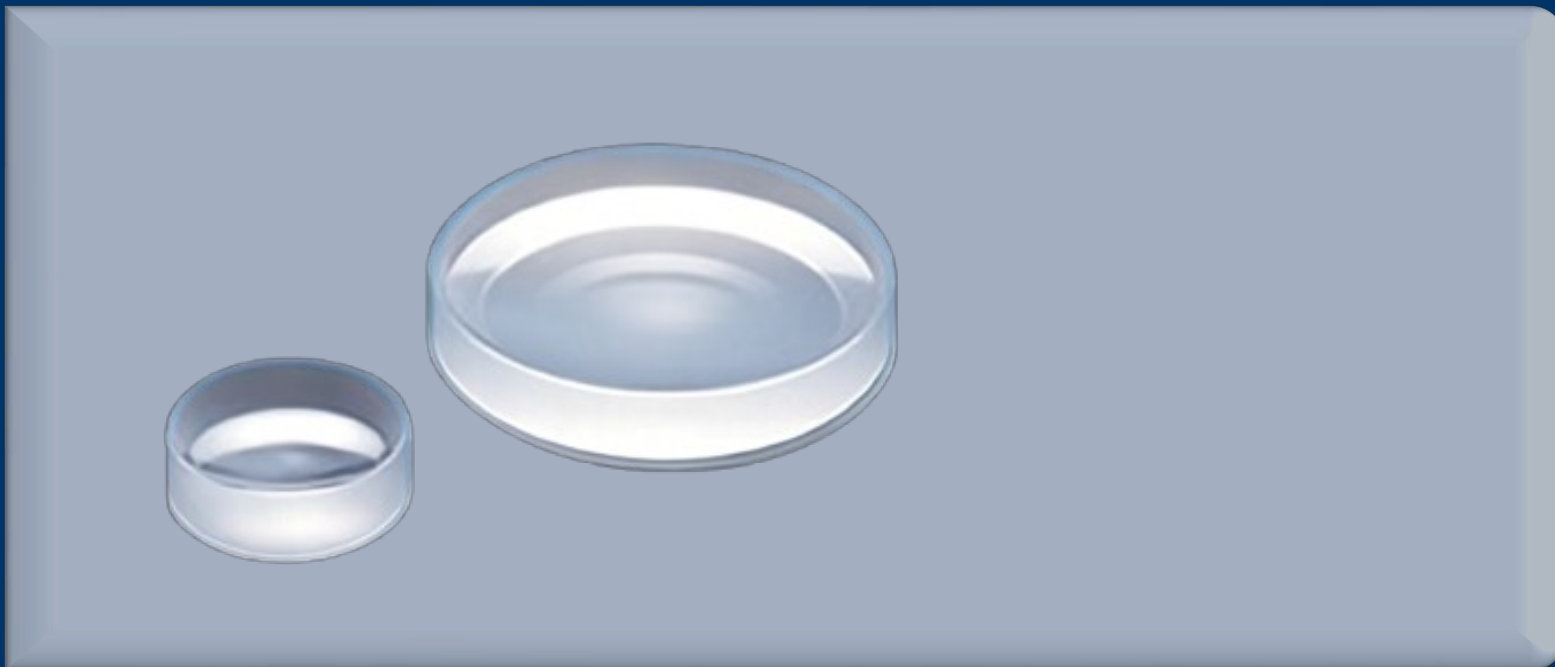


Optical Lens

K9 Plano-Concave Lens

The Standard Solution for Beam Expansion & Divergence

- Standard Material
- Precision Geometry
- Surface Quality
- Wide Range



One Platform Many Possibilities

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Overview

The Essential Negative Lens for Optical Design

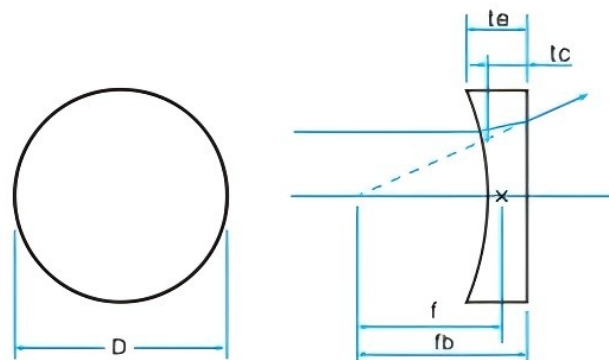
The VenusLab PC-K9 Plano-Concave Series is engineered for applications requiring **light divergence**. In optical systems, they are typically placed in the beam path to expand spot diameter or combined with positive lenses to balance spherical aberration and extend system focal length.

