# Digital Automatic Spring
## Tension & Compression
# ITK-ZJ50N

## Poduct introduction

The mechanical part, the sheet metal part, especially the electrical control part, were upgraded in an all-round way, so that the degree of cooperation, integrity and precision of each part of the whole machine increased by a step. The convenience and speed in the actual use process are greatly improved, and the after-sales service is further facilitated. The control unit of this machine is the latest generation micro operating system independently developed by our company. With rich industry experience and innovative

ideas, our company's product quality accuracy and practical convenience have always been at the leading level in the industry.

The mechanical structure, working principle and design of the machine draw on the advanced experience of international brands. The structure and rigidity of the machine are designed and manufactured for the precision detection of small springs in strict accordance with industry standards.

This machine is especially suitable for the test of various precision grade coil springs, small disc springs, shrapnel and profiled springs.

It is mainly used in laboratory precision testing of spring production enterprises, spring use enterprises, quality inspection, measurement, various mechanical laboratory of colleges and

so on.

## Technical specifications

| | |
|---|---|
| Loading method | Two ways: fully automatic loading and electronic handwheel (fine adjustment) |
| Control type | Full touch screen model |
| Load unit | N、 kN、 gf、 kgf、 lbf、 kip |
| Capacity | 50N |
| Load resolution | 0.001N |
| Measuring range | 1%—100%FS |
| Test force resolution | 1/1000000 |
| Relative error of test force indication | Better than ±1.0% |
| Repeatability relative error of test force indication | Better than 1.0% |
| Displacement resolution | 0.001mm |
| Electronic handwheel (fine adjustment) | 0.001mm/grid (can be set) |
| Test space | 190mm |
| Plate OD | 60mm |
| Plate parallelism | 0.05mm |
| Range of speed | 0.01-500mm/min |
| Dimensions | about 480*380*670mm |
| Weight | about 75kg |
| Power supply | AC 220V±10% 50Hz |

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# Features

- Large-screen control interface, simple, intuitive, easy to learn and understand, easy to operate for people of different ages;

- The structure ratio is good, beautifully sprayed with gold, beautiful appearance, high-end grade;

- The parameter configuration of the whole machine configuration, including machine hardware configuration, sensor calibration, motion control, test operation, etc. can be configured to meet the needs of different users;

- It is especially suitable for the detection of small precision springs, shrapnel and elastomers, and laboratory precision testing;

- Preset test methods for different types of samples, eliminating the troubles that must be set before each test;

- Four test methods, two test types, can be connected to the three-color indicator light to display the results;

- Under the premise of ensuring accuracy, high-speed acquisition can be realized, the degree of automatic detection is high, and the whole test process is completed in one key, which greatly improves the test efficiency;

- Repeatable batch detection can be set for a single type of spring, which improves the efficiency of online detection;

- The electronic hand wheel is loaded at a slow speed, and the deformation can be achieved by a minimum of 1 μm (micrometer);

- The display selects industrial grade 9.7 inch LCD screen (non-commercial commercial grade), 1024*768 resolution, touch precision, full interface touch operation; easy to operate, long life, stable performance, wide viewing angle, right The advantages of small eye damage are small.

- The test control can be used throughout the entire stylus, the control point is accurate, reducing misuse;

- The main components are all selected from high quality brands;
- Automatic judgment of data results, automatic analysis, real-time display; 14, The machine test accuracy, moderate price, efficient after-sales service.

