

NUkWTM

Kilowatt Level Laser Amplifier Platform

NukW — Harnessing Power

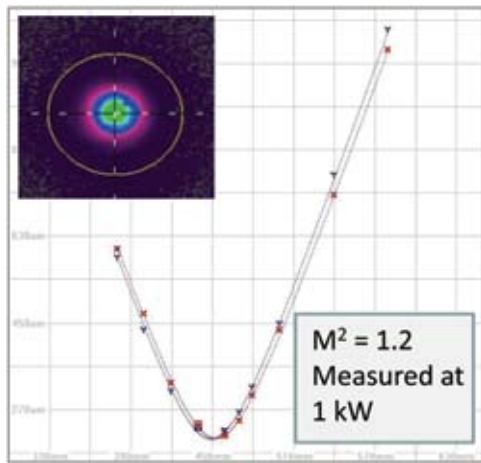
Nufern's commitment to high-power active fibers and fiber integration has enabled us to deliver a kilowatt-level optical amplifier platform suitable for beam combining applications. NukW systems provide superior optical performance including single-mode beam quality, very high optical efficiency, and narrow linewidth. With remote diode pumping and electronics mounting, and beam delivery up to 10 meters, the integration possibilities for a NukW system offer unmatched flexibility. Delivered as a complete turnkey unit ready for immediate installation and use, the NukW amplifier is enabling the next generation of high energy laser development. **How would you like yours?**



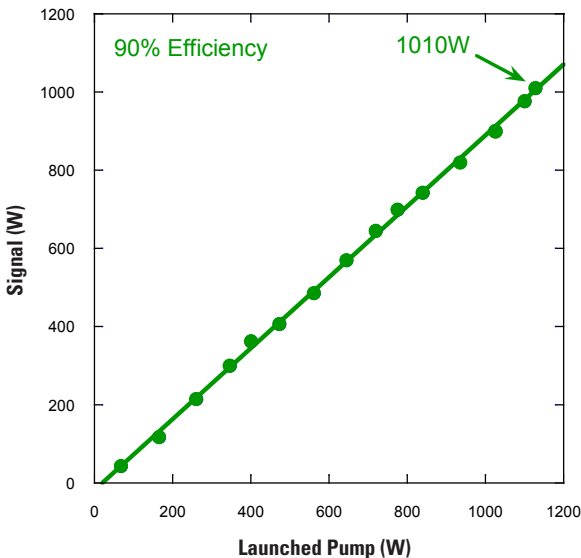
Optical Attributes

- High beam quality — $M^2 \leq 1.2$
- Long beam delivery — up to 10 m
- High optical efficiency — ~ 90% slope efficiency
- Narrow linewidth — 7 GHz demonstrated
- Polarization Maintaining option

Beam Quality



Slope Efficiency



Design Flexibility

- Remote mounting of pump diodes
- Separate electronics package
- Higher powers — multi-kW available
- Available in multiple form factors



Example System

Rack-mounted configuration, with commercial power supply, integrated heat exchanger, and 4 m beam delivery.

NuPOWER™ Laser & Amplifier Fibers

Nufer has developed world class Yb, Er:Yb, and Tm-doped fibers. Our large mode area (LMA) fiber technology has been deployed in hundreds of laser and amplifier systems since 2002. These fibers have demonstrated unprecedented power stability, narrow linewidth, extreme brightness and conversion efficiency—not just at the beginning, but over a long service lifetime.



Nufer owns or licenses the following U.S. pending or issued patents, one or more of which covers this product:

5,278,850; 5,412,672; Re. 35,946; 6,779,364; 6,832,026; 6,904,214; 6,950,586; 7,003,206; 7,050,686; 7,062,137; 7,110,647; 7,116,887; 7,167,621; 7,317,875; 2005/0041697; 2005/0226580; 2005/0254765; 2006/0165343; 2006/0198590; 2006/0245714; 2007/0036505; 2007/0089462; 2008/0095199 and more specifically the following licensed from: Furukawa Electric Co. of North America: 5,949,941. IMRA America Inc.: 5,818,630. OCG Technology Licensing: 6,516,124. USA, as represented by the Secretary of the Navy: 6,496,301. United Technologies Corporation: 5,666,372. Product modification, combination with other products or specific uses can necessitate additional customer licensing. See the terms and conditions specific to your purchase. Generally, see also www.nufer.com/legal/.

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Nufer products are manufactured under an ISO 9001:2000 certified quality management system.

Specifications are subject to change without notice. Various standard and OEM designs are available.

