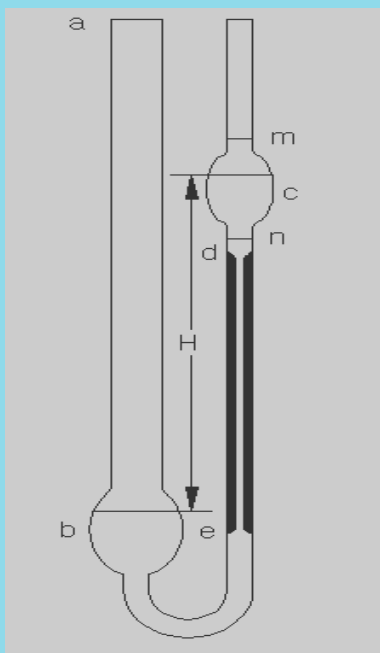


## LEMI-35 Measuring Liquid Viscosity - Capillary Method

- *Innovative apparatus construction*
- *Temperature variable and*
- *High accuracy*
- *Affordable*



Schematic of Ostwald viscometer



In the steady flow of liquid, due to the flow rate difference among layers, there exists an interaction force between two adjacent layers, known as the viscous force. Viscosity is one of the important properties of liquid with a wide range of applications. For example, it is found that many cardiovascular diseases are associated with the change in blood viscosity. The increase of the blood viscosity decreases or slows down the blood flow into organs, causing a variety of cardio-vascular diseases and many other symptoms of physical discomfort. Therefore, measuring blood viscosity can help diagnose human health.

This apparatus is designed to measure the viscous coefficient of liquid using an Ostwald viscometer. It requires a small volume of sample with high precision temperature control and good repeatability. This experimental apparatus can be used for basic physics experiments and research use, and especially for biophysics teaching.

## Experimental Objectives

1. Understand the Poiseuille law.
2. Learn how to measure viscous & surface tension coefficients of liquid using Ostwald viscometer.

## Specifications

Temperature controller	Range: room temperature to 45 °C; resolution: 0.1 °C
Stopwatch	Resolution: 0.01 s
Motor speed	Adjustable, power supply 4 V~11 V
Ostwald viscometer	Capillary tube: inner diameter 0.55 mm, length 102 mm
Beaker volume	1.5 L
Pipette	1000 $\mu$ l

## Part List

Name	Qty	Note
Main unit	1	With internal motor
Lid of beaker	1	W/ heater, sensor, capillary holder & wire sockets
Glass beaker	1	
Ostwald viscometer	2	
Stopwatch	1	
Magnetic rotor	1	
Rubber ball	1	With a segment of rubber tube
Connection wire for heater	1	2-core
Wire for temperature sensor	1	3-core
Pipette	1	1000 $\mu$ l with transparent rubber tube
Accessories case	1	
Power cord	1	

**Note: above product information is subject to change without notice.**