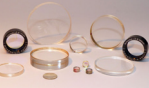






	WAVEPLATE	FEATURES	WAVELENGTH
	PRECISION	<ul style="list-style-type: none"> Most popular retarder type Large, custom clear apertures available Insensitive to small wavelength variations 	VIS - NIR
	PRECISION ACHROMATIC	<ul style="list-style-type: none"> Industry-leading design Excellent broadband operation Custom wavelength ranges available 	VIS - NIR
	PRECISION SUPERACHROMATIC	<ul style="list-style-type: none"> Ultra-broad wavelength range 420 to 1100nm & 800 to 1700 nm Custom wavelength ranges available Custom retardances available 	VIS - NIR
	DUAL-WAVELENGTH	<ul style="list-style-type: none"> Low order Wide angular field Broad wavelength coverage 	VIS - NIR
	WIDE FIELD	<ul style="list-style-type: none"> Unmatched off-axis performance Ideal for uncollimated light applications Standard and custom wavelength versions 	VIS - NIR
	LIQUID CRYSTAL VARIABLE	<ul style="list-style-type: none"> Unmatched versatility Electrically controlled retardance Custom retardance ranges available 	VIS - MWIR
	POLYMER FILM	<ul style="list-style-type: none"> Very thin profile Thermally stable High volume scalable AR coatings and custom retardances available 	VIS - NIR
	RAPTOR APPLIED POLYMER	<ul style="list-style-type: none"> Extremely thin and large diameter Curved surfaces High temperature resistance Custom sizes, wavelengths and retardances available 	VIS - NIR
	LARGE APERTURE	<ul style="list-style-type: none"> Outer diameter up to 8 inches Clear aperture > 90% Custom size, retardance and wavelengths Polymer, quartz, sapphire, MgF₂ and liquid crystal 	UV - MWIR
	BI-CRYSTALLINE ACHROMATIC	<ul style="list-style-type: none"> Superior infrared performance High power handling capability Excellent broadband operation Optic axis independent of wavelength 	UV - NIR
	COMPOUND ZERO-ORDER QUARTZ	<ul style="list-style-type: none"> Tolerates high temperature High CW laser damage threshold Tip tunable retardance 	UV - NIR

- Polymer retarders offer much better field of view than either multiple-order or compound zero-order quartz retarders.
- Large clear apertures are cost effective using polymer retarders.
- Polymer retarders are less sensitive to wavelength change than multiple-order quartz retarders.
- Our achromatic and NEW superachromatic retarders offer much lower retardance variation with wavelength than any other birefringent retarder.

TWD (P-V)	TWD (RMS)	RETARDANCE ACCURACY	ACCEPTANCE ANGLE	BEAM DEVIATION
$\leq \lambda/5$	$\leq \lambda/20$	$\pm \lambda/350$	$\pm 10^\circ$	≤ 1 arc min
$\leq \lambda/4$	$\leq \lambda/16$	$\pm \lambda/100$	$\pm 10^\circ$	≤ 1 arc min
$\leq \lambda/2$	$\leq \lambda/8$	$\pm \lambda/50$	$\pm 10^\circ$	≤ 2 arc min
$\leq \lambda/4$	$\leq \lambda/16$	$\pm \lambda/100$	$\pm 5^\circ$	≤ 1 arc min
$\leq \lambda/2$	$\leq \lambda/8$	$\pm \lambda/250$	$\pm 30^\circ$	≤ 1 arc min
$\leq \lambda/4$	$\leq \lambda/16$	Tunable with $\pm \lambda/500$ resolution	$\pm 2^\circ$ to 10° (Dependent on applied voltage)	≤ 2 arc min
$\leq 2\lambda$ per in.	$\leq \lambda/2$ per in.	$\pm \lambda/300$	$\pm 6^\circ$	≤ 30 arc sec
$\leq \lambda/2$	$\leq \lambda/8$	$\pm \lambda/100$	$\pm 10^\circ$	≤ 5 arc sec
$\leq \lambda$ to $\leq \lambda/5$	$\leq \lambda/4$ to $\leq \lambda/20$	Center: $\leq \lambda/100$ to $\leq \lambda/350$ Spatial Uniformity: $\leq \lambda/10$ to $\leq \lambda/100$	Design Dependent	Design Dependent
$\leq \lambda/4$	$\leq \lambda/16$	$\pm \lambda/100$	$\pm 1^\circ$	≤ 1 arc min
$\leq \lambda/10$	$\leq \lambda/40$	Above 300 nm: $\pm \lambda/300$ Below 300 nm: $\pm \lambda/200$	$\pm 1^\circ$	≤ 10 arc sec

- Zero-order polymer retarders are often lower in cost than compound zero-order quartz retarders.
- Liquid crystal retarders offer real-time, continuous control of retardance with no moving parts.
- We offer polymer and liquid crystal retarders in nonstandard sizes and for custom wavelengths and retardance values.
- Multiple-order quartz retarders are preferred for high power laser applications and can be designed for dual-wavelength operation.