



STRESS RELAXATION TESTER FOR REINFORCING AND PRESTRESSING STEEL

QT-SR Series

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The QT-SR Series Stress Relaxation Tester is **engineered to evaluate the stress-relaxation behavior of metallic materials used in reinforcing and prestressing applications**. It is particularly suited for testing pre-stressed concrete strands, pre-stressed bars, steel wires, steel ropes, and similar products. The instrument operates by applying a defined deformation to a specimen and continuously measuring the reduction in stress over a prolonged period under a controlled elevated temperature.

Complying with **ASTM and ISO**, the system supports standardized stress-relaxation testing for materials and structural components. This capability is essential when designing parts that require long-term tension retention, such as fasteners, rolled-in tubes, spring systems, and pre-stressed concrete elements. The controlled testing environment ensures stable conditions, preventing external factors from altering material performance and enabling accurate evaluation of relaxation behavior under high-stress or tightness-critical applications.



FEATURES/ADVANTAGES

Real-Time Performance Monitoring

Displays load, temperature, and relaxation curves over time, enabling precise evaluation of long-term stress behavior.

Automated Relaxation Calculation

Computes tensile stress relaxation rates over extended test periods, ensuring accurate results without manual processing.

High-Precision Environmental Control

Integrated temperature recorder minimizes external influence, maintaining stable test conditions throughout operation.

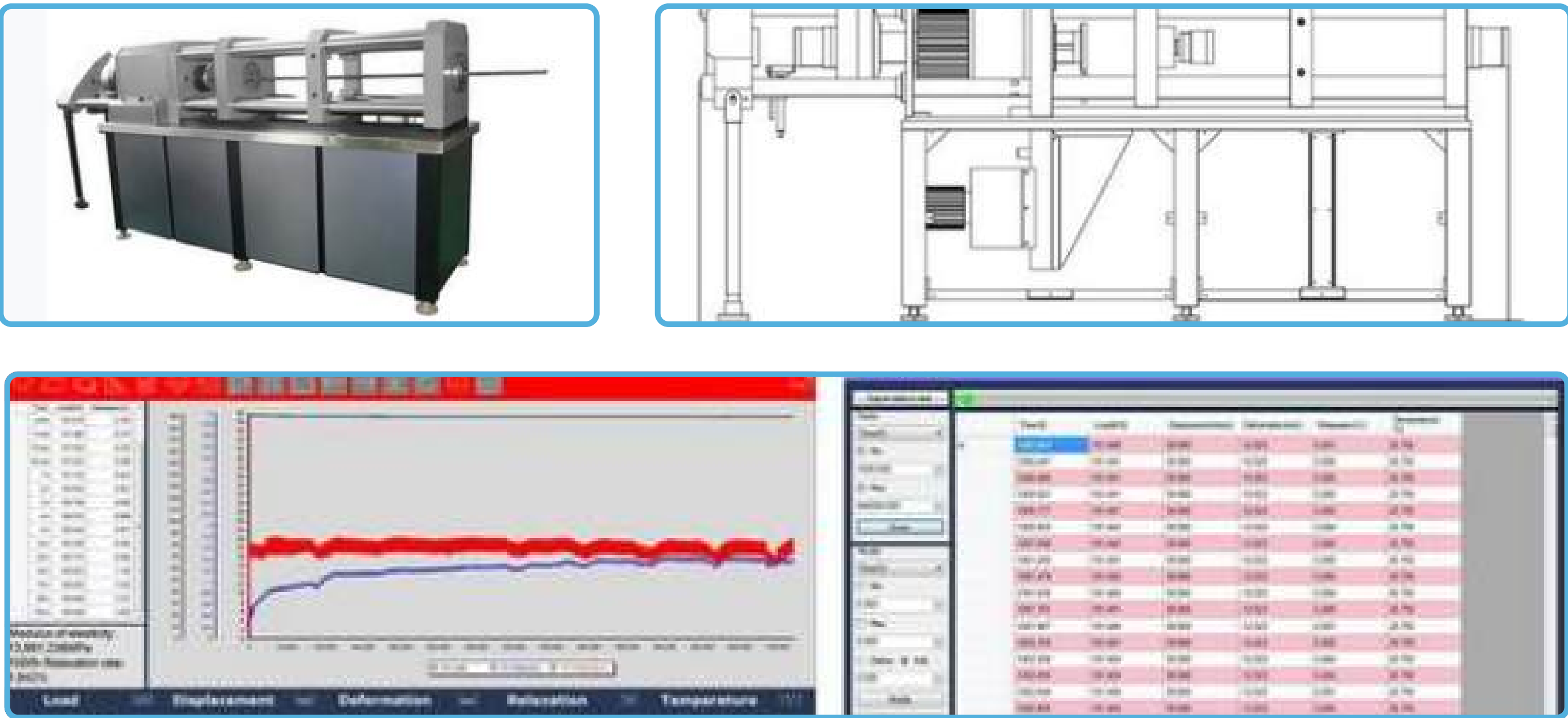


Servo-Driven Load Management

Closed-loop control system delivers consistent load, displacement, and strain application with low noise and high reliability.

