

# BREWSTER TYPE THIN FILM POLARIZERS

## Description

Brewster type thin film polarizers are used for high energy applications.

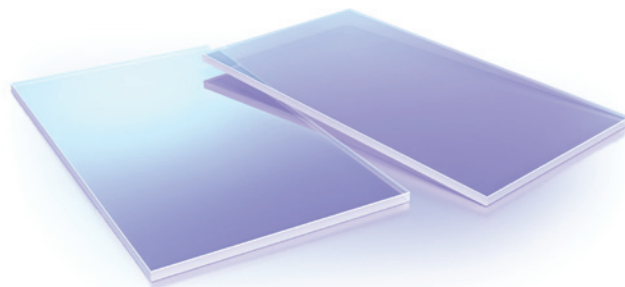
They have high damage threshold reaching  $10 \text{ J/cm}^2 @ 1064 \text{ nm}$  for 8 ns. Brewster polarizers are used as an alternative to Glan-Taylor laser polarizing prisms or cube polarizing beamsplitters.

Typically, BK7 or UVFS dielectric coated Brewster type thin film polarizers separate the s- and p-polarization components of high energy laser beams and are intended for intra and extra cavity usage.

Typical polarization ratio  $T_p/T_s$  is 200:1 and it is achieved at  $56^\circ$  AOI (Brewster angle). For optimal transmission Brewster type thin film polarizer should be mounted in an appropriate holder for angular adjustment.

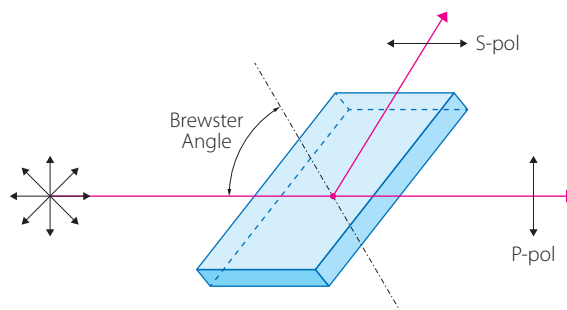
## Standard specifications

Material	BK7, UVFS
Diameter/dimensions tolerance	+0/-0.1 mm
Thickness tolerance	$\pm 0.1 \text{ mm}$
Clear aperture	>90 %
Surface quality	20-10 S-D
Surface flatness	$< \lambda/10 @ 632.8 \text{ nm}$
Parallelism error	<30 arcsec
Extinction ratio $T_p/T_s$	>200:1
Typical transmission	$T_p > 95 \%$
Typical reflection	$R_s > 99.5 \%$
Laser induced damage threshold	$> 5 \text{ J/cm}^2$ for 10 ns pulses @ 1064 nm



## Miscellaneous

- Custom design Brewster thin film polarizers are available in small and mass production quantities
- Mass production capabilities: 3'000 pieces per month
- Brewster thin film polarizers with dimensions up to 200x150 mm are available



## Features

- Efficiently separates the s- and p- polarization components
- Optimised for popular laser wavelengths
- Many Brewster thin film polarizers are available from stock with fast delivery!

## Catalog Items

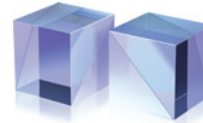
Wavelength, nm	Substrate material	Dimensions, mm	Product ID
266	UVFS	Ø25.4x3	2-BFP-0266-0254
		20x40x5	2-BFP-0266-2040
343		Ø25.4x3	2-BFP-0343-0254
		20x40x5	2-BFP-0343-2040
355		Ø25.4x3	2-BFP-0355-0254
		20x40x5	2-BFP-0355-2040
400		Ø25.4x3	2-BFP-0400-0254
		20x40x5	2-BFP-0400-2040
515		Ø25.4x3	2-BFP-0515-0254
		20x40x5	2-BFP-0515-2040
532		Ø25.4x3	2-BFP-0532-0254
		20x40x5	2-BFP-0532-2040
780		Ø25.4x3	2-BFP-0780-0254
		20x40x5	2-BFP-0780-2040
780-820 (centered @ 800nm)		Ø25.4x3	2-BFP-0800-A-0254
		20x40x5	2-BFP-0800-A-2040
795-805 (centered @ 800nm)	Ø25.4x3	2-BFP-0800-0254	
	20x40x5	2-BFP-0800-2040	
940	BK7	Ø25.4x3	2-BFP-0940-0254
		20x40x5	2-BFP-0940-2040
980	Ø25.4x3	2-BFP-0980-0254	
	20x40x5	2-BFP-0980-2040	
1020-1040 (centered @ 1030nm)	UVFS	Ø25.4x3	2-BFP-1030-0254
		20x40x5	2-BFP-1030-2040
1064	Ø25.4x3	2-BFP-1064-0254	
	20x40x5	2-BFP-1064-2040	
1550	BK7	Ø25.4x3	2-BFP-1550-0254
		20x40x5	2-BFP-1550-2040

## Related products and accessories

- HR Laser Line Mirrors (HR) (page 52)



- Polarizing Cubes for High Power Applications (page 120)



- Crystalline Quartz Waveplates (page 101)



- Motorized Watt Pilot - Attenuator (page 194)