# Digital Automatic Spring
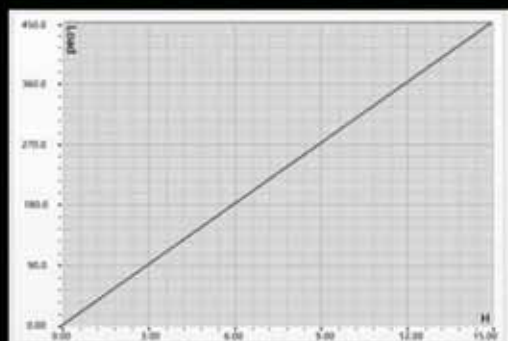# *Tension & Compression*  ITK-ZJ50N

# Main Function

- ZOTEST is a set of measurement and control software specially developed for spring tension and compression testing machine, which integrates data acquisition, motion control and data analysis. It has complete independent copyright;
- Compared with the previous generation software, it has better human-computer interaction, higher test accuracy, stronger stability and higher test efficiency.
- Human-computer interaction full touch input mode, can use three modes of click, double-click, and keyboard input to realize command delivery, parameter input and other operations, which is more in line with current operation habits.
- List the sensor conversion data, refresh the data in real time, double-click to clear, keyboard settings and other operations;
- Adaptive display of test waveforms, complete playback of data during the test process, suitable for both rapid detection and laboratory accurate analysis;
- Button control is divided into one-key trigger and long-press trigger according to function. It adopts one-button trigger for complete function control to realize automatic control; long-press trigger for motion control to improve safety and prevent misoperation;
- Have detailed test data for analysis, including measuring points, results, lower limit of allowable upper limit, judgment, piecewise stiffness, average stiffness, average compliance, free height;
- Four test methods, two test types, backhaul detection, reciprocating detection, etc.
- The whole process of the test runs at a constant speed to avoid the interference of the machine acceleration and deceleration on the test force, and the true reduction test process;
- The system comes with a sample library, preset 20 kinds of samples, the user can set the corresponding parameters according to the requirements, can be directly transferred during the test, improve the test efficiency and reduce the operation difficulty;
- Automatic storage of test data, can store 100 sets of data, can be viewed, printed, exported, etc.;
- Motion control sampling full digital sine wave control, smooth operation, no impact, faster response;
- Based on fast sensor data conversion, high-speed parallel disk can be set, and the compression height zero point can be set with one button;
- Load units include Newton (N), kilonewton (kN), gram force (gf), kilogram force (kgf), pound force (lbf), kilogram force (kip) 6 international units;

## Protection measures:
- Over current and voltage protection functions;
- Load sensor two-way overload protection;
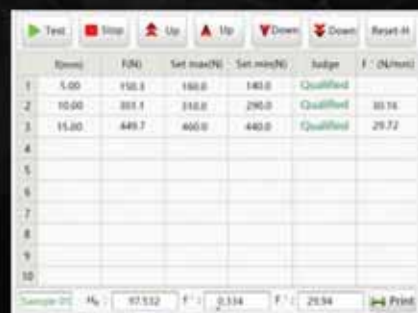- Displacement over limit protection;

# SOFTWARE

Comprehensive touch screen interface screenshots and instructions

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# SOFTWARE
Comprehensive touch screen interface screenshots and instructions

Human-machine intelligent interactive interface: simple, intuitive, full-interface touch
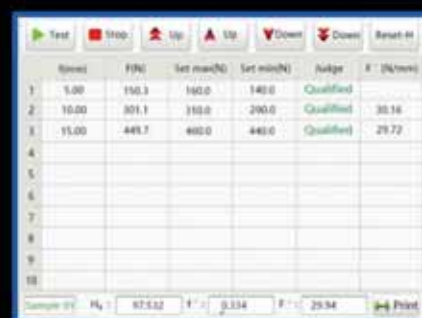
operation, fast control speed,

It can directly touch the corresponding function keys, the use efficiency is greatly improved, and a stylus can also be used.

High-speed and efficient test, real-time data, real-time curve (adaptive curve) synchronous display throughout the process;

The sample library(Up to 20 types can be set) can be set for different test types, test

methods, and test conditions. Different spring samples can be set once and called directly.

The test data results are displayed on the same interface in real time, accurate, fast and comprehensive, and can be judged automatically.

It can obtain free height, average stiffness, average flexibility, etc. The query interface can store 100 sets of test results;

Environment and working conditions

a) The room temperature is within the range of 10 ☐-35 ☐ ; the relative humidity is not more than 80%.
b) In a clean environment free of vibration, corrosive media and strong electromagnetic fields.
c) The fluctuation range of the power supply voltage should be within 10% of the rated voltage.
d) Correct installation on a solid basis.