

Polarizer

Quartz Low Order Waveplate

The Cost-Effective Workhorse for High-Energy Lasers

- High Damage Threshold
- Robust Single-Plate Construction
- Superior Stability vs. Multi-Order
- Exceptional Cost-Performance Ratio



One Platform Many Possibilities

Contact Us sales@venuslabtech.com

Get a Quote



Get Expert Advice
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Overview

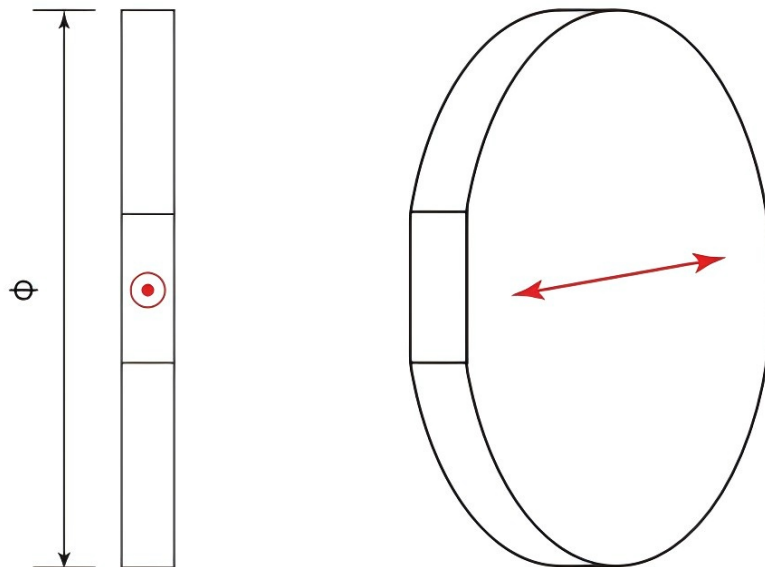
Unmatched Stability & Precision

The Venuslab VLZW Series Zero Order Waveplates are designed for applications requiring superior stability against temperature fluctuations and wavelength shifts. Unlike standard multi-order plates, these components are constructed by stacking two quartz plates with their fast axes aligned perpendicular to each other.

This compound design effectively cancels out the thermal dependence, resulting in a highly stable phase retardation over a broader spectral bandwidth. They are the preferred solution for tunable lasers, diverse temperature environments, and precision instrumentation.

Mechanical Drawing & Orientation

"The white line indicates the fast axis. For unmounted components, the notch indicates the fast axis."



Specifications

Key Performance Data

Specification	Value / Description
Material	Crystalline Quartz
Wavelength Range	200 - 2300 nm
Retardation Accuracy	< $\lambda/300$
Surface Quality	20-10 Scratch-Dig (High Precision)
Parallelism	< 1 arc sec
Damage Threshold	> 500 MW/cm ²
Surface Flatness	$\lambda/10$ @ 632.8nm
Coating	AR Coated, R < 0.2% per surface
Clear Aperture	> 9mm (for Ø12.7mm); > 18mm (for Ø25.4mm)
Housing	Black Anodized Aluminum

Selection Chart

Standard Model Selection Guide

Wavelength	Size (Ø)	Half-Wave Model ($\lambda/2$)	Quarter-Wave Model ($\lambda/4$)
355 nm	12.7 mm	VLLW-12.7-355-H	VLLW-12.7-355-Q
	25.4 mm	VLLW-25.4-355-H	VLLW-25.4-355-Q
488 nm	12.7 mm	VLLW-12.7-488-H	VLLW-12.7-488-Q
	25.4 mm	VLLW-25.4-488-H	VLLW-25.4-488-Q
532 nm	12.7 mm	VLLW-12.7-532-H	VLLW-12.7-532-Q
	25.4 mm	VLLW-25.4-532-H	VLLW-25.4-532-Q
632.8 nm	12.7 mm	VLLW-12.7-633-H	VLLW-12.7-633-Q
	25.4 mm	VLLW-25.4-633-H	VLLW-25.4-633-Q
780 nm	12.7 mm	VLLW-12.7-780-H	VLLW-12.7-780-Q
	25.4 mm	VLLW-25.4-780-H	VLLW-25.4-780-Q
808 nm	12.7 mm	VLLW-12.7-808-H	VLLW-12.7-808-Q
	25.4 mm	VLLW-25.4-808-H	VLLW-25.4-808-Q
980 nm	12.7 mm	VLLW-12.7-980-H	VLLW-12.7-980-Q
	25.4 mm	VLLW-25.4-980-H	VLLW-25.4-980-Q
1064 nm	12.7 mm	VLLW-12.7-1064-H	VLLW-12.7-1064-Q
	25.4 mm	VLLW-25.4-1064-H	VLLW-25.4-1064-Q
1550 nm	12.7 mm	VLLW-12.7-1550-H	VLLW-12.7-1550-Q
	25.4 mm	VLLW-25.4-1550-H	VLLW-25.4-1550-Q

Service & Support

We are dedicated to delivering exceptional optoelectronic solutions to every client. From precision manufacturing and secure delivery to full-lifecycle technical support, we are here to ensure a seamless and reliable experience at every step.

1. Warranty Policy

Quality First, Worry-Free Operation

Warranty Period: We offer a **two-year** warranty service for all of our core optoelectronic products, effective from the date of shipment.

Coverage: We provide free repair or replacement services for malfunctions caused by material defects or workmanship errors under normal operating conditions.

Rapid Response: Upon receiving a warranty claim, we guarantee to initiate the assessment process within **24 hours** to minimize your equipment downtime.

2. Technical Support

Expert Team, Full-Process Guidance

Technical Consultation: Our team of senior optical engineers provides **24/7 online support** to assist with installation, commissioning, optical path alignment, and parameter optimization.

Scheduled Maintenance: We offer full-lifecycle maintenance recommendations, including firmware upgrades, optical component cleaning guidelines, and precision calibration services.

Training Services: We provide customized remote or on-site operational and safety training to ensure your team can operate the equipment efficiently and safely.

3. Logistics & Delivery

Precision Packaging, Global Reach

Professional Packaging: Given the fragile nature of optical instruments, we utilize industrial-grade shockproof, anti-static, and moisture-proof vacuum packaging to ensure zero damage during transit.

Logistics Partners: We partner with top-tier global logistics providers (**DHL / FedEx / UPS / SF Express**) to offer reliable shipping with real-time tracking.

Shipping Insurance: All shipments are fully insured to eliminate logistics risks.

4. Compliance & Certification


Strict Standards, Total Compliance

Quality Certification: Our manufacturing process is **ISO 9001 certified**, and our products comply with international standards such as **CE** and **RoHS**.

Export Compliance: "Committed to environmental responsibility, all our products comply with **RoHS 2.0** and **REACH** standards, ensuring safety and global compliance."

Explore Series

Model	Retardation	Size (Ø)	Wavelength
VLLW-25.4-1064-H	Half Wave ($\lambda/2$)	25.4 mm	1064 nm
VLLW-25.4-532-Q	Quarter Wave($\lambda/4$)	25.4 mm	532 nm
VLLW-12.7-355-H	Half Wave($\lambda/2$)	12.7 mm	355 nm

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

Let us help you move science forward—faster and smarter.

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