

Right Angle Prisms

Optics

Lenses

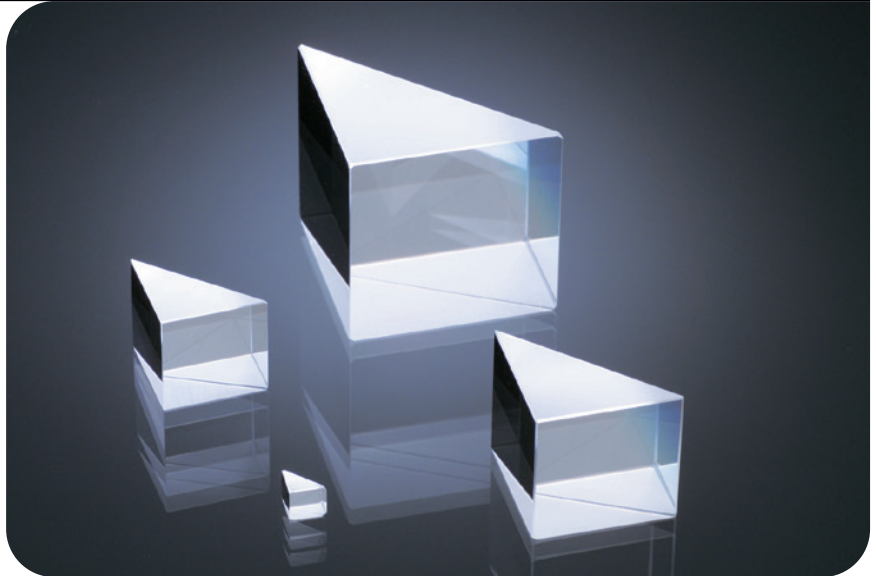
Mirrors & Beamsplitters

Prisms & Polarizers

Filters

Pinholes

- **Laser or laboratory quality**
- **Fused Silica or Glass**
- **90 or 180 degree reflection**
- **Antireflection coatings available**



Opto-mechanics

Breadboards & Rails

Mounting Hardware

Mirror & Component Mounts

Manual Micro Positioners

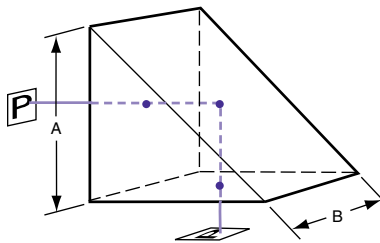
Motorized Positioners

A Right Angle Prism is used to turn or deflect a beam through 90° or 180°. In either case this is achieved by total internal reflection and produces a very efficient broadband reflector.

It is important that the incoming beam is collimated and enters the prism at a normal angle of incidence. This is so that total internal reflection can be achieved.

A range of both laser and laboratory quality prisms are available. These are available in either fused silica or BK7 glass.

90° Deflection

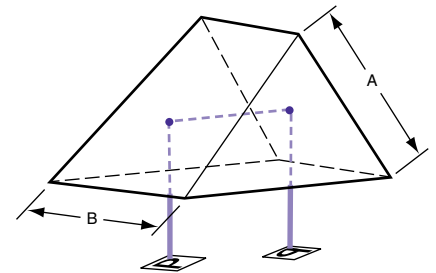


90° Deflection

For a 90° deflection the total internal reflection occurs at the hypotenuse face.

Provided that the prism surface is clean and the incident angle on the hypotenuse is at 45°, the prism will act as a very efficient broadband reflector. The image is erect and reversed.

180° Deflection



180° Deflection

For a 180° deflection the Right Angle Prism is used with the hypotenuse as the entrance and exit face, with the total internal reflection occurring at the right angle faces. The main application of this is to use it as a retroreflector provided that the plane of the incident beam includes the vertex.

Kinematic Prism Platforms



Kinematic Prism Platforms are also available on page 94.

Laser Quality

Ealing offers a range of laser quality right angle prisms. These have been manufactured with high precision and selected for low scatter. Surface finish and angular accuracy are tightly maintained.

Fused silica is an ideal material for most laser applications because of its thermal handling capabilities. Glass is recommended for lower power applications.

Specifications

FUSED SILICA LASER QUALITY RIGHT ANGLE PRISMS

Material: UV grade Fused Silica
Dimensions Tolerance: +0/- 0.25 mm
Angular Deviations Tolerance: <3 arcmin
Surface Quality: 10-5
Flatness: $\lambda/10$
Uncoated

GLASS LASER QUALITY RIGHT ANGLE PRISMS

Material: BK7 glass
Dimensions Tolerance: +0/- 0.25 mm
Angular Deviations Tolerance: <3 arcmin
Surface Quality: 20-10
Flatness: $\lambda/4$: 50.8 mm
Uncoated

Fused Silica Laser Quality Right Angle Prisms

Catalog Number	Size A=B (mm)	Price US
24-8831	12.7	\$88.00
24-8864	25.4	\$176.00

Glass Laser Quality Right Angle Prisms

Catalog Number	Size A=B (mm)	Price US
24-8039	5.0	35.20
24-8054	10.0	\$26.50
24-8062	12.7	\$29.70
24-8096	25.4	\$79.20

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- Lenses
- Mirrors & Beamsplitters
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- Filters
- Pinholes
- Opto-mechanics
- Breadboards & Rails
- Mounting Hardware
- Mirror & Component Mounts
- Manual Micro Positioners
- Motorized Positioners