

Coal Float And Sink Test Recovery Apparatus Heavy Liquid Bucket Mesh Bottom Bucket Hydrometer Skimmer Slime Bucket

Item Number: KT-DT



Introduction

Engineered for standardized coal float and sink analysis, this heavy liquid vessel, mesh bottom bucket, precision hydrometer, skimmer spoon, and slime bucket assembly delivers exceptional corrosion resistance, precise density separation, and reliable sample recovery across demanding metallurgical testing laboratories.

[Learn More](#)

Application	Description	Key Benefit
Standard Coal Washability Analysis	Generating fractional yield-density-ash curves across fractional cuts from 1.30 to 2.00 specific gravity in accordance with ASTM D4371 and ISO 7936 standards.	Delivers standardized gravimetric data for determining theoretical coal cleanability, plant yield potential, and optimal separation densities.
Coal Preparation Plant Optimization	Monitoring clean coal recovery efficiency and partitioning cut-points in commercial dense-medium cyclones, dynamic baths, and water-only spirals.	Pinpoints near-gravity material misplacement to optimize plant operating set-points, minimize coal losses, and improve product consistency.
Commercial Quality Verification and Assay	Conducting independent referee testing and contractual verification of ash, sulfur, and yield specifications for domestic and international coal shipments.	Provides certified, repeatable partition results that prevent commercial settlement disputes and verify specification compliance.
Slime and Ultrafine Liberation Auditing	Evaluating wet-sieved sub-millimeter fractions and flotation tailings to determine the economic viability of ultrafine gravity beneficiation circuits.	Maximizes fine carbon recovery while identifying the liberation characteristics of intergrown mineral matter and discard tailings.
Greenfield Core Sample Metallurgical Evaluation	Processing exploration drill cores and bulk sample composites during bankable feasibility studies for proposed mine developments.	Establishes baseline washability characteristics to guide downstream coal preparation plant design and economic modeling.
Mineral Dense Medium Laboratory Fractionation	Separating industrial minerals, aggregates, and light ore fractions using organic and inorganic heavy liquids under controlled conditions.	Enables precise density profiling of non-coal industrial minerals requiring clean sink-float characterization without cross-contamination.

Component Identifier	Description	Key Dimensions & Physical Parameters	Mesh / Sieve Aperture	Material of Construction
KT-DT-NB	Mesh-Bottom Bucket ()	Cylindrical vessel; Diameter 40 mm smaller than KT-DT-HL; Height 50 mm taller than heavy liquid working level; Upper rigid lifting bail	0.5 mm square woven metallic wire mesh	Austenitic Stainless Steel Sheet (AISI 304/316)
KT-DT-HL	Heavy Liquid Bucket ()	Outer holding vessel dimensioned to receive KT-DT-NB; Dual reinforced side handles; Welded bottom rim	Non-perforated solid base and sidewall	Heavy-Gauge Austenitic Stainless Steel (AISI 304/316)
KT-DT-SK	Skimmer Spoon / Scoop ()	Total length: 470 mm; Handle length: 270 mm; Circular scoop diameter: 200 mm; Shallow dish profile	0.5 mm square woven metallic wire mesh	Austenitic Stainless Steel Frame and Wire Mesh
KT-DT-HM	Precision Hydrometer ()	Specific gravity measuring range: 1.200 to 2.000 g/cm³; Sub-divisions: 0.001 to 0.002 g/cm³; Calibrated at 20°C standard reference	N/A (Solid sealed glass body)	Annealed Laboratory Glassware with Ballast and Paper Scale
KT-DT-SB	Coal Slime Bucket ()	High-volume sedimentation vessel; Reinforced upper rim and dual side handles; Optimized for slurry settling	Solid containment wall and base	Heavy-Gauge Austenitic Stainless Steel (AISI 304/316)
KT-DT-SET	Complete Float-Sink Recovery Assembly	Integrated 5-piece testing assembly comprising KT-DT-NB, KT-DT-HL, KT-DT-SK, KT-DT-HM, and KT-DT-SB	0.5 mm square woven metallic mesh on drainage surfaces	Corrosion-Resistant Stainless Steel and Laboratory Glass

Parameter	Engineering Standard / Test Condition	Technical Specification
Model Item Series	Laboratory Float-Sink Testing System	KT-DT
Sieve Aperture Specification	Mesh bottom and skimmer scoop	0.5 mm square aperture
Wire Mesh Weave Standard	Metallic wire cloth standard	Square weave high-tensile stainless steel wire
Dimensional Clearance (Diameter)	Mesh bucket vs. heavy liquid bucket	40 mm clearance differential
Dimensional Clearance (Height)	Mesh bucket vs. heavy liquid surface	50 mm elevation above working liquid level
Skimmer Spoon Total Length	Overall structural dimension	470 mm
Skimmer Spoon Handle Length	Ergonomic reach handle	270 mm
Skimmer Spoon Head Diameter	Circular skimming head	200 mm
Compatible Dense Liquids	Chemical resistance profile	Zinc Chloride (ZnCl ₂) solutions, Bromoform, Tetrabromoethane, Perchloroethylene
Operating Temperature Range	Standard testing environment	10°C to 45°C ambient
Seam and Joint Treatment	Weld finishing and surface hygiene	Smooth-ground, deburred, and acid-passivated welds
Testing Standards Compliance	International and national test methods	ASTM D4371, ISO 7936, GB/T 478