

foXXus_0.5-1.5_q



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

Applications:

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



Specifications*

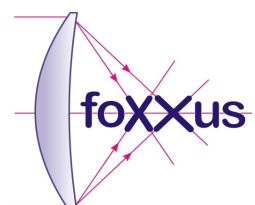
Description		quasi-afocal systems to provide multiple foci near focus of F- Θ lenses	
Model		foXXus 0.5-1.5_q	
Ray path		Direct	Reverse
ΔF , mm	by lens F = 100 mm	2 foci: 0.5, 1.5 4 foci: 0.5 - 0.5 - 0.5	2 foci: 1, 2.9 4 foci: 1 - 0.9 - 1
	by lens F = 200 mm	2 foci: 1.9, 6.1 4 foci: 2.1 - 1.9 - 2.1	2 foci: 3.7, 11.9 4 foci: 4 - 3.7 - 4.2
Beam Magnification		1.41 ^x	0.71 ^x
Clear Aperture, mm		In: 14 Out: 20	In: 20 Out: 14
Spectral band, nm		<u>1064</u> : 1020 - 1100 <u>532</u> : 510 - 550 <u>355</u> : 340 - 370 other wavelengths on request	
Angular field (FOV)		$\pm 3^\circ$	
Working Distance		focal plane of F- Θ lens	
Recommended max. pulse energy		25 mJ at 5 ns	
Mounting		M27x1, at entrance and exit	
Diameter, mm		48	
Length, mm		135	

Specifications are subject to change without notice

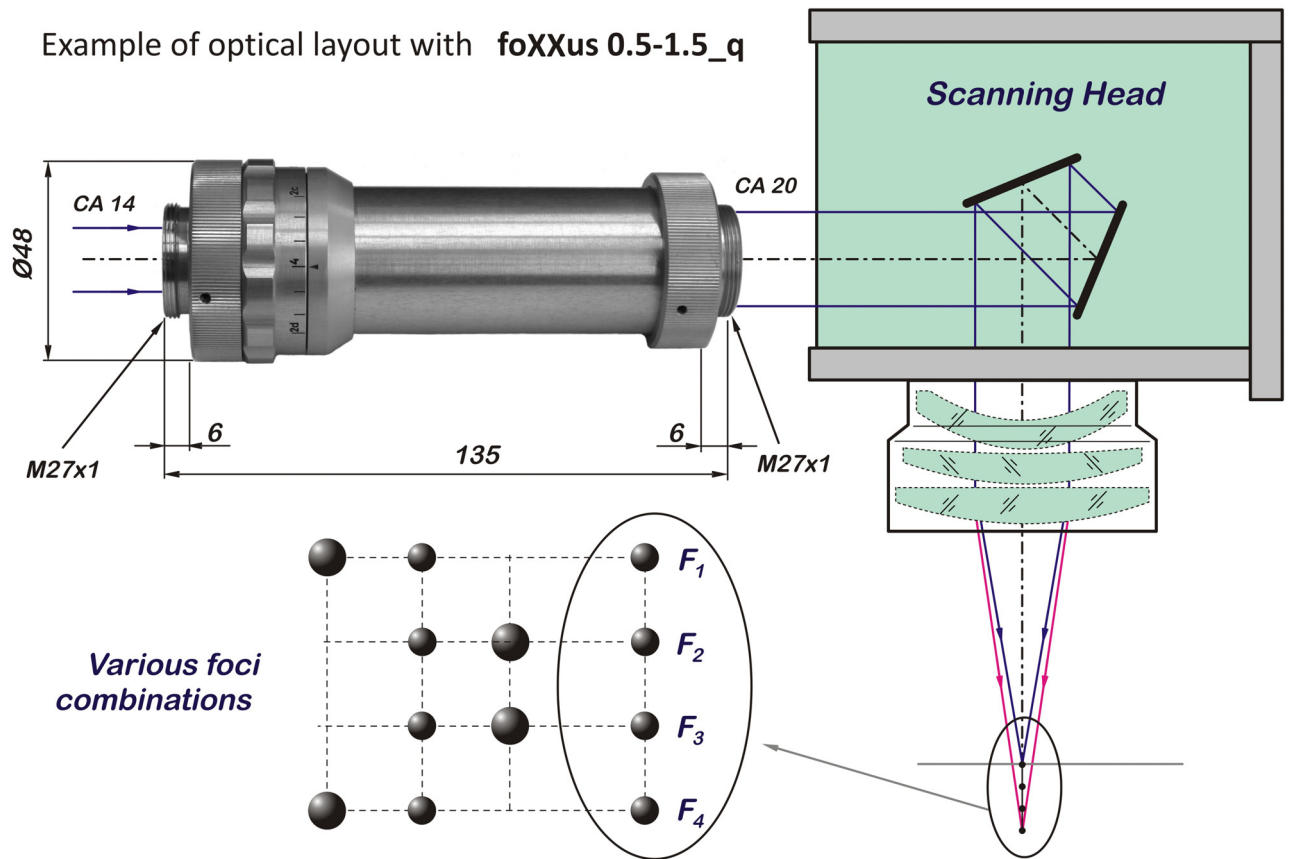
* - when not specially indicated the numerical data are given at 1064 nm.

