

LINOS F-Theta-Ronar Lenses made of Fused Silica

Qioptiq has developed a range of new F-Theta-Ronar scan lenses made of fused silica for high power laser material processing. Fused silica minimizes focus shift while providing high power density. The optical designs are optimized with respect to back reflections of the input beam, which significantly reduces the risk of damage to the galvo mirrors. The LINOS F-Theta-Ronar lenses are all treated with a broad band and angle optimized low absorption coating, making them suitable for a wide variety of lasers.

Features

- Wavelengths 355 nm, 532 nm, 1064 nm or 1940 nm
- Focal length ranging from 70 mm to 440 mm
- Broad band coating 340-360 nm, 515-540 nm, 1030-1080 nm or 1940-2050 nm
- Using high technologies to ensure long-term optical stability even under unfavourable ambient conditions

Technical Data

- Diffraction limited designs
- Lens material is exclusively made of fused silica
- Transmission $T(340-360) \geq 96\%$, $T(515-540) \geq 96\%$, $T(1030-1080) \geq 97\%$ and $T(1940-2050) \geq 95\%$
- Laser-damage threshold up to 20 J/cm^2 at 1064 nm, 12 ns, 100 Hz
- Includes interchangeable fused-silica protective glasses



LINOS F-Theta-Ronar lenses made of fused silica

Wavelength (nm)	Focal length (mm)	Entrance-beam diameter at $1/e^2$ (mm)	Scan field (mm ²)	Spot size (μm)	Part No.
340 - 360	160	7	99 x 99	15	4401-399-000-21
340 - 360	255	10	170 x 170	17	4401-481-000-21
515 - 540	255	10	170 x 170	25	4401-496-000-21
1030 - 1080	255	10	170 x 170	50	4401-499-000-21
1030 - 1080	340	14	205 x 205	51	4401-546-000-21
1030 - 1080	420	14	254 x 254	60	4401-508-000-21
NEW 1940 - 2050	354	14	214 x 214	93	4401-569-000-21
NEW 1940 - 2050	437	14	296 x 296	120	4401-568-000-21

Subject to technical changes

LINOS F-Theta-Ronar lenses made of fused silica - Telecentric design

Wavelength (nm)	Focal length (mm)	Entrance-beam diameter at $1/e^2$ (mm)	Scan field (mm ²)	Spot size (μm)	Part No.
340 - 360	100	10	46 x 46	7	4401-509-000-21
340 - 360	167	10	67 x 67	13	4401-511-000-21
515 - 540	100	14	43 x 43	9	4401-547-000-21
515 - 540	166	14	86 x 86	12	4401-517-000-21
NEW 1030 - 1080	70	14	30 x 30	10	4401-551-000-21
1030 - 1080	100	14	43 x 43	15	4401-561-000-21
1030 - 1080	167	20	84 x 84	17	4401-513-000-21

When using different beam diameters then scan fields and spot size diameters can be modified.

Subject to technical changes

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