

LBS-300HP-NIR Beam Splitters

Beam Splitter for High Power Lasers NIR

The LBS-300HP-NIR is a patent pending technology beam splitter for High Power lasers that allows measuring NIR (~1064nm) focused or collimated laser beam profiles up to 5kW or 15MW/cm².

The LBS-300HP-NIR operates by reflecting a fraction of the incoming beam through the front surface of each of a pair of orthogonally oriented wedges. Less than 0.0001% (1/10⁶) of the beam is reflected towards the Ophir Beam Profiler Camera. This enables beam shape, focal spot, beam waist, M² of a high-power laser; up to 5kW or 15MW/cm².

Relative power can be measured by placing an Ophir power sensor after the first wedge, thereby measuring the laser beam after being reduced to 0.1% (1/10³).

99.9% of the laser beam passes through, ideal for absolute power measurement.

Each optical path through the LBS-300HP-NIR provides uniform attenuation of any beam shape (Gaussian, flat-top, doughnut, etc.) while preserving the polarization and overall profile of the incoming laser beam thus providing accurate sample of incident beam. A 1.035-40 thread is provided behind each wedge along the axis of the output beam.

These can be used to directly mount accessories with 1" lens tubes such as beam dumps or power/energy sensors.

Specifications

Model	LBS-300HP-NIR	
Wavelengths ⁽¹⁾	1000-1100nm	
Wedge Material	UVFS	
Wedge Reflection (each)	<0.1%	
Surface Quality	λ/6	
Clear Aperture	15mm	
LBS-300HP-NIR Reflection	0.000025% - 0.0001% (1/10 ⁶)	
Wedge ND value	≥3	
Maximum Laser Power Exposure	5 kW for up to 10 minutes	
Minimum Detectable Laser Power	100 mW	
Maximum Power Density ⁽²⁾ , Energy Density	15MW/cm², 10J/cm² at beam splitter	
3 x Bulk Filters ND ⁽³⁾ values, nominal	0.4, 0.8, 1.0, 2.0, 3.0, 4.0 (Red Holders)	
Part number	SP90540	
Suggested Add-Ons		
Item	Description	P/N
SP932U	Beam Profiler CMOS-based cameras	SP90606
SP204S	Beam Profiler CMOS-based cameras	SP90647
Ge/9/5μm	Slit Based Beam Profilers, NanoScan 2s	PH00460
BD10K-W-V1 Beam Dump	Beam Dumps Up to 11kW Max Power, Water Cooled	7Z17205
Power Sensors	Compatible with most Ophir sensors	See catalog pages 87-93

Notes: (1) Although the LBS-300HP-NIR is designated for 1000nm -1100nm, the real spectral range is significantly wider and covers 500nm-1500nm range. However, the spec above refers only to designated wavelength and can't be guaranteed for out of the range wavelength. Red alignment laser can also be used with LBS-300HP-NIR for alignment and targeting.
(2) 15 MW/cm² was maximal power density that was tested. Actual Maximum Power Density may be higher.
(3) ND bulk absorbing filters damage threshold is 5W/cm² for beam size 5mm, 10W/cm² for 2mm beam and >30W/cm² for 1mm beam.

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