

# High Power FBG mirrors for fiber laser cavity

IXC-MIR-2000-HP

Fiber Bragg Grating (FBG) mirrors is a critical component used to design laser cavity and are ideal for high power fiber lasers. Cavity mirrors based on FBG technology are key components for monolithic high brilliance CW fiber lasers. High and Low Reflection (HR/LR) mirrors are written in iXblue specialty double-clad optical fiber to promote high performance, robust and reliable single mode Thulium fiber lasers.

High Power FBG mirrors are specifically designed for high power handling, optimized FBG writing process to ensure stability at high optical power.

iXblue offers a dissipative package for thermal management of the FBG to ensure stability at high optical power.

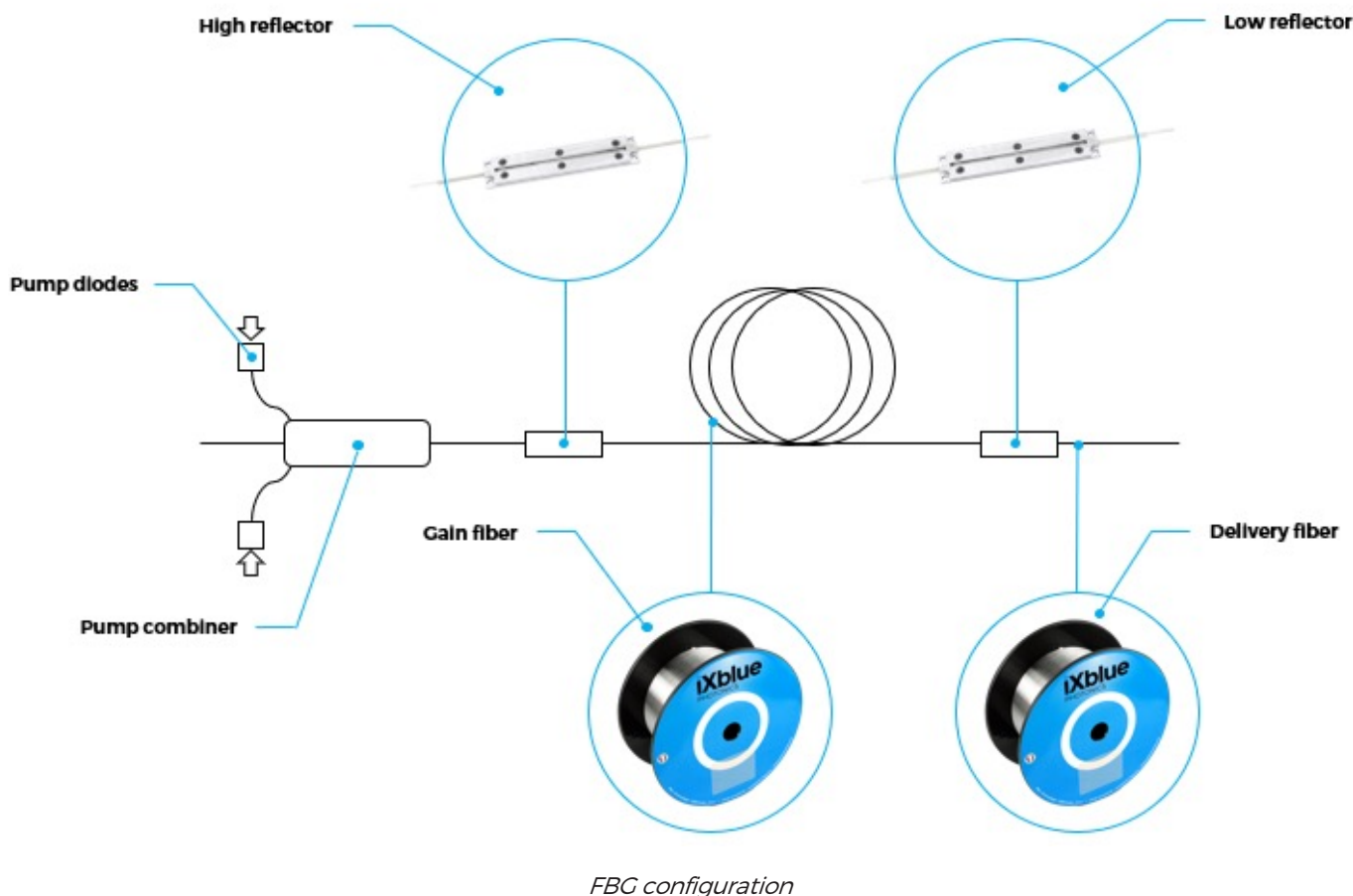


## FEATURES & BENEFITS

- Higher laser efficiency
- Custom design
- Accurate wavelength matching
- Precision matched passive to active fiber
- Heat dissipative package (IXC-DIS-PKG)
- Associated to iXblue active fibers

