

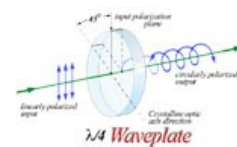
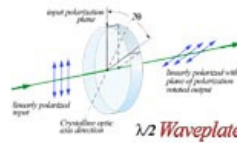
QUARTZ WAVEPLATE/RETARDER - QWPR Series (Zero-Order, Half- & Quarter-Wave Version)

PHOTONIK hv



FEATURES

- Zero-order design;
- Solid cemented with excellent thermal stability;
- Low tolerance
- High damage threshold;



Principles of Waveplate:

Waveplates (retardation plates/phase shifters) are made from materials which exhibit birefringence effect. The velocities of the extraordinary and ordinary rays through the birefringence materials vary inversely with their refractive indices. The difference in velocities gives rise to a phase difference when the two beams recombine. In the case of an incident linearly polarized beam this is given by $a=2\pi d(n_e-n_o)/\lambda$ (a : phase difference; d : thickness of waveplate; n_e, n_o : refractive indices of extraordinary and ordinary rays respectively; λ : wavelength). At any specific wavelength the phase difference is governed by the thickness of the retarder.

Main Specifications:

Materials:	Crystal Quartz
Diameter:	0.5" and 1.0" typical; or per special request
Operation Wavelength(typical)(nm):	244, 248, 266, 355, 400/405, 450, 488, 514, 532, 546, 633, 650, 670, 780, 800, 810, 830, 850, 980, 1053, 1064, 1310, 1480, 1550, 1610. Or, per custom requested.
Retardance Accuracy:	< $\lambda/300$ typ.; Special request for $\lambda/500$
Beam Deviation (Max):	10 Arc Sec
Wavefront Distortion:	< $\lambda/10$
Surface Quality:	10 - 5 Scratch-Dig(MIL standard)
Damage Threshold:	2 MW/cm ² CW; 2 J/cm ² for 10ns pulsed laser
AR Coated:	< 0.25% reflectivity @ wavelength specified

Warranty: 12 months standard. All products are guaranteed to be free from defects in materials and workmanship for a period of one year from date of purchase. Photonik reserves the right to repair or replace defective products at our option. This warranty does not apply to failure of the product due to misuse, abuse, accident, or neglect. Our liability is limited to the price of the part or service we are providing.

Photonik reserves the rights to change product designs and specifications at any time without notice.

Ordering Information:

QWPR	DIAMETER	WAVELENGTH	RETARDATION	COATING
Product Code	Diameter: 1: 0.5", un-mounted 2: 1", un-mounted 3: 0.5", mounted 4: 1", mounted	Center Wavelength(nm): 244, 248, 266, 355, 400/405, 488, 514, 532, 546, 633, 650, 670, 780, 800, 810, 830, 850, 980, 1053, 1064, 1310, 1480, 1550, 1610. S: per requested.	Retardation: 1/4: Quarter-Wave; 1/2: Half-Wave; S: User specified;	Coating Type: NC: No coating; DAR: Double side AR at center wavelength S: Custom coating;

Contact Information:

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