

FAST-AXIS COLLIMATION

FAC Lenses

GENERAL DESCRIPTION

The most important optical component in the beam forming systems in high-power diode lasers, is the fast-axis-collimation optic. The lenses are manufactured from high-quality glass and have an aspherical surface. Their high numerical aperture permits the entire diode output to be collimated with outstanding beam quality. The high transmission and excellent collimation characteristics guarantee the highest levels of beam forming efficiency for diode lasers.

ADVANTAGES

- aspheric cylindrical lens
- highest beam quality
- high numerical aperture (NA 0.8)
- diffraction-limited collimation
- transmission up to 99%
- highest level of precision and uniformity
- long term stability
- optimized design



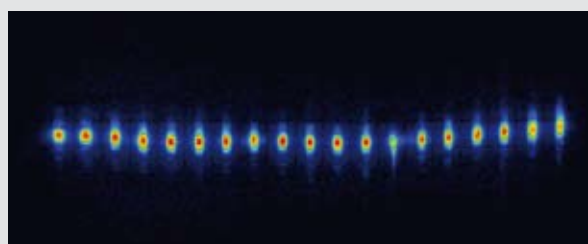
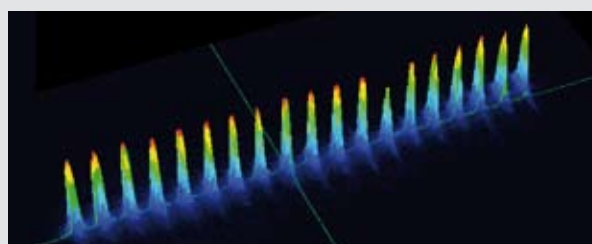
SERVICE

We also design, develop and manufacture customized FAC lenses, which have been optimized to meet the specific requirements of your application. In order to simplify mounting, we also offer the FAC lenses with additional surfaces for mounting and/or support structures.

QUALITY

We operate a 100% quality testing policy. The beam profile, residual divergence and geometry along the longitudinal axis of each optic, is characterized as it moves along the production line. By conducting measuring operations along the beam path, we ensure that there will be no deviation from these measured beam characteristics when the optic is subsequently used in industrial practice. In conjunction with our sophisticated manufacturing technology, this guarantees that our lenses are 100 % free of side lobes or smile.

Full details of all optics are available on request.



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SPECIFICATION DATA

Lens Type	NA	EFL [mm]	BFL [mm]	L [mm]	H [mm]	W [mm]	SB	HB	XB	D [mrad]
FAC-08-2800	0.80	2.80	0.09	tbd.	4.00	4.80		x		
FAC-07-2500	0.80	2.50	1.09	tbd.	2.50	3.50		x		
FAC-08-2000	0.80	2.00	0.09	tbd.	2.80	3.40		x		
FAC-08-1500	0.80	1.50	0.09	tbd.	2.30	2.50		x		
FAC-05-1500	0.50	1.50	0.09	tbd.	2.30	2.50		x		
FAC-08-1200	0.80	1.20	0.09	tbd.	1.90	2.00		x		
FAC-08-1000	0.80	1.00	0.15	tbd.	1.50	1.50		x		
FAC-08-900	0.80	0.90	0.09	tbd.	1.50	1.50	x	x	x	0.8
FAC-05-900	0.50	0.90	0.09	tbd.	1.50	1.50		x	x	1.0
FAC-07-700	0.70	0.70	0.25	tbd.	1.00	0.80		x		
FAC-08-600	0.80	0.60	0.15	tbd.	1.00	0.80	x	x	x	1.2

Quality Standards			
SB	Standard Brightness	power within an angle of +/- D [mrad]	> 75%
HB	High Brightness	power within an angle of +/- D [mrad]	> 85%
XB	Extra-High Brightness	power within an angle of +/- D [mrad]	> 90%

Options
Customized numerical aperture, focal length and back focal length
Customized length
Customized coating
Bottom, side taps or shoulders for mounting

NA: Numerical aperture
 EFL: Effective focal length @ 808 nm
 BFL: Back focal length @ 808 nm
 Standard Coating: AR 780-1020 nm
 Transmission: > 99%

L: Length (+/- 0.10 mm) according to customer specification
 H: Height (+/- 0.01 mm)
 W: Width (+/- 0.01 mm)
 Material: N-LaF21 (SCHOTT)
 Refractive Index n @ 808 nm: 1.77584
 Quality specification for laser bar with divergence of 35° (FWHM)

