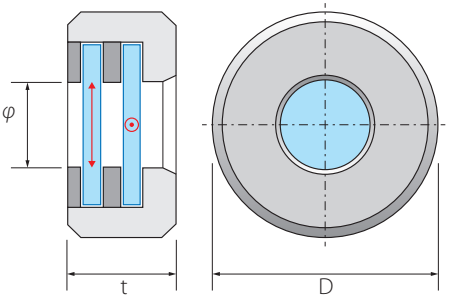
Crystalline Quartz Waveplates



Features

- High extinction ratio
- Wide wavelength range
- Low transmitted wavefront distortion
- High LIDT

Description

Crystalline quartz waveplates are made from materials that have a birefringence property. Most common types are designed so that an ordinary ray will exhibit a half (λ/2) or quarter (λ/4) wave retardation with respect to an extraordinary ray. Such waveplates are used to rotate the plane of polarization, converting a linear polarization to a circular one and vice versa. Such elements are used for electro-optic modulations and as a variable ratio beamsplitter when used in conjunction with a polarization cube. Although the latter two types of waveplates are the most common, Altechna also offers custom retardation values on request.

One of the most common arrangements of the waveplates is the zero order (ZO) air-spaced version. These waveplates are built of two crystalline quartz plates with specific thicknesses and crossed axes, which results in a zero order performance. This arrangement allows us to reach a better performance for a wider wavelength range and is less sensitive to temperature changes when compared with low order (LO) waveplates. High purity crystalline quartz materials and precise parallelism between the two air-spaced plates allows the transmitted wavefront distortion to be better than λ/10 at 632.8 nm.

Typical items Ø12.7 x 6 mm

ZO Crystalline Quartz Waveplates (air-spaced)		
Wavelength, nm	**Product ID**	
	λ/2 retardation, clear aperture >8 mm	**λ/4 retardation, clear aperture >8 mm**
343	2-CPW-ZO-L2-0343-S	2-CPW-ZO-L4-0343-S
355	2-CPW-ZO-L2-0355-S	2-CPW-ZO-L4-0355-S
400	2-CPW-ZO-L2-0400-S	2-CPW-ZO-L4-0400-S
515	2-CPW-ZO-L2-0515-S	2-CPW-ZO-L4-0515-S
532	2-CPW-ZO-L2-0532-S	2-CPW-ZO-L4-0532-S
800	2-CPW-ZO-L2-0800-S	2-CPW-ZO-L4-0800-S
1030	2-CPW-ZO-L2-1030-S	2-CPW-ZO-L4-1030-S
1064	2-CPW-ZO-L2-1064-S	2-CPW-ZO-L4-1064-S

Typical items Ø25.4 x 6 mm

ZO Crystalline Quartz Waveplates (air-spaced)		
Wavelength, nm	**Product ID**	
	λ/2 retardation, clear aperture >18 mm	**λ/4 retardation, clear aperture >18 mm**
266	2-CPW-ZO-L2-0266-W	2-CPW-ZO-L4-0266-W
343	2-CPW-ZO-L2-0343-W	2-CPW-ZO-L4-0343-W
355	2-CPW-ZO-L2-0355-W	2-CPW-ZO-L4-0355-W
400	2-CPW-ZO-L2-0400	2-CPW-ZO-L4-0400
515	2-CPW-ZO-L2-0515	2-CPW-ZO-L4-0515
532	2-CPW-ZO-L2-0532	2-CPW-ZO-L4-0532
633	2-CPW-ZO-L2-0633	2-CPW-ZO-L4-0633
780	2-CPW-ZO-L2-0780	2-CPW-ZO-L4-0780
800	2-CPW-ZO-L2-0800	2-CPW-ZO-L4-0800
852	2-CPW-ZO-L2-0852	2-CPW-ZO-L4-0852
1030	2-CPW-ZO-L2-1030	2-CPW-ZO-L4-1030
1064	2-CPW-ZO-L2-1064	2-CPW-ZO-L4-1064
1550	2-CPW-ZO-L2-1550	2-CPW-ZO-L4-1550

* Customized solutions are available on request.

High Energy Waveplates

Description

Altechna provides standard (air-spaced) and high power (optically bonded) waveplates. They are made from materials that has a birefringence property. Most common types are designed so ordinary ray would exhibit half (λ/2) or quarter (λ/4) wave retardation with respect to an extraordinary one. Such waveplates are used to rotate the plane of polarization, convert linear polarization to circular and vice versa. Such elements are used for electro-optic modulation and as a variable ratio beamsplitter, when used in conjunction with a polarization cube. Although latter two types of waveplates are the most common, Altechna offers custom retardation values on request.

Features

- High extinction ratio
- Wide acceptance angle
- Wide temperature bandwidth
- Exceptional durability in UV applications
- Wide wavelength range available

Typical items*

Wavelength, nm	Product ID		
	Mount size Ø12.7 x 6 mm	Mount size Ø25.4 x 6 mm	Mount size Ø25.4 x 6 mm
	λ/2 retardation, clear aperture >8 mm	λ/2 retardation, clear aperture >18 mm	λ/4 retardation, clear aperture >18 mm
266		2-CPW-TSO-L2-0266	2-CPW-T4O-L4-0266-W
343	2-CPW-TFO-L2-0343-S	2-CPW-TFO-L2-0343-W	2-CPW-TFO-L4-0343-W
355	2-CPW-TFO-L2-0355-S	2-CPW-TFO-L2-0355-W	2-CPW-TSO-L4-0355-W
400	2-CPW-TFO-L2-0400-S	2-CPW-TFO-L2-0400	2-CPW-TSO-L4-0400
515	2-CPW-TZO-L2-0515-S	2-CPW-TFO-L2-0515	2-CPW-TSO-L4-0515
532	2-CPW-TZO-L2-0532-S	2-CPW-TFO-L2-0532	2-CPW-TFO-L4-0532
800	2-CPW-TZO-L2-0800-S	2-CPW-TZO-L2-0800	2-CPW-TFO-L4-0800
1030	2-CPW-TZO-L2-1030-S	2-CPW-TZO-L2-1030	2-CPW-TFO-L4-1030
1064	2-CPW-TZO-L2-1064-S	2-CPW-TZO-L2-1064	2-CPW-TFO-L4-1064
1550	2-CPW-TZO-L2-1550-S	2-CPW-TZO-L2-1550	2-CPW-TZO-L4-1550

* Customized solutions are available on request.

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