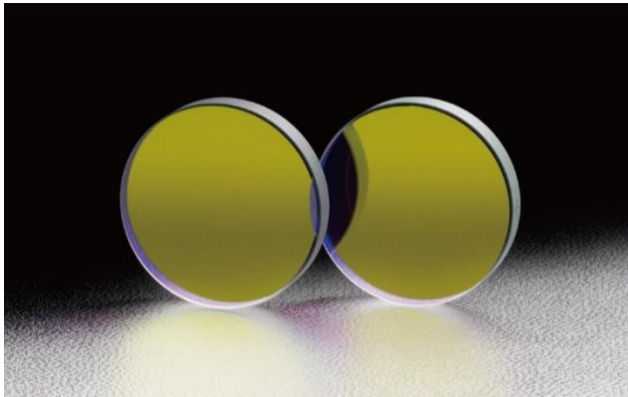


Harmonic Separator

Used to separate or combine YAG (1064nm) and harmonic-converted laser beams (266nm, 355nm, 532nm) by wavelength.

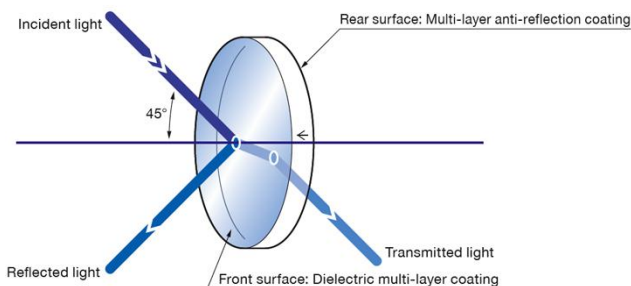
Five types with different reflectance wavelengths are available.

- Since a dielectric multilayer coating is used, there is no absorption in the coating and it can be used for laser beams with high energy density.
- Can be used for lasers with large beam diameters because of the plate type.
- The high reflectivity of 99.2% or more (98% or more for dual wavelength specifications) enables separation of reflected wavelengths from transmitted wavelengths.



Specifications	
Material	YHS: BK7 YHSQ: Synthetic fused silica
Surface Flatness	$\lambda/10$
Coating	Front surface: Dielectric multi-layer coating Rear surface: Multi-layer anti-reflection coating
Incident Angle	45°
Parallelism	<5"
Surface Quality (Scratch-Dig)	10 - 5
Clear Aperture	90% of the diameter

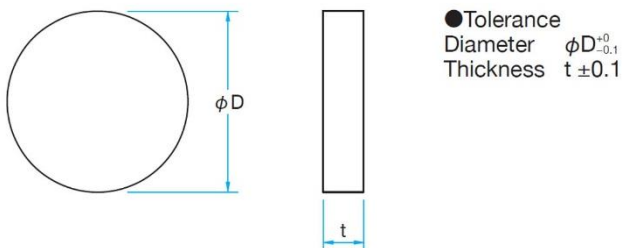
Schematic



Guide

- ▶ Please contact our Sales Division for customized products. (Customized on size, wavelength or R:T, etc.)
- ▶ For a guarantee in reflected wavefront error or transmitted wavefront error.
- ▶ Please refer to the website for numerical data for various characteristic graphs. (Reference data, EXCEL file format)

Outline Drawing



Attention

- ▶ Due to the effect of the refractive index and thickness of the substrate, the light path of transmitted light shifts several mm parallel to the incident light.
- ▶ Transmittance and reflectance wavelength characteristics change when used at incident angles other than 45 degrees.
- ▶ Use the side indicated by the arrow on the side of the substrates as the reflective side. Reflection on the back side may cause loss of light intensity and ghosting.
- ▶ Transmitted light is rarely mixed with light of reflected wavelengths, but reflected light may be mixed with light of transmitted wavelengths. (5% to 15%)
- ▶ The wavelength characteristic of transmittance varies depending on the polarization orientation of the laser. The specifications show average values for P and S polarization. Please check the actual laser polarization orientation before use.

