hotplate magnetic stirrer with temperatures up to 510°C

Hotplate magnetic stirrer is a kind of laboratory basic equipment integrating stirring and heating. The main function is to realize efficient stirring of liquid or mixed solution while controlling the temperature, which is applicable to a variety of solution volumes up to 20 liters.

Hotplate Magnetic Stirrer

Main Features

1. High-temperature heating: Ceramic-coated stainless steel plate heats up to 510 °C for most laboratory applications.
2. Intelligent temperature control: Advanced PID algorithms ensure fast response, stable control, and wide/high-accuracy temperature range.
3. Intuitive interface: Large LED dual display shows set/actual temperature and speed in real time for easy operation.
4. Ceramic-coated heating plate: Wear-resistant, acid/alkali corrosion-resistant, highly efficient, and easy to clean/maintain.

5. Fully enclosed alloy shell: Excellent heat/corrosion resistance and good heat dissipation.
6. High-efficiency brushless DC motor: Maintenance-free, stable at high speed (up to 1500 rpm)—keeps 5L liquid mixing smoothly.
7. Multiple safety guarantees: Dual hardware/software over-temperature protection and 50 °C hot surface warning system.
8. External probe support: PT1000 sensor auto-recognition for precise temperature control—ideal for constant temperature reactions.
9. Timing function: 0–99h 59min timer to meet diverse experimental needs.

Core Advantages

1. Highly integrated: Heating, stirring, and temperature control in one—space-saving and efficient.
2. Accurate/reliable: PID temperature control and stable speed for repeatable, trustworthy experiments.
3. Strong safety: Comprehensive over-temperature protection and hot surface warning for operator/lab safety.
4. High durability: Quality materials withstand harsh environments and extend equipment life.

Working Principle

Magnetic drive and heat transfer: A motor generates a rotating magnetic field, spinning a stir bar in the liquid for continuous mixing. The heating plate transfers heat to the vessel, with PID algorithms adjusting power and speed in real time for stable conditions. PT1000 sensors enable precise sample temperature monitoring for closed-loop control, ensuring accurate thermodynamic reactions.

Application Areas

1. Biological labs: Dissolving media, stirring buffers, reagent prep.
2. Chemical synthesis: Reactions, solution mixing, crystallization.
3. Pharmaceutical engineering: Drug development—dissolution, mixing, homogenization.
4. Food testing/development: Sample pretreatment, component mixing.
5. Environmental science: Water analysis, sample extraction.
6. Materials research: Sol-gel, nanomaterial synthesis, high-temp processes.

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Model	**T10HS**
Temperature range	50°C to 510°C

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Model	**T10HS**
Temperature resolution	0.1°C
Temperature accuracy	±1°C
Stirring volume	20L
Platform dimensions	185x185mm
Heating plate material	ceramic surface
Heating power	1000W
Speed range	50rpm to 1500rpm
Motor type	brushless dc motor
Motor power	15W
Stirrer size	≤80xϕ9.5mm
Display	LED

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Model	**T10HS**
Timer	0 to 99 hours 59 minutes
External dimensions	220x350x100mm
Power supply	200Vac to 240Vac,100Vac to 120Vac, 50/60Hz
Power	1050W
Weight	4.0kg