hotplate stirrer with oversized alnico magnetic material

hotplate stirrer is a kind of high-performance experimental instrument which integrates liquid heating and magnetic stirring function, widely used in scientific research experiment, fine chemical industry, biomedicine and college teaching and other fields.

Hotplate Stirrer

Main Features

1. Adjustable forward/reverse stirring: Motor commutation enables cyclic switching of stirring direction for deep mixing of viscous or suspended liquids.
2. Corrosion-resistant microcrystalline glass interface: Scratch-resistant, acid/alkali-resistant, easy to clean after experiments, aesthetically pleasing and low-maintenance.
3. Large ceramic heating plate: 180×180mm white platform supports large stirrers and ensures thermal balance for high-volume liquids.
4. Insulated heating plate: Composite surface remains safe and insulated even at 380 °C for secure operation.
5. LCD backlit display: Shows set and real-time temperature, time—intuitive, convenient control.

6. Magnetic field enhancement: High-grade Alnico magnets provide strong coupling and stability, even at high temperatures.
7. Dual security system: Heating indicator LED and digital temperature feedback avoid overheating and misuse.
8. Integrated micro-rotary reversing knob: Multi-function knob enables rotary and press switching for efficient operation.

Core Advantages

1. Stronger magnetic coupling: Reliable stirring for viscous or suspended solutions, even at high temperatures.
2. High thermal efficiency & low loss: Insulated heating plate speeds heating and saves energy.
3. Supports large capacity: Stable use with wide-mouth beakers or reaction bottles.
4. Intelligent operation: LCD feedback controller and direction change improve accuracy and user feedback.
5. High reliability materials: Corrosion-resistant glass, ceramic, and magnets extend service life.

Working Principle

1. Stirring: Motor generates a rotating magnetic field (via high-strength Alnico magnet), driving the stir bar for uniform mixing; forward/reverse switching for particle-containing/high-viscosity systems.
2. Heating: Ceramic plate rapidly conducts heat to the container via contact conduction; insulation prevents electrical/thermal leakage.
3. Temperature control: Closed-loop digital controller adjusts output power to maintain stable heating, avoiding temperature fluctuations.

Application Areas

1. Organic/inorganic chemistry: Reflux, crystallization, synthesis, extraction—precise heating and stirring.
2. Biotechnology: Thermostatic enzyme digestion, cell lysis, nutrient solution mixing.
3. Pharmaceutical R&D: Drug dissolution, dispensing, dissolution tests.
4. Food science/environmental engineering: Mixing simulation, solution testing, pollutant dissolution.
5. Teaching labs: Basic heating/stirring for chemistry/biology education.

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Model	**T20S**	**T20HS**
Temperature range	No	80°C to 380°C
Temperature resolution	No	0.1°C
Temperature accuracy	No	±0.3°C
Stirring volume	20L	
Platform dimensions	180x180mm	
Heating plate material	ceramic surface	
Heating power	No	900W
Speed range	80rpm to 1500rpm	
Motor type	brushless dc motor	
Stirrer size	⩽50mm	
Display	LCD	

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Model	**T20S**	**T20HS**
Timer	0 to 99 hours 59 minutes	
External dimensions	210x340x100mm	
Power supply	200Vac to 240Vac,100Vac to 120Vac, 50/60Hz	
Power	50W	950W
Weight	3.0kg	3.8kg