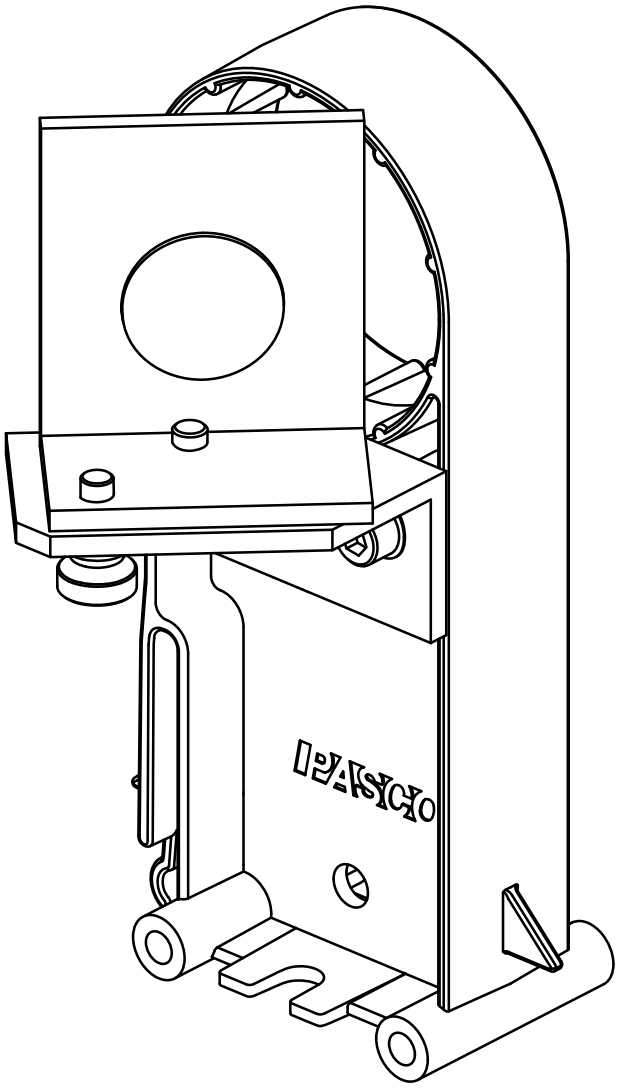
Beam Splitter

OS-8171



Introduction

The OS-8171 Beam Splitter is designed to be used with the OS-8170 Brewster's Angle Accessory and the OS-8539 Educational Spectrophotometer System. (The OS-8171 Beam Splitter is included in the OS-8170A Brewster's Angle Accessory.)

In the Brewster's Angle experiment, the Beam Splitter is used with a High Sensitivity Light Sensor to compensate for any variation in the intensity of the laser beam. This modification to the original experiment was suggested by Cristian Bahrim and Wei-Tai Hsu in the American Journal of Physics article titled "Precise measurement of the refractive indices for dielectrics using an improved Brewster angle method", Vol. 77, page 337 (2009).

OS-8170A Brewster's Angle Accessory

The OS-8170A Brewster's Angle Accessory includes the Beam Splitter, an Analyzing Polarizer, a semi-circular acrylic "D" Lens, a Lens Mount, a Pivot Plate, and two round Polarizers with a holder.

OS-8170A Brewster's Angle Accessory

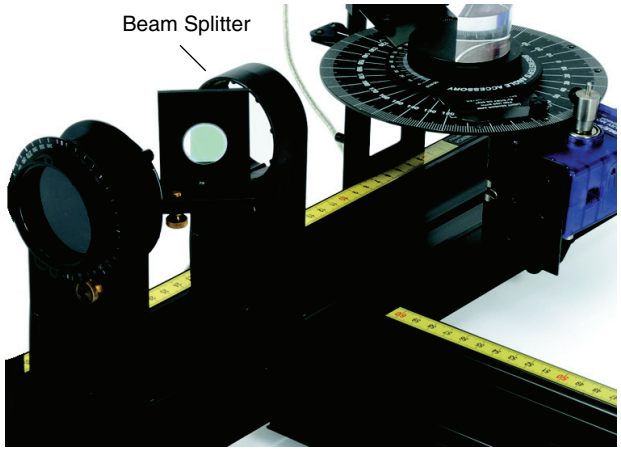
The Brewster's Angle Accessory is included in two Waves and Optics Experiments: EX-9919A Brewster's Angle (ScienceWorkshop) and EX-9965A Brewster's Angle (PASPORT)*. These packages include the equipment and sensors needed for the experiment. The packages also include DataStudio configuration files, DataStudio sample data files, and Microsoft Word experiment setup files. (DataStudio software and a PASPORT or ScienceWorkshop interface are required but not included.)

(*See the PASCO catalog or web site: www.pasco.com)

Usage

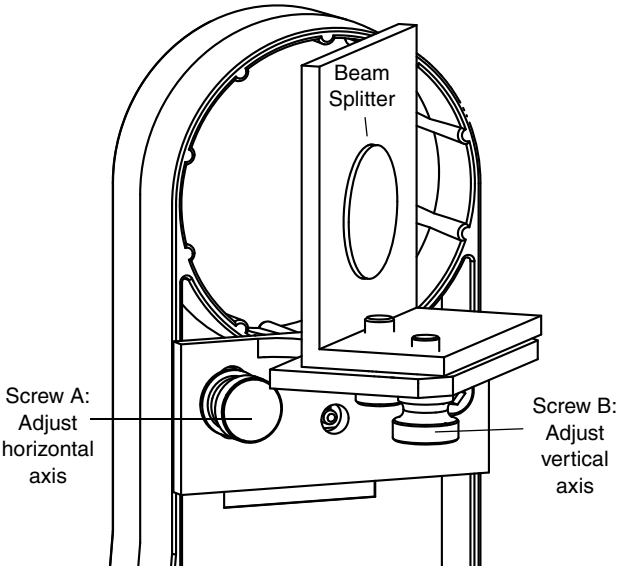
The Beam Splitter is mounted on a PASCO Optics Bench

CAUTION: Do not touch the surfaces of the beam splitter glass..



Beam Splitter mounted on Optics Bench

The Beam Splitter has two adjustment screws that allow you to change the angle of the mirror if needed.



To rotate the beam splitter about the horizontal axis, loosen Screw A, adjust the bracket by hand until the beam is aligned with the target, and then tighten Screw A.

To rotate the beam splitter about the vertical axis, loosen Screw B, rotate the beam splitter by hand until the beam is aligned with the target, and then tighten Screw B.

Technical Support

For assistance with any PASCO product, contact PASCO at:

Address: PASCO scientific
10101 Foothills Blvd.
Roseville, CA 95747-7100

Phone: 916-786-3800 (worldwide)
800-772-8700 (U.S.)

Fax: (916) 786-7565

Web: www.pasco.com

Email: support@pasco.com

For more information about the Beam Splitter and the latest revision of this Instruction Sheet, visit:

www.pasco.com/go?OS-8171