## 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/cm<sup>2</sup>.

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, M<sup>2</sup> of a high-power laser; up to 5kW or 15MW/cm<sup>2</sup>.

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% (1/10<sup>3</sup>).

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.

# Incident Laser Beam Reflection: Less than 0.0001 % of the beam Reflection: directed towards Less than 0.1 % of the beam Onhir Beam directed towards Ophir power ProfilerCamera meter for relative measurement 99.9% of the beam passes through for absolute power measurement

### **Specifications**

- P		
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°)	
Wedge ND value	>3	
Maximum Laser Power Exposure	5 kW for up to 10 minutes	
Minimum Detectable Laser Power	100 mW	
Maximum Power Density <sup>(2)</sup> , Energy Density	15MW/cm <sup>2</sup> , 10J/cm <sup>2</sup> 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

Rom
SP932U
SP920s
Ge/9/5µm
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 79-90 Notes:

Beam Profiler CCD-based cameras Slit Based Beam Profilers, NanoScan 2s

(1) Although the LBS-300HP-NIR is designated for 1000m -1100m, the real spectral range is significantly wider and covers 500m -1500m 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/cm<sup>2</sup> was maximal power density that was tested. Actual Maximum Power Density may be higher.

SP90549

PH00460

#### LBS-300HP-NIR

