■ Crystal Prism

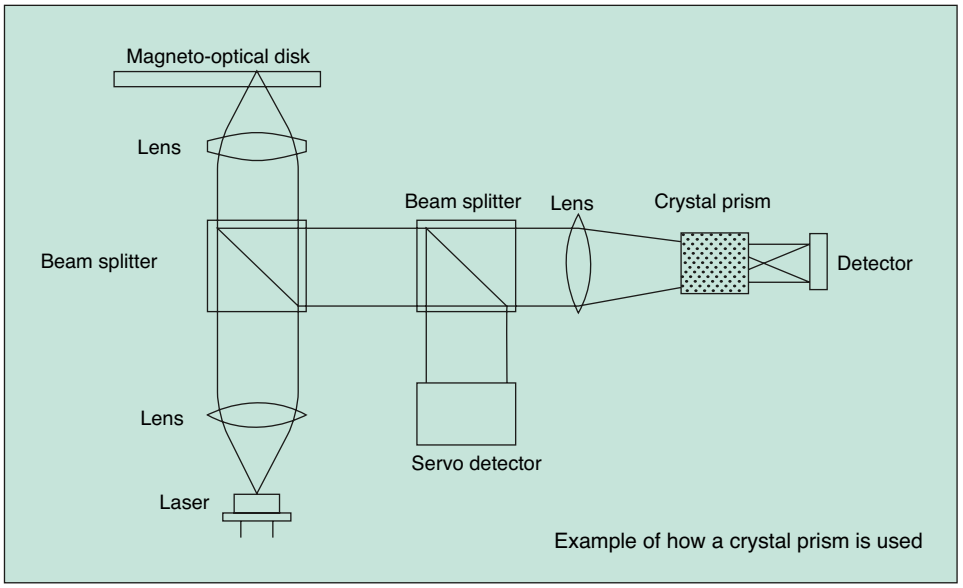
● Terms and Definitions

Crystal Prism: An optical device that uses the birefringence of a crystal to separate two beams of incident light according to the combinations of the different optical axis directions of a rectangular triangle prism.

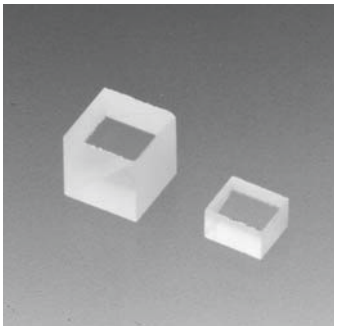
Separation Angle: The angle between two beams separated when light enters a prism, and is dependent upon the vertex angle of a rectangular triangle prism.

● Application

As shown in the figure below, this prism is mainly used to pick up magneto-optical disks.



Example of how a crystal prism is used

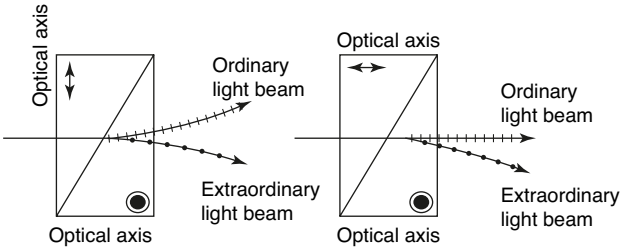


● Features

1. A computer controlled synthetic quartz crystal grown for optical components is used, and by using advanced processing techniques an accurate separation angle is obtained.
2. AR coating processing is available upon request.

● Standard specifications

Specifications \ Product name	(a) Wollaston Prism	(b) Rochon Prism
Wavelength range	Laser oscillation wavelength between 400 to 2,000 nm	
Outline size	Rectangular parallelepiped of 5 to 10 mm	
Wavefront aberration	λ/4 max. (λ=633 nm transmission)	
Maximum separation angle	1.7°	1°



(a) Wollaston Prism (b) Rochon Prism

● Environment Resistance

The following reliability tests guarantee the specified optical characteristics of NDK' s optical components.

Subjected to high temperature	For 96 hours at +85°C
Subjected to low temperature	For 96 hours at –40°C
Subjected to high temperature and high humidity	For 96 hours at +60°C and 95%
Heat shock	10 cycles (one cycle is conducted for 30 minutes at –40°C and 30 minutes at +85°C)
Mechanical strength	No flaws after the surface is rubbed with absorbent cotton