

Low Dispersion Mirrors for Femtosecond Laser

LDFLM/LDHLM **RoHS**

Application Systems

Machine Vision

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Motion Control Products

Optical & Mirror Holder

F A Parts

Measurement & Control

FA Electrical Parts

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Cleanroom & AntiStatic

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Mirrors

Beamsplitters

Filters

Polarizers

Lenses

Multi-Element Optics

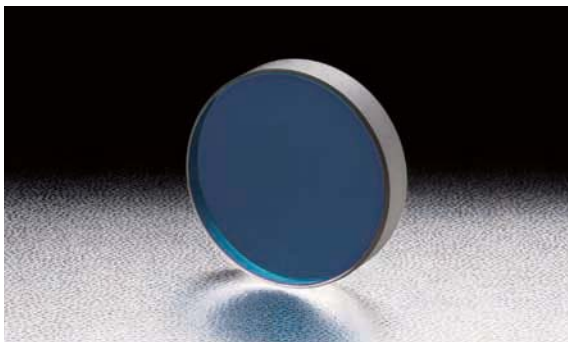
Prisms

Substrates & Windows

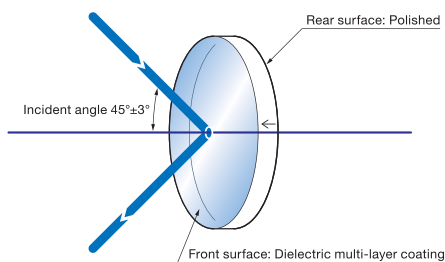
Holder & Vibration isolator

This mirror has low wavelength dispersion and can be used with ultra-short pulse laser with 100 femtosecond or less.

- We have designed a special thin film coating that optimizes wavelength dispersion, range and the strength of lasers.
- It has the effect of suppressing the spread of the pulse width produced by a plurality of reflecting mirrors.
- There are three types available, LDFLM1 standard, LDFLM2 wide wavelength band, and high strength laser LDFLM*.
- These mirrors are designed and produced for usage within the microscopy with femtosecond laser and optical systems with femtosecond time-resolved spectroscopy.

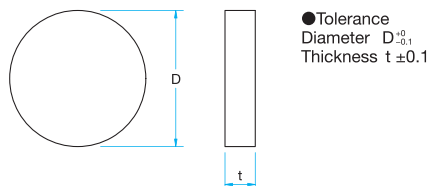


Schematic



Outline Drawing

(in mm)



Specifications

Material	BK7(LDFLM) Synthetic fused silica LDFLM
Coating	Dielectric multi-layer coating
Incident angle	45°±3°
Surface Flatness	λ/10
Parallelism	<5"
Surface Quality (Scratch-Dig)	10-5
Clear aperture	80% of Actual Aperture
Rear Surface	Polished

Guide

- ▶ Fabrication is also available for low dispersion wavelength and physical dimensions other than those found in the catalogue.
- ▶ We can also produce high power negative dispersion mirror.
- ▶ Also available are our surface flatness guarantee (HTFM) mirrors with accuracy guarantee after surface coating. [Reference](#) C012

Attention

- ▶ When used in angles other than 45 degrees (AOI), we would not be able to guarantee the wavelength dispersion.

Low Dispersion Mirrors for Femtosecond Laser

Part Number	Wavelength Range		Diameter D [mm]	Thickness t [mm]	Reflectance [%]	Laser Damage Threshold* [J/cm²]
	S polarization [nm]	P polarization [nm]				
LDFLM1-12.7C05-800	720 – 900	760 – 840	φ12.7	5	>99.8	1
LDFLM1-25.4C05-800	720 – 900	760 – 840	φ25.4	5	>99.8	1
LDFLM1-30C05-800	720 – 900	760 – 840	φ30	5	>99.8	1
LDFLM2-12.7C05-800	700 – 940	740 – 860	φ12.7	5	>99.8	0.5
LDFLM2-25.4C05-800	700 – 940	740 – 860	φ25.4	5	>99.8	0.5
LDFLM2-30C05-800	700 – 940	740 – 860	φ30	5	>99.8	0.5

