Magnetic Stirrer with Hot Plate

A Magnetic Stirrer with Hot Plate is a laboratory instrument that combines heating and stirring to mix solutions efficiently. It is commonly used in chemical, pharmaceutical, biological, and research laboratories for uniform heating and mixing of liquids.

Key Features:

- Simultaneous heating and stirring for efficient solution preparation.
- Magnetic stir bar (Teflon-coated) rotates inside the liquid for uniform mixing.
- Adjustable speed and temperature controls for precise operation.
- Flat heating plate (ceramic or metal) for even heat distribution.

Working Principle:

1. The hot plate heats the liquid to the desired temperature.
2. A magnetic stir bar placed inside the liquid rotates due to a magnetic field generated by an internal motor.
3. This ensures consistent mixing and even heat distribution without manual intervention.

Applications:

- Chemical & Pharmaceutical Labs – Dissolving solids, solution preparation.

- Biotechnology & Microbiology – Mixing culture media and buffer solutions.
- Food & Beverage Industry – Emulsification and sample preparation.
- Material Science – Nanoparticle synthesis and reaction studies.