Why measure viscosity?

The ability to gather data on a material's viscosity behavior gives manufacturers an important "product dimension." Knowledge of a material's rheological characteristics is valuable in predicting its pourability, its performance in a dipping or coating operation, or the ease with which it may be handled, processed, or used. The interrelation between rheology and other product dimensions often makes the measurement of viscosity the most sensitive or convenient way of detecting changes in color, density, stability, solids content, and molecular weight.

Why Choose Brookfield?

Ease of use, flexibility, reliable performance and quality of service have made Brookfield Viscometers favorites all over the world. All Brookfield Viscometers are accurate within ±1.0% of the range in use and have a reproducibility within ±0.2%. Test results can be duplicated anywhere in the world when the same model instrument is used.

Price

Choices for Instrumentation

This chart shows the Brookfield family of Laboratory Viscometers and Rheometers at a glance. This will help to give you a general idea of what is available before making a decision. The horizontal axis indicates performance capability and features while the vertical axis addresses price level.

Need to measure viscosity in-line? Brookfield also offers a complete line of process viscometers.

Dial Reading
- Torque

DV-E
- Calculates Viscosity
- Torque

DV1 Cone/Plate
- Small Sample Size
- Defined Shear Rate

DV1
- Optional Temp Probe
- Calculates Viscosity
- Torque

DV2T Cone/Plate
- Small Sample Size
- Defined Shear Rate

DV2T
- Touch Screen Interface
- Temp Probe
- Data / User Security
- PC Control
- Calculates Viscosity
- Torque

DV3T Cone/Plate
- Small Sample Size
- Defined Shear Rate

DV3T
- Touch Screen Interface
- Real Time Graphing
- Temp Probe
- Data / User Security
- PC Control
- Calculates Viscosity
- Torque
- Yield Stress

CAP 2000+ Cone/Plate
- Broad Shear Rate Range
- Peltier Plate Temp Control
- RS 232 (PC control)

RST Cone/Plate
- Peltier Plate

RST Coaxial Cylinder
- Controlled Stress & Rate
- Yield Stress
- Stand Alone Programmable
- Temp Probe
- USB & RS232
- Calculates Viscosity
- Torque

PVS Rheometer
- Pressurized Sample Chamber
- Controlled Rate
- Temp Probe
- RS232/USB
- Calculates Viscosity
- Torque

Performance

SPECIAL PURPOSE INSTRUMENTS

KU-2 Viscometer
- KREBS Viscosity
- Required for Paint and Coatings

CAP 1000+ Cone/Plate
- Single Shear Rate
- Required for Paints and Coatings

RST Soft Solids Tester
- Yield Stress
- Creep
- Recovery

Falling Ball Viscometer
- Viscosity
- Used for QC & Academic Institutions

Brookfield also offers several special purpose instruments which are used to perform a specific type of test or are used to evaluate certain types of materials.

Questions to Consider

1. What is the viscosity range of your material: Low, medium, high?
2. What rotational speeds or shear rates are important?
3. How much sample is available for testing?
4. Is temperature measurement/control necessary?
5. Do you need to record the viscosity data?

The Selection Method

The Model Selection Table (shown at right) shows detailed information on standard Brookfield Viscometers/Rheometers, including the Dial Reading, DV-E, DV1, DV2T, and DV3T. The Applications Table (shown at lower right) shows information on typical applications of the standard Brookfield viscosity ranges. There may be industry or supplier/vendor specifications that you need to duplicate. Before making a final selection, we suggest that you confer with people in your industry to find out which Brookfield Viscometer they are using so that your data can be correlated.

In addition, you may wish to call us and discuss your application or refer to our extensive library of technical papers which covers a complete spectrum of applications. We can also test your materials at Brookfield to recommend the instrument most suitable for your application.

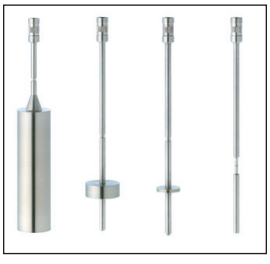
Spindles

Standard Brookfield Viscometers/Rheometers are supplied with a standard spindle set constructed of stainless steel (#302). Additional spindle options are available in #316 stainless steel or with Teflon coating for increased corrosion resistance. Other spindles and accessories are also available.

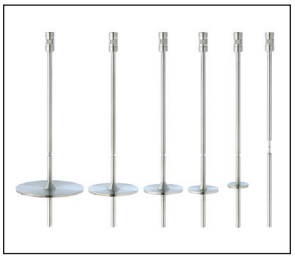
Cylindrical Spindles

Cylindrical spindles are particularly valuable when measuring non-Newtonian fluids and are applicable to any Brookfield Viscometer model with the use of appropriate range tables. Cylindrical spindles may be substituted for standard spindles upon request.

LV Spindle Set



RV/HA/HB Spindle Set



Optional Cylindrical Spindle Set

.

Model Selection Table Brookfield Standard Viscometers/Rheometers

	**MODEL	Min. cP(mPa•s) VISCOSITY RANGE	Max. cP(mPa•s) VISCOSITY RANGE	NUMBER OF SPEEDS	# of Spindles Supplied
LOW VISCOSITY	LVT	1*	2 M	8	4
	LVDV-E	1*	2 M	18	4
	DV1MLV	1*	2 M	18	4
	DV2TLV	1*	6 M	200	4
	DV3TLV	1*	6 M	2600	4
MEDIUM VISCOSITY	RVT	100	8 M	10	6
	RVDV-E	100	13 M	18	6
	DV1MRV	100	13 M	18	6
	DV2TRV	100	40 M	200	6
	DV3TRV	100	40 M	2600	6
HIGH VISCOSITY	HAT	200	16 M	10	6
	HADV-E	200	26 M	18	6
	DV1MHA	200	26 M	18	6
	DV2THA	200	80 M	200	6
	DV3THA	200	80 M	2600	6
	HBT	800	64 M	10	6
	HBDV-E	800	104 M	18	6
	DV1MHB	800	104 M	18	6
	DV2THB	800	320 M	200	6
	DV3THB	800	320 M	2600	6

** Standard torque range values M = 1 million

* Minimum ranges can be extended to as low as 1 cP with the use of Brookfield Accessories

Applications Table

Consider application and viscosity range when selecting model (LV, RV, HA, HB)

LV SERIES – LOW VISCOSITY

- Adhesives (solvent base)
- Biological Fluids
- Chemicals
- Cosmetics
- Dairy Products
- Hot Waxes
- Inks
- Juices
- Latex
- Oils
- Paints and Coatings
- Pharmaceuticals
- Photo Resist
- Polymer Solutions
- Rubber Solutions
- Solvents

RV SERIES – MEDIUM VISCOSITY

- Adhesives (hot melt)
- Asphalt (SHRP)
- Ceramic Slurries
- Creams
- Dairy Products
- Food Products
- Gums
- Inks (screen printing)
- Organisols
- Paints
- Paper Coatings
- Paper Pulp
- Plastisols
- Starches
- Surface Coatings
- Toothpaste
- Varnish

HA/HB SERIES – HIGH VISCOSITY

- Asphalt
- Caulking Compounds
- Chocolate
- Epoxies
- Gels
- Inks (ballpoint, offset, lithographic)
- Molasses
- Pastes
- Peanut Butter
- Putty
- Roofing Compounds
- Sealants
- Sheet Molding Compound
- Tars