INGENERIC

beamPROP

Coupling of fiber arrays into fibers

GENERAL DESCRIPTION

The INGENERIC beamPROP is a lens array which matches the beam parameter product (BPP) of the fast and slow axis of high power diode laser arrays.

The beamPROP is a key component for the
a) fiber coupling of diode bars
b) dense wavelength beam combining.

Both applications make high demands on the components, which are met by INGENERIC's outstanding manufacturing technology, guaranteeing highest levels of efficiency for diode lasers.

ADVANTAGES

Achieve the highest beam quality through the four major features behind the beamPROP:

- complete utilization of the aperture by minimized transition zones
- minimum aberrations achieved by highest level of precision and uniformity of single lenslets
- an exact rotation of the emitter is achieved through the defined center thickness accuracy
- minimum pointing errors due to an exact position of front and back surfaces.

QUALITY

We operate a strict quality control policy. Optical elements as well as complete modules are characterized as they move along the production line. By testing the modules in an environment identical to the conditions they will encounter in industrial practice, we ensure that there is no discrepancy between our test results and the results subsequently achieved when our modules are used within their intended application at your site. In conjunction with our sophisticated manufacturing technology, this guarantees the production of beam transformation arrays with unsurpassed coupling characteristics.

INGENERIC
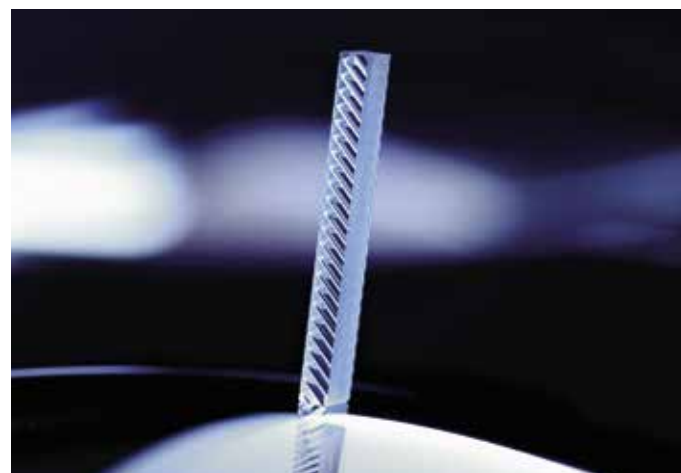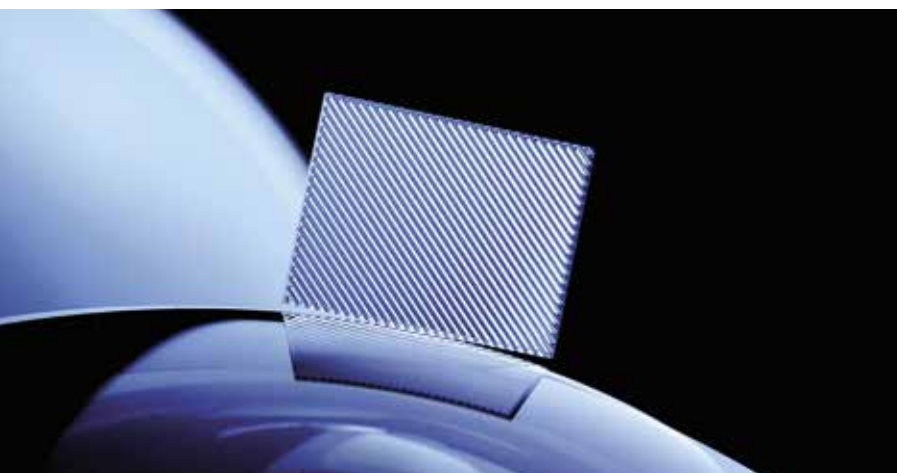
SPECIFICATION DATA

Now avaible as standard products in all kind of wavelengths

Components

Wavelength 400-500 nm BLUE	NE	WE$_{max}$	PE [mm]	NA SA	NA FA	CT [mm]	L [mm]	H [mm]
BProp-A-400	25	0.20	0.40	< 0.07	0.5	1.46	tbd.	> 0.7
Wavelength 780-1080 nm								
BProp-A-200**	47	0.10	0.20	< 0.06	0.4	1.4	tbd.	> 0.7
BProp-A-400*	25	0.20	0.40	< 0.07	0.5	1.5	tbd.	> 0.7
BProp-A-500*	19	0.20	0.50	< 0.10	0.6	1.9	tbd.	> 0.7
Wavelength 1000-1300 nm								
BProp-A-500	19	0.20	0.50	< 0.10	0.6	1.91	tbd.	> 0.7
Wavelength 1250-1750 nm								
BProp-A-500	19	0.20	0.50	< 0.10	0.6	1.92	tbd.	> 0.7
Wavelength 1700-1970 nm								
BProp-A-500	19	0.20	0.50	< 0.10	0.6	1.93	tbd.	> 0.7

