VARIABLE ATTENUATOR FOR FEMTOSECOND AND Nd:YAG LASER PULSES – 990-0073

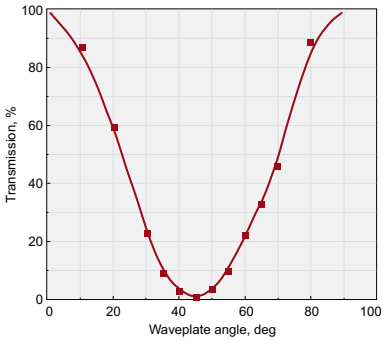
Features

- Divides laser beam into two beams of manually adjustable intensity ratio separated by 68° angle
- Large dynamic range
- Trasmitted beam shift ~1.4 mm
- High optical damage threshold
- Motorized version available on request

This variable attenuator/beamsplitter consists of Polarizer Holder 840-0180-A2 and Kinematic Mirror/Beamsplitter Mount 840-0056-13. UVFS Thin Film Brewster type polarizer Ø76.2 mm, which reflect s-polarized light while transmitting p-polarized light, is housed into Beamsplitter Mount 840-0056-13. A quartz Zero Order (optically contacted) Half Waveplate Ø40 mm (for femtosecond applications), Zero Order Air-Spaced Half Waveplate (for high power femtosecond applications) or quartz Multi Order Half Waveplate Ø40 mm (for Nd:YAG laser applications) is housed in rotating polarizer holder 840-0180-A2 and placed in the incident linearly polarized laser beam.

The intensity ratio of those two separated and different polarized beams may be continuously varied without alteration of other beam parameters by rotating the waveplate. The intensity of either exit beam, or their intensity ratio, can be controlled over a wide dynamic range. P-polarization could be selected for maximum transmission, or high-purity s-polarization could be reflected when maximum attenuation of the transmitted beam takes place.

The holder 840-0056-13 allows to adjust Angle Of Incidence of the Thin Film Brewster type polarizers by ±4.5° and to get the maximum extinction contrast. The mounts are on rods, rod holders and Movable Base 820-0090. The optical axis height from the table top can be adjusted in the range 92-98 mm. Other height can be offered as custom changing the standard rods and rod holders into higher.



For Femtosecond Applications

Clear Aperture diameter	36 mm
Damage threshold	>10 mJ/cm², 50 fs pulse at 800 nm, typical
for high power applications	>100 mJ/cm², 50 fs pulse at 800 nm, typical
Polarization Contrast	>1:200
Transmitted beam shift	~ 1.4 mm
Weight	0.6 kg

A quartz Zero Order (optically contacted) Half Waveplate Ø40 mm (for femtosecond applications) or Zero Order Air-Spaced Half Waveplate (for high power applications) is housed in rotating polarizer holder 840-0180-A2.

For Femtosecond Applications

Wavelength, nm	Catalogue number	Price, EUR
266	990-0073-266	1720
343	990-0073-343	1590
400	990-0073-400	1570
515	990-0073-515	1570
800	990-0073-800	1590
780 – 820	990-0073-800B	1820
1030	990-0073-1030	1645
1010 – 1050	990-0073-1030B	1880

For High Power Femtosecond Laser Applications

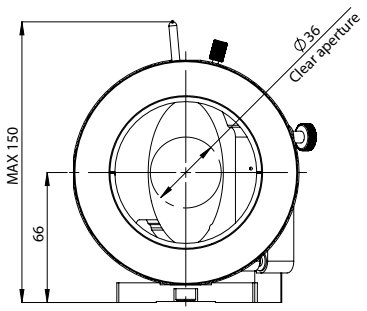
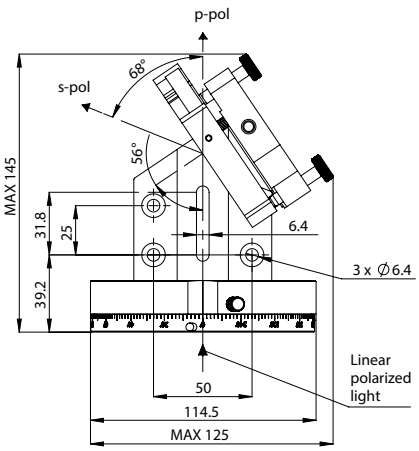
Wavelength, nm	Catalogue number	Price, EUR
266	990-0073-266H	1820
343	990-0073-343H	1690
400	990-0073-400H	1670
515	990-0073-515H	1670
800	990-0073-800H	1690
780 – 820	990-0073-800HB	1920
1030	990-0073-1030H	1745
1010 – 1050	990-0073-1030HB	1980

For Nd:YAG Laser Applications

Clear Aperture diameter	36 mm
Damage threshold	>5 J/cm², 10 ns pulse, 10 Hz at 1064 nm, typical
Polarization Contrast	>1:200
Transmitted beam shift	~ 1.4 mm
Weight	0.6 kg

Quartz Multi Order Half Waveplate Ø40 mm is housed in rotating polarizer holder 840-0180-A2.

For Nd:YAG Laser Applications

Wavelength, nm	Catalogue number	Price, EUR
266	990-0073-266H *	1820
355	990-0073-355	1490
532	990-0073-532	1470
1064	990-0073-1064	1545

* Zero Order Air-Spaced half waveplate is housed in rotating holder.