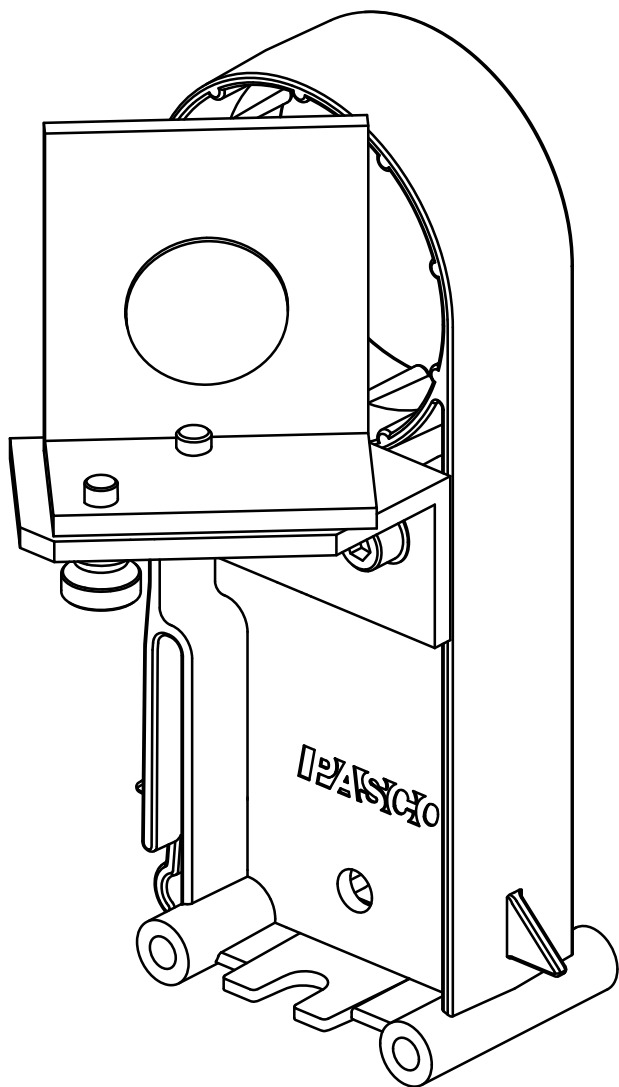




# Beam Splitter

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**

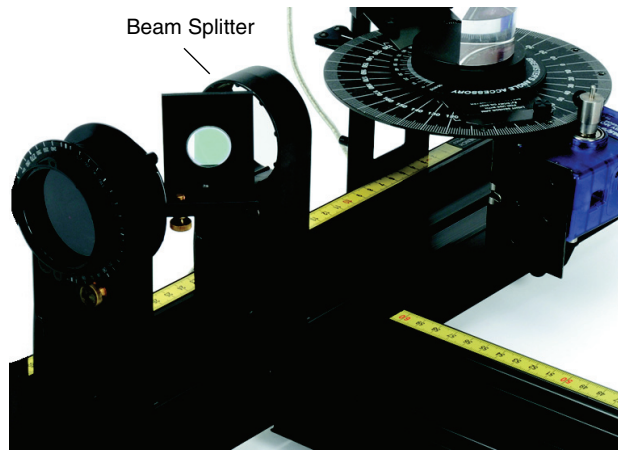
The Brewster's Angle Accessory is included in two Waves and Optics Experiments: EX-9919A Brewster's Angle (ScienceWorkshop) and EX-9965A Brewster's Angle (PASPORT)\*. These packages include the equipment and sensors needed for the experiment. The packages also include DataStudio configuration files, 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](http://www.pasco.com))

## Usage

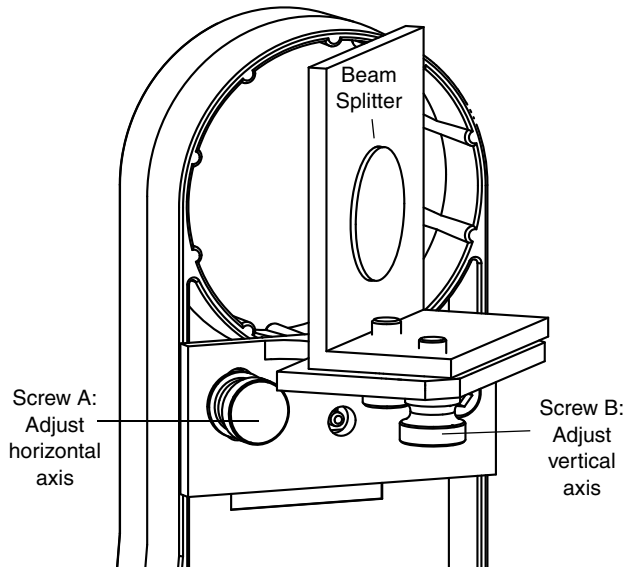
The Beam Splitter is mounted on a PASCO Optics Bench

**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](http://www.pasco.com)

Email: [support@pasco.com](mailto: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](http://www.pasco.com/go?OS-8171)

**Limited Warranty** For a description of the product warranty, see the PASCO catalog. **Copyright** The PASCO scientific 012-11490A *Beam Splitter Instruction Sheet* is copyrighted with all rights reserved. Permission is granted to non-profit educational institutions for reproduction of any part of this manual, providing the reproductions are used only in their laboratories and classrooms, and are not sold for profit. Reproduction under any other circumstances, without the written consent of PASCO scientific, is prohibited. **Trademarks** PASCO and PASCO scientific are trademarks or registered trademarks of PASCO scientific, in the United States and/or in other countries. All other brands, products, or service names are or may be trademarks or service marks of, and are used to identify, products or services of, their respective owners. For more information visit [www.pasco.com/legal](http://www.pasco.com/legal).