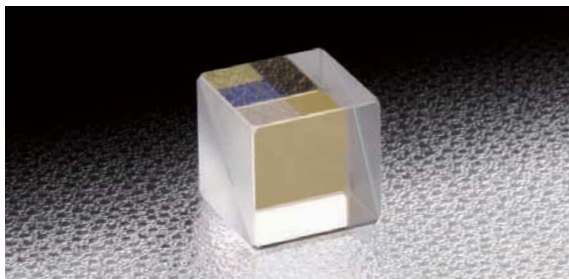


Polarizing Beamsplitters | PB

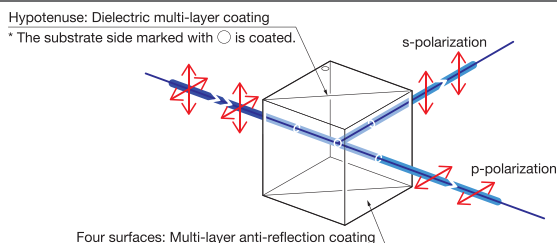


Polarizing beamsplitters consist of two right angle prisms. One of them is coated with dielectric multi-layer polarizing coating on the hypotenuse face. Polarizing beamsplitters split monochromatic beam entering at zero degree into p-polarization as transmitted and s-polarization as reflected.

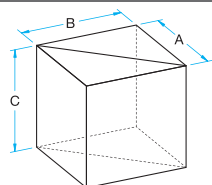
- Four surfaces of the cube are coated with narrowband multi-layer anti-reflection coatings.
- The losses of input beam of these products are minimized because of no absorption of dielectric coating.
- For cube beamsplitters, unlike plate beamsplitters, beam deviations of transmitted beams and ghosts rarely occur.



Schematic



Outline Drawing



●Tolerance
 Length A·B±0.2
 Height C±0.1

Specifications	
Material	BK7
Surface flatness of substrate	$\lambda/4$
Angular deviation of transmitted beam	$<10'$
Coating	Hypotenuse Surface: Dielectric multi-layer polarizing coating Four Surfaces: Narrowband multi-layer anti-reflection coating
Incident angle	0°
transmittance of P polarized light	$>97\%$ (405nm: $>90\%$)
transmittance of S polarized light	$>98\%$ (405nm, 1064nm, 1300nm, 1550nm: $>97\%$)
Extinction ratio of transmission	$T_s : T_p = 1 : 1000$
Laser Damage Threshold	$0.3\text{J}/\text{cm}^2$ (Laser pulse with 10ns, repetition frequency 20Hz)
Surface Quality (Scratch-Dig)	20-10
Clear aperture	Circle inscribed in a square of 85% of the dimensions

Guide

- ▶ Please contact our International Sales Division for customized products. (Customized on size, wavelength etc.)
- ▶ Plate-type of Polarizing Beamsplitters (PB-C) is also available upon your request. [Reference](#) C068
- ▶ There is also a high extinction ratio Glan-Thompson prism (GTPB/PPH). [Reference](#) C087

Attention

- ▶ Input beam from the prism on the side indicated by ○. When the light is incident from the side of the prism without mark, there is a possibility that the characteristics of the transmittance and extinction ratio changes.
- ▶ The transmittance curves are based on actual measurements and might be different with manufacturing lots.
- ▶ The surface flatness is the reflected wavefront distortion of the surface before coating.
- ▶ Be sure to wear laser safety goggles when checking optical path and adjusting optical axis.

405nm – 670nm		
Part Number	Wavelength Range [nm]	A=B=C [mm]
PB-10-4050	405	10
PB-15-4050	405	15
PB-20-4050	405	20
PB-10-4416	441.6	10
PB-15-4416	441.6	15
PB-20-4416	441.6	20
PB-10-4579	457.9	10
PB-15-4579	457.9	15
PB-20-4579	457.9	20
PB-10-4880	488	10
PB-15-4880	488	15
PB-20-4880	488	20
PB-10-5145	514.5	10
PB-15-5145	514.5	15
PB-20-5145	514.5	20
PB-10-5320	532	10
PB-15-5320	532	15
PB-20-5320	532	20
PB-5-6328	632.8	5
PB-7-6328	632.8	7
PB-10-6328	632.8	10
PB-15-6328	632.8	15
PB-20-6328	632.8	20
PB-5-6700	670	5
PB-7-6700	670	7
PB-10-6700	670	10
PB-15-6700	670	15
PB-20-6700	670	20

780nm – 1550nm		
Part Number	Wavelength Range [nm]	A=B=C [mm]
PB-5-7800	780	5
PB-7-7800	780	7
PB-10-7800	780	10
PB-15-7800	780	15
PB-20-7800	780	20
PB-5-8300	830	5
PB-7-8300	830	7
PB-10-8300	830	10
PB-15-8300	830	15
PB-20-8300	830	20
PB-10-10640	1064	10
PB-15-10640	1064	15
PB-20-10640	1064	20
PB-5-13000	1300	5
PB-7-13000	1300	7
PB-10-13000	1300	10
PB-15-13000	1300	15
PB-20-13000	1300	20
PB-5-15500	1550	5
PB-7-15500	1550	7
PB-10-15500	1550	10
PB-15-15500	1550	15
PB-20-15500	1550	20