* Test example: 978 nm; 100 μm emitter width; FA-divergence = 67° (1/e²); FAC07-300; 90% power enclosure.
** Test example: 940 nm; 100 μm emitter width; FA-divergence = 43° (1/e²); FAC06-150; 90% power enclosure.

Modules

Wavelength 400-500 nm BLUE	NE	WE$_{max}$	PE [mm]	NA SA	EFL$_{FAC}$ [mm]	W [mm]	L [mm] ***	H [mm]
BProp-M-300-400	25	0.20	0.40	< 0.07	0.30	2.10	12.0	1.2
Wavelength 780-1080 nm								
BProp-M-150-200	47	0.10	0.20	<0.06	0.15	2.00	12.0	1.2
BProp-M-300-400	25	0.20	0.40	< 0.07	0.30	2.10	12.0	1.2
BProp-M-300-500	19	0.20	0.50	< 0.10	0.30	2.50	12.0	1.2
Wavelength 1000-1300 nm								
BProp-M-300-500	19	0.20	0.50	< 0.10	0.30	2.50	12.0	1.2
Wavelength 1250-1750 nm								
BProp-M-300-500	19	0.20	0.50	< 0.10	0.30	2.50	12.0	1.2
Wavelength 1700-1970 nm								
BProp-M-300-500	19	0.20	0.50	< 0.10	0.30	2.50	12.0	1.2

*** L = 12 mm preferred, 6-14 mm possible upon request

All type of wavelengths available for all kind of pitches. Support, length & height can be customized for components upon request: Standard height of Support: 0.5 mm, others possible as custom solution (0.5-1.5 mm)

|	
NE:	Number of emitters
WE$_{max}$:	Maximum width of emitters
PE:	Pitch of emitters
NA SA:	Numerical aperture of slow-axis
NA FA:	Numerical aperture of fast-axis
CT:	Center Thickness
L:	Length
H:	Height (Height$_{Bottom Tab}$ = 0.5 mm)
W:	Width
EFL$_{FAC}$:	Effective focal length of FAC
TX:	Transmission > 98%
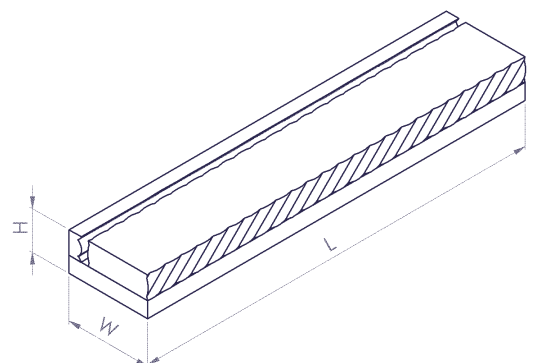
INGENERIC

beamPROP

Coupling of fiber arrays into fibers

Now avaible as standard products
in all kind of wavelengths
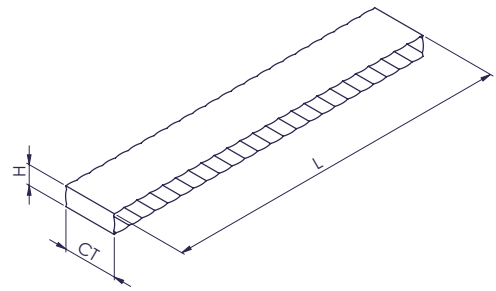
SERVICE Automated Assembly

For easy and reliable mounting, we offer the INGENERIC beamPROP as
a complete set with pre-aligned FAC and beamPROP-Array. Benefit from
our automated assembly process.

ADVANTAGES

- Highest precision and reproducibility by using a camera system
- No damage risk by manual handling process
- No damage risk by assembly devices used during manual handling process
- Position accuracy is in the micrometer range
- Assembly and packaging in clean environment
- 100% measurement of dimension
- Package usable for automated parts-removal