-10K**

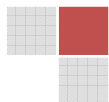
**Capacity: 100KN (10 Ton)**



**(Photo for reference only)**

## Introduction

JG-10K electromechanical testing machines offer force, displacement or deformation closed loop testing in tension, compression, flexure, shear, tear and peel etc. The machine can be equipped with a variety of accessories including: grips, fixtures, compression frames, thermal cabinets and extensometers covering all relevant applications as testing of rubber, plastics, foils, films, textiles, adhesives, paper, foods, foams, timber, wires or other metallic or non-metallic specimens and medical, electronic and other components. The load frames are rigid constructed, providing superior axial and lateral stiffness.



## Application Range

Load meets or exceeds the following standards: ASTM E4, ISO7500-1, EN 10002-2, BS1610, DIN 51221.

Strain measurement meets or exceeds the following standards: ASTM E83, ISO 9513, BS 3846, EN 10002-4.

Safety: This machine shall conform to all relevant European CE Health and Safety Directives EN 50081-1, 580081-1, 73/23/EEC, EN 61010-1

### **Rigid and Reinforced Plastics/Composite:**

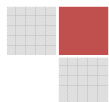
- ✓ EN ISO 6259 - parts 1/2/3 Determination of tensile properties of thermoplastic pipes;
- ✓ EN ISO 527-1 - parts 1/2/3 Determination of tensile properties on plastics;
- ✓ ASTM D638 Standard Test Method for Tensile Properties of Plastics
- ✓ ISO 604 Plastics - determination of compressive properties
- ✓ ASTM D695- Plastics -- Standard Test Method for Compressive Properties of Rigid Plastics
- ✓ EN ISO 9969 Determination of ring stiffness on thermoplastic pipes;
- ✓ ISO 14125 Flexural Properties of Fiber-Reinforced Plastic Composites
- ✓ ASTM D3846 Standard Test Method for In-Plane Shear Strength of Reinforced Plastics;
- ✓ EN ISO 13968 Plastics piping and ducting systems -Thermoplastics pipes- Determination of ring flexibility;
- ✓ EN ISO 844 Determination of compression properties;

### **Geo-textiles:**

- ✓ BS EN ISO 10319 Geotextiles —Wide-width tensile test;
- ✓ ASTM D3950 Standard Specification for Strapping, Nonmetallic (and Joining Methods);
- ✓ JBT 8521(EN 1492-2): Textile slings. Safety. Round slings, made of man-made fibers, for general purpose use;
- ✓ ASTM D 6775-02 Standard Test Method for Breaking Strength and Elongation of Textile Webbing, Tape and Braided Material;

### **Metal:**

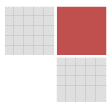
- ✓ ASTM E8 Standard Test Methods for Tension Testing of Metallic Materials;
- ✓ ISO 6892 Metallic materials — Tensile testing — Method of test at ambient temperature;
- ✓ BS EN 10002-1Determination of tensile properties on metals;
- ✓ BS EN 10002-5: Metallic materials — Part 5: Method of test at elevated temperatures;
- ✓ ASTM E21: Standard Test Methods for Elevated Temperature Tension Tests of Metallic Materials;
- ✓ ISO 783: Metallic materials -Tensile testing at elevated temperature;
- ✓ EN ISO 7438 Determination of flexure tests on metals;

