

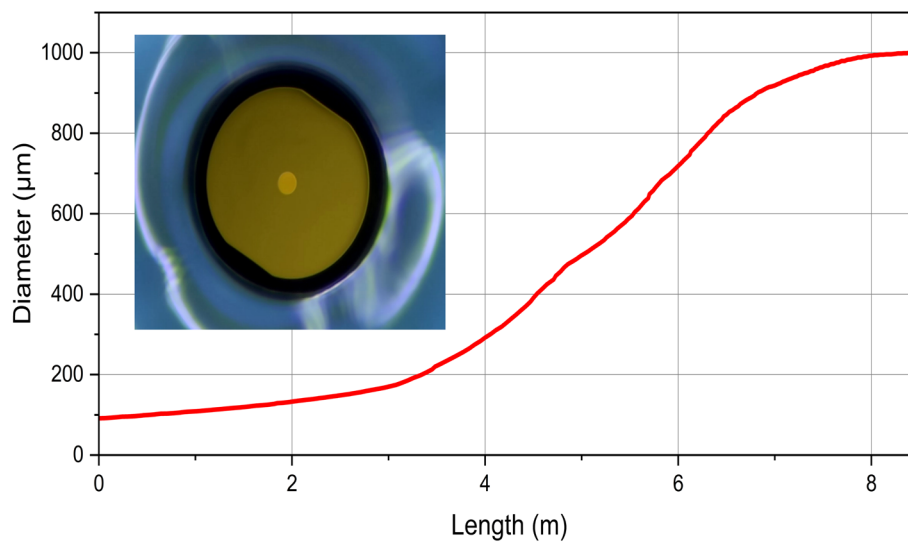
TGModule A - PM

APPLICATIONS

SCIENCE

INDUSTRY

AEROSPACE



KEY FEATURES

- High-power gain fiber based on patented tapered double clad fiber (T-DCF)
- Single mode output, $M^2 < 1.3$
- Large mode area, low level of nonlinear effects

SPECIFICATIONS

OVERVIEW, SPECIFICATIONS

PARAMETER	MIN	TYP	MAX	UNITS
Gain fiber length ¹⁾		8		m
Core diameter, thin/thick end ¹⁾		9.2/92		µm
Silica clad diameter, thin/thick end ¹⁾		83/833		µm
Fluorine doped clad diameter, thin/thick end ¹⁾		100/1000		µm
Mode field diameter		50		µm
Core NA		0.08		
First cladding NA		0.27		
Clad absorption (915 nm)		2.5		dB/m
Clad absorption (976 nm)		10		dB/m
Wavelength	1030	1040	1065	nm
Input power	5	50	100	mW
Pump wavelength		976		nm
Pump power (free space)			1000	W
M ²	1	1.2	1.3	
Output power ²⁾			500	W
Input fiber	PM980-XP, others on request			
Endcap	3x5 mm, 3° angle polished, B-coated			

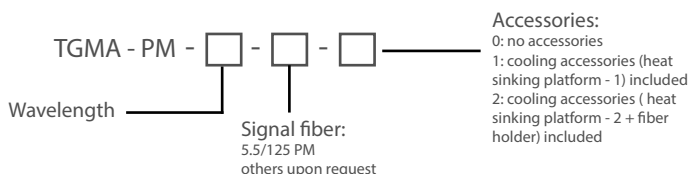
DESCRIPTION

TGModule A-PM incorporates Ampliconyx patent protected, polarization maintaining ytterbium doped tapered double clad fiber (T-DCF) (US 8,433,168 B2, Japan 5390524, People's Republic of China ZL 200880119087.7, EPO 08805462.2 pending). The fiber is pumped through the angle-polished anti-reflection coated endcap using customer provided free space optics. The fiber needs to be cooled during pumping. Heat sinks and water cooled fiber holding block are available as accessories. The thin input end of the fiber is a single mode fiber, and the input has an integrated cladding mode stripper (CMS).

¹⁾ For indicative purposes only, can vary depending on wavelength and batch.

²⁾ Output power depends on the applied pump power and seed input.

