

# YAG Laser Focusing Lenses

YLFL/YLFDL

RoHS

YAG laser focusing lenses are air spaced triplets or doublets for YAG fundamentals. The elements are made of crown glass of lower dispersion and flint glass of higher dispersion. These lenses are optimized for spherical aberration and coma. With its spot size designed to be smaller than or equal to the diffraction limited spot size for beams in 1064nm.

- These lenses are chromatically corrected so that any HeNe guided beam or visible video monitor beam will remain focused in the same position as the YAG beam. All elements are coated with a laser-resistant narrowband multi-layer anti-reflection for YAG: 1064nm and HeNe: 633nm.
- We offer optical protective windows to prevent damage to the lens by absorbing high levels of energy from inadvertent back reflection of the incident beam. These protective windows can be easily installed to the focusing side of the lens.



| Specifications         |   |
|------------------------|---|
| Material               | Crown Glass – (Air spaced) – Flint Glass                                  |
| Material of frame      | Aluminum Finishing: Black anodized  |
| Design wavelength      | 1064nm, 632.8nm   |
| Coating                | Narrow band multi-layer anti-reflection coating for 1064nm and 633nm      |
| Acceptance angle       | ±1°   |
| Laser Damage Threshold | 1J/cm <sup>2</sup><br>(Laser pulse width 10ns, repetition frequency 20Hz) |

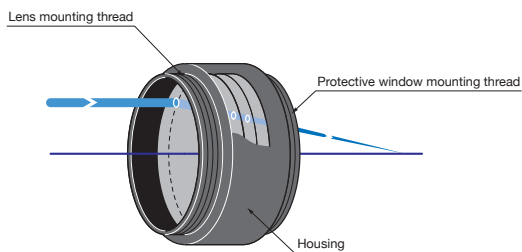
### Guide

► Please contact our International Sales Division for customized products. (Customized on size etc.)

### Attention

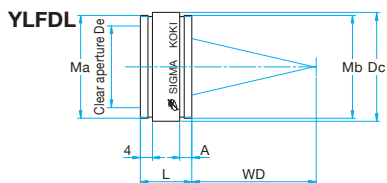
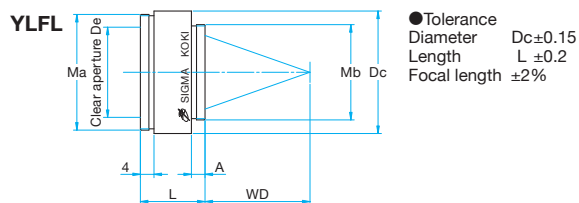
- Since the focal length and working distance of the lens is calculated at 1064nm, it will change at other wavelengths due to the refractive index of the material shift.
- The F number of a lens is calculated by f (effective focal length) / De (effective clear aperture). The value represents "Brightness 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.

### Schematic



### Outline Drawing

(in mm)



### Specifications

| Part Number     | Maximum lens diameter D [mm] | Focal length f [mm] | Diameter Dc [mm] | Clear aperture De [mm] | Length L [mm] | Lens mounting thread Ma | Protective window thread Mb | Thread length A [mm] | Numerical aperture (NA) | Working distance (WD) [mm] |
|-----------------|------------------------------|---------------------|------------------|------------------------|---------------|-------------------------|-----------------------------|----------------------|-------------------------|----------------------------|
| YLFL-25-20PY1   | φ25                          | 20.0                | φ32              | φ20                    | 22            | M29 P0.75               | M22 P0.75                   | 6.0                  | 0.50                    | 9.0                        |
| YLFL-30-30PY1   | φ30                          | 30.0                | φ36              | φ27                    | 22            | M34 P0.75               | M28 P0.75                   | 6.5                  | 0.45                    | 19.1                       |
| YLFL-30-40PY1   | φ30                          | 40.0                | φ36              | φ26.5                  | 19            | M34 P0.75               | M28 P0.75                   | 4.0                  | 0.33                    | 30.9                       |
| YLFL-30-50PY1   | φ30                          | 50.0                | φ36              | φ25.5                  | 19            | M34 P0.75               | M28 P0.75                   | 3.5                  | 0.25                    | 41.4                       |
| YLFDL-30-60PY1  | φ30                          | 59.9                | φ36              | φ27                    | 17            | M34 P0.75               | M34 P0.75                   | 4.0                  | 0.23                    | 41.1                       |
| YLFDL-30-80PY1  | φ30                          | 79.9                | φ36              | φ27                    | 15            | M34 P0.75               | M34 P0.75                   | 4.0                  | 0.17                    | 67.6                       |
| YLFDL-30-100PY1 | φ30                          | 100.1               | φ36              | φ27                    | 14            | M34 P0.75               | M34 P0.75                   | 4.0                  | 0.14                    | 88.4                       |
| YLFDL-30-150PY1 | φ30                          | 149.3               | φ36              | φ27                    | 12            | M34 P0.75               | M34 P0.75                   | 4.0                  | 0.09                    | 140.0                      |

### Compatible Optic Mounts

FLH-50S, -50.8S, -60S, -80, -100

Application Systems

Machine Vision

Manual Positions

Motion Control Products

Optical & Mirror Holder

F A Parts

Measurement & Control

FA Electrical Parts

Tool & Measure

Cleanroom & AntiStatic

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Mirrors

Beamsplitters

Filters

Polarizers

Lenses

Multi-Element Optics

Prisms

Substrates & Windows

Holder & Vibration isolator