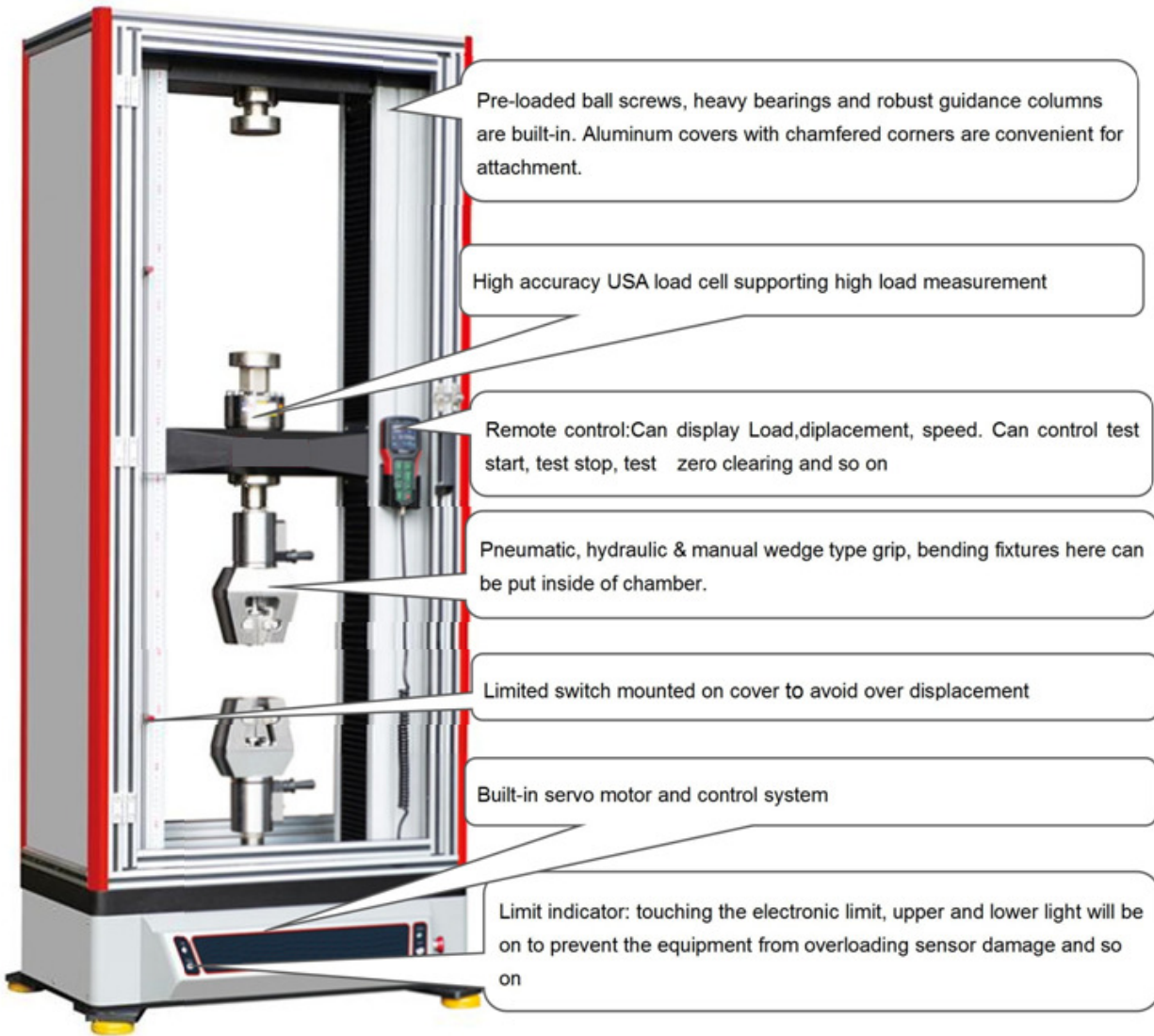


- ✓ ASTM F606: Standard Test Methods for Determining the Mechanical Properties of Externally and Internally Threaded Fasteners, Washers, Direct Tension Indicators, and Rivets;
- ✓ ISO 14589: Blind rivets - Mechanical testing;
- ✓ SAE J429: Mechanical and Material Requirements for Externally Threaded Fastener;

