



## 500W Fiber to Free Space Isolator

AFR's High Power Fiber to Free Space Isolator (HPFSI) is the best choice for high power industrial pulse fiber laser. The newly designed isolator can handle 500W average laser power and at competitive cost. It also can be integrated with our 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 ± 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>a</sup>	mm	2.0 ± 0.2
Beam Circularity	%	> 90
M <sup>2</sup> Degradation	%	< 10
Max. Average Optical Power	W	500
Max. Peak Power for ns pulse	kW	50
Beam offset	mm	± 0.5
Pointing Error	mrad	2.5
Astigmatism	Z <sub>R</sub>	< 0.25

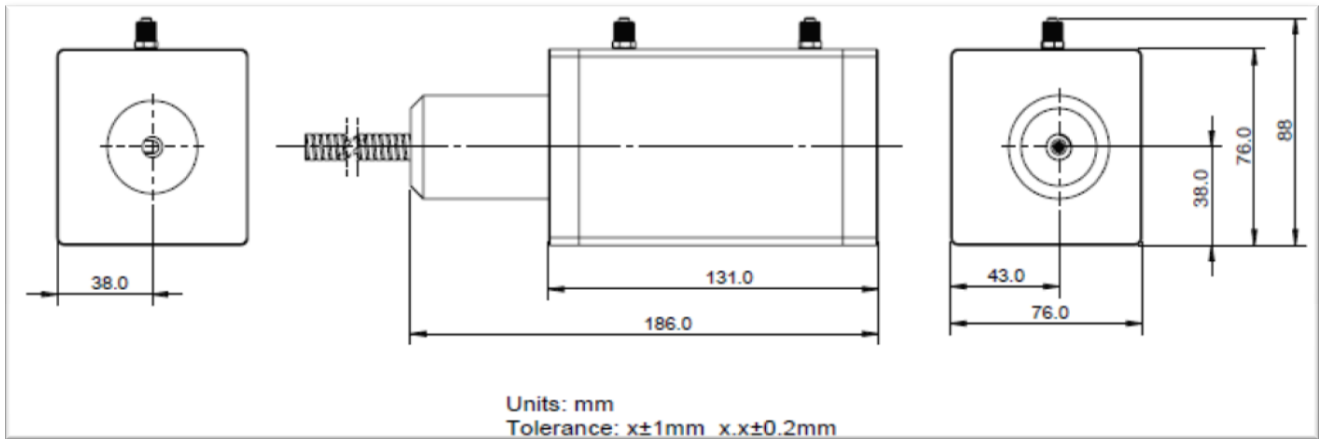
Fiber and Conditions	Unit	Value
Fiber Type	-	Specified by ordering info
Cooling	-	Water
Water Quality	-	Purified or Distilled Water
Flow Rate	L / min	1.5 - 2.5
Water Pressure	Mpa	≤ 0.3
Water Temperature	-	≥ 5°C above Dew Point Temperature
Water PH Value	-	5.6 - 7.9
Reverse Power Handling	W	200W Continuous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

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





### Package Dimensions



### Ordering Information

#### HPFSI-500-①①-②②-③-④-P

①①: Wavelength

06 - 1064 nm

SS - Specify

②②: Jacket Type

10 - 10 mm Armoured cable

SS - Specify

③: Fiber Length

6 - 6.0 m

S - Specify

④: Fiber Type

1 - Nufern BD-S100/120/360-STN

2 - Nufern LMA-GDF-20/400-M

S - Specify