

## Brookfield Viscometer



A Brookfield Viscometer is an instrument used to measure the viscosity of liquids and semi-solid materials. It operates based on the principle of rotational viscometry, where the resistance of a fluid to a rotating spindle is measured.

### Key Components:

1. Motor & Drive Mechanism – Rotates the spindle at a controlled speed.
2. Spindle – Immersed in the sample; different spindle types are used for different viscosity ranges.
3. Torque Sensor – Measures the resistance (torque) exerted by the fluid.
4. Display & Software – Shows viscosity readings in centipoise (cP) or milliPascal-seconds (mPa·s).

### Working Principle:

- The instrument rotates a spindle in the sample.
- The fluid's resistance to spindle rotation is measured as torque.
- Viscosity is calculated based on torque, spindle speed, and spindle type.

### Applications:

- Food & Beverages (e.g., sauces, dairy, honey)
- Pharmaceuticals (e.g., syrups, creams, gels)
- Cosmetics (e.g., lotions, shampoos)

- Paints & Coatings (e.g., ensuring proper flow properties)
- Petroleum & Lubricants (e.g., motor oils)