

F-Theta Lenses



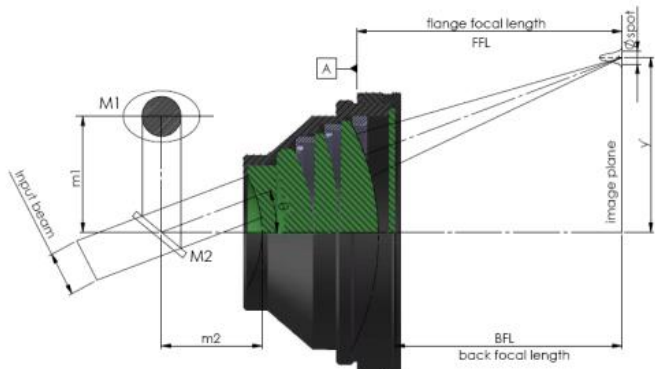
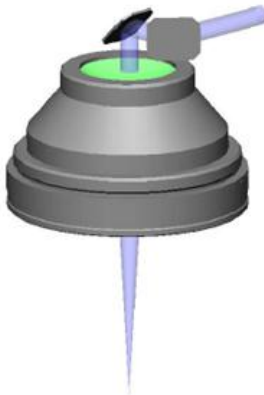
F-theta lenses are often used in laser marking, laser engraving and laser cutting systems where constant scan rate and linear displacement are required. F-theta lenses are designed with a barrel distortion, and resulting a displacement that is linear with scanning angle.

CASTECH provides **telecentric and non-telecentric F-theta lenses** with low distortion. We adopt quality materials, proprietary polishing and coating techniques, and standard interface thread to ensure high laser damage threshold and compatibility of our products.

Applications

- Laser industrial processing
- Laser sensing system
- Ultrafast laser system

	Telecentric F-Theta Lenses	Non-telecentric F-Theta Lenses
Advantage	<ul style="list-style-type: none"> • The shape of the central spot is consistent with that of the edge spot • Small distortion of the spot 	<ul style="list-style-type: none"> • Lower cost
Disadvantage	<ul style="list-style-type: none"> • Larger size • High cost 	<ul style="list-style-type: none"> • The magnification may varies with relative position • Large difference in spot size between center and edge



Schematic diagram of F-theta lens

F-Theta Lenses

F-Theta Lenses Model Number: FT-a-b-c

Wavelength (a)	Focal Distance (b)	Scan Field (c)
355 nm	109 (109.4 mm)	63 (63×63 mm)
...	160 (160 mm)	99 (99×99 mm)
	174 (174.1 mm)	107 (107×107 mm)
	225 (255 mm)	158 (158×158 mm)

Typical Specifications

Material	Max Input Beam	Scan Field	Wd	M1/M2
UVFS	6 mm	63x63 mm ²	151.5 mm	13/35.5
UVFS	7 mm	99x99 mm ²	194.43 mm	13/23
UVFS	10 mm	158x158 mm ²	319.7 mm	13/28

Housing dimensions(mm):