## APPLICATIONS

- High-power fiber laser
- Biomedical
- Industrial
- Non-linear optics



# IXC-MIR-2000-HP TECHNICAL SPECIFICATIONS

## PARAMETERS

iXblue passive optical fiber (LMA type)	IXF-2CF-PAS-25-400-0.08 IXF-2CF-PAS-25-250-0.08 IXF-2CF-PAS-20-250-0.08					
Center wavelengths range (ref. to vacuum) <sup>1</sup>	1908	1940	1949	2031	2049	2120
Center wavelength accuracy	+/- 1 nm					
Wavelength matching with HR/LR	< 0.2 nm					
	HR			LR		
Peak reflectivity	≥ 99 %			5 - 20 %		
Peak reflectivity accuracy	+/- 2 %					
Reflection bandwidth (FWHM)	1 - 3 nm			0.3 - 1 nm		
FWHM accuracy	+/- 0.2 nm			+/- 0.1 nm		
Side Lode Suppression Ratio	> 20 dB			> 15 dB		
Maximum pump power handling <sup>2-3</sup>	500 W					

<sup>1</sup> Other center wavelengths upon request

<sup>2</sup> Using multimode pump at 915nm (background loss are equivalent vs 793nm)

<sup>3</sup> Appropriate cooling must be applied

## DESIGN PARAMETERS

FBG heat dissipative packaging	IXC-DIS-PKG-v2, dim: 62 x 12 x 3 mm
Pigtail length each side A / B	1 m

## ORDERING INFORMATION

IXC-MIR-①-HP-②-③-④-P

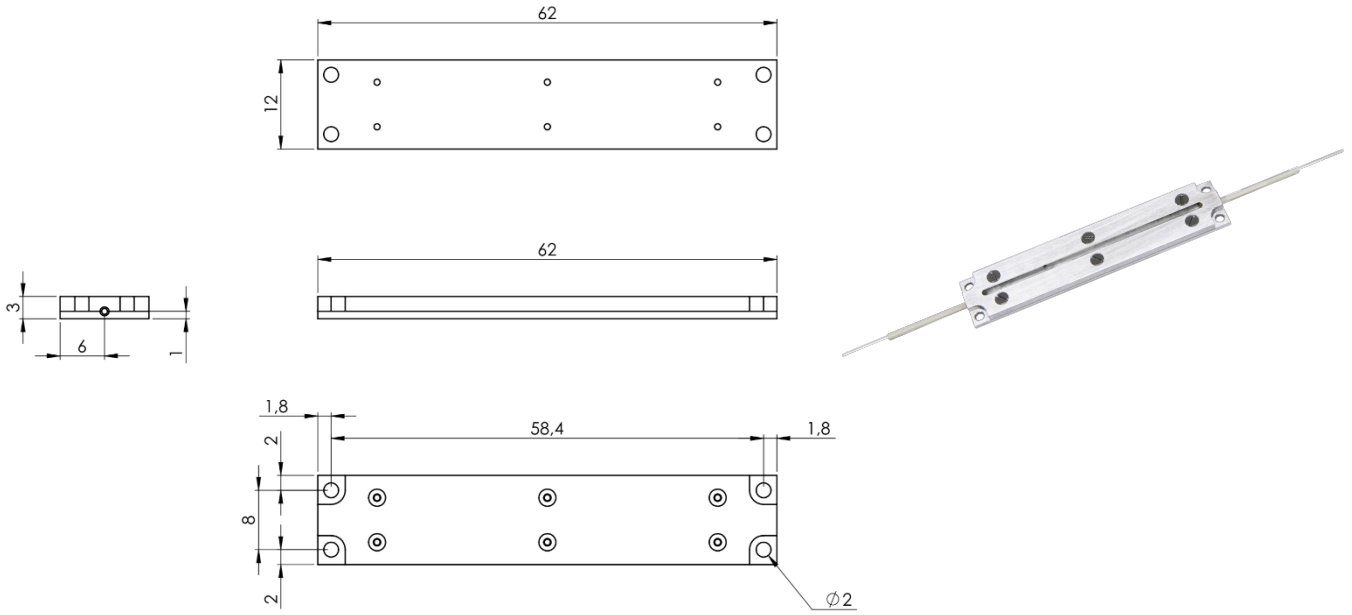
①	Wavelength	②	Fiber type	③	Peak reflectivity	④	FWHM
1908	1908 nm	A	IXF-2CF-PAS-25-400-0.08	HR	≥ 99 %	3	3 nm
1940	1940 nm	B	IXF-2CF-PAS-25-250-0.08			2	2 nm
1949	1949 nm	C	IXF-2CF-PAS-20-250-0.08	LR20	20 %	1	1 nm
2031	2031 nm			LR10	10 %	0.5	0.5 nm
2049	2049 nm			LR5	5 %	0.3	0.3 nm
2120	2120 nm						

Specifications are subject to change without notice

# IXC-DIS-PKG-v2 TECHNICAL SPECIFICATIONS

## Heat dissipative packaging for high power laser mirror

### PARAMETERS



### CONFIGURATION

torque applied on mounting screws: 0.15 NM

used graphite paper between component and mounting plate

mounting plate surface

DÉTAIL A  
ECHELLE 5 : 1

4 screws M2X4 long

A0.0 Creation		ROL	05/08/20
INDICE	DESCRIPTION DE LA REVISION	FMD	CREATION VERIFICATION
MATIERE:	√Rg Tol. Gén.:	MASSE:	
TRAIEMENT:	FINITION:	PROTECTION:	
Division: PHOTONIQUE	Désignation: Application Note	Dissipative package mounting	
Type de plan:	Référence de l'article: COM2911020	Ancienne Référence: A0.0	
iXblue		Échelle: 1:1	Indice du plan: A3 1/1
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IXC-MIR-2000-HP\_(LMA)\_edB\_06102022 PSD-L-E-Q-86 L