Comments:

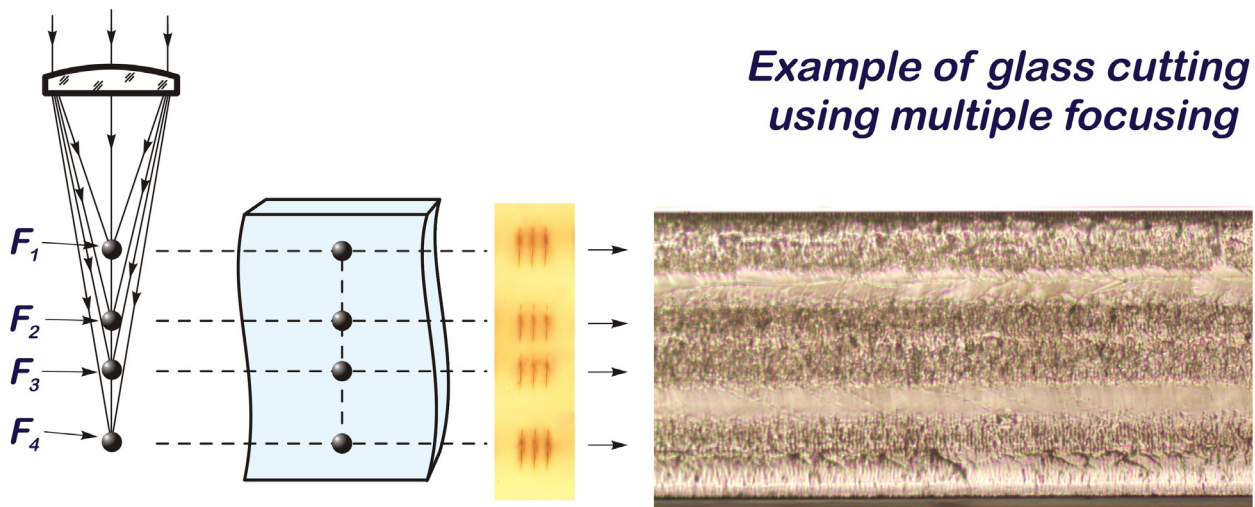
- ΔF inside material is n times larger than in air (n is refractive index): $n \cong 1.78$ for sapphire and $n \cong 1.5$ for glass,
- the foXXus systems create multiple focuses along the optical axis in focus zone of a focusing lens,
- changing ΔF through rotation of adjustment rings,
- Denomination: foXXus_0.5-1.5_q_532
 ΔF in air, mm (by F- Θ lens F100mm) wavelength, nm
Index "quasi-afocal"



Example of optical layout with **foXXus 0.5-1.5_q**



Example of glass cutting using multiple focusing



4-foci inside glass

(Courtesy WOP/Altechna, Lithuania)

cutting edge