

Dielectric Mirrors for High Power Yb Laser | TFMHPQ

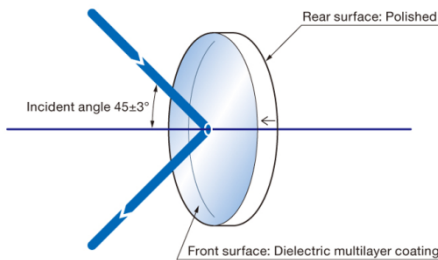
NEW **RoHS** **Catalog Code** W3224

Mirrors for use in optical system of Yb pulsed laser with large energy.
All dielectric coating designs are much more resistant to laser damage than typical mirrors and are suitable for use with high power laser systems.

- All Dielectric Mirrors for High Power Laser are manufactured using dielectric multi-layer coatings of alternating high and low index layers.
- The Mirrors are specifically designed for use at 45 degrees (AOI).
- All dielectric coating designs are much more resistant to laser damage than typical mirrors and are suitable for use with high power laser systems.
- Mirrors for YAG lasers are also available.

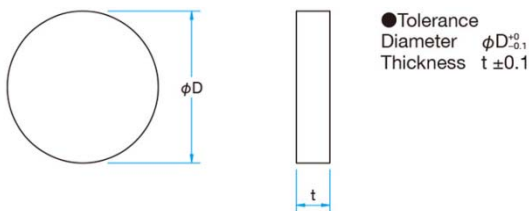


Outline Drawing



Schematic

(in mm)



Common Specifications

Material	Synthetic fused silica
Coating	Dielectric multilayer coating
Incident angle	45°±3°
Surface flatness	$\lambda/10$
Parallelism	<3'
Surface Quality (Scratch-Dig)	10-5
Clear aperture	90% of the diameter
Rear Surface	Polished

Guide

- ▶ Please consult our Sales Division for assistance in your selection and for customized products. (customized on outer diameter, wavelength characteristic, etc.) Please use the inquiry sheet.
[WEB Reference](#) [Catalog Code](#) W3800
- ▶ All Dielectric Coating for High Power Laser can also be applied on a low scattering substrate. [WEB Reference](#) [Catalog Code](#) W3240
- ▶ Also available are our surface flatness guarantee (HTFM) mirrors with accuracy guarantee after surface coating.
[WEB Reference](#) [Catalog Code](#) W3002

Attention

- ▶ Reflectance of dielectric mirrors will vary according to the polarization of the input beams.
- ▶ The un-coated rear surface of the mirror is polished and the arrow on the side of the substrate points towards the coated surface. S-polarization has the high reflectance and the wide reflective bandwidth compared with p-polarization. The reflectance in the specifications list is that of random polarization or (p-polarization reflectance + s-polarization reflectance) / 2.
- ▶ The reflectance curves are based on actual measurements and may vary with production lots.
- ▶ Be sure to wear laser safety goggles when checking optical path and adjusting optical axis.
- ▶ The surface flatness is the reflected surface wave front distortion before coating.

257nm/343nm					
Part Number	Wavelength Range [nm]	Diameter ϕD [mm]	Thickness t [mm]	Reflectance [%]	Laser Damage Threshold* [J/cm ²]
TFMHPQ-12.7C03-257	257	$\phi 12.7$	3	>98	4
TFMHPQ-25C05-257	257	$\phi 25$	5	>98	4
TFMHPQ-25.4C05-257	257	$\phi 25.4$	5	>98	4
TFMHPQ-30C05-257	257	$\phi 30$	5	>98	4
TFMHPQ-50C08-257	257	$\phi 50$	8	>98	4
TFMHPQ-50.8C08-257	257	$\phi 50.8$	8	>98	4
TFMHPQ-12.7C03-343	343	$\phi 12.7$	3	>99	8
TFMHPQ-25C05-343	343	$\phi 25$	5	>99	8
TFMHPQ-25.4C05-343	343	$\phi 25.4$	5	>99	8
TFMHPQ-30C05-343	343	$\phi 30$	5	>99	8
TFMHPQ-50C08-343	343	$\phi 50$	8	>99	8
TFMHPQ-50.8C08-343	343	$\phi 50.8$	8	>99	8

