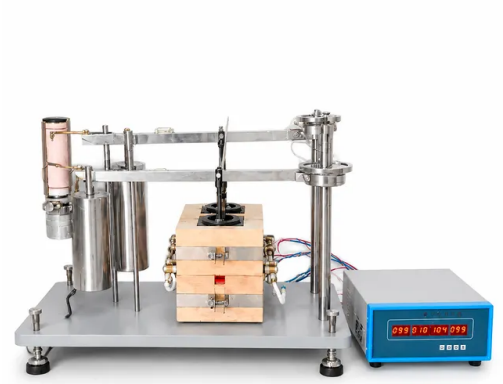
Bituminous Coal Plastometer Plastometric Indices Determination Apparatus

Item Number: KT-TE24



Introduction

Engineered for precise bituminous coal evaluation, this automated plastometer accurately measures plastic layer thickness, contraction, and volume curves in full compliance with standard coking test procedures, providing dependable industrial analysis and quality verification for advanced metallurgical laboratories worldwide.

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Application	Description	Key Benefit
Coking Coal Quality Assessment	Determination of plastic layer thickness (Y) and contraction (X) to classify coal rank and evaluate caking capacity in coking facilities.	Prevents poor coke quality and minimizes oven wall expansion damage by accurately forecasting coking pressure.
Metallurgical Coal Blending Optimization	Testing experimental coal blends to establish optimal proportions of prime coking coal, fat coal, lean coal, and gas coal.	Lowers raw material procurement costs while preserving optimal mechanical coke strength and reactivity index.
Commercial Coal Inspection and Trade	Third-party verification of plastic properties during bulk cargo receipt and coal terminal transfers under international standards.	Provides indisputable, certified analytical documentation to settle commercial transactions and grade disputes.
Coal Gasification and Carbon Conversion	Characterization of coal softening, swelling, and agglomeration dynamics under controlled heating rates for gasifier feedstock selection.	Prevents operational blockages and optimizes reactor flow regimes by screening unsuitable caking coals.
Geological Exploration and Core Analysis	Evaluating drilling core samples to map coal seam metamorphic grade, carbonization potential, and commercial value across new mining zones.	Delivers dependable geological data that accelerates mine development planning and coal reserve valuation.
Academic and Industrial Energy Research	Fundamental investigation of coal pyrolysis kinetics, thermomechanical softening mechanisms, and coke matrix formation.	Yields high-resolution volume displacement and temperature curve profiles for advanced kinetic modeling.

Specification Parameter	Technical Detail (KT-TE24)
Equipment Model Number	KT-TE24
Testing Standard Compliance	GB/T 479, ISO/ASTM equivalent methods for coal plastometric index
Measured Parameters	Plastic layer thickness (Y), Contraction value (X), Volume curve type
Temperature Measurement Range	0°C to 999°C
Temperature Resolution	1°C
Temperature Measurement Accuracy	±2°C
Sensor Configuration	High-precision K-type Thermocouples
Controller Accuracy Rating	Grade 0.5
Standard Heating Program Stage 1	Ambient to 250°C in 30 minutes
Standard Heating Program Stage 2	250°C to terminal temperature at constant 3°C/min
Operational Configuration	Single-furnace or Dual-furnace simultaneous operation
Operating Mode	Continuous industrial operation

Specification Parameter	Technical Detail (KT-TE24)
Recording Drum System	Quartz-type continuous displacement recording assembly
Recording Linear Speed	1 mm/min
Drum Displacement Accuracy	160 ± 2 mm per 160 minutes
Chronometric Timing Accuracy	±30 seconds per 24 hours
Maximum Heating Control Current	12 A per heating circuit
Heating Control Power	4 kW × 2 channels (8 kW total installed capacity)
Automated Logging Intervals	Front and rear furnace temperatures logged every 10 minutes
Power Supply Requirements	AC 220V ±5%, 50 Hz