

UV lens 85 mm f/2.8

designed for optimum
performance with intensifiers

Specifications



Applications

- ▶ combustion diagnostics
- ▶ Laser Induced Fluorescence (LIF)
- ▶ chemiluminescence
- ▶ UV spray analysis
- ▶ UV tracer LIF
- ▶ multi-spectral imaging



*compact UV-imaging setup
without intensifier*

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Anybody working in the field of UV-imaging with lasers or self-emission finds that the selection of objectives with high transmission in the ultra-violet wavelength ranges is quite limited. Some models project an image circle that does not fully cover the intensifier without vignetting and some have focal lengths which require a longer working distance or give a smaller field of view than desired. For these reasons LaVision had designed an optimized lens which perfectly matches the requirements for combustion diagnostics and all UV imaging with intensifiers or a UV-sensitive CCD camera. A prime target of the design was to achieve a high light collection efficiency because often the signal to be detected is quite weak and a low minimum f-number of the lens is a precious benefit.

Focal length	85 mm
f-number	2.8 - 32
Usable wavelength	200 - 1000 nm
Optimized wavelength	220 - 450 nm
Working distance	40 cm - infinity
Resolution	> 65 lp/mm
Image format	> Ø 25 mm
Distortion	< 1,5 %
Efficiency	uncoated lenses, effective min. f-number 3.9
Mount	F-mount (Nikon bayonet)
Filter	M52 filter thread
Other	locking screws for aperture and focus

A key property of this lens which is not easy to specify in numbers is the minimized chromatic aberration which is essential when imaging different wavelengths simultaneously. Simpler lens designs can not assure the same focal plane for different wavelengths which means that in Exciplex LIF or D₃₂ spray droplet size mapping one signal is focussed in a different plane than the other which means that they can not be simultaneously well in focus in the sensor plane. This lens even allows to do the image calibration in visible light and obtain the same focus position for the shorter wavelengths in the ultra-violet.

Ordering information

Part number	Description
1108673	UV lens f=85 mm, F# 2.8

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