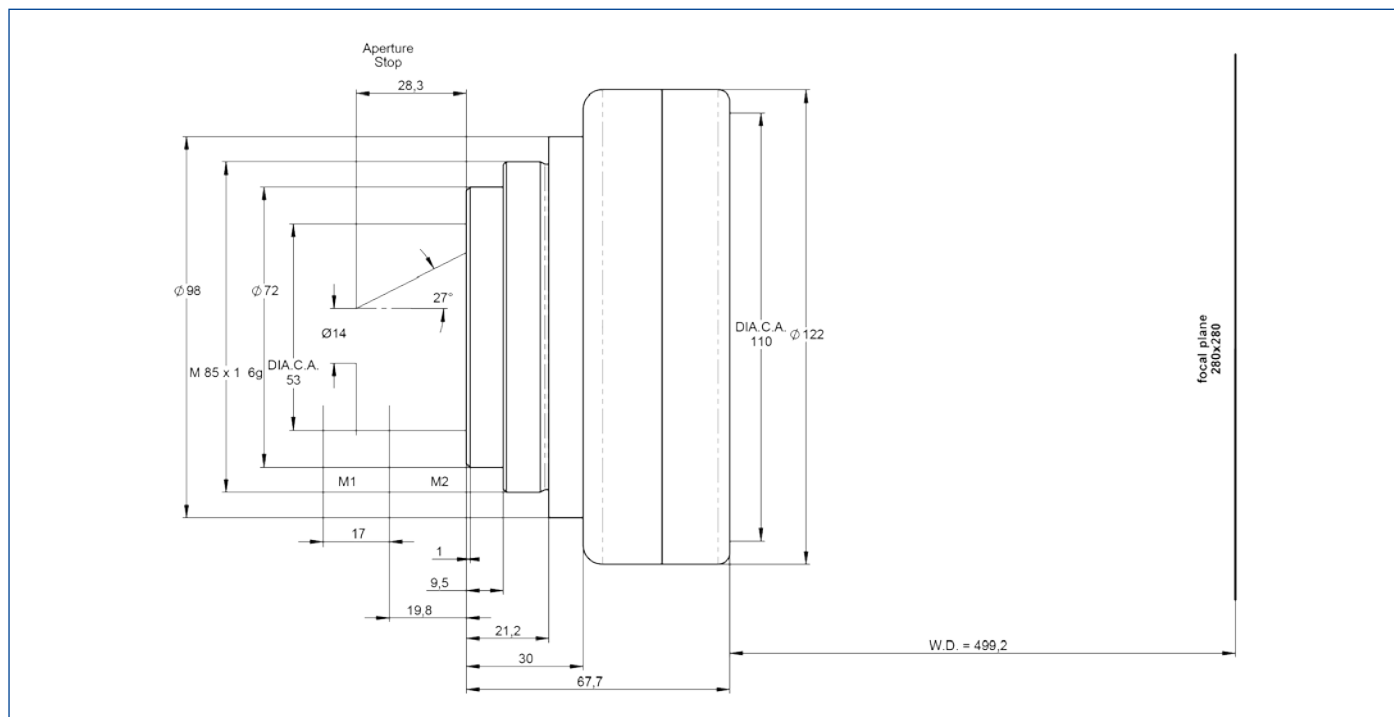# DATA SHEET

新特光电
Sintec Optronics

S4LFT1420/328
standard F-Theta

- **for 1030 nm - 1090 nm**
- **fused silica**
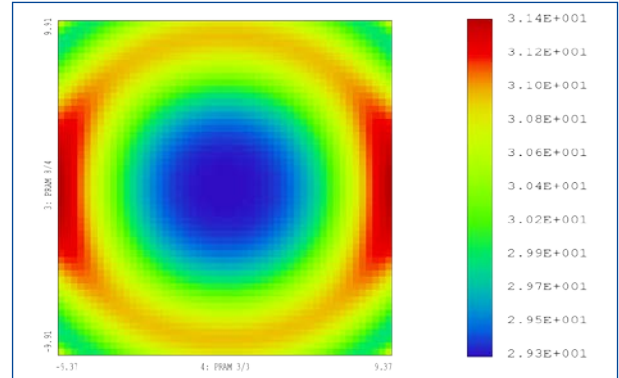- **low absorption coating**

illustration only

outline drawing

specifications

article number	S4LFT1420/328
design wavelength [nm]	1064
effective focal length [mm]	420.0
max. entrance beam-Ø [mm]	14.0
optical scan angle [±°]	27.0
scan length [mm] (1 mirror system)	396.2
aperture stop distance [mm]	28.3
working distance [mm]	499.2
scan area for a 2 mirror system with mirror distance from lens housing for	280 x 280
mirror 2 / mirror 1	19.8 / 36.8
max. telecentricity error [°]	17.3
total transmission [%]	> 97
lens material	fused silica
LIDT (coating)	5.0 J/cm^2 per 1ns pulse at 50Hz 5.0 MW/cm^2 cw
SP and USP usable [✓/✗]	✓
weight [kg]	1.00
cover glass	S4LPG4160/328
accessory	---

spot

- spot radius in µm at 86% level for a Gaussian laser beam (M^2=1) with 14.0 mm diameter at 1/e^2, clipped at 1/e^2
- field size and mirror distances as given above for a 2 mirror scan system
- PRAM parameters: mechanical mirror scan angle

notes

The aperture stop given is the point where the scan mirrors should be placed symmetrically around in order to reach best performance. In a 1 mirror system it is the position of the scan mirror.
Aperture stop distance = front focal point in telecentric f-theta lenses

The calculations of the scan length and scan areas of our f-theta lenses are based on the geometric design of typical scan systems with a certain mirror spacing. The values given assume a vignetting of less than 1%. If used with non-typical scan systems or with scan systems which have been designed for larger or smaller laser beams, different scan lengths and scan areas will result.

Effective focal length and working distance have a tolerance of +/- 1.5%
Graphs given by design

LIDT = Laser Induced Damage Threshold, valid for the coating at design wavelength and gaussian intensity profil
General LIDT for lenses without SP/USP compatibility (short pulse or ultra short pulse) can be lower, depending on material and internal reflections.