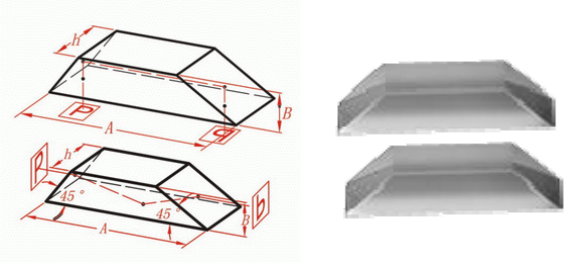
Dove Prism



A Dove prism is used to rotate, invert, or retroreflect an image, depending upon the prism's rotation angle and the surface through which the light enters the prism. Usally it is fabricated from N-BK7 glass for high transmission from the visible to the near-infrared spectral range.

Dove prisms can be thought of as right-angle prisms with the triangular apex removed, which reduces the weight of the prism and stray internal reflections.They introduce astigmatism when used with converging light, so we recommend using them with collimated light. Additionally, these prisms affect the polarization state of light transmitted through them.

Light is usually propagated along the longitudinal axis of a Dove prism. In this geometry, light reflects once from the bottom face, inverting the image on the other side. Rotation of the prism about the longitudinal axis rotates the image at twice the rate of the prism's rotation. For example, a 20° rotation of the prism results in a 40° rotated image. The AR-coated Dove prisms are designed specifically for the image rotation and inversion application.Due to the high incidence angle, the light reflecting from the bottom face undergoes total internal reflection, even if the light's propagation axis and the prism's longitudinal axis are not exactly parallel. Hence, in a Dove prism, the magnitude of the internal transmission is limited only by absorption.

When light is incident on the longest face, the Dove prism acts as a retroreflector or a right-angle prism. The light exits parallel to the input light (independent of the incidence angle) and is inverted by 180°. In situations with limited space or where more convenient mounting options are needed, the Dove prism can replace a retroreflector or right-angle prism.

Specification:

Material.....see the table
Dimension Tolerance.....+0.0, -0.2mm
Clear Aperture.....>90%
Angle Tolerance.....<3 arc minutes
Flatness.....λ/8 @632.8nm
Surface Quality.....60-40
Bevel.....Protective
Coating.....No Coating

P/N	A	B	h	Material
20601	9.30	2.60	1.30	SF11
20602	14.00	5.00	2.60	SF11
20603	80	20	20	BK7
20604	21.10	5.00	5.00	BK7
20605	42.30	10.00	10.00	BK7
20606	63.40	15.00	15.00	BK7

●Demension unit:mm
●Other sizes and coatings are available upon request.