

Universal Multifunctional Continuous Sensing Touchscreen Rotational Viscometer For Laboratory And Industrial Fluid Rheology

Item Number: DS19



Introduction

Engineered for advanced fluid analysis, this multifunctional continuous sensing rotational viscometer delivers automated rheological testing, dynamic live trend monitoring, and high precision across battery slurries, polymers, adhesives, and chemical formulations with unmatched repeatability and robust operational security compliance.

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Application	Description	Key Benefit
Battery Electrode Slurries	Characterization of anode and cathode active material suspensions, binder dissolutions, and conductive carbon pastes across variable shear regimes.	Prevents slurry sedimentation, optimizes coating uniformity, and ensures defect-free electrode layer thickness during roll-to-roll manufacturing.
Polymer & Resin Formulation	Evaluating flow behavior, curing profiles, and molecular chain resistance in synthetic polymers, epoxy resins, and thermosetting compounds.	Delivers precise torque and shear rate analysis to ensure optimal polymer extrudability, injection flow, and structural integrity.
Paints, Inks & Functional Coatings	Testing leveling, sag resistance, and shear-thinning characteristics in high-solids paints, conductive inks, screen printing pastes, and barrier coatings.	Guarantees consistent application coverage, smooth finish, and reliable transfer across high-speed industrial printing and spray-coating lines.
Pharmaceuticals & Cosmetics	Monitoring the rheological stability, yield stress, and consistency of topical ointments, emulsions, suspensions, serums, and personal care gels.	Confirms batch-to-batch structural stability, patient application comfort, and strict adherence to pharmaceutical regulatory QC guidelines.
Chemicals & Petroleum Derivatives	Measuring viscosity indices and temperature-dependent flow dynamics for lubricants, crude fractions, synthetic oils, coolants, and bulk chemical reagents.	Ensures fluid stability under thermal stress, meeting stringent international lubrication standards and mechanical durability benchmarks.
Adhesives & Sealants Processing	Rheological qualification of hot-melt adhesives, cyanoacrylates, structural polyurethane sealants, and elastomeric bonding agents.	Optimizes dispensing pumpability, bead consistency, and open-time control for automated automotive and electronic assembly lines.

Model Identifier	Viscosity Range (cP / mPa·s)	Minimum Range Limit	Maximum Range Limit	Speed Range (RPM)	Available Speed Increments
DS19-LV	1† – 6,000,000 (6M)	1 cP (with ULA) / 15 cP (Standard)	6,000,000 cP	0.1 – 200	200 discrete selections
DS19-RV	100†† – 40,000,000 (40M)	100 cP (with Spindle #1)	40,000,000 cP	0.1 – 200	200 discrete selections
DS19-HA	200†† – 80,000,000 (80M)	200 cP (with Spindle #1)	80,000,000 cP	0.1 – 200	200 discrete selections
DS19-HB	800†† – 320,000,000 (320M)	800 cP (with Spindle #1)	320,000,000 cP	0.1 – 200	200 discrete selections

Parameter	Specification Details
Measurement Accuracy	±1.0% of full scale range (displayed concurrently with live test results)
Measurement Repeatability	±0.2% of full scale range

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Display Interface	5-inch full-color capacitive touchscreen with real-time trend plotting
Temperature Measurement	Built-in RTD temperature probe with dynamic visual readout (°C or °F)
Interface Parameters Displayed	Viscosity (cP or mPa·s), Temperature (°C/°F), Shear Rate, Shear Stress, % Torque, Speed, Spindle Number, Step Program Status
Security & Compliance	Password protection, customized user access durations, timestamped logging, portable login setup
Analytical Functions	Timed measurement, data averaging, user-programmable QC limits/alarms, custom spindle/speed libraries, step instruction sequences, on-screen data comparison
Data Interfaces	USB interface for computer connectivity, automated data acquisition, and automated PC instrument control

Category	Items Included / Supported Accessories
Standard Package Components	Instrument main unit, spindle set (6-spindle set for RV/HA/HB models or 4-spindle set for LV models), RTD temperature probe, spindle leg guard (included with LV and RV models; omitted from HA/HB), laboratory stand (Model G), and heavy-duty portable carrying case
Optional Modular Hardware	Ball-bearing suspension system (available for RV/HA/HB configurations), EZ-Lock rapid spindle coupling system, quick-action positioning stand, label printer, quick connector/extension hook
Specialized Sample Adapters	Ultra-Low Viscosity Adapter (ULA), Small Sample Adapter (SSA), Thermosel high-temperature heating system, Helipath stand with T-bar spindles for non-flowing substances, Spiral adapter, DIN adapter, and Vane spindles
Calibration & Verification	Certified high-precision Newtonian viscosity standard liquids, optional RV/HA/HB Spindle #1