ZnSe Meniscus Lenses

SPECIFICATIONS

Material	ZnSe
Surface quality	40–20 scratch & dig
Focal length tolerance	±2%
Diameter tolerance	+0.0 -0.13 mm
Thickness tolerance	±0.1 mm
Clear Aperture	90% of the diameter
Coating	both surfaces AR coated @ 10.6 µm, R≤0.5% per surface

Catalogue number	Diameter, mm	Focal length, mm	Price, EUR
565-6122	12.7	38.1	215
565-6251	25.4	25.4	224
565-6252	25.4	38.1	224
565-6253	25.4	50	217
565-6255	25.4	63.5	217
565-6256	25.4	75	217
565-6257	25.4	100	217
565-6258	25.4	127.0	217
565-6382	38.1	63.5	345
565-6385	38.1	127.0	345
565-6388	38.1	254.0	345
565-6502	50.8	127.0	612
565-6765	76.2	254.0	1450

Please contact us for other size, shape, precision or coatings requirements.

HOUSING ACCESSORIES

- Variable Lens Holder 830-0040

See page 5.47

COPPER (Cu) MIRRORS

- **Very high thermal conductivity**

Optical components – Cu metal mirrors are intended for the following typical applications:

• optical resonators of pulsed and CW high power IR lasers;

• optical systems for transforming, transmitting and focusing of laser beams.

The working surface of Cu mirrors is treated by diamond turning or polishing.

Treated surfaces are coated with corrosion-resistant, reflective and protective-reflecting coatings.

SPECIFICATIONS

Material of the working surface	high purity oxygen free Cu
Density, g/cm³	7.4
Operation wavelength	10.6 µm
Shape of the working surface	plane, sphere
Dimensions of the working surface	up to 100 mm
Surface quality	40–20 scratch & dig
Surface irregularity	λ/2 @ 633 nm
Clear aperture	>85% of diameter
Diameter tolerance	+0.0 -0.12 mm
Thickness tolerance	±0.2 mm
Radius tolerance	±2%
Coating	protected gold
Reflectivity for unpolarised radiation	> 99%
Max permissible beam intensity	
- for CW laser	1–2 kW/cm²
- for pulsed laser	5 J/cm² 100 ns pulse @ 10.6 µm

Catalogue number	Diameter, mm	Thickness, mm	Concave ROC, m	Price, EUR
576-6250	25.4	8.0	flat	199
576-6252	25.4	8.0	2.0	215
576-6254	25.4	8.0	4.0	215
576-6256	25.4	8.0	6.0	215
576-6260	25.4	8.0	10.0	215

Please contact us for other size, radius of curvature, precision requirements or coating types.

HOUSING ACCESSORIES

- Mirror / Optics Mount 840-0060 with Mirror Adapter 840-0100-A3

See page 5.59 and 5.62

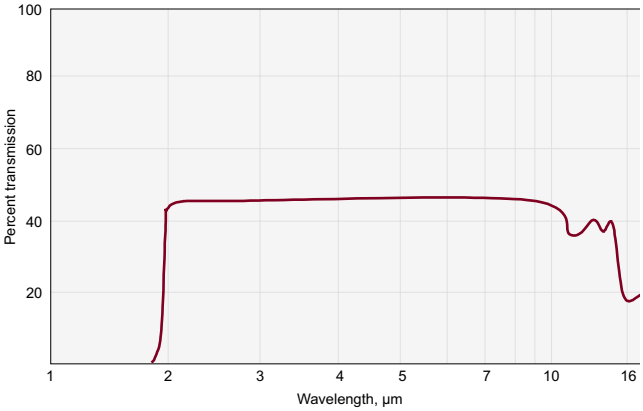
GERMANIUM (Ge) COMPONENTS

- **Wide IR transmission range covering 1.8–16 µm**
- **Opaque in the visible range**

Ge based optical components are widely used for IR applications. Ge is well suited for manufacturing windows and lenses for IR applications in lasers and optical systems. Ge components are used with AR coatings because of high surface reflectivity of substrate.

The high refractive index ensures an exceptional single wavelength performance for a "best form" singlet constructed from germanium.

Ge lenses, Brewster windows, mirrors and beamsplitters are available upon request.



External transmission for Ge window of 10 mm thickness.

PHYSICAL PROPERTIES

Crystal type	cubic
Lattice constant, Å	a = 5.657
Density, g/cm^3	5.33
Melting point, °C	937
Refractive index @ 10.6 µm	n = 4.0034
Transmission band, µm	1.8–17

SPECIFICATIONS

Material	optical quality Ge crystal ($\Delta n/cm < 0.5\times10^{-5}$)
Surface quality	60–40 scratch & dig
Clear aperture	80% of the diameter
Diameter tolerance	+0.0 -0.1 mm
Thickness tolerance	±0.2 mm
Surface flatness	< 1.5 λ per inch @ 633 nm
Parallelism	< 3 arcmin

Catalogue number	**Diameter,** mm	**Thickness,** mm	**Coating**	**Price,** EUR
580-6023	25.4	3.0	uncoated	99
580-6034	38.1	4.0	uncoated	210
580-6055	50.8	5.0	uncoated	299
580-6123	25.4	3.0	AR/AR @ 10.6 µm	159
580-6134	38.1	4.0	AR/AR @ 10.6 µm	269
580-6155	50.8	5.0	AR/AR @ 10.6 µm	370

Please contact us for other sizes or required specifications of coating.

HOUSING ACCESSORIES

- Kinematic Mirror and Beamsplitter Mount 840-0020
  See page 5.51