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For Reflected wavelength: 266nm, Transmitted wavelength: 532, 1064nm

Part Number	Diameter ϕ D	Thickness t	Material	(The average value of the P-Polarization and the S-Polarization)		Laser Damage Threshold*
				Reflectance at 266nm	Reflectance at 532 · 1064nm	
YHSQ-25.4C05-266	ϕ 25.4mm	5mm	Synthetic fused silica	> 99.2%	> 95%	2J/cm ²
YHSQ-30C05-266	ϕ 30mm	5mm	Synthetic fused silica	> 99.2%	> 95%	2J/cm ²
YHSQ-50C08-266	ϕ 50mm	8mm	Synthetic fused silica	> 99.2%	> 90%	2J/cm ²

Part Number	Diameter ϕ D	Thickness t	Material	(The average value of the P-Polarization and the S-Polarization)		Laser Damage Threshold*
				Reflectance at 266 · 355nm	Reflectance at 532 · 1064nm	
YHSQ-25.4C05-266/355	ϕ 25.4mm	5mm	Synthetic fused silica	> 98%	> 90%	2J/cm ² (@266nm) 5J/cm ² (@355nm)
YHSQ-30C05-266/355	ϕ 30mm	5mm	Synthetic fused silica	> 98%	> 90%	2J/cm ² (@266nm) 5J/cm ² (@355nm)
YHSQ-50C08-266/355	ϕ 50mm	8mm	Synthetic fused silica	> 98%	> 90%	2J/cm ² (@266nm) 5J/cm ² (@355nm)

Part Number	Diameter ϕ D	Thickness t	Material	(The average value of the P-Polarization and the S-Polarization)		Laser Damage Threshold*
				Reflectance at 355nm	Reflectance at 532 · 1064nm	
YHS-25.4C05-355	ϕ 25.4mm	5mm	BK7	> 99.5%	> 85%	5J/cm ²
YHS-30C05-355	ϕ 30mm	5mm	BK7	> 99.5%	> 85%	5J/cm ²
YHS-50C08-355	ϕ 50mm	8mm	BK7	> 99.5%	> 85%	5J/cm ²
YHSQ-25.4C05-355	ϕ 25.4mm	5mm	Synthetic fused silica	> 99.5%	> 85%	5J/cm ²
YHSQ-30C05-355	ϕ 30mm	5mm	Synthetic fused silica	> 99.5%	> 85%	5J/cm ²
YHSQ-50C08-355	ϕ 50mm	8mm	Synthetic fused silica	> 99.5%	> 85%	5J/cm ²

Part Number	Diameter ϕ D	Thickness t	Material	(The average value of the P-Polarization and the S-Polarization)		Laser Damage Threshold*
				Reflectance at 532nm	Reflectance at 1064nm	
YHS-25.4C05-532	ϕ 25.4mm	5mm	BK7	> 99.5%	> 95%	8J/cm ²
YHS-30C05-532	ϕ 30mm	5mm	BK7	> 99.5%	> 95%	8J/cm ²
YHS-50C08-532	ϕ 50mm	8mm	BK7	> 99.5%	> 95%	8J/cm ²
YHSQ-25.4C05-532	ϕ 25.4mm	5mm	Synthetic fused silica	> 99.5%	> 95%	8J/cm ²
YHSQ-30C05-532	ϕ 30mm	5mm	Synthetic fused silica	> 99.5%	> 95%	8J/cm ²
YHSQ-50C08-532	ϕ 50mm	8mm	Synthetic fused silica	> 99.5%	> 95%	8J/cm ²

