

High precision OEM optical SYStems

Semiconductor | Medical | Industrial | Defense



F-Theta Telecentric Lens

Meopta In-house design

Principle

F-Theta lenses are designed to focus a laser beam onto a planar image plane and scan over the large field of view. Moreover the telecentric F-Theta can keep the constant magnification during the refocusing. Meopta F-Theta lens can have an optimal beam quality, minimized distorsion and field curvature.



Advantages

 Optimized beam spot size allows high quality of the final application • Minimized distorsion allows the scanning dimensions close to constant over the field of view

• Minimized Field curvature allows the image focus on the plannar plane Design options from DUV to SWIR spectral region

Disadvantages

• Size and weight: Depending on the application, F-Theta telecentric lenses can be larger and heavier than standard lenses, which may limit their usability in certain setups

Production constraints and limits

• Meopta can design, customised and produce variety of F-Theta lenses based on a customer request

 Moreover Meopta can design complex scanning systems including Beam splitting or Beam-shapping optics

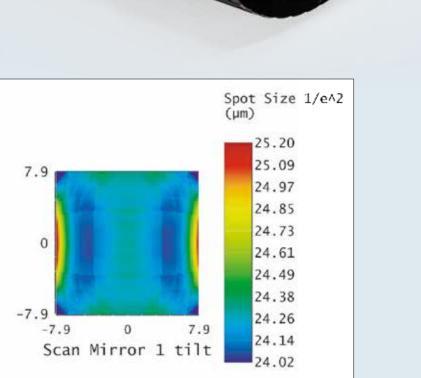
Application Areas

• Meopta high-performance F-Theta objective lenses can be used in specific areas of application from laser microstructuring, scanning to imaging. • Meopta can customize lenses in diferent spectral region from DUV up to SWIR with a large scanning fields up to 200mm

Examples

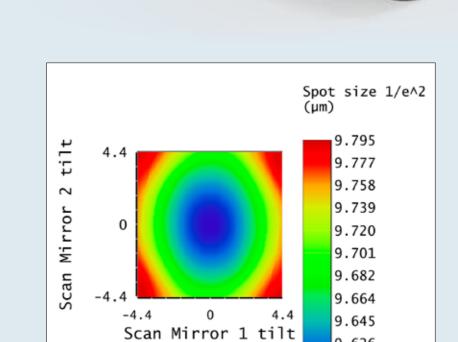
1030nm





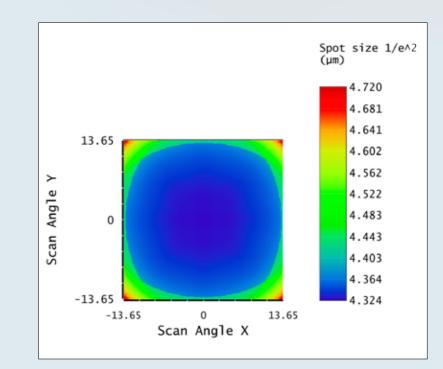
515nm F-Theta Telecentric Lens











F-Theta Telecentric Lens



170 mm
127mm (90mm x 90mm)
22°(15.8° x 15.8°)
11 mm (14 mm EP)
4.9°
28 um
> 90% over full field
< 5%
440 μm
220 mm
4795 g

1030 ± 10 nm

72 mm (50mm x 50mm)

12.6° (8.8° x 8.8°)

> 90% over full field

Parameters

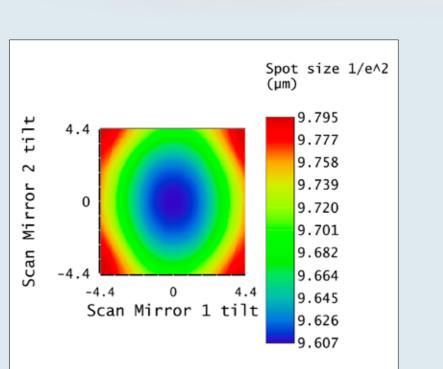
Focal length

Scanning field

Spot size (1/e2)

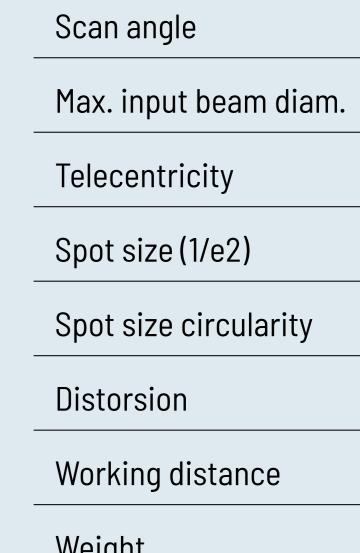
Spot size circularity

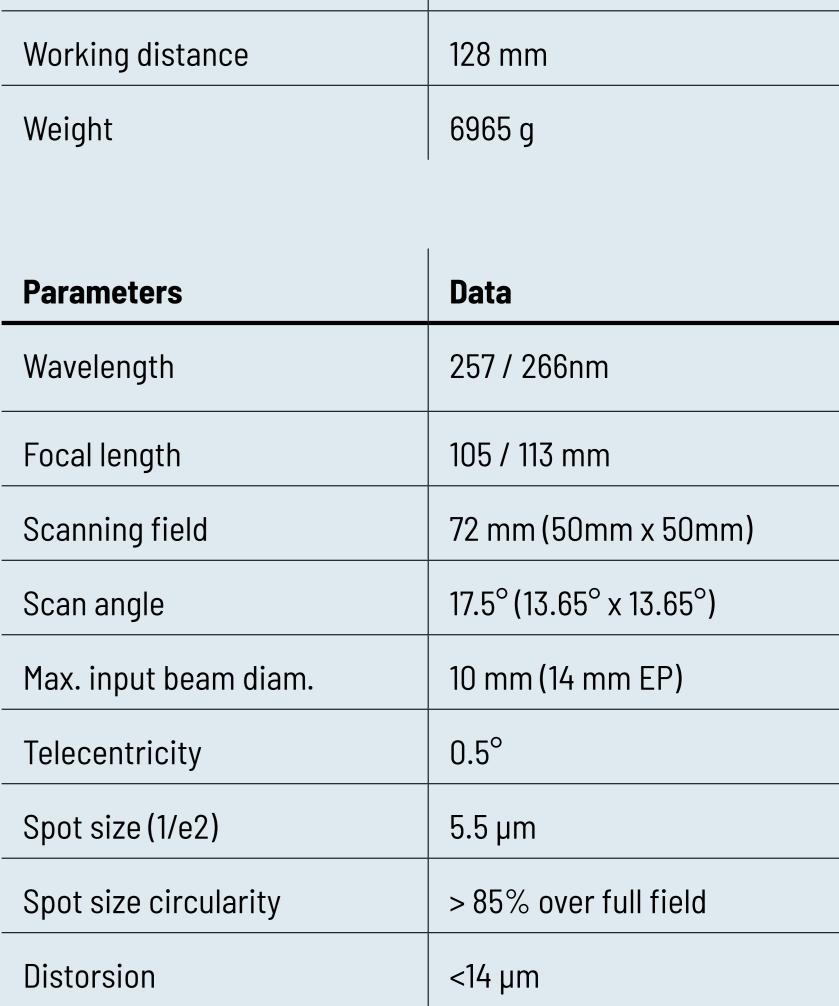




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www.KSCconference.nl

meopta.com