

**NEW**

# Compound Zero Order Quartz Retarders



## Key Benefits

- Tolerates high temperature
- High CW laser damage threshold
- Tip tunable retardance
- Good UV transmission

We provide air spaced compound zero order quartz retarders for special applications where higher damage threshold, or better UV transmission than normal is required. These retarders combine two multiple order quartz retarders with their optic axis directions perpendicular to one another. The net retardance of the pair is the difference in the retardance of these two retarders. The net retardance is as insensitive to temperature changes as a true zero order quartz retarder but is as sensitive to angle of incidence as a multiple order quartz retarder of the thickness of the sum of the two quartz pieces. Angle tuning of retardance permits adjustment for use at a wavelength nearby the design wavelength.

SPECIFICATIONS	
Retarder Material	Crystal quartz, 2 pieces
Retardance accuracy	
Above 300 nm	$\pm \lambda/300$
Below 300 nm	$\pm \lambda/200$
Transmitted Wavefront Distortion (at 632.8 nm over central 8mm diameter)	$\leq \lambda/10$
Reflectance (per surface)	$\leq 0.25\%$ at normal incidence
Surface Quality	20-10 scratch and dig
Beam Deviation	$\leq 10$ arc sec
Diameter Tolerance	$\pm 0.005$ in.
Standard Wavelengths	266, 308, 355, 488, 514.5, 532 and 1064 nm
Temperature Range	-20° C to +80° C
Recommended Safe Operating Limit	1 MW/cm <sup>2</sup> CW at 1064 nm 2 J/cm <sup>2</sup> for a 10 nsec pulse at 1064 nm

ORDERING INFORMATION				
Unmounted				
Diameter (in.)	Clear Aperture (in.)	Thickness (in.)	$\lambda/4$ Wave Part No.	$\lambda/2$ Wave Part No.
1.00	0.80	0.23	ZQ-100- $\lambda$	ZH-100- $\lambda$

Please include the standard wavelength  $\lambda$  in nanometers when ordering. Custom sizes or center wavelengths can be specified for your application.

Custom sizes are available. Please contact your Meadowlark Optics sales engineer for assistance

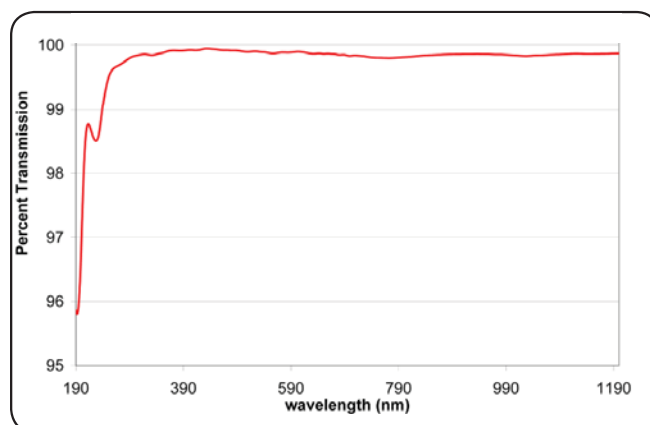


Fig. 2-7 Zero Order Quartz Retarder waveplate internal transmission

Polarizers

Retarders

Mounting Hardware

Liquid Crystal Devices

Liquid Crystal Controllers



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東京本社 〒160-0014 東京都新宿区内藤町1番地 内藤町ビルディング  
TEL:03(3356)1064 FAX:03(3356)3466 E-mail:info@optoscience.com  
大阪支店 〒532-0011 大阪市淀川区西中島7-7-2 新大阪ビル西館  
TEL:06(6305)2064 FAX:06(6305)1030 E-mail:osk@optoscience.com  
名古屋営業所 〒450-0002 名古屋市中村区名駅2-37-21 東海ソフトビル  
TEL:052(569)6064 FAX:052(569)8064 E-mail:ngo@optoscience.com