* Laser pulse width 50fs, wavelength 800nm

Low Dispersion Mirrors for High Power Femtosecond Laser

Part Number	Wavelength Range		Diameter D [mm]	Thickness t [mm]	Reflectance [%]	Laser Damage Threshold* [J/cm²]
	S polarization [nm]	P polarization [nm]				
LDHLM-12.7C05-800	745 – 855	775 – 825	φ12.7	5	>99	2
LDHLM-25.4C05-800	745 – 855	775 – 825	φ25.4	5	>99	2
LDHLM-30C05-800	745 – 855	775 – 825	φ30	5	>99	2

* Laser pulse width 65fs, wavelength 800nm

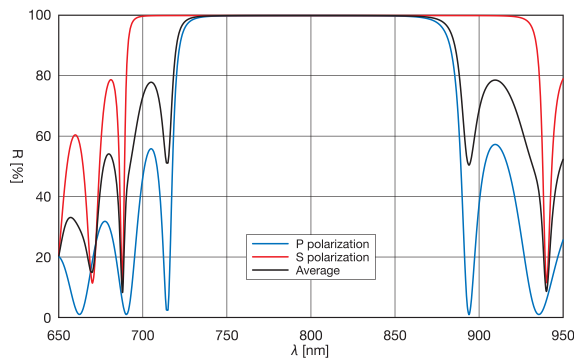
Compatible Optic Mounts

KMH-MP12.7-NL / KMH-MP25-NL, HS25-NL / KMH-MP30-NL, HS30-NL

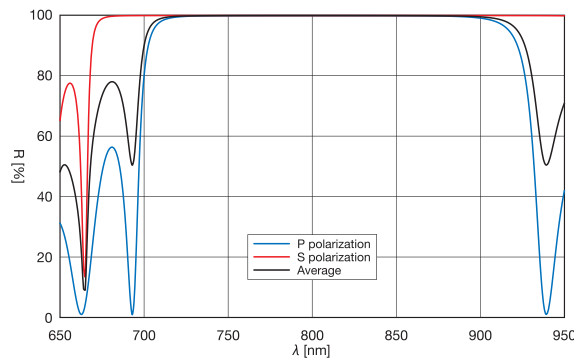
Typical Reflectance Data

R: Reflectance

LDFLM1



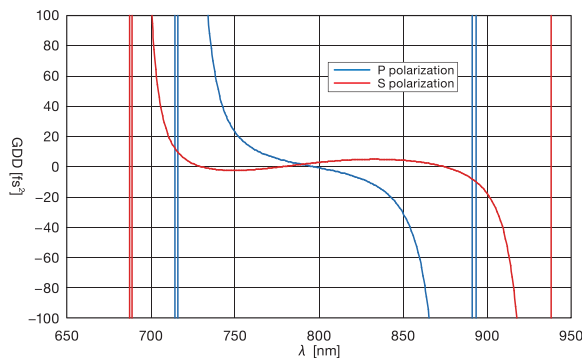
LDFLM2



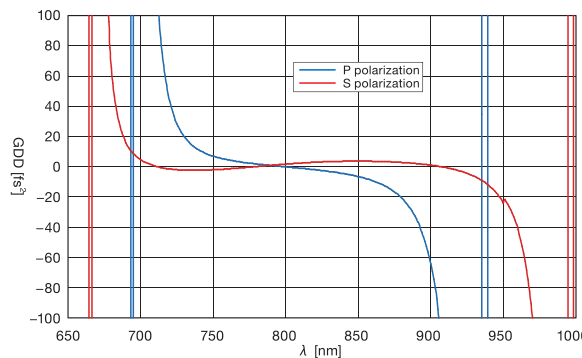
Group Delay Data (for reference only)

GDD: Group Delay Dispersion

LDFLM1



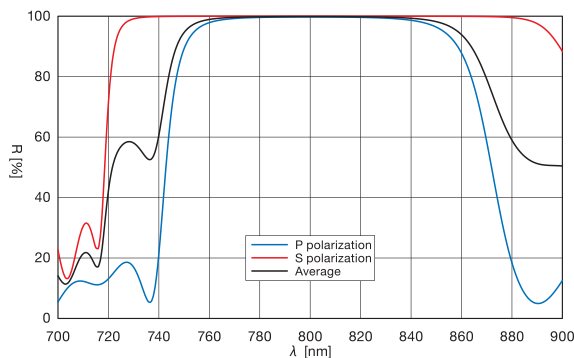
LDFLM2



Typical Reflectance Data

R: Reflectance

LDHLM



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