

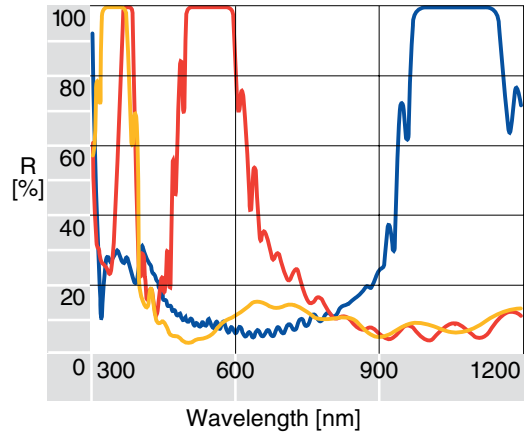
- Spherical Lenses
- Cylindrical Lenses
- Lens Kits
- Achromatic Doublets
- Multi-Element
- Micro Optics
- Mirrors
- Prisms
- Substrates & Windows
- Beamsplitters
- Polarizers
- Filter & Apertures

## Harmonic Separators

- Designed to separate YAG laser outputs as a function of wavelength
- Three standard designs provide alternate transmission/reflection of the harmonics
- Measured laser damage threshold guidelines
- Provided on Grade A BK7 substrates
- Surfaces finished to  $\lambda/10$  flatness
- Available for 532/1064 and 355/1064



These are dichroic (i.e., color dependent) beamsplitters which separate the YAG fundamental from its second harmonic. Three configurations are offered. One reflects the fundamental and the second reflects the 532nm harmonic and the third reflects the 355nm harmonic. They are available in four sizes 25.4mm, 30mm, 50mm and 50.8mm diameter.



**HARMONIC SEPARATOR REFLECTIVITY**

- R355 nm — Yellow line
- R532 nm — Red line
- R1064 nm — Blue line

Harmonic separators are a useful tool to quickly separate the fundamental from the second harmonic output of a YAG laser. The sizes listed here are standard, but we are able to provide both larger and smaller sizes (and other wavelength separations for other applications) at competitive prices.

### Specifications & Tolerances

- Surface flatness:  $\lambda/10$
- Surface quality: 20-10
- Thickness:  $\pm 0.2$ mm
- Bevel: 0.2mmx45° typical
- Laser damage threshold: Measured for a sample 1064nm Harmonic Separator -  $>11$ J/cm<sup>2</sup> for a 10ns pulse @ 1064nm.  
Measured for a sample 532nm Harmonic Separator -  $>7$ J/cm<sup>2</sup> for a 10ns pulse @ 532nm.
- Reflectance:  $R_{av} > 99.5\%$  at 45 degree angle of incidence (see curves)
- Diameter: +0, -0.2mm
- Parallelism:  $\leq 5$ arcsec
- Clear aperture:  $>90\%$  diameter
- Material: BK7, grade A

### Harmonic Separators

Reflected Wavelength (nm)	Transmitted Wavelength (nm)	Diameter, D (inch)	Diameter, D (mm)	Thickness, t (mm)	Price	PART NUMBER
1064	532	1.00	25.4	5.0		099-0230
1064	532	1.18	30.0	5.0		099-0240
1064	532	1.97	50.0	8.0		099-0250
1064	532	2.00	50.8	8.0		099-0260
532	1064	1.00	25.4	5.0		099-0280
532	1064	1.18	30.0	5.0		099-0290
532	1064	1.97	50.0	8.0		099-0330
532	1064	2.00	50.8	8.0		099-0340
355	1064/532	1.00	25.4	5.0		099-0350
355	1064/532	1.18	30.0	5.0		099-0360
355	1064/532	1.97	50.0	8.0		099-0370
355	1064/532	2.00	50.8	8.0		099-0380

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