

Wollaston Calomel IR Polarizer

Calomel crystalline polarizers are the best choice for the mid-IR (5-17 μm) applications requiring high Extinction Ratio (>1: 10 000) and power load light source resistance. Calomel Polarizers are commonly used to polarize unpolarized sources, attenuate unpolarized radiation, or act as beam splitters.

About

Calomel IR polarizers are the only crystalline prismatic polarizers applicable in the mid-IR and LWIR spectral regions on the market. Beside the Calomel prismatic polarizers, only wire grid systems are currently available with no other birefringent crystal transparent above 6 μm . The combination of Calomel's two unique material properties: a high value of birefringence ($\Delta n=0.683$) and a wide transparency range (0.4 μm -17 μm), makes it a great material for mid-infrared polarizers and phase delay components.

Our Calomel Wollaston polarizer is designed for the most demanding applications that require two separately accessible, high purity orthogonal linearly polarized beams.

The air-spaced prism pair is assembled into a 30.0 mm diameter black anodized aluminium housing with a 10x10 mm clear aperture.



Product Highlights

- **High ER contrast** (**>1: 10 000**)
- **Broadband transparency VIS to mid-IR** (**0.4 μm - 17 μm**)
- **Highest birefringence on the market** (**$\Delta n = 0.683$**)
- **Optical positive** (**$n_e > n_o$**)

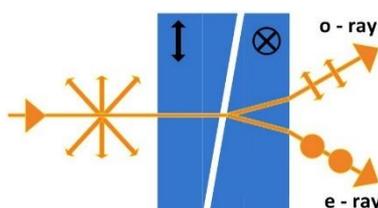
Key Features

- Made of high purity Calomel monocrystals
- Two orthogonally polarized outputs (e-ray, o-ray)
- Separation angle 14°
- High extinction ratio (ER) values compared to market competitors (wire-grid systems)
- 10x10mm or 15x15mm clear aperture
- Applicable for high-power CW lasers
- Mounted in 360° rotational protective housing

Applications

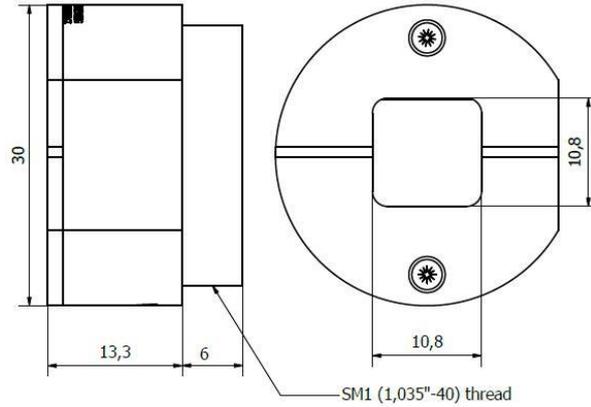
- Infrared spectroscopy of materials (polymers and crystallography)
- Infrared microscopy (sample characterization)
- MWIR thermal imaging systems
- Thin film measurement
- Analysis in infrared astronomy
- Laser polarization and beam attenuation
- Coupling devices for MWIR and LWIR lasers

Technical Specifications

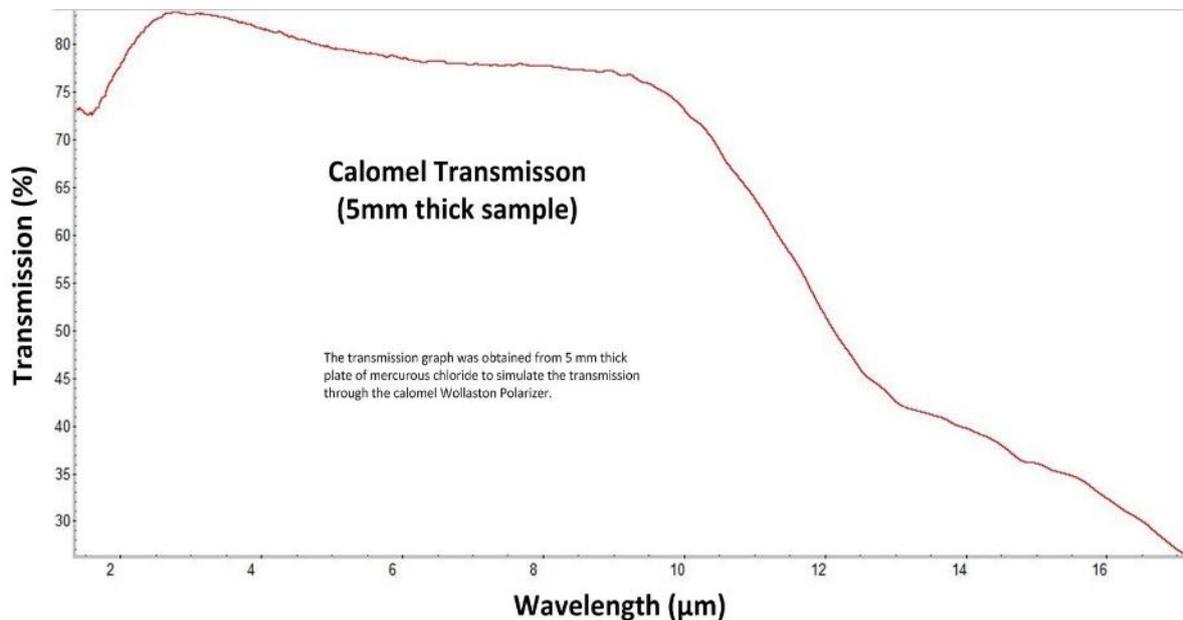


A calomel Wollaston polarizer can be used as either a polarizing element that removes an angled orthogonally polarized component of a beam or as a polarization beamsplitter/combiner. The polarizer is built out of two prisms, as shown in the drawing to the left. Because of the Calomel crystal extremely soft nature, our Wollaston polarizer is offered in black anodized protective metal housings. With SM1 threading, this component can easily be mounted into standard

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Parameter	WL10	WL15
Substrate	High purity Mercurous Chloride monocrystal (Calomel)	
Design	Air-Spaced	
Transmission range	0.4 - 17 μ m	
Surface quality	40 – 20 Scratch Dig	
Clear aperture	10.0 mm x 10.0 mm	15.0 mm x 15.0 mm
AR Coating	2-6 μ m upon request	
Housing	Black anodized body, DIA 30.0 mm x 15.0 mm	
FOV	$\pm 10^\circ$	



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