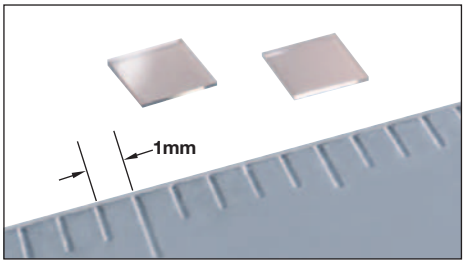
Telecom Wave Plates

These wave plates are manufactured specifically to meet the demanding requirements of WDM component designers. They are 91µm thick for the half-wave and 137µm thick for the quarter-wave. The wave plates are AR coated at 1550nm in order to minimize surface reflection losses.

The true zero-order nature of these wave plates ensures the best possible angle, temperature, and wavelength performance, whereas the small size of these wave plates makes them ideal for reducing the overall package size of your designs.

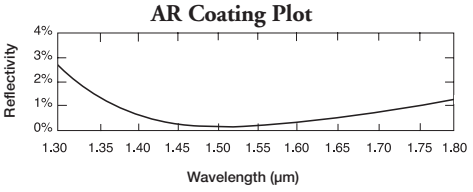


- True Zero-Order
- Low Temperature Sensitivity
- Custom Sizes Available
- Custom Center Wavelengths Available
- AR Coated

Specifications

- **Material:** Crystalline Quartz
- **Size (mm):** 2.0 x 2.0 or 5.0 x 5.0
- **Retardance Accuracy:** λ/500
- **Flatness:** λ/10
- **Surface Quality:** 10-5 Scratch-Dig
- **Parallelism:** 10arcsec
- **Damage Threshold:** 2MW/cm² CW, 2 J/cm² 10ns YAG Pulse
- **AR Coated:** R < 0.25% Reflectivity

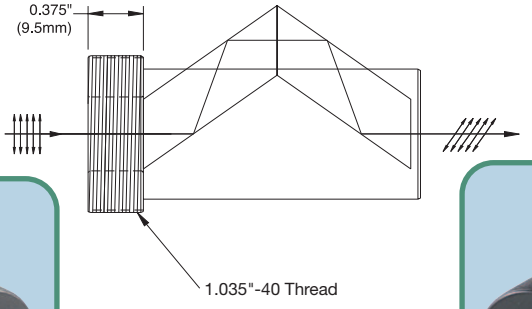
AR Coating Plot

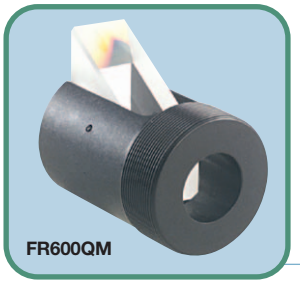


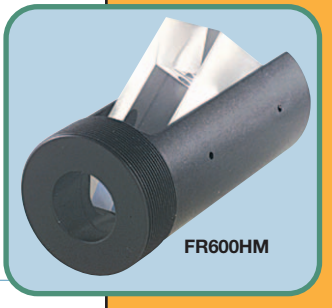
ITEM#	$	£	€	RMB	THICKNESS	DESCRIPTION
WPQ201	$ 62.00	£ 39.10	€ 57,70	¥ 592.10	137µm	Quarter-Wave Plate 1550nm Center Wavelength 2mm Sq.
WPH202	$ 62.00	£ 39.10	€ 57,70	¥ 592.10	91µm	Half-Wave Plate 1550nm Center Wavelength 2mm Sq.
WPQ501	$ 82.00	£ 51.70	€ 76,30	¥ 783.10	137µm	Quarter-Wave Plate 1550nm Center Wavelength 5mm Sq.
WPH502	$ 82.00	£ 51.70	€ 76,30	¥ 783.10	91µm	Half-Wave Plate 1550nm Center Wavelength 5mm Sq.

λ/4 & λ/2 Fresnel Rhomb Retarders

Fresnel rhomb retarders act like broadband wave plates, providing uniform λ/4 or λ/2 retardance over a wider range of wavelengths than that possible with birefringent wave plates. The rhomb is designed so that a 45° phase shift occurs at each internal reflection boundary, creating a total retardance of λ/4. Because the retardance variation is a function of the slowly varying rhomb dispersion, the retardance change with wavelength is much lower than other types of retarders. The half-wave retarder combines two quarter-wave rhombs. Mounted versions allow for easy installation using Thorlabs' rotation mounts like the RSP1 and PRM1 (see pages 174 & 175).

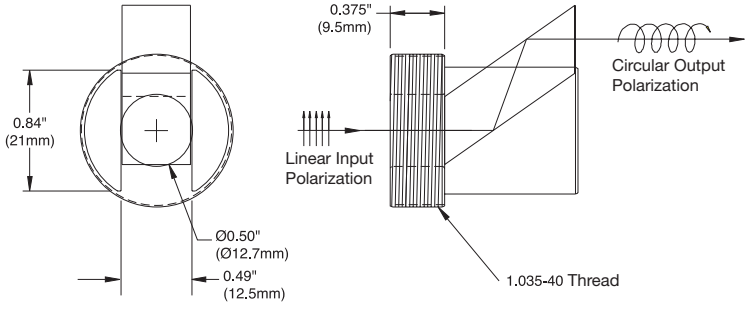






Specifications

- **Material:** BK7
- **Clear Aperture:** 10.0mm +0.0/-0.1mm
- **Surface Quality:** 20-10 Scratch-Dig
- **Damage Threshold:** 2W/cm²
- **Wavelength Range:** 400–1550nm
- **Retardance Variation:** ±2% 600 to 1550nm (max 5% @ 400nm)



FR600QM

ITEM #	$	£	€	RMB	DESCRIPTION
FR600QM	$ 360.00	£ 226.80	€ 334,80	¥ 3,438.00	Mounted Quarter-Wave Rhomb Retarder
FR600HM	$ 650.00	£ 409.50	€ 604,50	¥ 6,207.50	Mounted Half-Wave Rhomb Retarder