

Visible Spectrum Achromats

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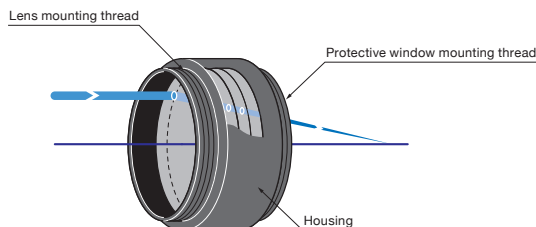
Holder & Vibration Isolator

Visible spectrum achromats are air spaced achromatic triplets or doublets for lasers in the visible spectrum or white light application. The elements are made of crown glass of low dispersion and flint glass of high dispersion.

- These lenses have optimized the aberrations of achromatic, spherical and coma for the 3 wavelengths; blue (486.1nm), green (546.1nm) and red (656.3nm) have broadband multi-layer anti-reflection coating for 400 – 700nm.
- Air spaced design allows high power laser applications which includes YAG second harmonic wavelength (532nm).
- The triplets with F-numbers ≥ 2 and doublets with F-numbers ≥ 3 are designed to have each spot size equal to the diffraction limited spot size and very ideal for a Gaussian input beam.

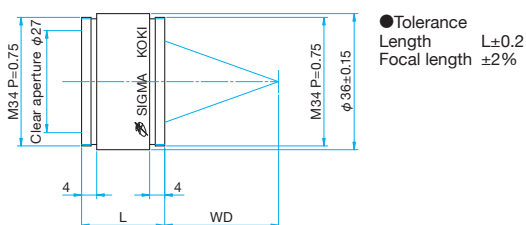


Schematic



Outline Drawing

(in mm)



Specifications

| | |
|------------------------|---|
| Material | Crown Glass – (Air spaced) – Flint Glass |
| Material of frame | Aluminum Finishing: Black anodized |
| Design wavelength | 486nm, 532nm, 656nm |
| Coating | Broadband multi-layer anti-reflection coating |
| Acceptance angle | $\pm 1^\circ$ |
| Laser Damage Threshold | 1J/cm ² (Laser pulse width 10ns, repetition frequency 20Hz) |

Guide

- ▶ Please contact our International Sales Division for customized achromats. (Customized on size etc.)
- ▶ Protective lens case with rods for mirror holders is available as an option. Please contact us for further information.
- ▶ Please check the “wavelength characteristic of the focal length data” on the Web for the focal lengths of each wavelength.
[WEB Reference](#) [Catalog Code](#) W3078

Attention

- ▶ Since the focal length and working distance of the lens is calculated at 532nm, it will change at other wavelengths due to the refractive index of the material shift.
- ▶ The F number of a lens is calculated by f (effective focal length) / De (effective clear aperture). The value represents “Brightness of the lens”. The lower the value, the brighter the lens is.
- ▶ Be sure to wear laser safety goggles when checking optical path and adjusting optical axis.

Specifications

| Part Number | Focal length f [mm] | Length L [mm] | Numerical aperture (NA) | Working distance (WD) [mm] |
|----------------|---------------------|---------------|-------------------------|----------------------------|
| VSA-30-40PY2 | 40.2 | 22 | 0.34 | 30.1 |
| VSA-30-50PY2 | 49.4 | 22 | 0.27 | 39.0 |
| VSA-30-60PY2 | 58.9 | 22 | 0.23 | 49.0 |
| VSAD-30-80PY2 | 80.1 | 13 | 0.17 | 71.6 |
| VSAD-30-100PY2 | 99.8 | 13 | 0.14 | 91.7 |
| VSAD-30-150PY2 | 150.0 | 12 | 0.09 | 141.9 |
| VSAD-30-200PY2 | 199.8 | 12 | 0.07 | 192.7 |

Compatible Optic Mounts

FLH-M34-30