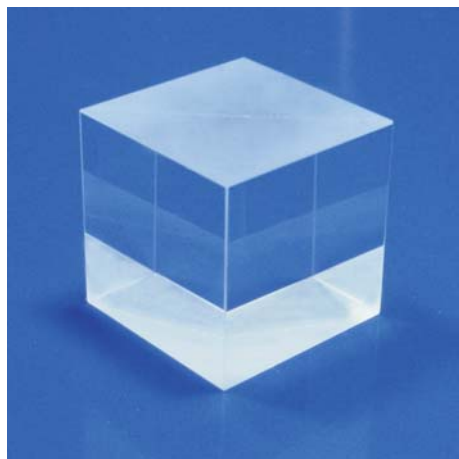


Beamsplitters

※ Beamsplitters Cube-----	36
※ Beamsplitters Plate-----	37
※ Polarization Beamsplitters-----	38
※ Non-Polarizing Beamsplitters-----	39
※ Polarization Beamsplitter + Waveplate-----	40
※ Displacement Beamsplitters-----	41



Beamsplitters (Cube)

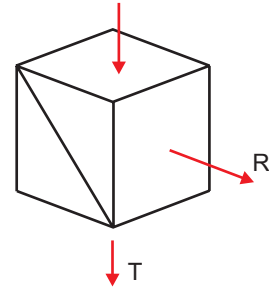
The beamsplitter cubes are constructed by cemented two matched right angle prisms. The hypotenuse is coated with partial dielectric coating.

- ※ Easy to mount, is ideal for beam superposition.
- ※ Less deformation.

Cube Beamsplitters are recommended for use with collimated or nearly collimated beam. Convergent or divergent beam will contribute spherical aberration.

General Specifications

Material	N-BK7
Dimension tolerance	± 0.1mm
Beam deviation	3 arc min
Surface quality	60-40 S/D
Surface flatness	$\lambda/4@632.8\text{nm}$
Clear aperture	>90%
Bevel	Protective bevel
Hypotenuse surface	Partial reflective coating
Entrance/Exit surfaces	AR coating



Incident of angle	0° ± 2°
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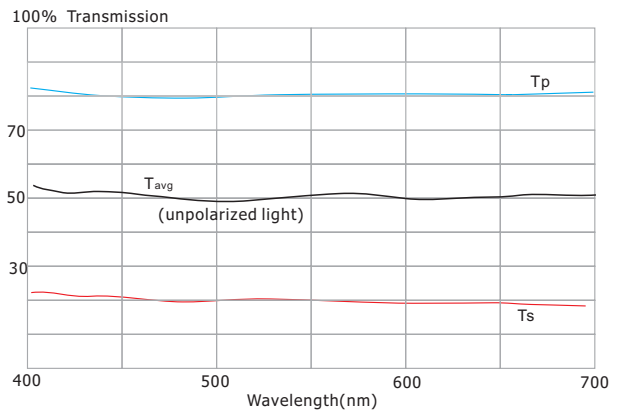
Reflectance/Transmittance:	R/T=50/50% ± 5%
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(R,T are the average of S- and P-pol) [Other ratio is available](#)

Polarization Sensitive

Typical Sizes

Size (mm)	Size (mm)
5.0x5.0x5.0	18.0x18.0x18.0
10.0x10.0x10.0	20.0x20.0x20.0
12.7x12.7x12.7	25.4x25.4x25.4
15.0x15.0x15.0	30.0x30.0x30.0



How to order Beamsplitter cube? Example:

Size: 15.0x15.0x15.0+/-0.1mm
Wavelength: 430--680nm
Transmittance: T(R)=50% ± 5%
(Reflectance)