### Mechanical Feature

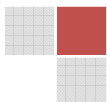
- **Load Frame:** The frames all incorporate human factor considerations in the design to ensure safety, reduce operator fatigue, and provide the highest level of flexibility. Extremely robust crosshead guidance is incorporated in all frame designs providing the highest level of lateral crosshead stiffness.
- **Load cell** is with high accuracy interchangeable for all frames allowing each frame to operate full capacity.
- **High accuracy:** The preloaded precision ball-screw with high speed & low noise ensures high speed and position measurement accuracy and less noise.
- **High stiffness:** The load frame is with 4 columns and heavy duty pre-loaded bearings. Preloaded ball screws, precision guidance columns, and a symmetrical drive system improve frame stiffness and alignment
- **Safety features:** The testing machine stops automatically when the change in the test force exceeds a specified value during operations.
- **Over-Travel Limits:** Dual over-travel limits, located on the front console, help prevent crosshead overshooting and sensor overloads. A graduated rule along the column can be used to preset these limits to specific distances.
- **Large space in the working area:** The insides of columns provide wide space for the operator.
- **Over-stroke limiter:** The range of the crosshead movement mechanically limited.
- **Comfortable working area:** The wide legroom under the load unit provides a comfortable working area for attaching and removing jigs.



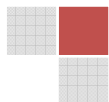


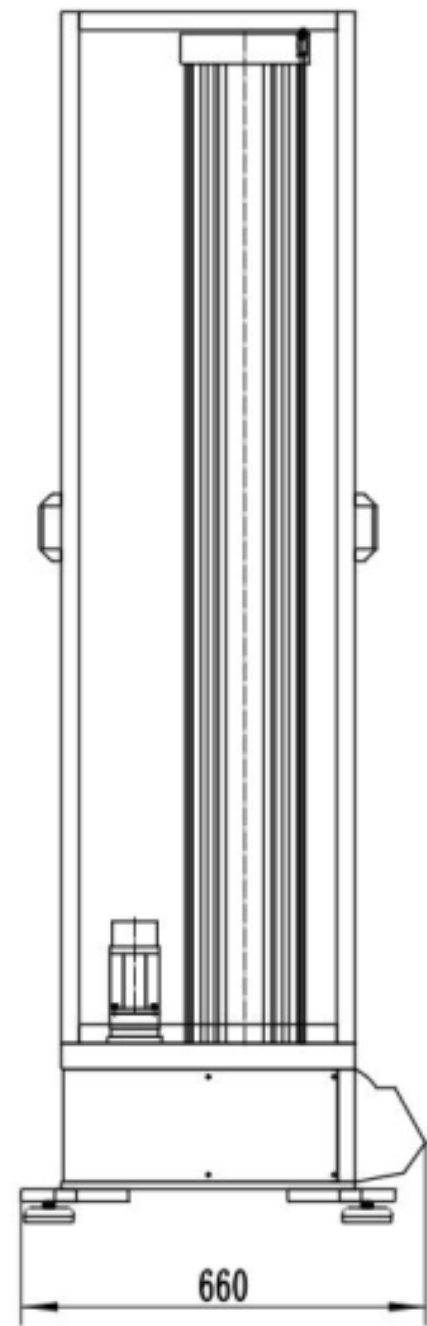
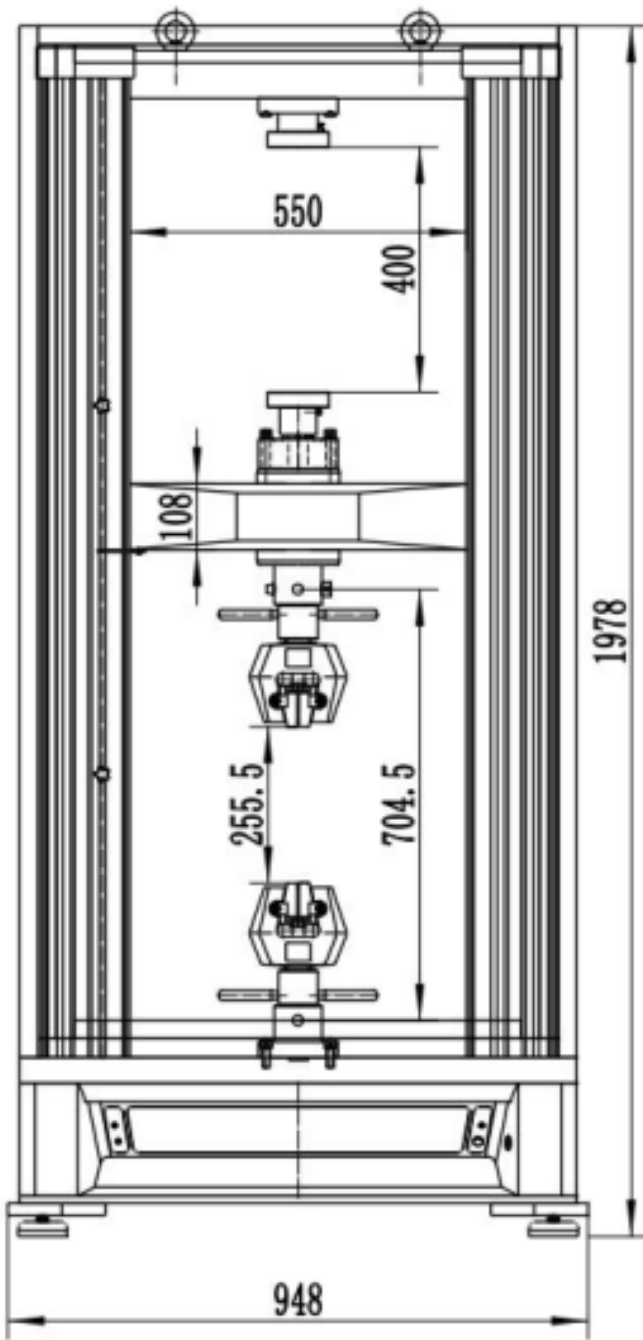
## Specifications

