

Polarization Accessories

Achromatic Wave Plates

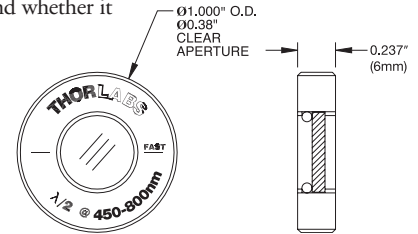
A zero-order achromatic wave plate can be built by aligning the fast axis of a multi-order crystalline quartz wave plate with the slow axis of a magnesium fluoride wave plate where the optical path length difference between the two wave plates is either $\lambda/4$ or $\lambda/2$. The use of crystalline quartz and magnesium fluoride allows the dispersive effects to be minimized so that a nominally flat spectral response is achieved over the operating range of the achromatic wave plate.

The achromatic wave plates are constructed by sandwiching an etched stainless steel spacing ring between the two multi-order wave plates and epoxying the entire assembly into an anodized aluminum housing. The epoxy is only applied outside of the clear aperture in order to prevent the damage threshold from decreasing. The wave plate housing is engraved with a line indicating the orientation of the fast axis of the wave plate as well as engraving that identifies the spectral operating range of the wave plate and whether it is a $\lambda/4$ or $\lambda/2$ wave plate.

- Spectrally Flat Retardance
- High Energy Air-Spaced Design
- Higher Damage Threshold Than Polymer Film Achromatic Wave Plates
- Quarter- and Half-Wave Available
- Improved IR Performance
- OEM Pricing Available



AQWP05M-630



Thorlabs provides quality OEM components at volume discounted prices. Please email: optics@thorlabs.com to request a quote specific to your needs.

Specifications

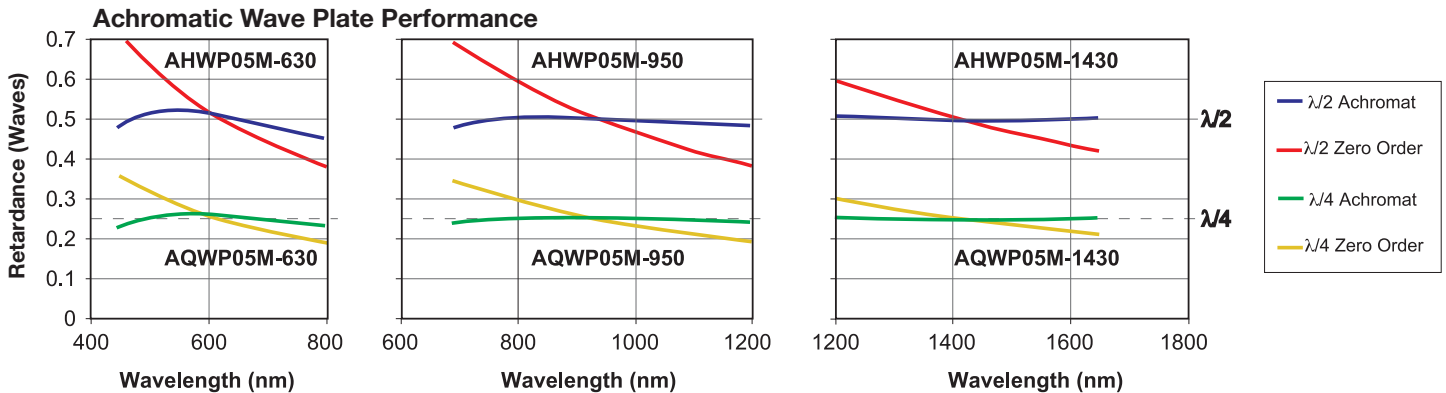
- **Substrate Material:** Crystalline Quartz & Magnesium Fluoride
- **Transmitted Wavefront Error:** $<\lambda/4$
- **Diameter:** 12.7mm \pm 0.1mm Unmounted, 25.4mm Mounted
- **Clear Aperture:** $\text{Ø}0.38"$ ($\text{Ø}9.6\text{mm}$)
- **Retardance Accuracy (typ):** $<\lambda/150$ RMS Over Spectral Range
- **Surface Quality:** 40-20 Scratch-Dig
- **Beam Deviation:** <10 arcsec
- **Reflectance:** $<0.5\%$ Per Surface
- **Damage Limit:** $2\text{J}/\text{cm}^2 @ 10\text{ns}$ $1.064\mu\text{m}$

RELATED PRODUCT

GLAN-LASER
Prism Polarizers
10mm x 10mm Aperture



See Page 816



Mounted Achromatic Wave Plates

ACHROMATIC Quarter-Wave Plate	ACHROMATIC Half-Wave Plate	\$	£	€	RMB	DESCRIPTION
AQWP05M-630	AHWP05M-630	\$ 780.00	£ 491.40	€ 725,40	¥ 7,449.00	450-800nm
AQWP05M-950	AHWP05M-950	\$ 780.00	£ 491.40	€ 725,40	¥ 7,449.00	690-1200nm
AQWP05M-1430	AHWP05M-1430	\$ 780.00	£ 491.40	€ 725,40	¥ 7,449.00	1200-1650nm