

Polarizer

Thin Film Polarizer

Precision polarization beam splitters tailored for high-power lasers

- Ultra-High LIDT
- Superior Extinction Ratio
- High Transmission & Low Loss
- Precise Surface Flatness
- Hard-Coating



One Platform Many Possibilities

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Overview

Venuslab Product Introduction: Thin Film Polarizers

Venuslab **Thin Film Polarizers** are versatile and cost-effective optical components designed for general-purpose polarization control. These polarizers are manufactured by coating a dichroic polymer material onto a high-quality transparent glass substrate.

Working Principle:

The device operates on the principle of **selective absorption**. The dichroic coating efficiently absorbs the light component polarized in one direction while transmitting the component polarized in the orthogonal direction, resulting in a linearly polarized output.

Key Advantages

Compared to traditional polarizing prisms, Venuslab Thin Film Polarizers offer several distinct benefits for optical system integration:

- **Wide Acceptance Angle:** Unlike prisms which require precise alignment, these polarizers maintain performance over a larger range of incidence angles, making them easier to align and integrate.
- **Large Aperture Availability:** The thin-film manufacturing process allows for larger clear apertures (e.g., up to Ø50.8mm), making them ideal for applications involving wide beams or large imaging sensors.
- **Cost-Effective Solution:** They provide a high-value alternative to crystal polarizers for applications where ultra-high extinction ratios or high-power handling are not critical.

Qualification

Linear Polarizer Parameter Table (Venuslab VLLP Series)

| Model | Product Name | Dimensions (mm) | Clear Aperture (mm) | Wavelength Range (nm) | Extinction Ratio |
|----------------------|------------------|-----------------|---------------------|-----------------------|------------------|
| VLLP-12.7-400/700 | Linear Polarizer | Ø12.7 x 2.6 | > 8.9 | 400 - 700 | 100:1 |
| VLLP-25.4-400/700 | Linear Polarizer | Ø25.4 x 2.6 | > 20.3 | 400 - 700 | 100:1 |
| VLLP-30-400/700 | Linear Polarizer | Ø30 x 2.6 | > 24 | 400 - 700 | 100:1 |
| VLLP-50-400/700 | Linear Polarizer | Ø50.8 x 2.6 | > 45 | 400 - 700 | 100:1 |
| VLLP-30-760/2000-AR* | SLAR Polarizer | Ø30 x 6 | > 27 | 760 - 2000 | 100:1 |

Circular Polarizers Parameter Table(Venuslab VLCP Series)

| Model | Product Name | Dimensions (mm) | Clear Aperture (mm) | Wavelength Range (nm) |
|-------------------|--------------------|-----------------|---------------------|-----------------------|
| VLCP-25.4-400/700 | Circular Polarizer | Ø25.4 x 2.4 | 20.9 | 400 - 700 |

Explore Series

| Model | Wavelength Range (nm) | Clear Aperture (mm) | Product Name | Dimensions (mm) |
|-------------------|-----------------------|---------------------|--------------------|-----------------|
| VLLP-12.7-400/700 | 400 - 700 | > 8.9 | Linear Polarizer | Ø12.7 x 2.6 |
| VLLP-25.4-400/700 | 400 - 700 | > 20.3 | Linear Polarizer | Ø25.4 x 2.6 |
| VLLP-30-400/700 | 400 - 700 | > 24 | Linear Polarizer | Ø30 x 2.6 |
| VLLP-50-400/700 | 400 - 700 | > 45 | Linear Polarizer | Ø50.8 x 2.6 |
| VLLP-50-400/700 | 760 - 2000 | > 27 | SLAR Polarizer | Ø30 x 6 |
| VLCP-25.4-400/700 | 400 - 700 | 20.9 | Circular Polarizer | Ø25.4 x 2.4 |

 Get in touch with our team to explore configurations, request a quote, or learn more about customized solutions tailored to your needs.

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