Our K9 material undergoes precision annealing to ensure refractive index uniformity ($n=1.519 @ 546.1\text{nm}$), and combined with **surface power accuracy of $\pm 1/4$** , guarantees wavefront integrity. Whether for laboratory beam expansion setups or industrial beam shaping, the PC-K9 Series delivers stable and reliable performance.

Key Applications

- **Beam Expanders:**Used as the negative element in Galilean beam expanders (combined with a plano-convex lens).
- **Projection Systems:** Diverging light beams for wide-area illumination.
- **Focal Length Extension :** Increasing the effective focal length of an existing lens system.

Dimension:



Qualification

General Technical Specifications

| Property | Specification |
|---------------------------------|----------------------------|
| Material | K9 (Grade A Optical Glass) |
| Shape | Plano-Concave |
| Design Wavelength (λ) | 546.1nm ($n=1.519$) |
| Surface Quality | 40-20 Scratch-Dig |
| Surface Power (Fringes) | 1-5 |
| Irregularity (Fringes) | 0.2-1 |
| Clear Aperture | > 90% |
| Centration (General) | 3' (Standard) |
| Chamfer | 0.25mm x 45° |
| Diameter Tolerance | +0.0 / -0.1 mm |
| Thickness Tolerance | ± 0.1 mm |
| Focal Length Tolerance | $\pm 1\%$ |

Selection Chart

PC-K9 Series Model List

| Model | D (mm) | f (mm) | Te (mm) | Tc (mm) | fb (mm) | r (mm) | Centration |
|---------------|--------|--------|---------|---------|---------|--------|------------|
| VLPC-K9-06-06 | 6 | -6 | 6 | 2 | -7.3 | 3.114 | 1' |
| VLPC-K9-06-12 | 6 | -12 | 4 | 2 | -13.3 | 6.22 | 1' |
| VLPC-K9-10-15 | 10 | -15 | 3.8 | 2 | -16.3 | 7.79 | 1' |
| VLPC-K9-10-20 | 10 | -20 | 3.3 | 2 | -21.3 | 10.38 | 1' |

