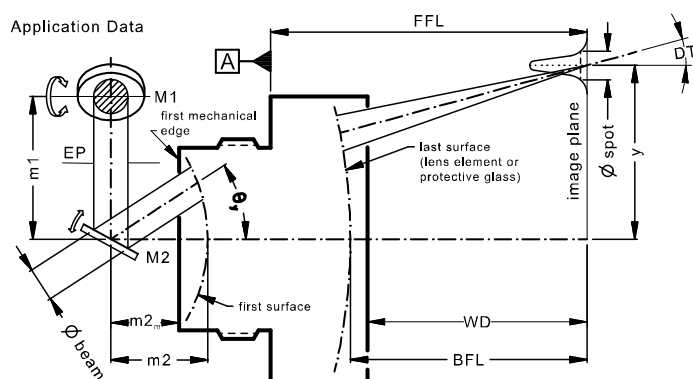


# LINOS F-Theta-Ronar Lens

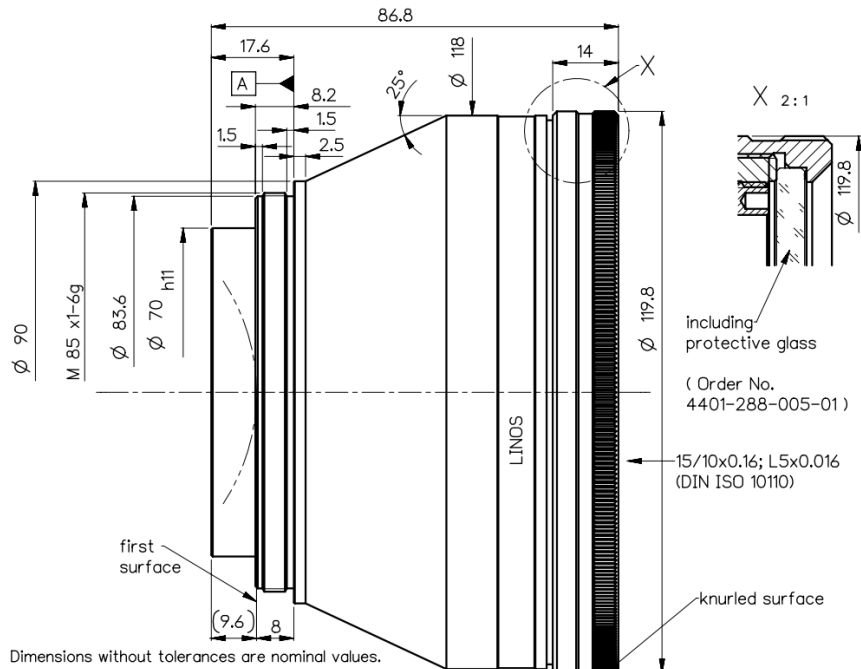
**f = 100mm, 1064nm, telecentric**



| Part number                                          | 4401-464-000-21    |                      |                           |
|------------------------------------------------------|--------------------|----------------------|---------------------------|
| Design wavelength                                    | $\lambda$          | (nm)                 | 1064                      |
| Effective focal length                               | EFL                | (mm)                 | 100.1                     |
| Back focal length                                    | BFL                | (mm)                 | 128.9                     |
| Working distance                                     | WD                 | (mm)                 | 126.0                     |
| Flange focal length                                  | FFL                | (mm)                 | 195.2                     |
| Beam diameter $1/e^2$ truncated                      | $\varnothing$ beam | (mm)                 | 14.0                      |
| Recommended mirror distance m1                       | m1                 | (mm)                 | 17.0                      |
| Recommended mirror distance m2                       | m2                 | (mm)                 | 28.5                      |
| Recommended mirror distance m2 <sub>mechanical</sub> | m2 <sub>m</sub>    | (mm)                 | 18.9                      |
| Scan angle                                           | $\pm\theta_{x,y}$  | (°)                  | 17.0                      |
| Scan area (edge length of scan field)                | 2x * 2y            | (mm <sup>2</sup> )   | 57 x 57                   |
| Spot diameter                                        | $\varnothing$ spot | ( $\mu$ m)           | 14                        |
| Telecentric error (maximum deviation)                | DT                 | (°)                  | 0.1                       |
| Total transmission @ 1064nm                          | T                  | (%)                  | > 96                      |
| LIDT coating @ 1064nm, 9ns, 100Hz                    |                    | (J/cm <sup>2</sup> ) | 10                        |
| Focused back reflex positions from first surface     |                    | (mm)                 | 2.3; 6.2; 6.5; 21.6; 66.7 |
| Weight                                               |                    | (g)                  | 1850                      |
| Protective glass                                     | PG                 |                      | 4401-288-005-01           |

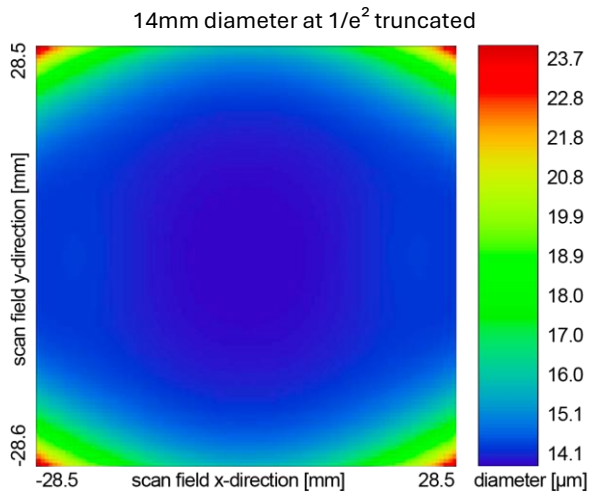
Optical parameters calculated for a 1-mirror system  
Subject to technical change

## Mechanical drawing



### Spot variation over scan field

Spot radius in  $\mu\text{m}$  at  $1/e^2$  level for a Gaussian laser beam ( $M^2=1$ ), focused over scan field  
Field size and mirror distances as given above for a 2 mirror scan system, vignetting  $\leq 1\%$



## Notes

For technical explanations, see our homepage.

[LINOS Laser Material Processing Optics | Excelitas](#)

In a 1-mirror system, the entrance pupil (EP) is the position of the scan mirror. In a 2-mirror system, it is the point where the scan mirrors should be placed around symmetrically to reach specified performance.

The actual LIDT of the lens, as well as effects such as thermal focus shift, depend on the specific system setup and laser parameters. We recommend testing the respective optical components before use. We are happy to support and advise you in selecting the right F-Theta lens!

Entrance lens made of fused silica.