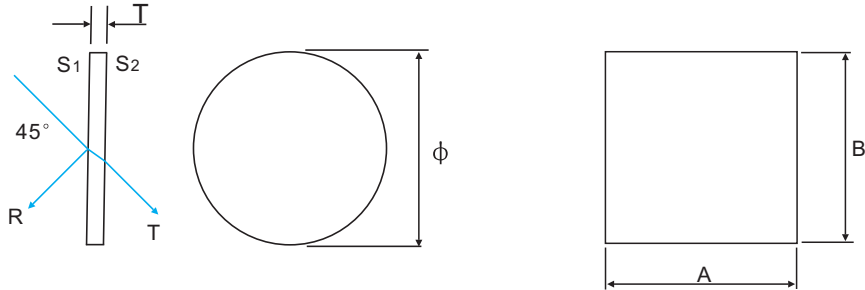
Price on request

Custom Design

Volume Discount

Beamsplitters (Plate)

Plate Beamsplitters are part-mirrors that reflect part of incident energy and transmit the rest.



General Specifications

Material	N-BK7
Dimension tolerance	± 0.1mm
Parallelism	3 arc min
Surface quality	60-40 S/D
Surface flatness	λ /4@632.8nm
Clear aperture	>90%
Bevel	Protective bevel
Front surface	Partial reflective coating
Back surface	AR coating

Transmission curve see Page 36

Incident angle	45°
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Reflectance/Transmittance: R/T=50/50 ± 5%
(R,T are the average of S- and P-pol) Other ratio is available

Polarization Sensitive

Typical Sizes:

Round Shape:	Square Shape:	Thickness
Diameter(mm)	A x B(mm)	
φ 5.0, φ 10.0, φ 12.7	5.0x5.0, 10.0x10.0	0.5, 1.0, 1.5
φ 15.0, φ 18.0, φ 20.0	12.7x12.7, 15.0x15.0	2.0, 2.5, 3.0
φ 25.4, φ 38.0	20.0x20.0, 25.4x25.4	5.0, 6.3

How to order Beamsplitter Plate? Example:

Size: φ 15.0x2.0 ± 0.1mm
Wavelength: 430--680nm
Transmittance: T(R)=50% ± 5%
AOI: 45°

Price on request

Custom Design

Volume Discount

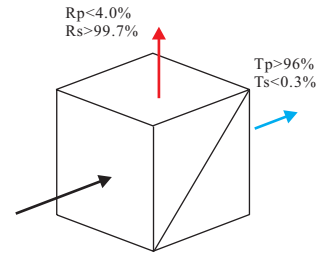
Polarization Beamsplitters (PBS)

Polarization beamsplitter cubes are constructed by cemented two right angle prisms, the hypotenuse of one prism is coated with polarization dielectric coating.

When used with normal incident, un-polarized light, the incident beam is separated into two polarized beams, p-polarized component is passed straight through, s-polarized component is reflected out at 90deg.

General Specifications

Material	N-BK7 or N-SF5
Dimensional tolerance	± 0.1mm
Beam deviation	3 arc min
Surface quality	60-40 S/D
Surface flatness	$\lambda/4@632.8\text{nm}$
Clear aperture	>90%
Bevel	Protective bevel
Hypotenuse	Polarization dielectric coating
Entrance & exit faces	AR coating



Incidence of angle	$0^\circ \pm 2^\circ$
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Laser line

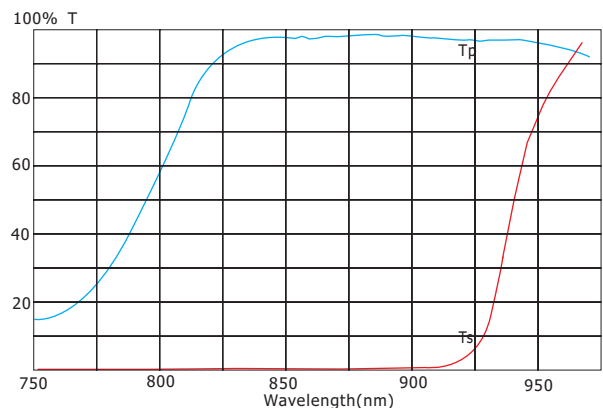
Transmittance	$T_p > 96\%$ and $T_s < 0.3\%$
Reflectance	$R_p < 4\%$ and $R_s > 99.7\%$

Broadband wavelength

Transmittance	$T_p > 95\%$ and $T_s < 0.5\%$
Reflectance	$R_p < 5\%$ and $R_s > 99.5\%$

