SUMITOMO
CARBIDE - CBN - DIAMOND

Standard F-Theta Lens DATA SHEET

F-Theta FL163.5 for IR laser

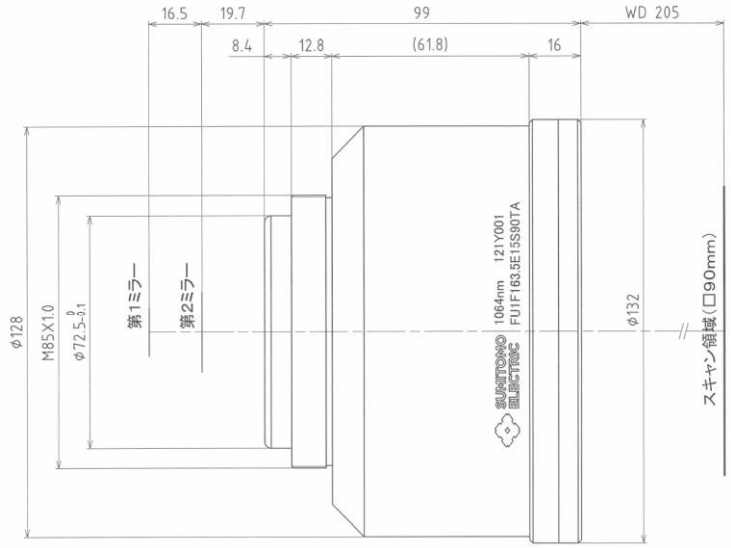
<P/N> **FU1F163.5E15S90TA**

<Specifications>

Item	Spec
Wavelength	1064nm
Effective Focal Length (FL)	163.5mm
Entrance Pupil Diameter (EPD)	φ15mm
Scan Area	90mm Sq.
F Number	10.93[1)]
Distance between X&Y scan mirror	16.5mm
Distance from Y mirror to the input side of lens housing (FWD)	19.7mm
Working Distance(WD)	Approx. 205mm [2)]
Material	Fused Silica
Spot Diameter	φ20.9～23.5μm [3)]
Telecentric Error	<=5.7°
Transmittance	97.0%~@1064nm
Cover Window	Included (Replaceable)
Total Mass	Approx. 1.6kg
Mounting Screw Info.	M85

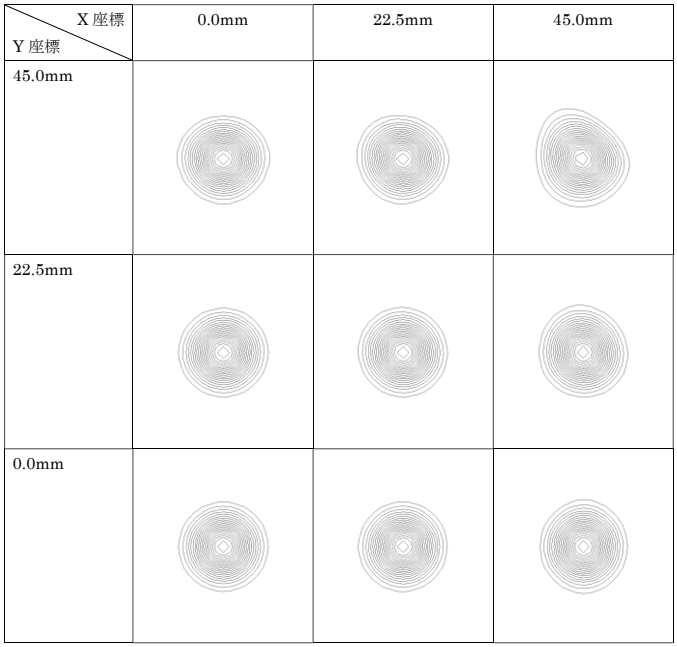
1) NA0.046
2) Under the condition of the collimated incident beam.
3) Simulated value of the 85% encircled energy diameter under condition of 15mm(1/e^2) beam diameter single mode laser.

<Drawings>



* Subject to change without notice.

<Point Spread Function Analysis>



* Contour maps of intensity distributions on the focal plane.
* Under condition of φ15mm(1/e^2) gaussian incident beam, ignore the outside beam slope of φ15mm gaussian beam.

* The photo is different from the real thing.

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Contact Us

SUMITOMO LENS **Search**

https://www.sumitool.com/products/laser-optics/

* Please use the web form for inquiries.