MODEL	JG-10K
Load Capacity	100KN or 10 Ton
Load Accuracy	Class 0.5 according to ISO 7500-1 – Meets ASTM E-4
Testing Load Accuracy	±0.5%
Testing Load Range	0.4%-100%FS
Load Resolution	1/500,000FS
Deformation Measuring Range	0.2%-100%FS
Deformation Accuracy	≤±0.5%



Position Resolution	0.04μm
Deformation Resolution	1/±500000FS of the max deformation
Position Accuracy	Within ±0.5% of the value
Crosshead Speed Range	0.001-500mm/min
Crosshead Speed Accuracy	±0.5% of the set speed
Constant force, constant deformation, constant displacement control range	0.5%-100%FS
Constant force, constant deformation, constant displacement control accuracy	When the set value is <10%FS, it is within ±1% of the set value; When the set value is ≥10%FS, it is within ±0.1% of the set value
Crosshead Travel	1000mm
Max. Tensile Testing Space	650mm
Max. Compression Testing Space	650mm
Test Width	550mm
Compression Platen	Ø100mm
Load Cell	High-Precision USA Load Cell
Motor	Delta AC servo Speed Control System
Position Limit Switch	Upper and lower lights
Power Supply	Single Phase, AC220V±10%, 50Hz/60Hz
Overall Dimensions (L*W*H)	950x660x2000mm
Weight	680kg









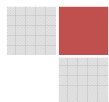



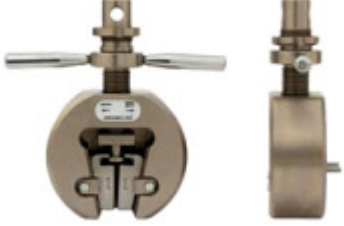


Model	E-Test Space	Width*Depth*Height	F-Crosshead Travel	D-Test Width	Weight
JG-10K	650mm	948x660x1978mm	1100mm	550mm	680kg



