Meniscus Lens for CO_2 Laser | SLZS2

RoHS

Zinc selenide (ZnSe) meniscus Lens (ZnSe) is used as a condensing lens with CO_2 laser (10.6μm). The meniscus designed shape is optimized to minimize spherical aberration.

- With anti-reflection coating the loss due to surface reflection can be reduced, and the laser light with high efficiency can be condensed.
- ZnSe crystal has little hygroscopic, it can be handled in the same way as a normal optical element.
- Since ZnSe crystal is a isotropic crystal, it does not have birefringence (polarization characteristics).

Specifications

Material	ZnSe
Design Wavelength	10.6μm
Refractive Index	2.403
Centration	<3′
Coating	AR coating (Wavelength 10.6μm) (Diameter of ϕ25.4mm is wavelength of 650nm and 10.6μm)
Clear Aperture	90% of diameter
Surface Quality (Scratch–Dig)	40–20

Guide

▶We can also provide window plates (OPZS / WZSA) made with ZnSe for CO_2.

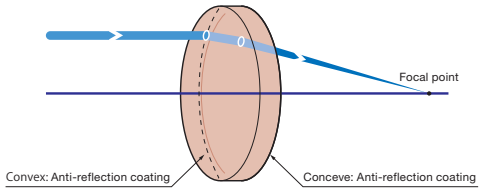
Attention

▶When the high power laser beam is condensed on the surface of ZnSe, due to the thermal decomposition, toxic gas may occur. In addition, a large amount of gas and powder occur when the ZnSe lens is damaged by the laser thermal run-away. If the ZnSe lens is damaged, DO NOT touch the lens by bare hands. Please collect the debris and be careful not to inhale the powder and gas steam generated.

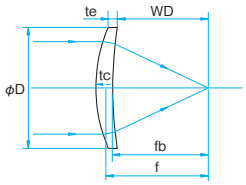
▶Since meniscus lens is a single lens, the focal length will be changed depending on the wavelength.

▶There is a direction to put a light in the Plano convex lens. Please make sure to put the parallel light from the convex side. If it is reserved, the spherical aberration increases, the focused spot becomes large and the image looks blurred.

Schematic



Outline Drawing (in mm)



●Tolerance

Diameter	$\phi D^{+0}_{-0.1}$
Thickness	te ±0.1
Focal length	±1.5%

Specifications

Part Number	Diameter ϕD [mm]	Focal length f [mm]	Edge thickness te [mm]	Center thickness tc [mm]	Back focal length fb [mm]	WD [mm]
SLZS2-19-38.1PCO2	ϕ19.05	38.1	2.0	2.85	36.1	35.6
SLZS2-19-50.8PCO2	ϕ19.05	50.8	2.0	2.64	49.0	48.6
SLZS2-19-63.5PCO2	ϕ19.05	63.5	2.0	2.51	61.8	61.5
SLZS2-20-38.1PCO2	ϕ20.00	38.1	2.0	2.94	36.1	35.5
SLZS2-20-50.8PCO2	ϕ20.00	50.8	2.0	2.70	48.9	48.5
SLZS2-20-63.5PCO2	ϕ20.00	63.5	2.0	2.58	61.7	61.4
SLZS2-25.4-38.1PCO2	ϕ25.40	38.1	3.0	4.52	35.0	34.1
SLZS2-25.4-63.5PCO2	ϕ25.40	63.5	3.0	3.91	60.9	60.3

Important: Treatment of ZnSe optics

ZnSe (Zinc selenide) is Poisonous and harmful substance classified as legal, depending on the specifications, the certificate of delivery may be required for acquisition of Poisonous and harmful substances. **In addition, ZnSe Optics disposal after use is prohibited in general.**
Lenses that are no longer needed, please return it to us.
However, we only take back products that we supplied. This policy noted is in Japan and other countries may differ in the treament of ZnSe (Zinc selenide), please contact your local sales office.