



Cavity Component for Fiber Laser (Forward) (HPCF Series)

Rev 11C

Description

The (6+1)×1 High Power Combiner with ClearCut Fiber Bragg Grating enables highly efficient combining of the powers from up to 6 multimode pump diodes into an FBG with low insertion loss for high power fiber lasers. With AFR's ClearCut design and packaging, the devices can handle 3 kW pump power and 3 kW signal power.

Key Features

- Combiner and FBG Integrated
- Low Transmission Loss
- Exceptional Reliability

Applications

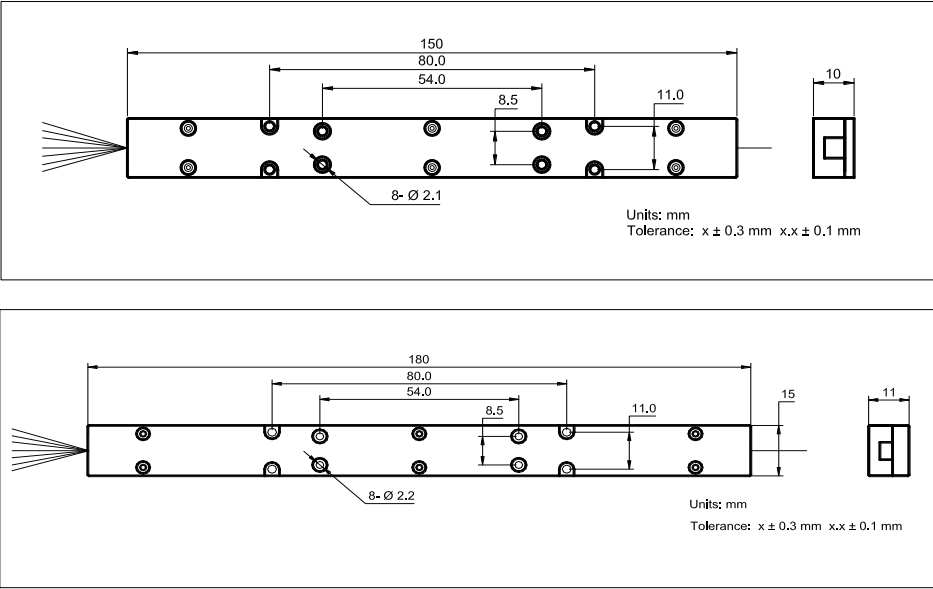
- Fiber Laser

Specifications

General Parameters	Unit	Values
Operation Wavelength	nm	1080 ± 1
Max. Handling Signal Power	W	3000
Max. Signal Channel Insertion Loss (Total) ¹	dB	1.0
Storage Temperature	°C	- 40 to + 85
Operating Temperature	°C	0 to + 50
Cooling Bottom Plate Temperature	°C	≤ 25
Parameters for Combiner		
Product Type		(6+1)×1
Pump Wavelength	nm	976
Fiber Type for Input (Pump Channel)	-	BrightCore MM200/220 DCF, 0.22 NA
Fiber Type for Input (Signal Channel)	-	Customization
Fiber Type for Output (Signal Channel)	-	20/400 DCF, 0.065 NA
Min. Pump Efficiency	%	97
Max. Input Pump Power	W	6 × 500
Package Dimensions Pump Power < 3 kW	mm	150 (L) × 15 (W) × 10 (H)
Pump Power ≥ 3 kW	mm	180 (L) × 15 (W) × 11 (H)
Parameters for FBG (HR)		
Fiber Type	-	20/400 DCF, 0.065 NA
Peak Reflectivity	%	≥ 99.0
Reflection Bandwidth at 95%	nm	1.5 - 4.0
Tolerance on Reflection Bandwidth	nm	0.1 - 0.4
Min. Side Mode Suppression Ratio	dB	20
Max. Wavelength Mismatch (OC Relative HR)	nm	0.3

¹Test with 1064 nm light source.

Package Dimensions



Ordering Information

HPCF-(6+1)×1-①①①①-②.②-③③.③-④-⑤-⑥-⑦-⑧-P⑨⑨⑨⑨

①①①①: Operation Wavelength

1080 - 1080 nm

SSSS - Specify

②.②: Reflectivity Bandwidth FBG

3.0 - 3.0 nm HR

S.S/S.S - Specify

③③.③: Peak Reflectivity of FBG

99.0 - 99.0%

SS.S - Specify

④: Length of Input Fiber (Signal)

Q - 0.75 m

1 - 1 m

S - Specify

⑤: Length of Output Fiber (Signal)

Q - 0.75 m

1 - 1 m

S - Specify

⑥: Length of Input Fiber (Pump)

Q - 0.75 m

1 - 1 m

S - Specify

⑦: Fiber Type for Input (Signal)

1 - Brightcore 20/250 DC, 0.075 NA

2 - Brightcore 25/250 DC, 0.07 NA

S - Specify

⑧: Fiber Type for Output

1 - Nufern LMA-GDF-20/400-HP-M, 0.065 NA

2 - Brightcore 20/400DCF, 0.065 NA

⑨⑨⑨⑨: Pump Power

2000 - 2000 W

3000 - 3000 W

SSSS - Specify