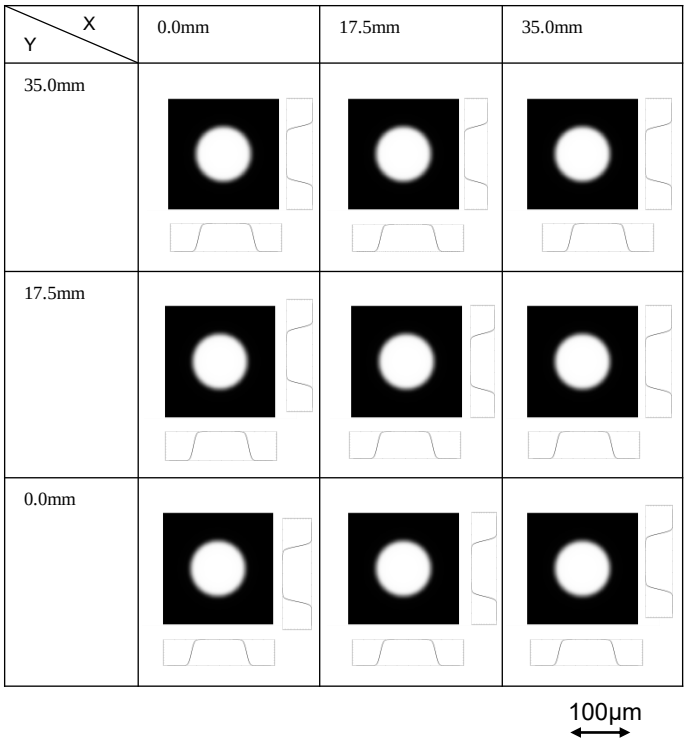
EPDφ20mm Analysis

<Condition of Entrance Pupil Diameter φ20mm>

Item	Condition
Wavelength	1064nm
Effective Focal Length (FL)	163.5mm
Entrance Pupil Diameter (EPD)	φ20mm
Scan Area	70mm角
F Number	8.2[1)]
Distance between X&Y scan mirror	25mm
Distance from Y mirror to the input side of lens housing (FWD)	20mm
Working Distance(WD)	205mm
Material	合成石英
Spot Diameter	φ100μm [2)]
Telecentric Error	4.5°以下
Transmittance	95%以上
Cover Window	有
Total Mass	1.6kg
Mounting Screw Info.	M85P1

1) NA0.061
2) Simulated value of 2x imaging diameter under condition of fiber core diameter 50μm.

<Imaging Profile Analysis>



* 2x Imaging of fiber core diameter φ50μm

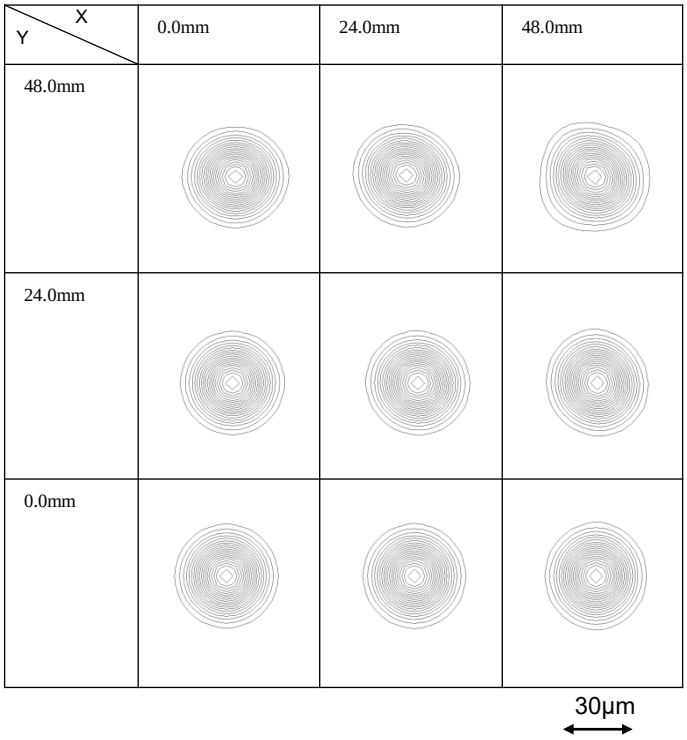
EPDφ10mm Analysis

<Condition of Entrance Pupil Diameter φ10mm>

Item	Condition
Wavelength	1064nm
Effective Focal Length (FL)	163.5mm
Entrance Pupil Diameter (EPD)	φ10mm
Scan Area	96mm角
F Number	16.4[1)]
Distance between X&Y scan mirror	16mm
Distance from Y mirror to the input side of lens housing (FWD)	16mm
Working Distance(WD)	205mm
Material	合成石英
Spot Diameter	φ30.7～34.6μm [2)]
Telecentric Error	6.5°以下
Transmittance	95%以上
Cover Window	有
Total Mass	1.6kg
Mounting Screw Info.	M85P1

1) NA0.030
2) Simulated value of the 85% encircled energy diameter under condition of 10mm(1/e^2) beam diameter single mode laser.

<Point Spread Function Analysis>



* Contour maps of intensity distributions on the focal plane.
* Under condition of φ10mm(1/e^2) gaussian incident beam, ignore the outside beam slope of φ10mm gaussian beam.