

# Falling Ball Viscometer

...Newtonian measurements made simple and easy!

The Brookfield Falling Ball Viscometer uses the simple — but precise — Höppler principle to measure the viscosity of Newtonian liquids by measuring the time required for a ball to fall under gravity through a sample-filled tube.

**Set of six balls** to test a wide variety of samples

**Connection to circulating bath** for temperature control of sample

**Temperature Probe**

**Pivot bearing** allows for quick and easy tube rotation for repeat test

**Model KF40** (shown) variable angle allows for greater viscosity range

**Model KF30** (also available) fixed angle complies with DIN 53015

**Viscosity Range:**  
0.5 to 70,000  
mPa•s (cP)

**Accuracy:**  
0.5% to 2.0%  
(depending on ball used)



## What's Included?

Instrument  
Set of six (6) balls  
Temperature Probe  
Carrying Case

## Optional Accessories

Temperature Bath (p33-35)  
Viscosity Standards (p52)  
Special Temperature Probes

## Applications

Beverages  
Coatings  
Cosmetics  
Detergents  
Food  
Paint  
Petroleum Products  
Pharmaceuticals  
Polymers  
Soap

## How It Works

The Falling Ball Viscometer is based on the measuring principle by Höppler for simple but precise dynamic viscosity measurement of transparent Newtonian fluids. The basic concept is to measure the elapsed time required for the ball to fall under gravity through a sample-filled tube inclined at an angle\*. The tube is mounted on a pivot bearing which quickly allows rotation of the tube 180 degrees, thereby allowing a repeat test to run immediately. Three measurements are taken and the average time it takes for the ball to fall is the result. A conversion formula turns the time reading into a final viscosity value.

The Falling Ball Viscometer is used for quality control in various industries as well as in academic institutions to illustrate scientific method. The ease of use and straightforward method for recording time measurements ensures meaningful test results.

LxF30 has a fixed angle of 80 degrees; Model KF40 can be angled at 50, 60, 70 and 80 degrees.

SPECIFICATIONS		
Viscosity Range:	0.5 mPa•s (cP) to 70,000 mPa•s (cP)	
Accuracy:	0.5% - 2.0% depending on choice of ball	
Ball set Material of Construction:		
	Balls 1 and 2:	Boron Silicate Glass
	Balls 3 and 4:	Nickel-iron
	Balls 5 and 6:	Steel
Ball Diameter:	11.0 mm to 15.81 mm	
Fall Time of Ball in Measurement:	30 to 300 seconds**	
Length of Measurement Zone in the Tube:	100 mm	
Operating Temperature Range:	-60°C to +150°C	
Sample Tube Volume:	40mL	
Viscometer Dimensions:	180 x 220 x 330 mm	

\*\*Falling times greater than 300 seconds allow measurement of liquids above 70,000 mPa•s (cP)



### Ball Set with Case

The Falling Ball Viscometer comes complete with a set of six (6) balls. See Specifications for material construction.



### KF40 with Bath

Use with a Brookfield Circulating Bath permits rapid temperature control of sample for more accurate and repeatable results.