*Angle of incidence 0°, laser pulse width 10ns, Pulse Repetition-Rate : 20Hz



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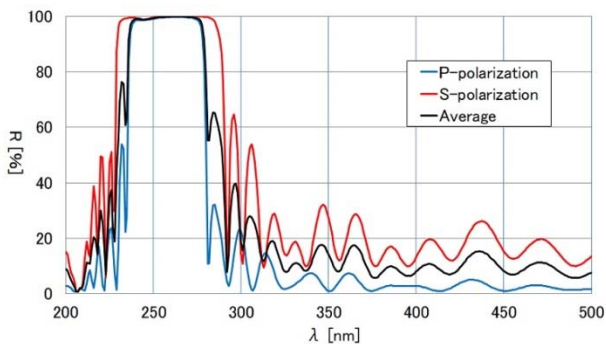
515nm/1030nm					
Part Number	Wavelength Range [nm]	Diameter ϕ D [mm]	Thickness t [mm]	Reflectance [%]	Laser Damage Threshold* [J/cm ²]
TFMHPQ-12.7C03-515	515	ϕ 12.7	3	>99	26
TFMHPQ-25C05-515	515	ϕ 25	5	>99	26
TFMHPQ-25.4C05-515	515	ϕ 25.4	5	>99	26
TFMHPQ-30C05-515	515	ϕ 30	5	>99	26
TFMHPQ-50C08-515	515	ϕ 50	8	>99	26
TFMHPQ-50.8C08-515	515	ϕ 50.8	8	>99	26
TFMHPQ-12.7C03-1030	1030	ϕ 12.7	3	>99	28
TFMHPQ-25C05-1030	1030	ϕ 25	5	>99	28
TFMHPQ-25.4C05-1030	1030	ϕ 25.4	5	>99	28
TFMHPQ-30C05-1030	1030	ϕ 30	5	>99	28
TFMHPQ-50C08-1030	1030	ϕ 50	8	>99	28
TFMHPQ-50.8C08-1030	1030	ϕ 50.8	8	>99	28

*Angle of incidence 0°, laser pulse width 10ns, Pulse Repetition-Rate : 20Hz

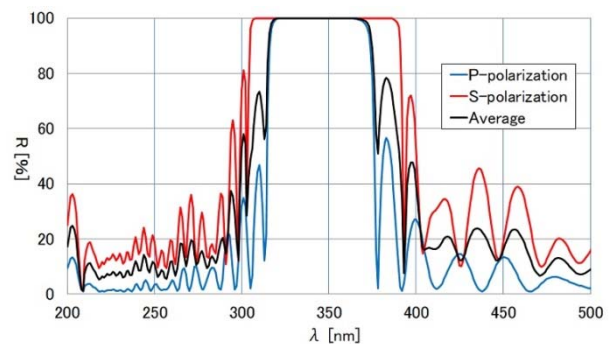
Typical Reflectance Data

R: Reflectance

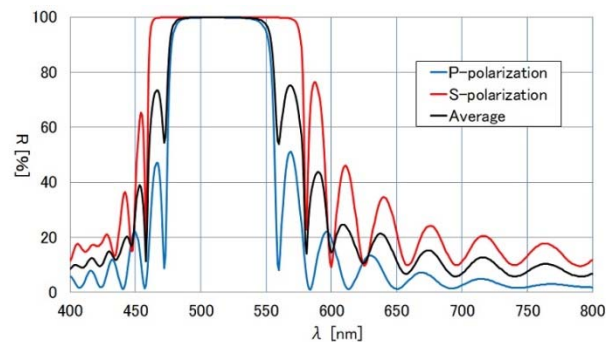
TFMHPQ-257



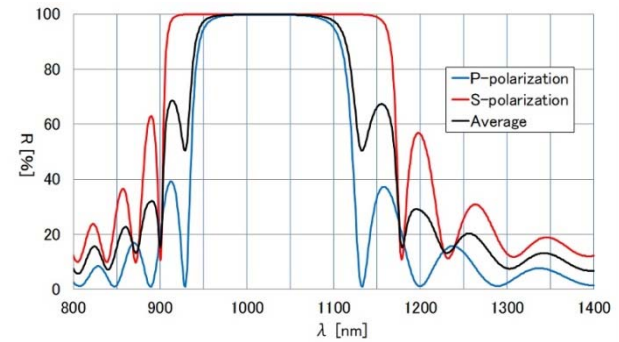
TFMHPQ-343



TFMHPQ-515



TFMHPQ-1030



<http://www.global-optosigma.com/>



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