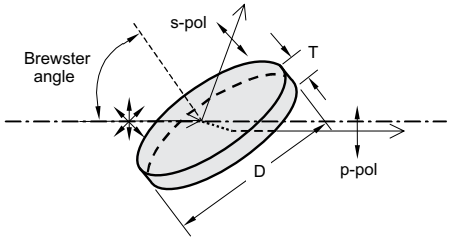
THIN FILM LASER POLARIZERS

Thin Film Polarizers separate the s- and p-polarization components. Thin Film Polarizers can be used as an alternative to Glan-Taylor laser polarizing prisms or cube polarizing beamsplitters because of the high damage threshold that reaches 6 J/cm^2 at 1064 nm, 8 ns.

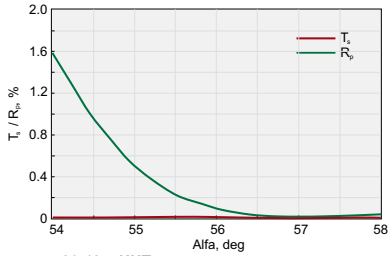
Thin Film Polarizers are used in high energy lasers. They can be used as extracavity attenuators for Nd:YAG laser fundamental and its harmonics or intracavity Q-switch hold-off polarizers. The most efficient way to use thin film polarizers is at Brewster angle – 56° with minimal ±2° losses. Typical polarization ratio T_p/T_s is 200:1.



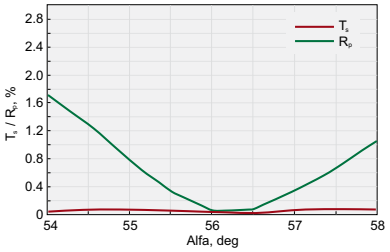
SPECIFICATIONS

Material	BK7, UV FS
Surface quality	20–10 scratch & dig (MIL-PRF-13830B)
Surface flatness	λ/10 @ 633 nm
Parallelism	<30 arcsec
Clear aperture	>90%
Angle of incidence (AOI)	56 ± 2°
Diameter tolerance	+0.0 -0.12 mm
Thickness tolerance	±0.2 mm
Laser damage threshold	6 J/cm^2 10 nsec pulse at 1064 nm typical

Material UV FS



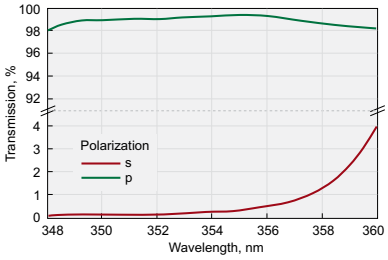
420-1254UHT.
Ultra High Transmission @ 532 nm,
Ts<0.2%, Rp<0.2%, AOI=56°



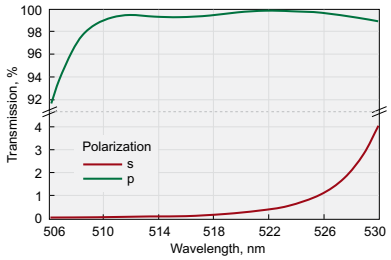
420-1258UHT.
Ultra High Transmission @ 1064 nm,
Ts<0.2%, Rp<0.2%, AOI=56°

Ultra High Transmission, T_s < 0.2 %, R_p < 0.2 % (R_s/T_p > 99.8/99.8 %)

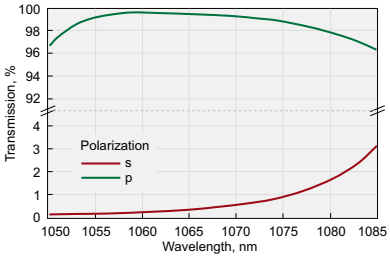
Catalogue number	Diameter D, mm	Thickness T, mm	Wavelength, nm	Price, EUR
420-1254UHT	25.4	3.0	532	260
420-1258UHT	25.4	3.0	1064	304