## Machine Standard Accessories

Part Name	Picture	Details	Quantity
Electronic Universal Testing Machine JG-100EL		100KN, 4 column 2 ball screw frame structure	1 set
AC Servo Control System		-	1 set
Rubber Shock-Absorbing Pad		Effectively adjust the level of the equipment, reduce the vibration of the equipment during the test	4 set
100KN Load Cell		Calibration within 0.5% accuracy can be carried out as per ASTM E4, ISO7500-1, EN 10002-2, BS1610, DIN 51221 standards	1 set
Build-in Measurement Control System		Force, displacement and deformation closed loop control by USB contact computer	1 set
EVOTest English Operation Software and USB flash disk		Language supports: English	1 set
Handheld Unit Controller		Digital Display: Can display Load, Displacement, Speed. Can control test start, test stop, test zero clearing and so on	1 set

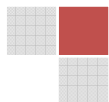
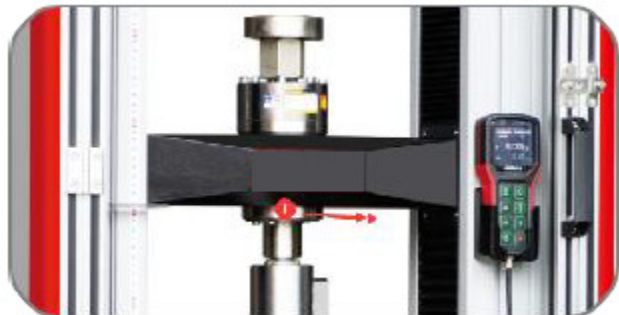


Computer and Printer		Branded computer	1 set
Manual Wedge Tensile Grip		Insert for round specimen Standard: $\varnothing 4\text{-}\varnothing 9\text{mm}$ Insert for flat specimen Thick: 0-7mm	1 set
Compression Test Grip		$\varnothing 100\text{mm}$	1 set
Electronic Extensometer		Gauge length: 50mm Deformation: 10mm	1 set

### Features of the Machine

**Machine cover:** All aluminum alloy surface special treatment, beautiful and generous, moisture-proof, rust-proof, long-term use without discoloration

**High stiffness middle beam:** used to adjust the test space, the important stress position, coaxial adjustment device used to adjust the coaxiality of the upper and lower fixture and improve the fracture alignment of the specimen

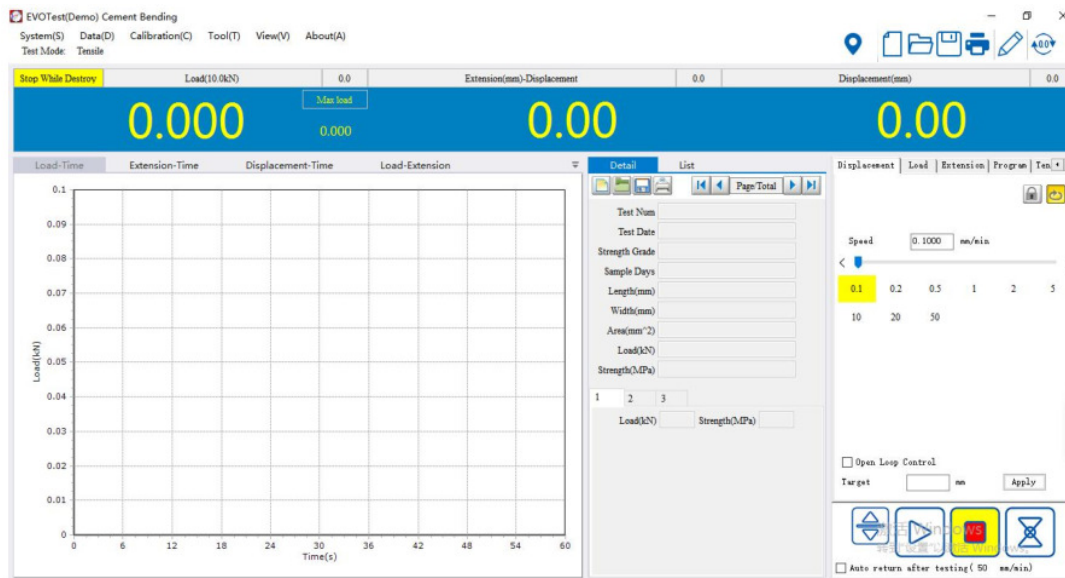




**Installation of indicator ruler:** for real-time observation of the position of moving beam The limit switch adopts the built-in installation mode, the outside adopts the limit adjusting rod and the position locking knob, has the strong sensitivity. Safe and reliable.