Typical Sizes

Size (mm)	Size (mm)
5.0x5.0x5.0	18.0x18.0x18.0
10.0x10.0x10.0	20.0x20.0x20.0
12.7x12.7x12.7	25.4x25.4x25.4
15.0x15.0x15.0	30.0x30.0x30.0



How to order Polarization Beamsplitters? Example:

Size: 15.0x15.0x15.0 ± 0.1mm
 Wavelength: 780nm
 Transmittance: $T_p > 96\%$
 Reflectance: $R_s < 0.3\%$

Price on request

Custom Design

Volume Discount

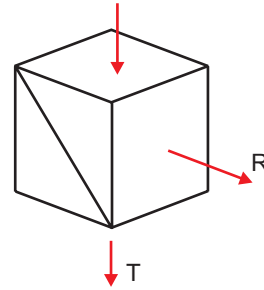
Non-polarizing Beamsplitters(NPBS)

Non-polarizing beamsplitter cube are constructed by cemented two right angle prisms. The hypotenuse of one prism is coated with hybrid metal dielectric coating, which exhibits moderate absorption with little polarization sensitivity.

The beamsplitters are fairly insensitive to changes in angle of incidence. Performance is relatively flat across a large spectral band.

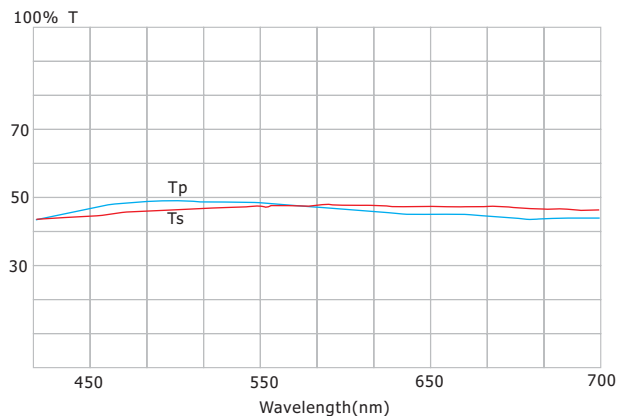
General Specifications

Material	N-BK7
Dimension tolerance	± 0.1mm
Beam deviation	3 arc min
Surface quality	60-40 S/D
Surface flatness	$\lambda/4@632.8\text{nm}$
Clear aperture	>90%
Bevel	Protective bevel
Coating on hypotenuse	Hybrid metallic dielectric coating
Entrance & exit faces	AR coating
Incidence of angle	0° ± 2°
Transmittance	R/T=50/50%, $T_p(T_s)=50 \pm 5\%$
Energy absorption	$ T_s-T_p <5\%$, $ R_s-R_p <5\%$ <10%



Typical Sizes

Size (mm)	Size (mm)
5.0x5.0x5.0	18.0x18.0x18.0
10.0x10.0x10.0	20.0x20.0x20.0
12.7x12.7x12.7	25.4x25.4x25.4
15.0x15.0x15.0	30.0x30.0x30.0



How to order Non-Polarizing Beamsplitters? Example:

Size: 15.0x15.0x15.0 ± 0.1mm
Wavelength: 430--680nm
Transmittance: $T_p(T_s)=50\pm 5\%$
(Reflectance)

Price on request

Custom Design

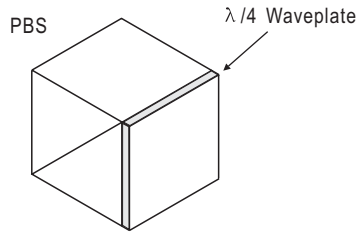
Volume Discount

Polarization Beamsplitters + Waveplate

General Specifications

Material	N-BK7 or N-SF5
Dimensional tolerance	± 0.1mm
Beam deviation	3 arc min
Surface quality	60-40 S/D
Surface flatness	$\lambda/4@632.8\text{nm}$
Clear aperture	>90%
Bevel	Protective bevel
Hypotenuse	Polarization dielectric coating
Entrance & exit faces	AR coating