| | | | | | | | |
|-----------------|------|-------|-------|---|---------|-------|----|
| VLPC-K9-10-30 | 10 | -30 | 2.8 | 2 | -31.3 | 15.57 | 1' |
| VLPC-K9-12-15 | 12.7 | -15 | 5.3 | 2 | -16.3 | 7.79 | 1' |
| VLPC-K9-12-25 | 12.7 | -25.4 | 3.7 | 2 | -26.7 | 13.18 | 1' |
| VLPC-K9-12-35 | 12.7 | -35 | 3.2 | 2 | -36.32 | 18.17 | 1' |
| VLPC-K9-12-38 | 12.7 | -38 | 3.1 | 2 | -39.4 | 19.72 | 1' |
| VLPC-K9-12-50 | 12.7 | -50 | 2.8 | 2 | -51.32 | 25.95 | 1' |
| VLPC-K9-12-400 | 12.7 | -400 | 2.4 | 2 | -401.3 | 207.6 | 1' |
| VLPC-K9-12-1K | 12.7 | -1000 | 2.2 | 2 | -1001.4 | 519 | 1' |
| VLPC-K9-15-30 | 15 | -30 | 3.9 | 2 | -31.3 | 15.57 | 1' |
| VLPC-K9-20-25 | 20 | -25 | 6.7 | 2 | -26.3 | 12.98 | 1' |
| VLPC-K9-20-30 | 20 | -30 | 5.6 | 2 | -31.3 | 15.57 | 1' |
| VLPC-K9-20-40 | 20 | -40 | 4.6 | 2 | -41.3 | 20.76 | 1' |
| VLPC-K9-20-50 | 20 | -50 | 4 | 2 | -51.3 | 25.95 | 1' |
| VLPC-K9-20-80 | 20 | -80 | 3.2 | 2 | -81.3 | 41.52 | 1' |
| VLPC-K9-20-100 | 20 | -100 | 3 | 2 | -101.3 | 51.9 | 1' |
| VLPC-K9-20-150 | 20 | -150 | 2.6 | 2 | -151.3 | 77.85 | 1' |
| VLPC-K9-25-25 | 25 | -25 | 11.16 | 2 | -26.3 | 12.98 | 1' |
| VLPC-K9-25-35 | 25 | -35 | 7 | 2 | -36.3 | 18.17 | 1' |
| VLPC-K9-25-50 | 25 | -50 | 5.2 | 2 | -51.3 | 25.95 | 1' |
| VLPC-K9-25-75 | 25 | -75 | 4.1 | 2 | -76.3 | 38.93 | 1' |
| VLPC-K9-25-100 | 25 | -100 | 3.5 | 2 | -101.3 | 51.9 | 1' |
| VLPC-K9-25-200 | 25 | -200 | 2.8 | 2 | -201.3 | 103.8 | 1' |
| VLPC-K9-25-300 | 25 | -300 | 2.57 | 2 | -301.3 | 155.7 | 1' |
| VLPC-K9-25-500 | 25 | -500 | 2.3 | 2 | -501.3 | 259.5 | 1' |
| VLPC-K9-25A-35 | 25.4 | -35 | 7 | 2 | -36.3 | 18.17 | 1' |
| VLPC-K9-25A-50 | 25.4 | -50 | 5.3 | 2 | -51.3 | 25.95 | 1' |
| VLPC-K9-25A-75 | 25.4 | -75 | 4.2 | 2 | -76.3 | 38.93 | 1' |
| VLPC-K9-25A-100 | 25.4 | -100 | 3.6 | 2 | -101.3 | 51.9 | 1' |
| VLPC-K9-25A-150 | 25.4 | -150 | 3 | 2 | -151.3 | 77.85 | 1' |
| VLPC-K9-25A-200 | 25.4 | -200 | 2.8 | 2 | -201.3 | 103.8 | 1' |
| VLPC-K9-25A-300 | 25.4 | -300 | 2.6 | 2 | -301.3 | 155.7 | 1' |
| VLPC-K9-25A-400 | 25.4 | -400 | 2.4 | 2 | -401.3 | 207.6 | 1' |
| VLPC-K9-25A-800 | 25.4 | -800 | 2.2 | 2 | -801.3 | 415.2 | 1' |
| VLPC-K9-25A-1K | 25.4 | -1000 | 2.16 | 2 | -1001.8 | 519 | 1' |
| VLPC-K9-25A-R2 | 25.4 | -385 | 2.4 | 2 | -386.3 | 200 | 1' |
| VLPC-K9-30-35 | 30 | -35 | 9.9 | 2 | -36.3 | 18.17 | 1' |
| VLPC-K9-30-50 | 30 | -50 | 6.8 | 2 | -51.3 | 25.95 | 1' |
| VLPC-K9-30-80 | 30 | -80 | 4.8 | 2 | -81.3 | 41.52 | 1' |
| VLPC-K9-30-100 | 30 | -100 | 4.2 | 2 | -101.3 | 51.9 | 1' |
| VLPC-K9-30-200 | 30 | -200 | 3.1 | 2 | -201.32 | 103.8 | 1' |
| VLPC-K9-50-75 | 50 | -75 | 13.8 | 2 | -76.3 | 38.93 | 1' |
| VLPC-K9-50-200 | 50 | -200 | 6.1 | 2 | -202 | 103.8 | 1' |
| VLPC-K9-50-100 | 50.8 | -100 | 9.6 | 3 | -101.4 | 51.9 | 1' |

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.

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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.

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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 | r (mm) | Tc (mm) | fb (mm) | Centration | Te (mm) | D (mm) |
|----------------|--------|---------|---------|------------|---------|--------|
| VLPC-K9-06-06 | 3.114 | 2 | -7.3 | 1' | 6 | 6 |
| VLPC-K9-25A-50 | 25.95 | 2 | -51.3 | 1' | 5.3 | 25.4 |
| VLPC-K9-50-100 | 51.9 | 3 | -101.4 | 1' | 9.6 | 50.8 |

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