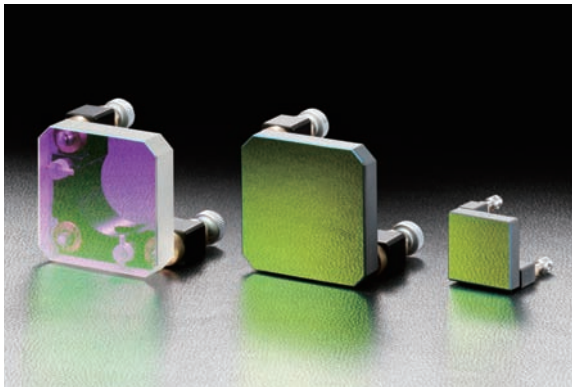
Frameless Mirror Unit
Frameless Beamsplitter Unit

GMMUHP
GBSMU

RoHS
RoHS

Frameless mounting is designed to minimize product footprint and maximize the front surface area of the mirror used.
Our high-reflectivity mirrors are produced using a ceramic material with thermal expansion raito equivalent to Zerodur® to provide maximum thermal stability.

- Laser damage threshold of the mirror is equivalent to our high power dielectric laser mirrors (TFMHP).
- λ/10 surface accuracy guarantee after coating.
- The Beamplitter coating is equivalent to our ultra broadband dielectric half mirror (PSMH).
- Fused Silica is used for our beamsplitters to minimize transmitted wavefront error(s).



Guide

- These mirrors are mounted to the base is the same method as using the mirror holder MHG. WEB Reference Catalog Code W4001
- Able to mount on Pedestal Bases(PST-∗∗) WEB Reference Catalog Code W6039 and Post(RO-∗∗) with M6 thread (sold separately) WEB Reference Catalog Code W6052

Attention

- Surface accuracy data is not provided standard with the product. Please contact our Sales Division for this data at an additional charge.
- The reflectance specifications are represented by the average of the reflectance of P polarized light and S polarized light.
- If the product is used without setting the angle of incidence to 45 degrees, the reflection may decrease.
- Be sure to wear laser safety goggles when checking optical path and adjusting optical axis.

Specifications

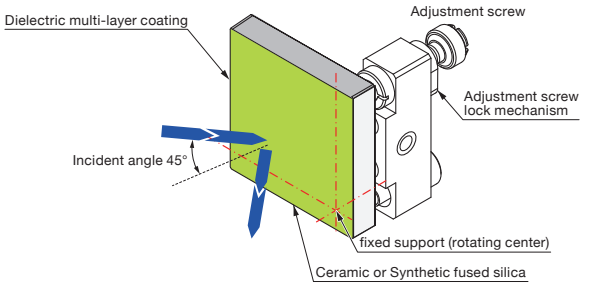
■Holder

Type		GMMUHP-24.4	GMMUHP-49 GBSMU-49
Adjustable axis		3 axis	2 axis
Adjustment Range [°]	Elevation	±3	±2
	Rotation	±3	±2
Resolution [°/rotation]	Elevation	0.74	0.26
	Rotation	0.74	0.26
Main material		Brass	Aluminum
Surface finishing		Super black chrome	Black anodized
Weight [kg]		0.04	0.16

■Mirror

Type	Mirror	Beamsplitter
Material	Ceramic	Synthetic fused silica
Incident angle	45°±3°	
Surface flatness after coating	Reflective wavefront λ/10	
Surface Quality (Scratch–Dig)	20–10	
Reflectance	>99%	Average 50±5%

Schematic



Catalog Code W3001

Mirror Unit

Part Number	Wavelength Range [nm]	Dimension of front plate [mm]	Coating clear aperture [mm]	Surface flatness after coating [mm]	Laser Damage Threshold* [J/cm²]
GMMUHP-24.4-355	355	24.4×24.4×7	23×23	ϕ20	8
GMMUHP-24.4-532	532	24.4×24.4×7	23×23	ϕ20	26.5
GMMUHP-24.4-1064	1064	24.4×24.4×7	23×23	ϕ20	28
GMMUHP-49-355	355	49×49×8.5	48×48	ϕ30	8
GMMUHP-49-532	532	49×49×8.5	48×48	ϕ30	26.5
GMMUHP-49-1064	1064	49×49×8.5	48×48	ϕ30	28

* Laser pulse width 10ns, repetition frequency 20Hz

Catalog Code W3406

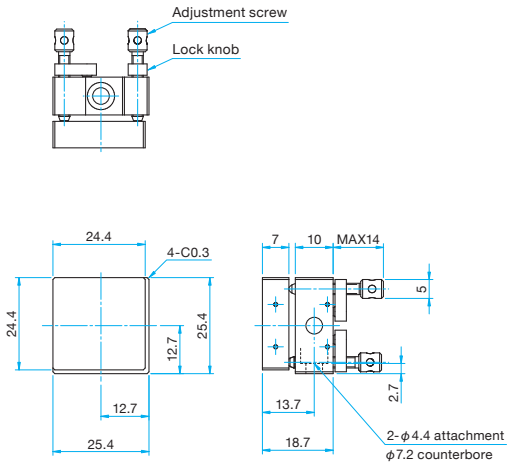
Beamsplitter Unit

Part Number	Wavelength Range [nm]	Dimension of front plate [mm]	Coating clear aperture [mm]	Surface accuracy after coating [mm]	Clear aperture of transmitted beam [mm]	Laser Damage Threshold* [J/cm²]
GBSMU-49-VIS	400 – 700	49×49×12	48×48	ϕ30	ϕ20	2.1

