

## SISCO-TT-DR503 Tensile Tester



This machine is capable of testing rubber, plastics, leather, metals, nylon thread, textiles, paper, and materials used in aviation, packaging, construction, petrochemical, electrical, and automotive industries, among others. It supports tensile, compression, shear, adhesion, peel, and tear tests, making it essential equipment for quality control, incoming inspection, physical property testing, mechanical research, and material development.

The design of this machine complies with GB, ASTM, DIN, JIS, and BS standards.

### 1. Technical Specifications

- Load Sensing Method: Load cell
- Capacity: 10 kN
- Resolution & Accuracy: 1/250,000;  $\pm 0.1\%$
- Displacement Resolution: 0.01 mm
- Unit Conversion: kgf, gf, lbf, N, kN, MPa, Pa, etc.
- Effective Test Width: 400 mm



- Maximum Stroke (excluding fixtures): 850 mm
- Stepper Motor Controller:
- Freely adjustable test speed from 1 to 300 mm/min
  - Available Test Modes:
    - (1) Tear Strength
    - (2) Tensile Strength
    - (3) Elongation Test
    - (4) Bursting Test
    - (5) Maximum Force Test
    - (6) Peel Test
    - (7) Puncture Test
    - (8) Compression Test
    - (9) Bending Test
    - (10) Constant Force / Constant Time / Constant Displacement
- Display Mode: LCD screen
- Standard Machine Configuration: Safety & Protection Features:
  - (1) Upper and lower travel limit protection settings
  - (2) One set of screw dust-proof cover
  - (3) Emergency stop switch
  - (4) Automatic shutdown protection in case of system overload during testing
- Automatic Gain Ranges:  
1× / 2× / 5× / 10× / 20× / 50× / 100× (7-step automatic switching)
- Standard Accessories (Factory Default):
  - (1) One set of standard tensile grips
  - (2) User manual, warranty card, and factory inspection report (one copy each)
- Power Supply: Single-phase AC 220 V, 10 A

## 2. Machine Configuration

### 2.1 High-Precision Load Cell

High-precision load cell selectable according to customer requirements (standard: 1000 kg).

Force accuracy within  $\pm 0.5\%$ .

### 2.2 Capacity Ranges

Seven full-scale ranges:  $\times 1$ ,  $\times 2$ ,  $\times 5$ ,  $\times 10$ ,  $\times 20$ ,  $\times 50$ ,  $\times 100$ .

Equipped with a high-precision 24-bit A/D converter, sampling rate of 50 Hz.

Maximum full-scale force resolution: 1/250,000.

### 2.3 Drive System

Stepper motor + variable frequency drive + ball screw + steel support + linear shaft bearing + synchronous belt transmission.



## **2.4 Control System**

Pulse Command control mode for higher precision.

Speed control range: 1 - 300 mm/min.

The crosshead adjustment features both fast coarse adjustment and slow fine adjustment. After testing, the system automatically returns to the home position and saves test data.

## **2.5 Crosshead Travel Space**

300 mm (excluding grips) - standard specification.

## **2.6 Full-Scale Displacement**

Encoder resolution: 2500 P/R, enhanced to 4× accuracy.

High anti-interference encoder with displacement resolution of 0.001 mm.

## **2.7 Safety Devices**

Overload emergency stop system, upper and lower travel limit protection, leakage current automatic power-off system, and automatic breakpoint stop function.

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# **3. Software Functions Overview**

## **3.1 Modular Test Standards**

Modular test standard settings allow users to configure required test standards, covering GB, ASTM, DIN, JIS, BS, and other international standards.

## **3.2 Specimen Data Management**

Users can define and store all specimen data.

Data only needs to be entered once and can be reused permanently.

## **3.3 Units and Display Settings**

Length units, force units, and display digits support dynamic switching.

Available force units: kg, N, kN, g, lb.