



**55930** Half Shade Polarimeter is a useful apparatus for understanding the concept of polarization. With the help of half shade polarimeter, polarization can be studied as well as analyzed. For better accuracy in determination of specific rotation, half shade polarimeter is used which involves comparing the brightness of two halves in the field of view. The apparatus is based on Biot's Law. When a plane polarized light is passed through an optically active substance, the plane of polarization of light gets rotated. In order to find out the effect of relative rotation between the polaroids on intensity of transmitted light, we are using a half wave plate. Comparing the brightness of the two halves of half wave plate, one can easily find out the optical rotation produced by an optically active substance in solution form.

#### Features

1. Sodium vapour lamp light source
2. Adjustable height
3. Circular scale graduated from 0° to 360°
4. Polarimeter borosilicate glass tube with bubble trapper in the middle

#### Object

1. Determination of the specific rotation of sugar solution using Half Shade Polarimeter
2. Study of variation of angle of rotation of sugar solution with its concentration
3. Study of optical rotary dispersion of sugar solution or to determine the dependence of angle of rotation of sugar solution on the wavelength of light (Optional)

Note: Specifications are subject to change.

#### Technical Specifications

##### Polaroid

Thickness	: 0.1mm
Diameter	: 26mm
Type	: Nitrocellulose polymer

##### Half wave plate

Wavelength	: 589nm
Type	: Quartz

##### Objective lens

Type	: Double Convex
Focal length	: 50mm

##### Eye piece :

Type	: Double Convex
Focal length	: 200mm

##### Polarimeter tube

Length	: 100mm (1 dm)
Material	: Borosilicate
Volume	: 23ml

##### Sodium vapour lamp

Wavelength	: 5893Å
Wattage	: 35W