QUARTZ RETARDATION PLATES

Quartz Retardation Plates are made of material enabling linear birefringence. These plates are made of high quality optical grade crystalline quartz, featuring high damage threshold. Retardation plates rotate polarization's direction (λ/2) or convert linear into circular polarization or vice versa (λ/4). Quartz retardation plates are supplied mounted and AR coated.

ZERO ORDER OPTICALLY CONTACTED WAVEPLATES

Features

- Zero Order Waveplates for Nd:YAG fundamental and its harmonics
- Easily aligned
- Temperature insensitive
- Moderately insensitive to wavelength

Zero order plates are comprised of two different plates cut parallel to their optical axis. This construction make plates less dependent on temperature. The plates are polished to different thicknesses enabling to achieve required retardation difference. These component plates have orthogonal optic axis directions, so that the roles of the ordinary and extraordinary rays are interchanged in passing from one plate to another. The thickness of the plate determines the phase shift between the ordinary and extraordinary beams for any specific wavelength.

Specifications

Material	Single crystal quartz
Optical axis	normal to facet on circumference of retarder
Clear aperture	Ø17 mm (other dimensions on request)
Ring mount outer diameter	25.4 +0.0 / -0.12 mm
Nominal thickness of waveplate	1.5 – 2.5 mm
Surface quality	20 –10 scratch & dig (MIL-PRF-13830B)
Wavefront distortion	λ/10 @ 633 nm
Parallelism	< 10 arcsec
AR coating	R < 0.4%
Damage threshold	> 0.5 J/cm², 10 nsec pulse, 1064 nm typical

Ø12.7 mm waveplates. Clear aperture Ø11 mm, unmounted

Wavelength, nm	Retardation λ/2		Retardation λ/4	
	Catalogue number	Price, EUR	Catalogue number	Price, EUR
1064	460-4205D12	165	460-4405D12	165
532	460-4230D12	165	460-4430D12	165
355	460-4240D12	175	460-4440D12	175
266	460-4245D12	185	460-4445D12	185

Ø20 mm waveplates. Clear aperture Ø17 mm, mounted into Ø25.4 mm ring holder

Wavelength, nm	Retardation λ/2		Retardation λ/4	
	Catalogue number	Price, EUR	Catalogue number	Price, EUR
1064	460-4205	245	460-4405	245
532	460-4230	245	460-4430	245
355	460-4240	270	460-4440	270
266	460-4245	280	460-4445	280

Related Products

Zero Order Optically Contacted Plates of other wavelengths. See page 1.65

Achromatic Air-Spaced Waveplates. See page 1.67

ZERO ORDER AIR-SPACED WAVEPLATES

Features

- For high power laser application

Specifications

Material	Single crystal quartz
Optical axis	normal to facet on circumference of retarder
Clear aperture	Ø17 mm
Ring mount outer diameter	25.4 +0.0 / -0.12 mm
Surface quality	20 –10 scratch & dig (MIL-PRF-13830B)
Wavefront distortion	λ/10 @ 633 nm
Parallelism	< 10 arcsec
AR coating	R < 0.5%
Damage threshold	> 10 J/cm², 10 nsec pulse, 1064 nm typical

Wavelength, nm	AR coating range, nm	Retardation λ/2		Retardation λ/4	
		Catalogue number	Price, EUR	Catalogue number	Price, EUR
1064	1035–1095	464-4205	310	464-4405	310
532	515–545	464-4230	310	464-4430	310
355	345–365	464-4240	335	464-4440	335
266	257–275	464-4245	345	464-4445	345
213	210–216	464-4253	420	464-4453	420

Related Products

Polarizer Holder 840-0180

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