

Polarizing Beamsplitter (PBS)

Polarizing Beamsplitters (PBS) splits incident unpolarized light into two perpendicular linearly polarized light. Among them, p-polarized light passes through completely, while s-polarized light is reflected at 45 deg which makes the emitting direction of s-light vertical to p-light. The PBS is composed of a pair of high-precision right-angle prisms cemented together, one of which is coated on the wedged surface which determines the beam splitting ratio. All the incident surfaces and emitting surfaces are AR coated.

WISOPTIC offers both plate and cube PBS for a variety of wavelength ranges and power handling requirements. In addition, birefringent crystals, Brewster windows, and waveplates are also offered for higher-laser damage threshold requirements.

WISOPTIC Specifications - PBS*

Material	N-BK7 (H-K9L), H-ZF3, fused quartz
Diameters / Tolerance	0.5×0.5×0.5mm~50×50×50mm / ±0.2 mm
Extinction Ratio	Single band: >1000:1 Broad band: >300:1
Clear Aperture	> 90% of central area
Surface Quality	< 40/20 [S/D]
Flatness	< $\lambda/10$ @ 632.8 nm
Parallelism	≤ 10"
Transmitted Light Deviation	< ±3 arcmin
Reflected Light Deviation	90°±3 arcmin
Transmission Ratio	$T_p > 95\%$, $T_s < 1\%$
Reflection Ratio	$R_s > 99.5\%$, $R_p < 5\%$
Chamfer	Protective chamfer @ 45°
Coating Wavelength (nm)	Single band: 488, 532, 632.8, 650, 808, 850, 980, 1064, 1310, 1550 Broad band: 450-650, 650-900, 900-1200, 1200-1550, 1500-1610
Laser Damage Threshold	15 J/cm ² @ 1064 nm, 20 ns, 20 Hz

* Customization is available.