Self-Aligning and Calibrated System

Patented anchorage and calibration design ensures accurate specimen alignment and full system calibration without disassembly.



TECHNICAL SPECIFICATIONS

SPECIFICATIONS	DETAILS			
Model	QT-SR-200	QT-SR-300	QT-SR-400	QT-SR-500
Standards	ASTM E328, ISO 15630-3			
Capacity	200kN	300kN	400kN	500kN
Measuring Range	8 – 200kN	12 – 300kN	16 – 400kN	20 – 500kN
Load Resolution	7N	10N	12N	15N
Load Accuracy	±1%			
Load Measuring Accuracy	±0.1% of reading to 1/100 of load weighing system capacity meets or exceeds the requirements of the following standards: ISO 7500-1, EN 10002-2, ASTM E4, JIS B7721			
Creep of Load Cell	30 minutes ≤ 0.02%			
Position Accuracy	±0.5%			
Horizontal Span	1850mm			
Ball Screw Stroke	100mm			
Loading Speed	100 – 5000N/S			
Speed Accuracy	Set speed < 0.05% – Max. Speed: ±1%, set speed ≥0.05% – Max. speed: ±0.5%			
Temperature Accuracy	Temperature sensor resolution: 0.1°C, Temperature sensor accuracy: ±0.3°C			
Position Measurement Accuracy	±0.01 of reading or 0.0001 mm, whichever is greater			
Specimen Dimensions				
PC Strand (mm)	Φ12.7 – Φ15.24	Φ12.7 – Φ15.24	Φ12.7 – Φ15.24	Φ15.2 – Φ21.8
PC Wire (mm)	Φ3 – Φ9	Φ3 – Φ9	Φ3 – Φ9	Φ3 – Φ9
PC Bar (mm)	Φ7 – Φ18	Φ7 – Φ18	Φ7 – Φ18	Φ7 – Φ18
Voltage	Please specify voltage and frequency before placing the order. Standard operational voltages 3ph, 220/380VAC, 50-60 Hz. Power must be free of spikes and surges exceeding 10% of the nominal voltage.			
Operating Temperature	0 to +38°C (+32 to +100°F)			
Humidity Range	10% to 90% non-condensing			
Storage Temperature	-40 to +66°C (-40 to +150°F)			
Machine Dimension	1950 x 540 x 1015mm (L x W x H)			
Weight	1400kg (3086.47 lbs)			

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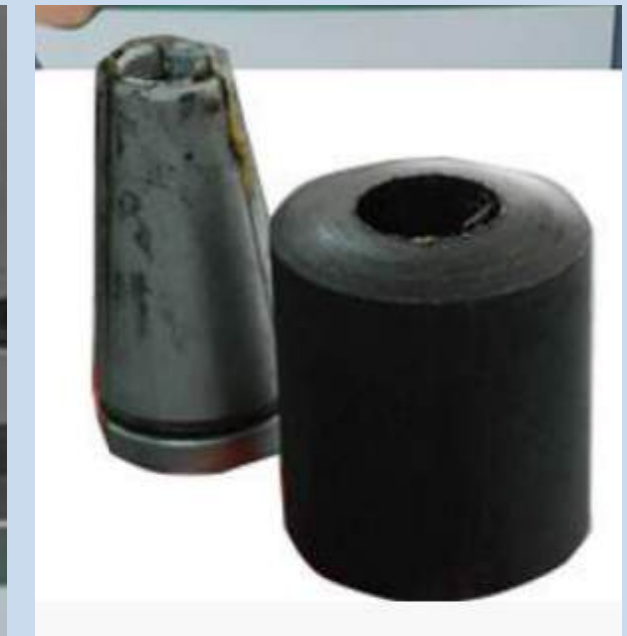
STANDARD CONFIGURATIONS

- Main unit
- Servo systems : driver and motor
- Synchronous toothed belt
- Anchorage
- QualiSoft
- Linear gauge extensometer
- Control unit
- Speed reducer
- Temperature recorder
- Computer
- Printer



The load cell can be calibrated directly on the testing machine without needing to remove it for external calibration. A master load cell is available, which can be installed alongside the machine's load cell to perform the calibration process in place. This method ensures efficiency and accuracy, eliminating the need for disassembly and external

Anchorage





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Connect with us

Contact our **QualiTeam** today to find out how we can help your organization **select the most suitable testing solution** for your application, requirements, and budget.

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