

Objectives of patent-pending design to generate multiple foci for multi-kW lasers

Applications:

- Cutting
- Welding

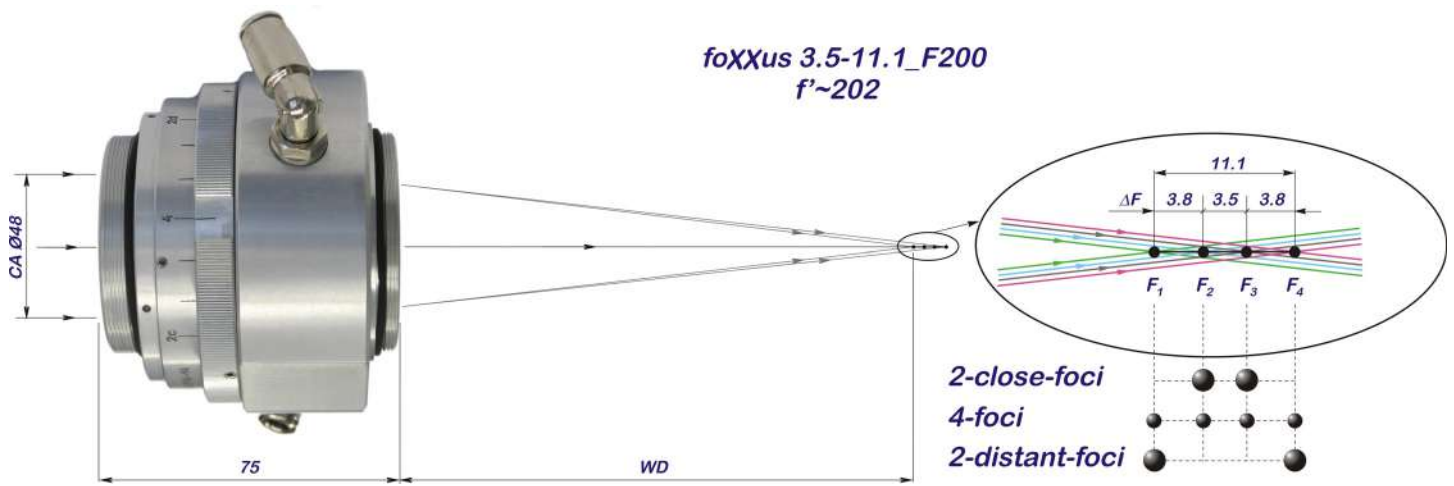
Features:

- High transmission
- Lossless multi-focal energy distribution
- Variable distances between foci
- CA 48 mm
- TEM₀₀ and multimode lasers
- Multi kW lasers
- Reduced thermal focus shift
- Operation: Focusing Lens or Collimator

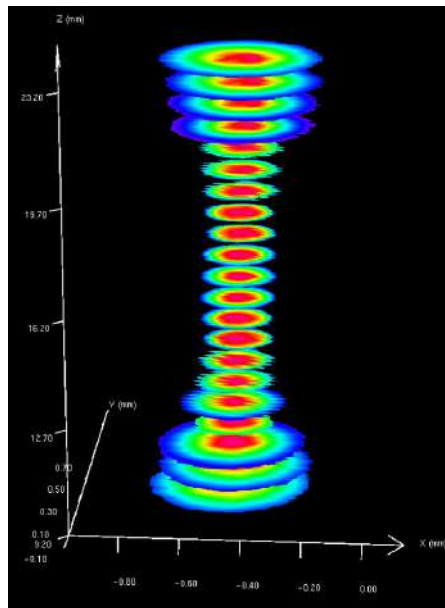


Specifications

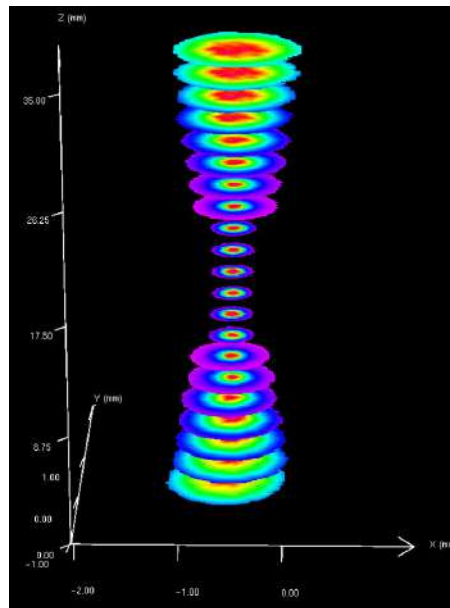
Common for foXXus objectives for multi-kW lasers				
Description	• Objective with multiple foci • Applied as a Focusing Lens or as a Collimator			
Clear Aperture	48 mm			
Angular field of view	± 1°			
Recommended max. power	6 kW			
Mounting	• Threads M58x1 at entrance and exit • Adaptor with QB fiber connector mount			
Water cooling	by 6-1/8 fittings			
Diameter	90 mm			
Length	75 mm			
Features of foXXus optics				
Model	Spectral band, nm	ΔF in air, mm	Focal length, mm	Working Distance, mm
_3.5-11.1_F200_NIR	920 - 1100	2 foci: 3.5 or 11.1	~202 (197 - 208.5)	158.5 - 169.6
_3.5-11.1_F200_1064	1020 - 1100	4 foci: 3.8 - 3.5 - 3.8		
_5.4-17.4_F250_1064	1020 - 1100	2 foci: 5.4 or 17.4 4 foci: 5.7 - 5.4 - 6.3	~252 (243.5 – 261.6)	205.1 - 222.5



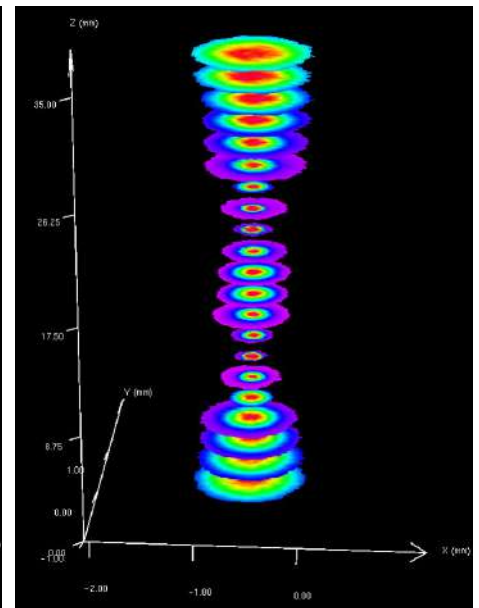
2-close-foci (enlarged view)



4-foci



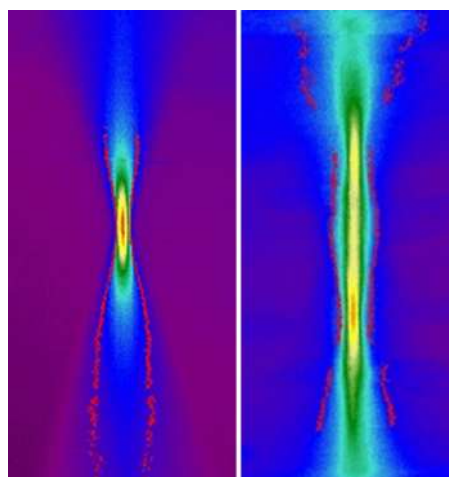
2-distant-foci



Comparison of DOF

Single focus

Caustic length is defined by
physical properties of a beam



4-foci

Caustic length is defined by
foXXus design