Application Systems

Machine Vision

Manual Positions

Motion Control Products

Optical & Mirror Holder

FA Parts

Measurement & Control

FA Electrical Parts

Tool & Measure

Cleanroom & AntiStatic

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Mirrors

Beamsplitters

Filters

Polarizers

Lenses

Multi-Element Optics

Prisms

Substrates & Windows

Holder & Vibration isolator

Polarizing Beamsplitters | PB

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Optical & Mirror Holder

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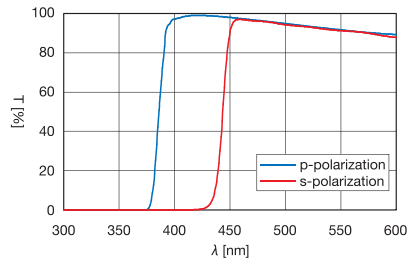
Polarizers

- Lenses
- Multi-Element Optics
- Prisms
- Substrates & Windows
- Holder & Vibration Isolator

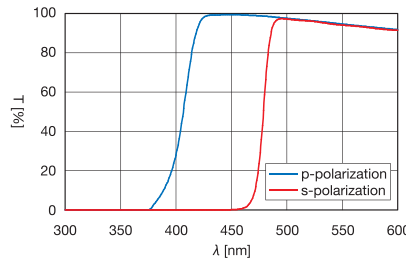
Typical Transmittance Data

T: Transmission

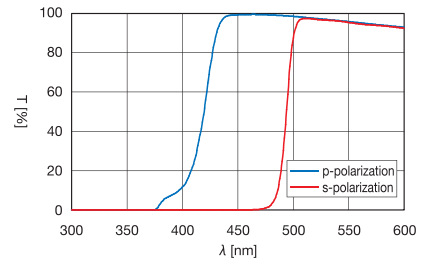
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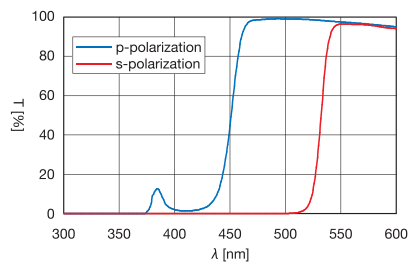
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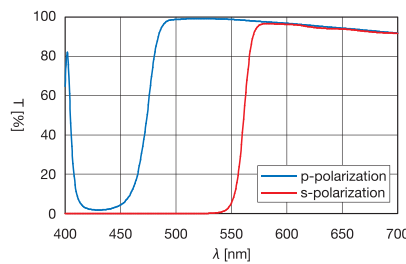
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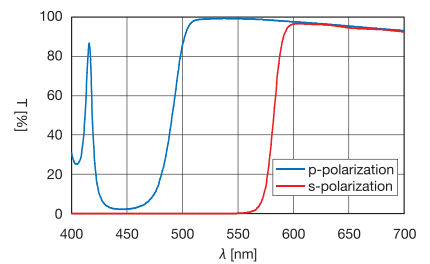
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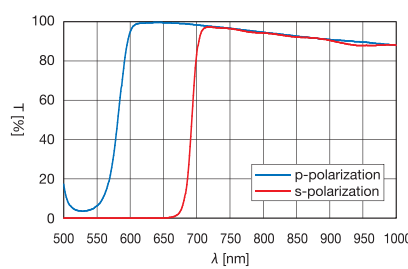
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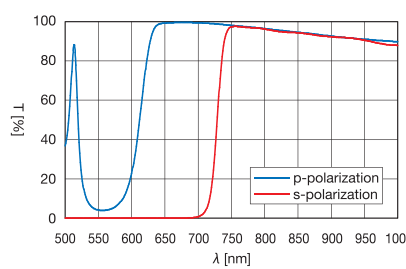
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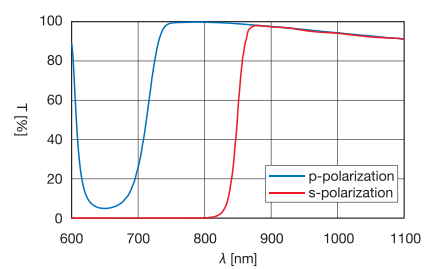
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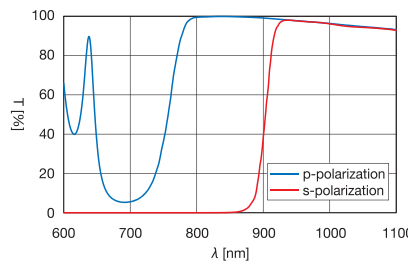
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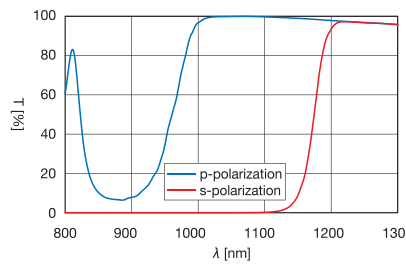
PB-7800



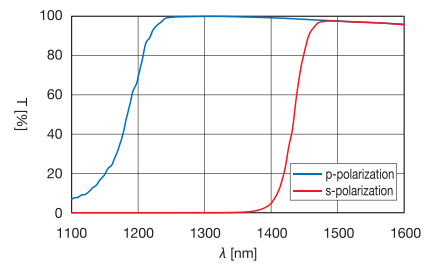
PB-8300



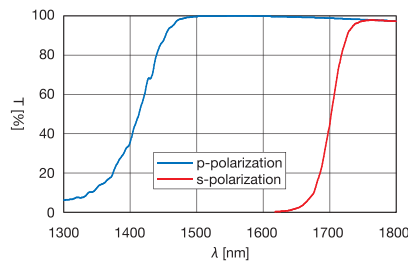
PB-10640



PB-13000



PB-15500



Compatible Optic Mounts

PH-25, -40 / PH-25PHRO, -40PHRO / KMH-12.7PAD + KMH-MP30-NL / KMH-20PAD + KMH-MP30-NL