### Software Instruction



EVOTest software refers to the software characteristics of the top manufacturers of testing machine in the world and proposals of various testing requirements from the end users, and combines all the advantages of former versions of software with lots of new features. Optimized software structure makes the testing operation easy, convenient and powerful.

Main interface as following, Computer software interface, display test data, setup method, sample size



## Feature:

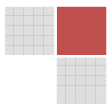
1. Full digital control. The whole measuring and control system adopts the special controller, which can achieve the digital adjustment of zero point and gain of load, deformation and displacement, and it's easy to operate and possesses the high reliability.
2. Possess the functions of storage, setting and loading for various kinds of parameters, which make it convenient to connect multiple transducers with one load frame.
3. Realize the close-loop control, and show the reference curve during the executive operator adjusting the close-loop parameters, so the user can observe the close-loop effect caused by the parameters.
4. Perfect graphic function to complete the functions of the reappearance, amplification, reduction, self-adaptation, lapping of the curves, display and print the curve at the appointed range, observe the coordinate of the test point.
5. Data processing supports automatic analysis and graphic man-machine mutual processing, which is convenient to check and compare the test results.
6. Multilevel identity management  
Multilevel identity management, different identity has different functions, which not only makes the operation quick by ordinary operator, but also protect the system effectively.
  - a) Based on the database, test data is stored by form of text file, which is convenient for the user to inquire about and utilize the various kinds of commercial report forms to reprocess the test data, meanwhile transfer the data to the internet conveniently.

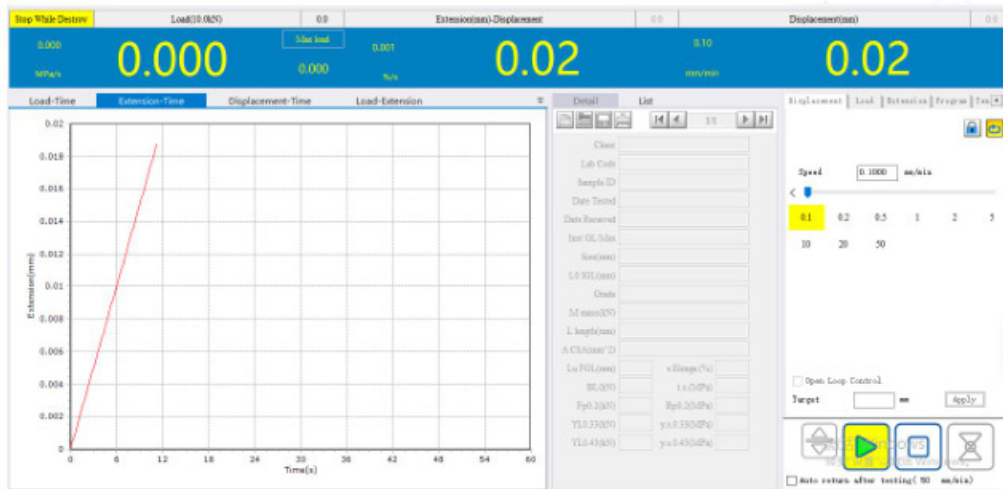
### **Multi controlling channels**

Displacement control, force control, deformation control, stress control, strain control, constant stress, constant strain etc.

