



NuMKW Multi-kW Active Fibers

NuMKW Large Mode Area (LMA) Ytterbium-doped (YDF) active fibers eliminate Transverse Mode Instability (TMI) and Stimulated Raman Scattering (SRS) for power scaling to >3kW in existing laser architectures. With 1.5kW, 2kW and 3kW options, these fibers feature unmatched performance that benefit many applications, including the lowest photodarkening and the highest beam quality. NuMKW fibers also reduce the \$/W value, eliminate the need to design and develop expensive solutions, and come with matched fiber designs for passive components and beam delivery.

Typical Applications

- High Power Fiber Lasers for Industrial Applications
 - Cutting and Welding
 - Laser Cladding
 - Additive Manufacturing

Features & Benefits

- Eliminates TMI & SRS to enable power scaling without changing architecture
- Highest beam quality
- Unmatched photodarkening performance
- Reduces \$/W

Optical Specifications	LMA-YDF-20/400-1.5kW	LMA-YDF-20/400-HP-M	LMA-YDF-22/400-915-3KW	LMA-YDF-20/400-976-3KW
Output Power / Pumping Wavelength	1.5kW at 915 nm & 976 nm Pumping	2kW at 915 nm & 976 nm Pumping	3kW at 915 nm Pumping	3kW at 976nm Pumping
Operating Wavelength	1015 - 1115 nm	1015 - 1115 nm	1015 - 1115 nm	1015 - 1115 nm
Core NA	0.065 ± 0.005	0.065 ± 0.005	0.065 ± 0.005	0.065 ± 0.005
Cladding NA (5%)	≥ 0.46	≥ 0.46	≥ 0.46	≥ 0.46
Core Attenuation	≤ 15 dB/km at 1200 nm	≤ 15 dB/km at 1200 nm	≤ 15 dB/km at 1200 nm	≤ 15 dB/km at 1200 nm
Cladding Attenuation	≤ 15 dB/km at 1095 nm	≤ 15 dB/km at 1095 nm	≤ 15 dB/km at 1095 nm	≤ 15 dB/km at 1095 nm
Cladding Absorption	0.40 ± 0.05 dB/m at 915 nm 1.2dB/m at 976 nm	0.40 ± 0.05 dB/m at 915 nm	0.51 ± 0.03 dB/m at 915 nm	0.40 ± 0.02 dB/m at 915 nm 1.2dB/m at 976 nm
Slope Efficiency	70% at 915 nm	70% at 915 nm	70% at 915 nm	70% at 915 nm
Geometrical & Mechanical Specifications				
Cladding Diameter (flat to flat)	400 ± 10 μm	400 ± 10 μm	400 ± 10 μm	400 ± 10 μm
Core Diameter	20 ± 1.5 μm	20 ± 1.5 μm	23 ± 1.5 μm	20 ± 1.5 μm
Coating Diameter	550 ± 15 μm	550 ± 15 μm	550 ± 15 μm	550 ± 15 μm
Core/Clad Offset	≤ 2 μm	≤ 2 μm	≤ 2 μm	≤ 2 μm
Coating Material	Low Index Acrylate	Low Index Acrylate	Low Index Acrylate	Low Index Acrylate
Proofstress Level	≥100 kpsi (0.7 GN/m ²)	≥100 kpsi (0.7 GN/m ²)	≥100 kpsi (0.7 GN/m ²)	≥100 kpsi (0.7 GN/m ²)
Matched Passive Fiber	LMA-GDF-20/400-HP-M	LMA-GDF-20/400-HP-M	LMA-GDF-22/400-915-3KW	LMA-GDF-20/400-976-3KW

