

foXXus_0-0.21_q



quasi-afocal systems to generate multiple foci
in zone of focal plane of an F-theta lens

Applications:

- Glass Cutting
- Cutting of Sapphire, other transparent brittle materials
- Micromachining where multi-layer processing is preferable



Technical Specifications*

Description		Afocal system to provide 1, 2, 4, 7 foci near focus of F- Θ lenses	
Focal length of F- Θ lenses (examples)		$f' = 100$ mm	$f' = 160$ mm
ΔF , μm (7 foci layout)	air	0-38-29-38-38-29-38 (0-210)	0-97-73-97-97-73-97 (0-534)
	Glass (x1.5)	0-57-43-57-57-43-57 (0-314)	0-147-109-147-147-109-147 (0-806)
	Al_2O_3 (x1.8)	0-68-51-68-68-51-68 (0-374)	0-175-132-175-175-132-175 (0-964)
Clear Aperture, mm		20	
Numerical aperture (NA)		0.1	0.063
Spectral band, nm		$_1064$: 1020 - 1100 $_532$: 510 - 550 $_355$: 340 - 370 other wavelengths on request	
2ω , μm waist in air	1064 nm	9.2	14.7
	532 nm	4.6	7.4
	355 nm	3.1	5.0
Angular field		$\pm 3^\circ$	
Working Distance		focal plane of F- Θ lens	
Recommended max. pulse energy		25 mJ at 5 ns	
Mounting		C-Mount (1"-32 UN 2A), at entrance and exit	
Diameter, mm		54	
Length, mm		61	

* - when not specially indicated the numerical data are given at 532 nm

Comments:

- ΔF in material is n times larger than in air (n is refractive index): $n \cong 1.78$ for sapphire and $n \cong 1.5$ for glass,
- the foXXus systems create 1, 2, 4 or 7 along the optical axis in focus zone of a focusing lens,
- changing ΔF through rotation of adjustment rings,
- the crack inside material is typically longer than ΔF defined by optical design,
- Denomination: foXXus_0-0.21_q_532
 ΔF in air, mm _____
 Index "quasi-afocal" _____
 Wavelength, nm _____