### **Please see more information with some pictures:**

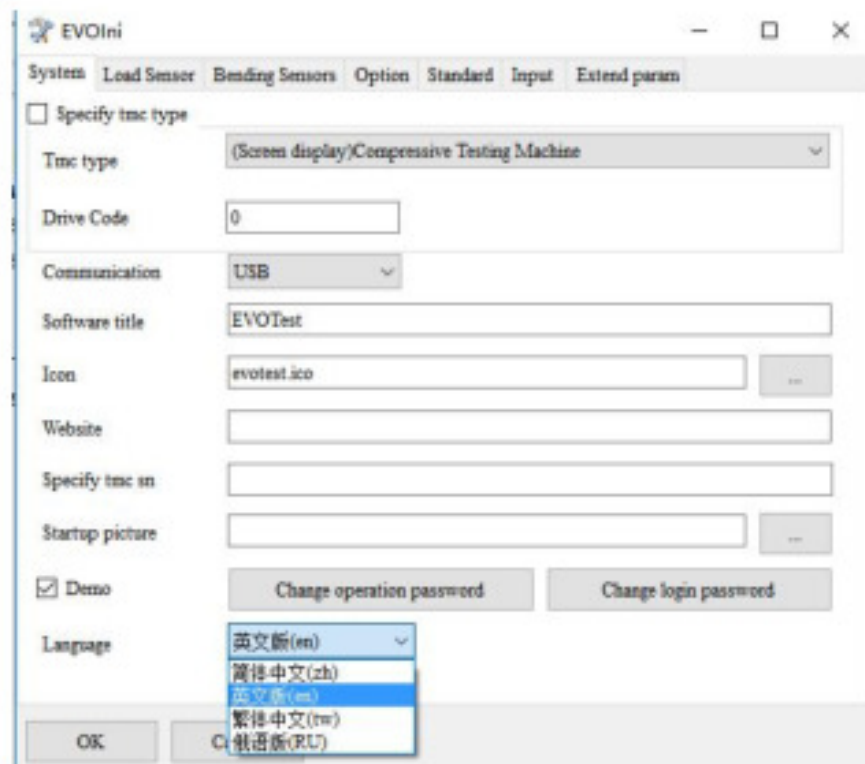
The deep-seated parameters of software are contained in Debug Toolbox



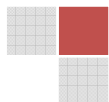


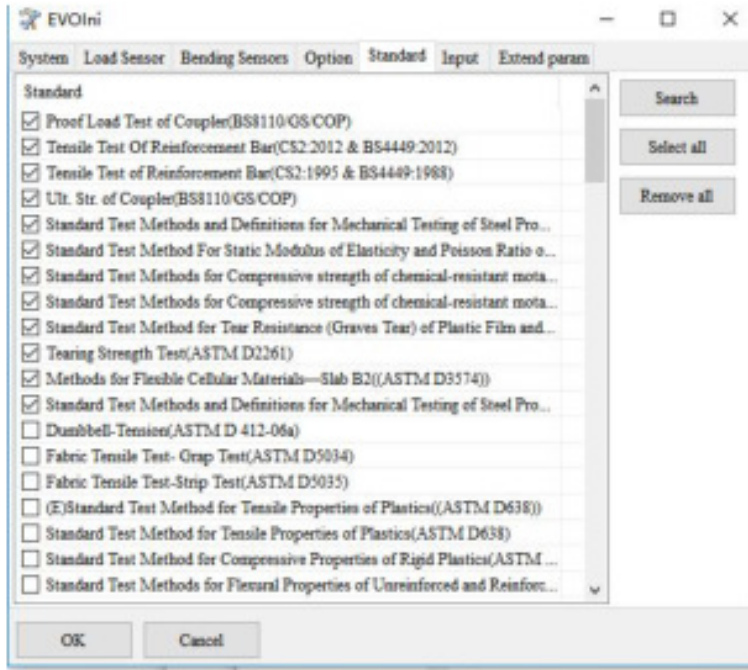
### Multi-language function:

With the flexible language edited function, it can support multi-language such as English, Chinese etc. and you can translate the software language into the native language by yourself.



**Test standard:** provide users with the necessary applications to the test, covering GB, ASTM, DIN, JIS, BS ... and other testing standard specification





## Report

Output and print report: Excel, word, template test report, can be edited customize To show test information, including test person, test standard, test curve, test max load etc can add your company LOGO and company name, easy to edit.