420-1252HT.
High Transmission @ 355 nm
Rs/Tp > 99.5/99.0 %



420-1254HT.
High Transmission @ 532 nm
Rs/Tp > 99.5/99.0 %



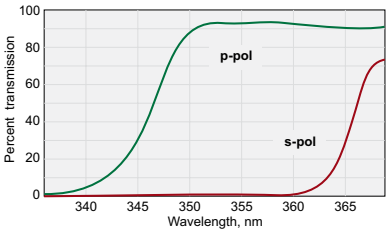
420-1258HT.
High Transmission @ 1064 nm
Rs/Tp > 99.5/99.0 %

High Transmission, R_s / T_p > 99.5 / 99.0 %

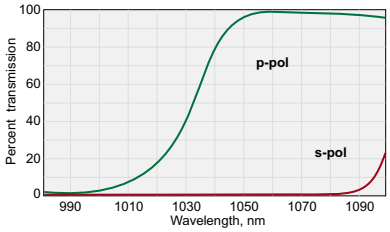
Catalogue number	Diameter D, mm	Thickness T, mm	Wavelength, nm	Price, EUR
420-1252HT	25.4	3.0	355	237
420-1254HT	25.4	3.0	532	200
420-1258HT	25.4	3.0	1064	234

Rectangular High Transmission, R_s / T_p > 99.5 / 99.0 %

Catalogue number	Rectangular dimensions Length, mm	Width, mm	Thickness T, mm	Wavelength, nm	Price, EUR
420-1288HT	28.6	14.3	3.0	1064	234



420-1252.
Transmission @ 355 nm , Rs/Tp > 99.5/95 %



420-1258.
Transmission @ 1064 nm, Rs/Tp > 99.5/95 %

Material BK7

Transmission, R_s / T_p > 99.5 / 95.0 %

Catalogue number	Diameter D, mm Metric	English	Thickness T, mm	Wavelength, nm	Price, EUR
420-0124	12.5	12.7	3.0	532	108
420-0128	12.5	12.7	3.0	1064	115
420-0254	25.0	25.4	3.0	532	128
420-0258	25.0	25.4	3.0	1064	155
420-0504	50.0	50.8	6.0	532	206
420-0508	50.0	50.8	6.0	1064	255

Please add letter M to the catalogue code for metric dimensions or E for English.

Rectangular. Transmission, R_s / T_p > 99.5 / 95.0 %

Catalogue number	Rectangular dimensions Length, mm	Width, mm	Thickness T, mm	Wavelength, nm	Price, EUR
420-0284	28.6	14.3	3.0	532	142
420-0288	28.6	14.3	3.0	1064	170

Material UV FS

Transmission, R_s / T_p > 99.5 / 95.0 %

Catalogue number	Diameter D, mm Metric	English	Thickness T, mm	Wavelength, nm	Price, EUR
420-1122	12.5	12.7	3.0	355	164
420-1124	12.5	12.7	3.0	532	131
420-1128	12.5	12.7	3.0	1064	145
420-1252	25.0	25.4	3.0	355	182
420-1254	25.0	25.4	3.0	532	154
420-1258	25.0	25.4	3.0	1064	180
420-1502	50.0	50.8	6.0	355	325
420-1504	50.0	50.8	6.0	532	295
420-1508	50.0	50.8	6.0	1064	315

Please add letter M to the catalogue code for metric dimensions or E for English.

Rectangular. Transmission, R_s / T_p > 99.5 / 95.0 %

Catalogue number	Rectangular dimensions Length, mm	Width, mm	Thickness T, mm	Wavelength, nm	Price, EUR
420-1282	28.6	14.3	3.0	355	255
420-1284	28.6	14.3	3.0	532	215
420-1288	28.6	14.3	3.0	1064	225

RELATED PRODUCTS

Thin Film Laser Polarizers of other wavelengths
See page 1.44

Adapters for Polarizer at 56° 840-0117, 840-0118
See page 8.78

Glan and Wollaston Prisms
See page 1.48

Variable Attenuator for Nd:YAG linearly Polarized Laser Beam 990-0070
See page 4.18