Part Number	Diameter ϕ D	Thickness t	Material	(The average value of the P-Polarization and the S-Polarization)		Laser Damage Threshold*
				Reflectance at 1064nm	Reflectance at 532nm	
YHS-25.4C05-1064	ϕ 25.4mm	5mm	BK7	> 99.5%	> 90%	20J/cm ²
YHS-30C05-1064	ϕ 30mm	5mm	BK7	> 99.5%	> 90%	20J/cm ²
YHS-50C08-1064	ϕ 50mm	8mm	BK7	> 99.5%	> 90%	20J/cm ²
YHSQ-25.4C05-1064	ϕ 25.4mm	5mm	Synthetic fused silica	> 99.5%	> 90%	20J/cm ²
YHSQ-30C05-1064	ϕ 30mm	5mm	Synthetic fused silica	> 99.5%	> 90%	20J/cm ²
YHSQ-50C08-1064	ϕ 50mm	8mm	Synthetic fused silica	> 99.5%	> 90%	20J/cm ²

* Laser pulse width 10ns, repetition frequency 20Hz

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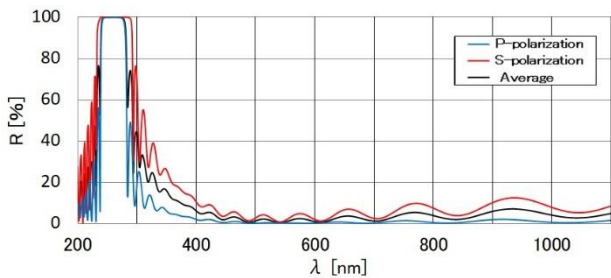
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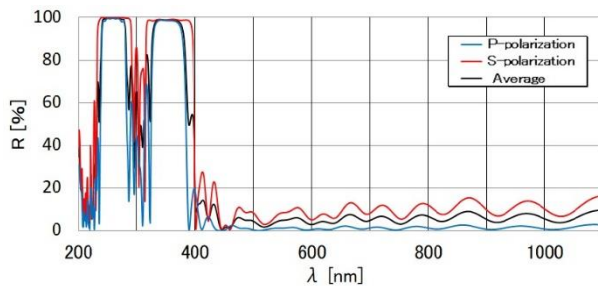
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Typical Reflectance Data

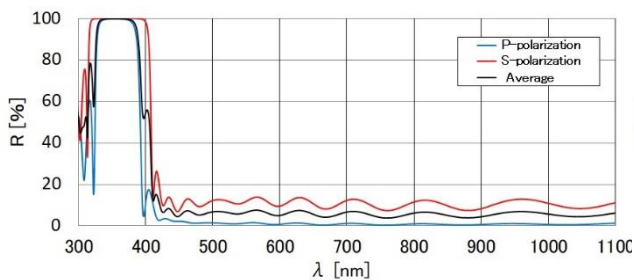
YHSQ-266



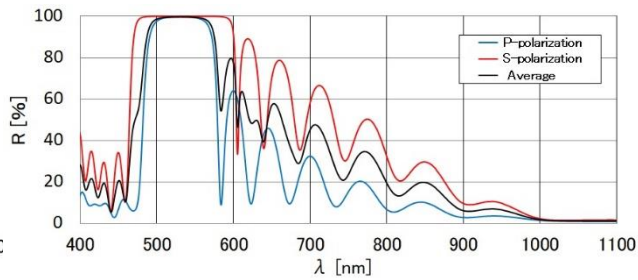
YHSQ-266/355



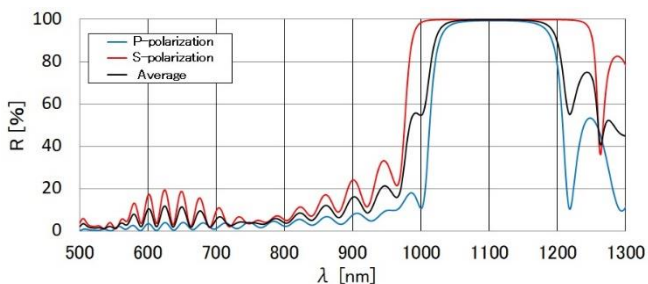
YHS/YHSQ-355



YHS/YHSQ-532



YHS/YHSQ-1064



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