

# DUAL WAVELENGTH WAVEPLATES

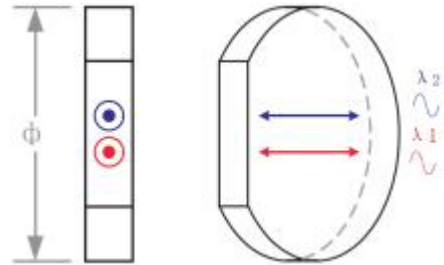
These dual wavelength multiple order waveplates are made a piece of quartz which has been precisely polished. Its thickness is controlled to provide half wave retardation at one wavelength and full wave retardation at a second wavelength.

They are offered for Nd:YAG harmonic wavelengths and can be used to separate the harmonic beams by means of a change in their state of polarization. A half wave plate has a net retardation of  $\pi$  and rotates the plane of polarization by  $90^\circ$ .

A full wave plate has a net retardation of  $2\pi$  and rotates the plane of polarization by  $180^\circ$ . The two harmonics will therefore emerge with crossed linear polarizations.

## Standard Specifications:

Optical Material:	Crystal Quartz
Diameter Tolerance:	+0.0, -0.2mm
Wavefront Distortion:	$\lambda/8$ peak to peak
Retardation Tolerance:	$<\lambda/500$
Wavelength Range	240-2100nm
Clear Aperture:	$>90\%$
Parallelism:	$<1$ arc second
Surface Quality:	20-10 scratch and dig
AR/AR Coating:	R $>0.2\%$ at central wavelength



## Standard Dual-Wavelength Waveplates

Diameter (mm)	$\lambda_1$ (nm)	$\lambda_2$ (nm)	Product Number
25.4	355	1064	UQT-DWPC0201
25.4	532	1064	UQT-DWPC0202
25.4	1064	355	UQT-DWPC0203
25.4	1064	532	UQT-DWPC0204

Please Contact [ultiQuest](#) for other dimensions in prototype and production quantities.

## NOTES!

- ➔ Half wave retardation at  $\lambda_1$ , Full wave retardation at  $\lambda_2$ .
- ➔ The surface flatness is the reflected wavefront distortion of the surface before coating.
- ➔ Be sure to wear laser safety goggles when checking optical path and adjusting optical axis.