

Polarizing Optics

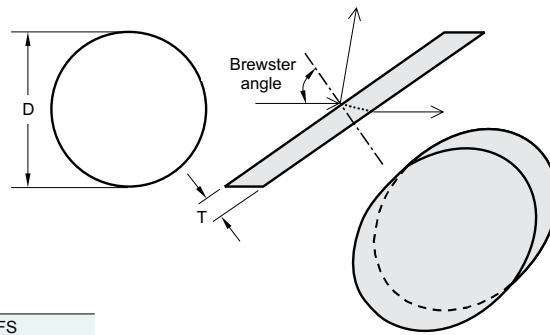
This section describes a group of components which modify the state of polarization of optical radiation. Polarized light carries

valuable information about where the light has been and the various physical parameters which have been acting upon it.

BREWSTER WINDOWS

- Transmit 100% p-polarization components
- Reflect 20% s-polarization components

Brewster windows are intended for high energy laser beams intra cavity usage.



SPECIFICATIONS

Please contact us for other Brewster windows size or precision requirements.

Material	BK7, UV FS
Surface quality	20-10 scratch & dig (MIL-PRF-13830B)
Wavefront distortion	$\lambda/10$ @ 633 nm
Clear aperture	90% of diameter
Parallelism	< 10 arcsec
Axis tolerance	+0.00 -0.12 mm
Thickness tolerance	± 0.2 mm

Catalogue number		Minor axis D, mm	Thickness T, mm	Price, EUR BK7 / UV FS
BK7	UV FS			
410-0123	410-1123	12.5	3.0	65 / 87
410-0255	410-1255	25.0	5.0	75 / 145
410-0408	410-1408	40.0	8.0	99 / 195
410-0508	410-1508	50.0	8.0	130 / 250

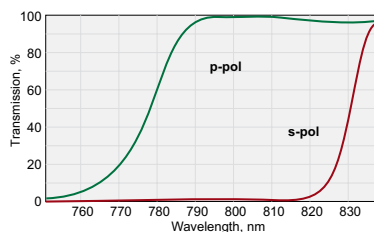
THIN FILM LASER POLARIZERS

- Provide the achievement of strictly linear polarization of laser radiation
- Utilise the polarization which occurs on reflection from a plane surface

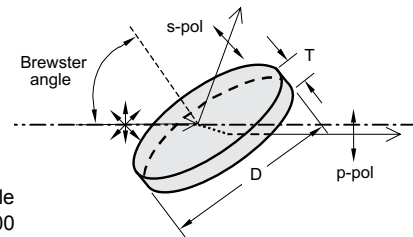
Thin Film Polarizers are designed for use in the most demanding lasers. Due to a high laser damage threshold reaching 10 J/cm^2 @ 1064 nm 8 ns, they are used as an alternative to Glan laser polarizing prisms or cube polarizing beamsplitters. Typical applications are intracavity Q-switch hold-off polarizers or extracavity attenuators for Nd:YAG lasers.

Thin Film Polarizers can be used at an $> 40^\circ$ angle of incidence, but polarization is most efficient and appears in a broad wavelength range at 56° AOI (Brewster angle). Typical polarization ratio T_p/T_s is 200:1.

Standard size is up to $\varnothing 50 \text{ mm}$ (2"), while max. available dimensions are $100 \times 200 \text{ mm}$. For optimal transmission a Thin Film Polarizer should be mounted in an appropriate holder for angular adjustment.



420-0126.
Transmission @ 800 nm, $R_s/T_p > 99.5/95.0 \%$



SPECIFICATIONS

Material	BK7, UV FS
Surface quality	20-10 scratch & dig (MIL-PRF-13830B)
Surface flatness	$\lambda/10$ @ 633 nm
Parallelism	< 30 arcsec
Clear aperture	> 90%
Angle of incidence (AOI)	$56 \pm 2^\circ$
Diameter tolerance	+0.0 -0.12 mm
Thickness tolerance	± 0.2 mm
Transmission efficiency	$T_p > 95\%$
Extinction ratio T_p/T_s	> 200:1
Laser damage threshold	10 J/cm ² 10 nsec pulse at 1064 nm typical