

CAPILLARY VISCOMETER

REFERENCE : EH105



Non contractual photo

SERVICE : POWER SUPPLY (220 V, 50 HZ, SINGLE PHASE); COMPRESSED AIR SUPPLY (MINIMUM PRESSURES 1 BAR AND MAXIMUM 3 BARS) DISTILLED WATER
DIMENSIONS : 370 X 650 X 1200 MM

WEIGHT : 20KG

A flow of Poiseuille (permanent laminar flow of an incompressible fluid) in a pipe of circular section and horizontal axis can determine the dynamic viscosity of liquids, that is to say, their resistance to flow. Indeed, for such a flow, the flow rate of the fluid and the pressure drop in the pipe are proportional, the coefficient of proportionality depending only on the dimensions of the pipe and the dynamic viscosity of the fluid.

The apparatus thus consists of a capillary tube connected to a pressurized and thermostatically controlled chamber. The determination of the dynamic viscosity of the fluid is obtained from the reading on a pressure gauge of the pressure drop in the pipe and the measurement of the flow. The capillary tube being surrounded by a thermostated sleeve, the influence of the temperature on the viscosity of a fluid is demonstrated.

- Calibration of capillary tubes
- Determination of the dynamic viscosity of liquids
- Influence of temperature on viscosity

Technical specifications :

- A support on which are assembled all the components of the bench
- Two capillary tubes
- A digital manometer
- A glass thermometer
- A stopwatch
- Two graduated pipettes
- A thermostatic and pressurized chamber with magnetic stirrer
- A temperature regulator and a regulator