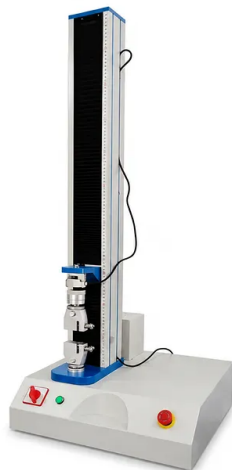


Computerized Dual Column Tensile Strength Testing Machine

Universal Materials Mechanical Test System

Item Number: DS04



Introduction

This computerized dual-column tensile strength testing machine delivers high-precision force measurement, real-time stress-strain curve analysis, and robust servo control across diverse industrial materials, supporting tension, compression, peeling, shear, and flexural evaluation for rigorous QA and R&D.

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Application	Description	Key Benefit
Polymer & Rubber Testing	High-elongation tensile, tear, and tensile-holding evaluation of raw elastomers, molded plastics, and dumbbell specimens.	Captures accurate elongation-at-break and yield behavior without frame distortion or crosshead slipping.
Metallic Wire & Springs	Tensile strength, yield proof, compression, and cyclic bend characterization of steel wires, cables, and industrial coil springs.	High stiffness frame provides clean stress-strain curve resolution at high peak loads.
Films, Foils & Tapes	90-degree and 180-degree peel testing, high-sensitivity shear, and puncture resistance of thin films, laminates, and adhesive layers.	1/250,000 sensor resolution accurately registers micro-load shifts and separation forces.
Structural Composites & Profiles	3-point flexural, shear, and compressive crushing tests on reinforced resin matrices, structural sections, and profile extrusions.	400 mm testing width and 1000 mm stroke accommodate complex geometries and bulky fixtures.
Automotive Components	Static compression, component pull-off, and seam-weld tear tests on molded interior components, fasteners, and rubber bushings.	Multi-condition auto-stop and programmable hold-load testing ensure adherence to manufacturing QA tolerances.
Construction & Geotextiles	Tensile pull, puncture, and prolonged stretch testing on industrial webbing, geotextile fabrics, strapping belts, and synthetic cords.	Generates complete statistical batch reports with exported curves for direct quality certification audits.

Specification Parameter	Model DS04 Technical Value
Model Designation	DS04
Nominal Force Capacity	10 kN (Custom load cell capacities available upon request)
Force Measurement Accuracy	Superior to $\pm 0.5\%$ of reading
Force Resolution	1/250,000
Effective Force Range	0.5% – 100% Full Scale (F.S.)
Indication Verification	Indication error: $\pm 0.5\%$; Indication variability: $\leq 0.5\%$
Positioning Accuracy	≤ 0.01 mm
Engineering Units	N, kN, kgf, gf, lbf
Drive Mechanism	High-precision zero-backlash dual ball screws with guided columns
Drive Power System	Digital AC servo motor with dedicated matched servo drive controller
Test Speed Range	1 – 500 mm/min (Stepless, fully adjustable)
Crosshead Return Speed	1 – 500 mm/min (User programmable)
Effective Crosshead Stroke	1000 mm

Specification Parameter	Model DS04 Technical Value
Effective Gripping Daylight	700 mm (Between standard grips)
Effective Test Width	400 mm
Load Cell Type	Sun Cells high-precision strain gauge transducer
Safety Shutdown Modes	Overload cutoff, specimen rupture stop, upper/lower travel limit switches, setpoint threshold stop
Control & Display System	External PC computer integration with real-time dynamic curve rendering
Software OS Compatibility	Windows 7 / Windows 10 (32-bit & 64-bit)
Report Generation	Automated Word format test reports (Serial numbers, peak forces, curves, averages, historical memory)
Standard Included Fixture	Customized precision compression platen set (Custom tensile/peel fixtures tailored to sample specs)
Included Accessories	Dedicated testing software suite, system interface data cables, manual pendant control box
Optional Accessories	Dedicated PC workstation, industrial report printer, specialized tensile/peel/shear grips
Power Supply	Single-Phase AC 220V $\pm 10\%$, 50 Hz
Power Consumption	400 W
Equipment Dimensions (L x W x H)	750 mm x 430 mm x 1570 mm
Net Equipment Weight	Approximately 185 kg