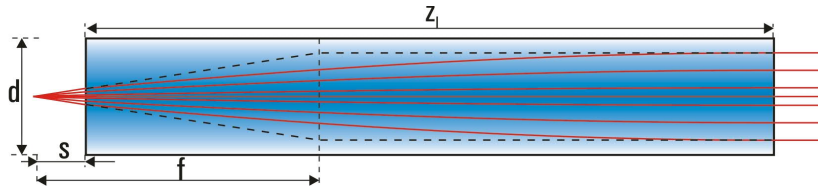
GRIN Rod Lenses – Numerical Aperture 0.2 – for high-performance collimation

with optimized gradient index profile for compensation of higher-order spherical aberrations and better beam quality



Gradient index lenses for fiber coupling and beam shaping of laser diodes

Diameter (mm)	Pitch P	Working distance s (mm)	Numerical Aperture NA	Lens length z_l (mm)	Focal length f (mm)	Gradient constant g (mm^{-1})	Refractive index at the center of the profile n_0	Wavelength λ (nm)	Product code
1.00	0.25	0	0.20	6.04	2.52	0.260	1.524	670	GT-CFRL-100-025-20-CC (670)
	0.25	0	0.20	6.05	2.53	0.260	1.521	810	GT-CFRL-100-025-20-CC (810)
	0.25	0	0.19	6.08	2.55	0.258	1.515	1550	GT-CFRL-100-025-20-CC (1550)
	0.24	0.16 – 0.18*	0.19	5.81	2.54	0.258 – 0.260*	1.515 – 1.524*	670 -1550	GT-CFRL-100-024-20-CC (1550)
1.80	0.25	0	0.19	11.06	4.62	0.142	1.524	670	GT-CFRL-180-025-20-CC (670)
	0.25	0	0.19	11.08	4.64	0.142	1.521	810	GT-CFRL-180-025-20-CC (810)
	0.25	0	0.19	11.13	4.68	0.141	1.515	1550	GT-CFRL-180-025-20-CC (1550)
	0.24	0.26 – 0.31*	0.19	10.71	4.69	0.141 – 0.142*	1.515 – 1.524*	670 -1550	GT-CFRL-180-024-20-CC (1550)

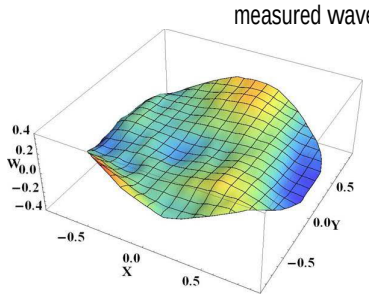
*: depending on wavelength

- Working distance, design wavelength and lens length deviating from these standards are available on request
- ZEMAX files can be DOWNLOADed from our website
- For tolerances, handling and storage see page 22

optimized

- Wavefront RMS @ 635 nm < 0.07
- diffraction limited properties
- higher order spherical aberrations are corrected
- for high-performance applications (e.g. collimators with M^2 < 1.1)

measured wavefront error: 0.055λ RMS



GRIN rod lenses are offered without antireflection coatings as standard. Antireflection coatings (R < 1.0 % for the design wavelength and incidence angles of 0 ... 30° corresponding to measurements on a reference substrate) can be offered:

Coating Code:
NC: no coating (reflection loss approx. 12 %) - standard
C1: λ = 450 ... 690 nm
C2: λ = 800 ... 960 nm
C5: λ = 1310 ... 1550 nm

One - sided coatings are available on request.

Order example:

GT – CFRL – 100 – 025 – 20 – CC – (670)	
GT	GRINTECH
CFRL	Focusing Rod Lens for high-performance collimation
100	Diameter: 1.0, 1.8 mm
025	Pitch: 0.25 or 0.24
20	NA: 0.20
CC	Coating Code: NC, C1, C2 or C5
(670)	Design Wavelength

Variations due to modifications of the production process are possible. It is the user´s responsibility to determine suitability for the user´s purpose.

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