

# Optical Lens

## SFS Double-Concave Lens

Symmetrical Divergence Experts for Deep UV

- Premium Material
- Symmetrical Design
- High Precision
- Broadband Usage



One Platform Many Possibilities

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## Overview

### Ultraviolet Mastery: Precision Negative Optics for Critical Beam Shaping

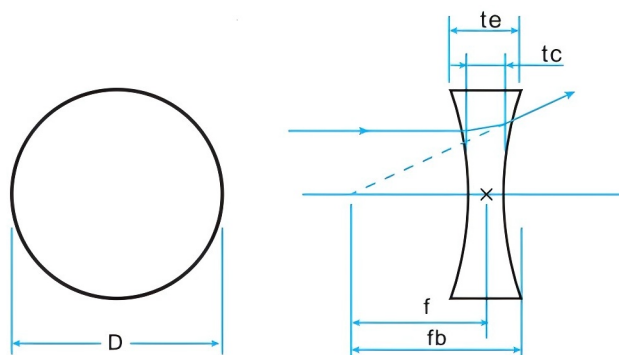
The VenusLab SFS (DC-UV) Double-Concave Lens Series is engineered for applications demanding **high UV transmission** and **superior thermal stability**. Compared to K9 glass, JGS1 fused silica offers zero absorption in the UV band and an extremely low coefficient of thermal expansion, effectively preventing thermal lensing under high-energy laser exposure.

These lenses diverge light via two concave surfaces with equal radii of curvature. As the numerical aperture increases, they introduce negative spherical aberration, making them useful for balancing aberrations introduced by positive lenses in the system. Each lens is rigorously polished to a 40-20 surface quality to meet the stringent low-scatter requirements of precision instruments.

### Key Applications

- **UV Beam Expanders** : Negative element for Galilean expanders in 266/355nm systems.
- **High-Energy Laser Divergence** : Expanding beams without risking thermal damage.
- **Aberration Balancing** : Correcting positive spherical aberration in complex UV optical trains.

Dimension:



## Qualification

### DC-UV Series Technical Specifications

| Technical Parameter    | Specification Data   |
|------------------------|----------------------|
| Material               | JGS1 UV Fused Silica |
| Shape                  | Bi-Concave           |
| Design Wavelength      | 546.1nm (n=1.460)    |
| Surface Quality        | 40-20 Scratch-Dig    |
| Surface Power          | 1-5                  |
| Irregularity           | 0.2-1                |
| Clear Aperture         | > 90%                |
| Centration             | 3' (Arc Minutes)     |
| Chamfer                | 0.25mm x 45°         |
| Diameter Tolerance     | +0.0 / -0.1 mm       |
| Thickness Tolerance    | ± 0.1 mm             |
| Focal Length Tolerance | ± 1%                 |

## Selection Chart

### DC-UV Series Ordering Information & Model List

| Model          | D (mm) | f (mm) | Te (mm) | Tc (mm) | fb (mm) | r (mm) | Centration |
|----------------|--------|--------|---------|---------|---------|--------|------------|
| VLDC-UV-10-15  | 10     | -15    | 3.9     | 2       | -15.3   | 13.8   | 3'         |
| VLDC-UV-10-20  | 10     | -20    | 3.4     | 2       | -20.3   | 18.4   | 3'         |
| VLDC-UV-15-15  | 15     | -15    | 6.4     | 2       | -15.3   | 13.8   | 3'         |
| VLDC-UV-15-20  | 15     | -20    | 5.2     | 2       | -21     | 18.4   | 3'         |
| VLDC-UV-20-30  | 20     | -30    | 5.8     | 2       | -30.3   | 27.6   | 3'         |
| VLDC-UV-20-50  | 20     | -50    | 4.2     | 2       | -50.3   | 46     | 3'         |
| VLDC-UV-25A-25 | 25.4   | -25    | 9.6     | 2       | -25.4   | 23     | 3'         |

|                 |      |      |     |   |        |      |    |
|-----------------|------|------|-----|---|--------|------|----|
| VLDC-UV-25A-50  | 25.4 | -50  | 5.6 | 2 | -50.4  | 46   | 3' |
| VLDC-UV-25A-70  | 25.4 | -70  | 4.5 | 2 | -70.4  | 64.4 | 3' |
| VLDC-UV-25A-100 | 25.4 | -100 | 3.8 | 2 | -100.4 | 92   | 3' |

## 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           | r (mm) | Tc (mm) | fb (mm) | Centration | Te (mm) | D (mm) |
|-----------------|--------|---------|---------|------------|---------|--------|
| VLDC-UV-10-15   | 13.8   | 2       | -15.3   | 3'         | 3.9     | 10     |
| VLDC-UV-25A-25  | 23     | 2       | -25.4   | 3'         | 9.6     | 25.4   |
| VLDC-UV-25A-100 | 92     | 2       | -100.4  | 3'         | 3.8     | 25.4   |

 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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