

## Dissolution Test Apparatus



A dissolution test apparatus is a laboratory instrument used to evaluate the rate at which an active pharmaceutical ingredient (API) dissolves from a solid dosage form (e.g., tablets or capsules) in a specified medium. It is an essential tool in pharmaceutical quality control and research to ensure drug consistency, efficacy, and bioavailability.

### Key Components:

- Dissolution vessel (holds the medium)
- Stirring mechanism (paddle or basket)
- Heater & temperature controller (maintains  $37 \pm 0.5^{\circ}\text{C}$ )
- Sampling system (collects dissolved drug samples)

### Applications:

- Ensures batch-to-batch consistency
- Predicts in vivo drug behavior
- Supports formulation development
- Required for regulatory compliance (USP, FDA, IP, etc.)