

Fixed Broadband Isolators (IO-BB Series)

For “hands off” operation, no-moving-parts Broadband Fixed Isolators do not need to be readjusted when the wavelength changes. These Isolators are equipped with the Polarizers indicated below. In addition, most Isolators can be ordered as Faraday Rotators without Polarizers, in which case terminate Isolator Part Number with -I.

560nm TO 680nm Fixed Broadband Isolators

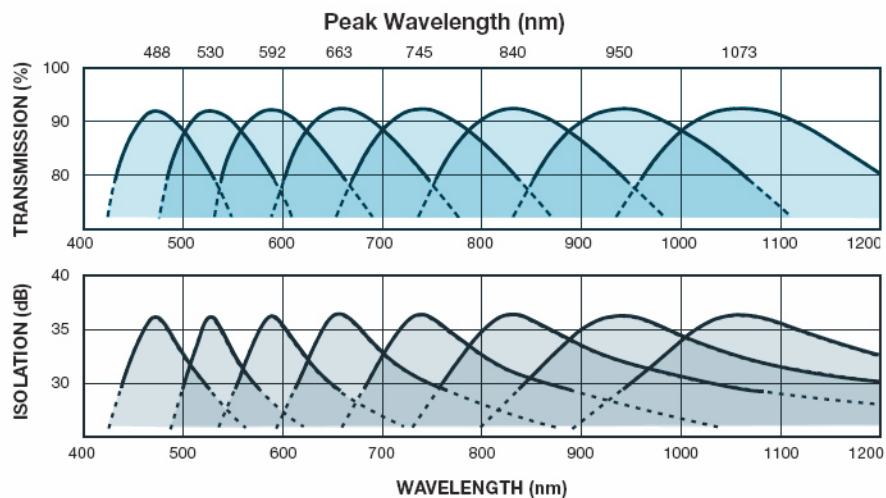
Catalog Number	Aperture	Peak Wavelength	Use between	Transmittance	Isolation
IO-5BB-592-LP	4.7 mm	592 nm	562-629 nm	≥ 88%	≥ 33dB
IO-5BB-633-LP	4.7 mm	633 nm	599-675 nm	≥ 88%	≥ 33dB
IO-5BB-592-HP	4.7 mm	592 nm	562-629 nm	≥ 88%	≥ 33dB
IO-5BB-633-HP	4.7 mm	633 nm	599-675 nm	≥ 88%	≥ 33dB

750nm TO 850nm Fixed Broadband Isolators

Catalog Number	Aperture	Peak Wavelength	Use Between	Transmittance	Isolation
IO-5BB-800-LP	4.7 mm	800 nm	748-851 nm	≥ 88%	≥ 33dB
IO-5BB-800-HP	4.7 mm	800 nm	748-851 nm	≥ 88%	≥ 33dB

900nm TO 1013nm Fixed Broadband Isolators

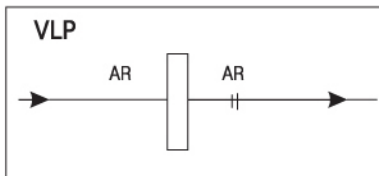
Catalog Number	Aperture	Peak Wavelength	Use between	Transmittance	Isolation
IO-5BB-950-HP	4.7 mm	950 nm	898-1013 nm	≥ 88%	≥ 33dB



Types of Polarizers and Power Limits

Number	Type of Polarizer	CW	Pulsed
VLP	Dichroic thin plate	25 W/cm ²	300 kW/cm ²
PBS	Polarizing B/S Cube	13 W/cm ²	-
LP	Air-spaced Calcite	100 W/cm ²	25 MW/cm ²
HP	Air-spaced Calcite	500 W/cm ²	150 MW/cm ²
HP-YAG	Air-spaced Calcite	750 W/cm ²	200 MW/cm ²
VHP	Brewster's Angle Plate	20 kW/cm ²	1 GW/cm ²

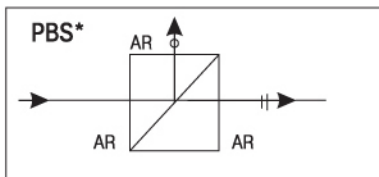
Note : Pulsed measurements made at 1064nm 20ns pulse width 20Hz



VLP Polarizers

- Thin glass plate
- AR Coated
- Extinction³ ≥ 45 dB

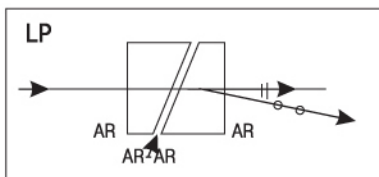
- Dichroic Polarizer
- Transmittance³ ≥ 95% ($\lambda > 1250\text{nm}$)
- Absorbs unwanted polarization



*PBS Polarizers

- Cemented prism beamsplitter
- AR Coated
- Extinction³ ≥ 33 dB

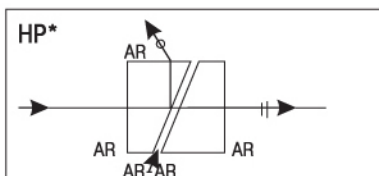
- Energy Injection at 90°
- Transmittance/reflectance³ ≥ 95%



LP Polarizers

- Air-spaced design
- Extinction³ ≥ 53dB

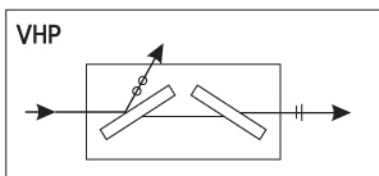
- Transmittance³ ≥ 98%
- AR Coated



*HP Polarizers

- Air-spaced design
- Extinction³ ≥ 53dB

- Transmittance³ ≥ 98%
- AR Coated



VHP Polarizers

- Double dielectric Brewster's Plate
- Highest power damage resistance
- AR coated

- Transmittance³ ≥ 96%
- Extinction³ ≥ 40dB

*Access to beam through side window

The PBS and HP series allow access to the laser beam via the side window.

This entry/exit face is used to sample the rejected energy, or to inject energy into the beam.

The PBS is a cemented beamsplitter cube and therefore is power limited. All faces are AR coated.