ORDERING INFORMATION



Example: TGMA - PM - 1040 - 5.5/125 - 1

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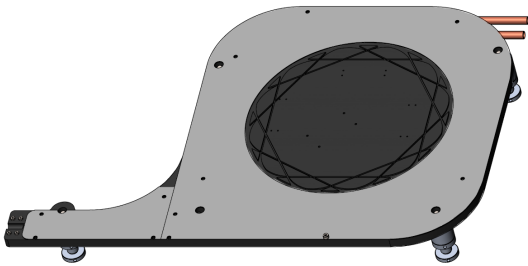
Due to continuous product development the specifications in this document are subject to change without notice.

ACCESSORIES, PERFORMANCE

ACCESSORIES

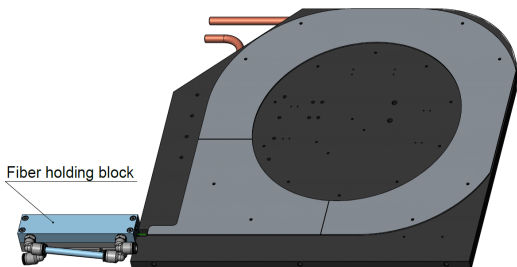
Ampliconyx offers several accessories for TGModule A-PM to help the thermal management and the alignment of required free space optics.

Heat sinking platform 1



Heat sinking platform - 1 can be used to coil the T-DCF and mount the endcap and cladding mode stripper securely. For high-power operation the heat sinking platform needs to be connected to water chiller with sufficient cooling capacity.

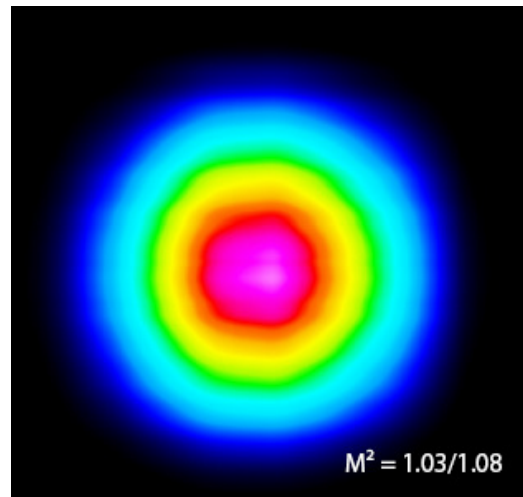
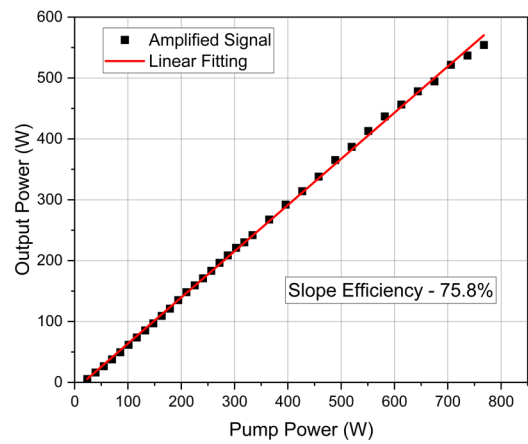
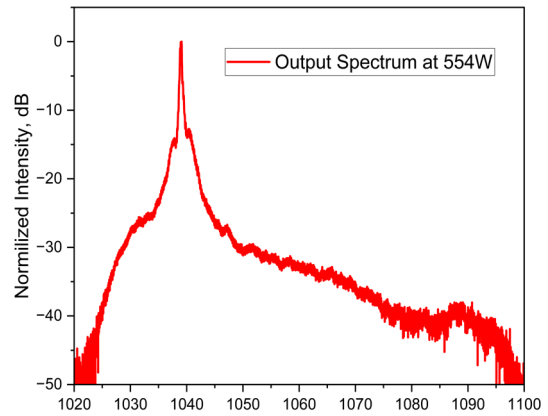
Heat sinking platform 2



Water-cooled fiber holding block allows direct water-cooling of the T-DCF's tip, which has the highest heat load under pumping. This fiber holder can be easily mounted onto a translation stage, making the alignment procedure easier. Also can be coupled with water-cooled platform - 2.

EXAMPLE AMPLIFICATION

90 mW, 20 MHz, 50 ps input signal



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