

Adjustable Electric Hot Plate ML Benchtop Laboratory Heating Plate For Chemical Analysis And Thermal Testing

Item Number: KT-DRB



Introduction

Engineered for demanding industrial and biochemical research laboratories our adjustable electric hot plate ML delivers precise uniform heating up to 380 C with corrosion resistant plates and dual sensor control for reliable chemical analysis and routine sample drying.

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Application	Description	Key Benefit
Chemical Analysis & Wet Acid Digestion	Facilitates matrix dissolution, acid boiling using concentrated nitric, hydrochloric, and perchloric acids, and heavy metal digestion within open beakers or digestion vessels across industrial mining laboratories and chemical plants.	Anti-corrosion treated stainless steel or cast steel top plate withstands acidic fumes while maintaining even planar thermal dissipation that prevents sample bumping and vessel boiling shock.
Biochemical & Clinical Reagent Preparation	Supports gentle heating, reagent dissolution, culture media preparation, and precise thermal incubation required for medical diagnostic pathology testing, life sciences research, and healthcare institutions.	Intelligent dual-sensor monitoring ensures tight thermal regulation without overshoot, preventing thermal degradation and denaturation of sensitive biological enzymes and active biochemical compounds.
Geological Ore & Mineral Sample Drying	Employs continuous high-temperature thermal transfer to eliminate residual moisture and crystalline water from pulverized core samples, tailings, and crushed minerals prior to XRF or ICP-OES spectroscopy.	Large surface area options up to 600 × 400 mm and 380°C thermal capability allow simultaneous high-throughput batch processing with minimal thermal gradient across plate perimeters.
Pharmaceutical Solution Evaporation & Concentration	Accelerates solvent boiling, gentle liquid evaporation, extract concentration, and crystallization trials during synthetic pharmaceutical development and bulk product quality control validation.	Fully sealed flameless heating architecture prevents ignition of volatile organic solvent vapors, significantly improving occupational health and laboratory safety protocols.
Materials Thermal Testing & Tempering	Enables controlled curing of polymer coatings, baking of ceramic substrates, pre-heating of metallurgical specimens, and low-temperature thermal stress-relief trials for advanced engineering materials.	Stable 380°C operating ceiling and resilient cast steel surface withstand dense metallic payloads without surface indentation or localized heat sinks.
Environmental Sludge & Wastewater Solids Analysis	Performs total suspended solids (TSS) and total dissolved solids (TDS) gravimetric drying, rapidly evaporating water matrices from ceramic crucibles and evaporating dishes.	Uniform planar heat distribution eliminates cool spots across the plate, delivering consistent sample dry-weight determinations compliant with standard environmental testing guidelines.
Quality Assurance Baking & Thermal Conditioning	Conducts routine thermal conditioning, component pre-heating, moisture determination, and adhesive curing across manufacturing assembly lines and industrial inspection facilities.	Rugged cold-rolled steel housing with electrostatic spray coating withstands rigorous multi-shift industrial duty cycles without mechanical wear or chassis fatigue.

Model Identifier	Temperature Control Type	Usable Working Dimensions (mm)	Operating Voltage	Rated Power Range (kW)	Maximum Operating Temperature (°C)	Temperature Sensing Architecture
KT-DRB-ML-1.5-4	Stepless Electronic Voltage Regulation	400 × 280	AC 220V, 50 Hz	0 - 1.5	380	Standard Internal Thermal Circuitry
KT-DRB-ML-2-4	Stepless Electronic Voltage Regulation	450 × 350	AC 220V, 50 Hz	0 - 2.0	380	Standard Internal Thermal Circuitry
KT-DRB-ML-3-4	Stepless Electronic Voltage Regulation	600 × 400	AC 220V, 50 Hz	0 - 3.0	380	Standard Internal Thermal Circuitry
KT-DRB-SKML-1.5-4	Intelligent Digital Meter Controller	400 × 280	AC 220V, 50 Hz	1.5	380	Intelligent Dual Temperature Sensors

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KT-DRB-SKML-3-4	Intelligent Digital Meter Controller	600 × 400	AC 220V, 50 Hz	3.0	380	Intelligent Dual Temperature Sensors

Parameter Category	Engineering Specification	Design & Operational Significance
Heating Surface Metallurgy	High-Grade Stainless Steel Plate or Cast Steel Material	Provides exceptional structural hardness, thermal conductivity, and resistance to thermal deformation under continuous 380°C operation.
Surface Corrosion Protection	Specialized Anti-Corrosion Chemical Passivation Treatment	Shields top plate metallurgy against aggressive mineral acid splash, halogen fumes, and oxidative laboratory atmospheres.
Heating Mechanism	Fully Enclosed Sealed Resistance Heating Element Disk	Flameless operational profile prevents volatile vapor combustion while protecting internal heating elements from chemical liquid spillage.
Enclosure Fabrication	Stamped Heavy-Duty Cold-Rolled Steel Sheet	Provides superior structural rigidity, torsional stability, and durability compared to folded sheet metal or polymeric enclosures.
Chassis Surface Treatment	Industrial Electrostatic Powder Spray Coating Process	Delivers a robust barrier against chemical degradation, scratching, corrosion, and high-ambient humidity in aggressive work environments.
Electronic Control Options	Analog Stepless Voltage Regulation (ML) / Intelligent Digital PID (SKML)	Accommodates variable user workflows ranging from simple manual heating adjustment to automated, high-precision setpoint regulation.
Sensor Configuration	Dual-Sensor Architecture (Intelligent SKML Models)	Provides real-time temperature feedback from both the heating element core and plate surface to suppress thermal lag and overshoot.
Electrical Standard	AC 220V ± 10%, 50 Hz Single Phase	Standardized laboratory utility compatibility across industrial plants, healthcare clinics, and academic research institutions.