

Experiment No.:

Date:

TO DETERMINE THE THICKNESS OF GIVEN PLATE BY USING SPHEROMETER, FIND ITS AREA FROM GRAPH AND HENCE CALCULATE ITS VOLUME AND DENSITY

APPARATUS REQUIRED

1. Given test plate
2. A base plate
3. A Spherometer
4. A graph paper

THEORY

Spherometer is an instrument used for measuring small thickness of flat materials such as glass with more accuracy. It is also used for measuring the radius of curvature of a spherical surface.

A spherometer consists of a main scale and a circular scale. The main scale is fixed while the circular scale can be rotated either up or down along the main scale.

Pitch: The linear distance travelled by screw (by circular scale) in one complete rotation is called as pitch.



Figure: A Spherometer

A spherometer consists of a metallic tripod framework supported on three fixed legs of equal lengths. A screw passes through the center of the tripod frame, parallel to the three legs. A circular disc graduated with 100 equal parts is attached to the top of the screw (also called as circular scale). A small vertical scale known as the Pitch scale with the scale reading divided into millimeters is fixed at one end of the tripod frame (also called as main scale).

In a spherometer, least count is the linear distance travelled by the screw when the circular scale is rotated through its one circular scale division.