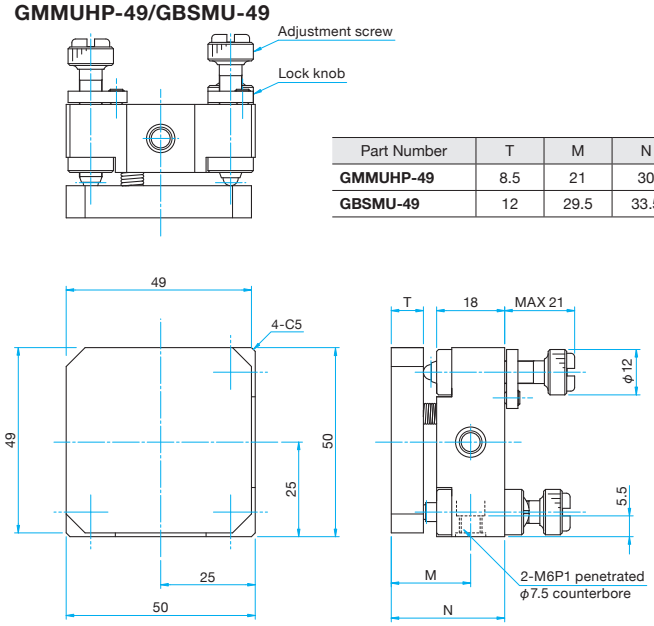
* Laser pulse width 10ns, repetition frequency 20Hz

Outline Drawing (in mm)

GMMUHP-24.4



GMMUHP-49/GBSMU-49

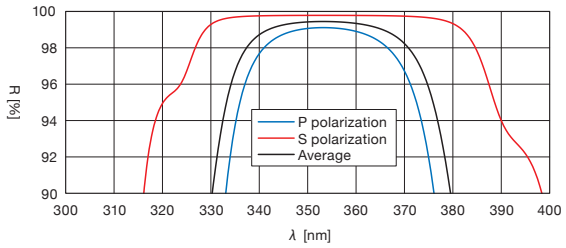


Part Number	T	M	N
GMMUHP-49	8.5	21	30
GBSMU-49	12	29.5	33.5

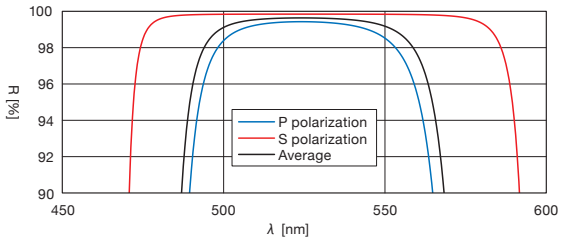
Typical Reflectance Data of Frameless Mirror

R: Reflectance

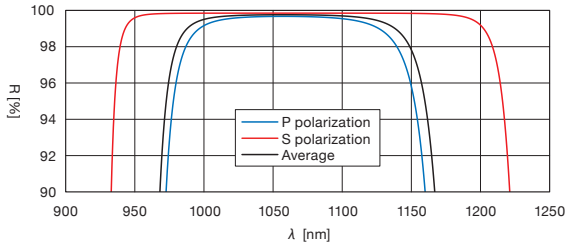
GMMUHP-355



GMMUHP-532



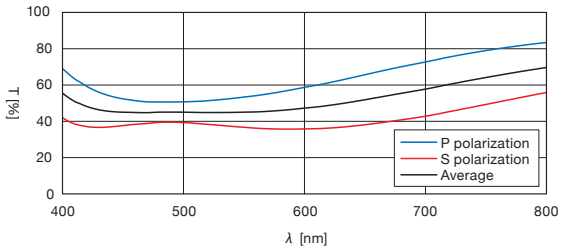
GMMUHP-1064



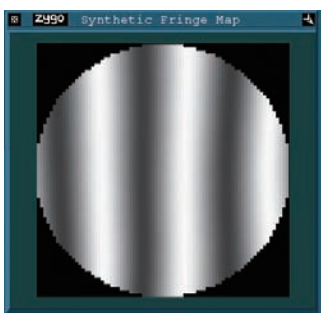
Typical Transmittance Data of Frameless Beamsplitter

T: Transmission

GBSMU-VIS



Surface Accuracy Data (reference data)



- Surface accuracy measurement method:
  Measured with Zygo laser interferometer
- Surface accuracy measurement wavelength
  632.8nm
- Surface accuracy guaranteed temperature
  23°C±2°C