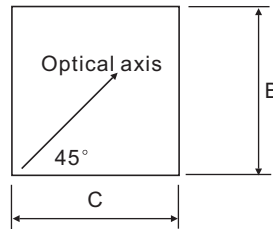
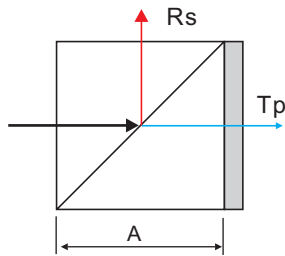
Incidence of angle	$0^\circ \pm 2^\circ$
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Laser line

Transmittance	$T_p > 96\%$ and $T_s < 0.3\%$
Reflectance	$R_p < 4\%$ and $R_s > 99.7\%$

Transmission curve see Page 38



Typical PBS Sizes

Size (mm)	Size (mm)
5.0x5.0x5.0	18.0x18.0x18.0
10.0x10.0x10.0	20.0x20.0x20.0
12.7x12.7x12.7	25.4x25.4x25.4
15.0x15.0x15.0	30.0x30.0x30.0

Waveplate Size

Zero order, or Multiple order
 Size(BxC): Same as beamsplitter size
 Thickness: 1.0--1.5mm

(Refer to Waveplate Chapter)

How to order Polarization Beamsplitters+waveplate? Example:

Size: 15.0x15.0x15.0 ± 0.1mm
 Wavelength: 780nm
 Transmittance: $T_p > 96\%$
 Reflectance: $R_s < 0.3\%$
 Waveplate: $\lambda/4 @ 780\text{nm}$

Price on request

Custom Design

Volume Discount

Displacement Beamsplitters (Polarization)

General Specifications

Material	N-BK7 or N-SF5
Dimensional tolerance	± 0.1mm
Beam deviation	3 arc min
Surface quality	60-40 S/D
Surface flatness	$\lambda/4@632.8\text{nm}$
Clear aperture	>90%
Bevel	Protective bevel
Hypotenuse	Polarization dielectric coating
Entrance & exit faces	AR coating

Incidence of angle	$0^\circ \pm 2^\circ$
--------------------	-----------------------

Laser line

Transmittance	$T_p > 96\%$ and $T_s < 0.3\%$
Reflectance	$R_p < 4\%$ and $R_s > 99.7\%$

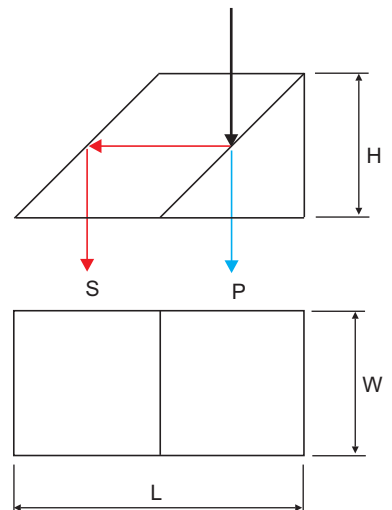
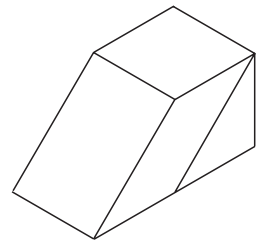
Broadband wavelength

Transmittance	$T_p > 95\%$ and $T_s < 0.5\%$
Reflectance	$R_p < 5\%$ and $R_s > 99.5\%$

Transmission curve see Page 38

Typical Sizes

WxHxL (mm)	WxHxL (mm)
5.0x5.0x10.0	18.0x18.0x30.0
10.0x10.0x20.0	20.0x20.0x40.0
12.7x12.7x25.4	25.4x25.4x50.8
15.0x15.0x30.0	30.0x30.0x60.0



How to order Displacement Polarization Beamsplitters? Example:

Size: 15.0x15.0x30.0mm
 Wavelength: 780nm
 Transmittance: $T_p > 96\%$
 Reflectance: $R_s < 0.3\%$

Price on request

Custom Design

Volume Discount