



## 500 W Fiber to Free Space Isolator

### Description

AFR's High Power Fiber to Free Space Isolator (HPFSI) is the best choice for high power industrial pulse fiber lasers. A newly designed isolator can handle 500W average laser power and at competitive cost. It also can be integrated with AFR's patented SteadiBeam™ and SeasonBeam™ technologies to achieve thermal lensing-free beam quality and temperature insensitive high isolation.

### Specifications

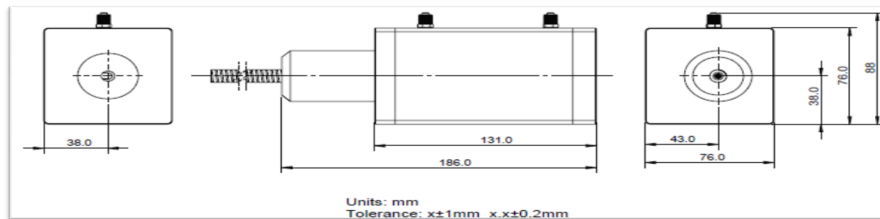
Optical Parameter	Unit	Value
Operating Wavelength ( $\lambda_c$ )	nm	1064 $\pm$ 30
Max. Insertion Loss at 23 °C, at $\lambda_c$	dB	0.4
Typ. Isolation at 23 °C, at $\lambda_c$	dB	38
Min. Isolation at 23 °C, at $\lambda_c$	dB	30
Min. Isolation at all temperature, at $\lambda_c$	dB	20
Min. Return Loss	dB	50
Nominal Output Beam Diameter ( $1/e^2$ ) <sup>1</sup>	mm	2.0 $\pm$ 0.2
Beam Circulatory	%	> 90
M <sup>2</sup> Degradation	%	< 10
Max. Average Optical Power	W	500
Max. Peak Power for ns pulse	kW	50
Beam offset	mm	$\pm$ 0.5
Pointing Error	mrad	2.5
Astigmatism	Z <sub>R</sub>	< 0.25

### Fiber and Conditions

Fiber and Conditions	Unit	Value
Fiber Type	-	specified by ordering info
Cooling	-	Water
Water Quality	-	Purified or Distilled Water
Flow Rate	L / min	1.5 - 2.5
Water Pressure	Mpa	$\leq$ 0.3
Water Temperature	-	$\geq$ 5 °C above Dew Point
Water PH Value	-	Temperature
Reverse Power Handling	W	5.6 - 7.9
Operating Temperature	°C	200 W Continuous
Storage Temperature	°C	+ 10 to + 50 - 10 to + 60

<sup>1</sup>Optional beam expander available for different beam diameter.

### Package Dimensions



### Ordering Information

#### HPFSI-500-①①-②②-③-④-P

①①: Wavelength	②②: Jacket Type	③: Fiber Length	④: Fiber Type
06 - 1064 nm	10 - 10 mm Armoured Cable	6 - 6.0 m	1 - Nufern BD-S100/120/360-STN
SS - Specify	SS - Specify	S - Specify	2 - Nufern LMA-GDF-20/400-M
			S - Specify