

The perfect match for  
your UV Laser application

## Ultra-Durable Beam Expander and F-Theta Lens Low Outgassing for High-Energy Applications

Qioptiq introduces a highly durable, low-outgassing UV Beam Expander and a perfectly matched UV F-Theta-Ronar lens. These components offer increased longevity compared to traditional products, making them ideal for higher UV pulse energies and shorter laser pulses.

The durability results from carefully chosen frame materials, minimized auxiliary materials, and ultra-clean assembly. The innovative UV design features top-grade fused-silica lenses and a selected

stainless steel housing. The high-end broadband coating ensures excellent optical performance, while the optimized lens and aperture positioning reduces internal stray light. Moreover, low-outgassing materials are used for packaging and dust caps.

Committed to Qioptiq's stringent quality standards, we've refined the production, coating, logistics, warehousing, and assembly processes to minimize contamination and safeguard our components.

### Benefits

- Optimized design for 355 nm wavelength
- High end broadband coating 340-360 nm for high power and short pulses
- Using leading-edge production technologies to ensure long-term optical stability

### Technical Data

- Entrance beam diameter up to 15 mm for F-Theta lenses and up to 10 mm for Beam Expanders for the intensity  $1/e^2$
- Transmission T (340-360 nm)  $\geq 96\%$  and  $> 80\%$  @ 635 nm
- Lens material is exclusively made of special qualified fused-silica
- Diffraction limited designs
- Includes interchangeable and coated fused-silica protective glasses
- LIDT up to  $4 \text{ J/cm}^2$  at 355 nm, 6 ns  
LIDT up to  $0.4 \text{ J/cm}^2$  at 343 nm, 200 fs



## LINOS Variable Beam Expander for 340-360 nm

Expansion range	Expansion factor	Max. entrance-beam diameter at $1/e^2$ / truncated (mm)	Part No.
1x - 4x	1x - 2x	10.0 / 12.0	4401-613-000-28
	2x - 2.5x	8.0 / 9.6	
	2.5x - 3.0x	6.5 / 7.8	
	3x - 4x	5.0 / 6.0	

- Continuous variation of magnification and exit beam divergence
- Precise scales allow reliable and intuitive settings with high repeatability
- Pointing stability < 0.3 mrad
- Max. entrance beam diameter:
  - up to 10 mm for the intensity  $1/e^2$
  - up to 12 mm (truncated)
- Max. exit beam diameter up to 24 mm (truncated)
- Lock screws
- Different mechanical interfaces: M30x1 (entrance side), M46x0.5 (exit side), Ø 62h9

## LINOS F-Theta Ronar Lens for 340-360 nm

Focal length (mm)	Entrance-beam diameter at $1/e^2$ (mm)	Scan field (mm x mm)	Spot size (µm)	Part No.
330	10	226 x 226	21	4401-617-000-28
	14	212 x 212	15	
	15	210 x 210	14	

- When using differing beam diameters, scan fields and spot sizes may be different
- Mechanical interface M85x1
- Back reflection optimized

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