



NuQ™ Fiber Marking Laser

The NuQ™ fiber laser from Nufern is a pulsed marker delivering 1 mJ pulse energy with a fast turn-on time (125 μ s) and higher peak power (up to 10 kW) over a wide range of repetition rates (variable from 20–100 kHz), which maximizes production throughput and marking capability. With its single-mode beam quality, the NuQ laser can produce ultra-fine, crisp marks every time. The system design ensures zero bleed-through power when the gate signal is off, to prevent the appearance of ghost lines between marks, even on very sensitive materials. Complete with industry standard interfaces, the system is pumped by single-emitter diode lasers, which offer long lifetime and maintenance free operation.

Typical Applications

- Marking
- Engraving
- Etching
- Trimming

Features and Benefits

- Fast turn-on time (125 μ s) — Highest production throughput
- Zero bleed-through power — No ghost lines even on sensitive materials
- Single-mode beam quality — Ultra-fine, crisp marks
- Single emitter pump diodes — Long lifetime and maintenance free operation
- Gaussian pulse shape produces higher peak power — More marking per output watt

Optical Specifications

	NUQ-20W-X-Y	NUQ-30W-X-Y
Output Power	20 W	30 W
Output Power Adjustment Range	10–100%	10–100%
Central Wavelength	1064 \pm 2 nm	1064 \pm 2 nm
Emission Bandwidth ¹	3 nm	3 nm
Average Power when Gate Off	0 mW	0 mW
Long Term Power Stability ²	\pm 2.5%	\pm 2.5%
Pulse Width ¹	100 \pm 20 ns	100 \pm 20 ns
Turn-on Time ³	125 μ s	125 μ s
Pulse Repetition Rate (PRR)	20–100 kHz	30–100 kHz
Pulse Energy ⁴	1 mJ	1 mJ
Peak Power ⁴	10 kW	10 kW

Optical Output w/ Built-in Isolator

	NUQ-20W-X-Y	NUQ-30W-X-Y
Output Beam Diameter (1/e ²)	3.75 \pm 0.75 mm or 7.5 \pm 1.5 mm	3.75 \pm 0.75 mm or 7.5 \pm 1.5 mm
Beam Quality (M ²)	1.5	1.5
Delivery Fiber Length	3 m	3 m
Red Pointer	Optional	Optional

Electrical Specifications

	NUQ-20W-X-Y	NUQ-30W-X-Y
Interfaces ⁵	RS-232 and DB25	RS-232 and DB25
Supply Voltage	24 \pm 2 V DC	24 \pm 2 V DC
Current Consumption	6 A	8 A

¹ FWHM at full rated power.

² Peak to peak at full rated power for 5 hrs.

³ Typical rise time from 0 to 90% of max power at 80 kHz.

⁴ At the lowest PRR and full rated power.

⁵ DB25 connector uses industry standard pin assignments.

Naming Conventions:

NUQ-##W-X-Y

Output Power
20 = 20W
30 = 30W

Output Beam Diameter
3 = 3.75 \pm 0.75 mm
6 = 7.5 \pm 1.5 mm

Red Pointer Option
0 = Without Red Pointer
1 = With Red Pointer



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

Standard specifications and design parameters are listed above. Specifications are subject to change without notice.



NUQ™ Fiber Marking Laser

Mechanical Specifications

Dimensions 215 x 95 x 284 mm
Weight 5.7 kg

Environmental Specifications

Operating Temperature Range 0–42°C
Storage Temperature Range -40 – +70°C
Humidity Range 0–95% RH non-condensing
Warm-up Time 1 min
Cooling Air cooled

Control Outputs

Output Power Digital
Diode Current Digital
Diode Temperature Digital
PC Interface RS232

NUQ-20W-X-Y

NUQ-30W-X-Y

Dimensions 215 x 95 x 284 mm
Weight 5.7 kg

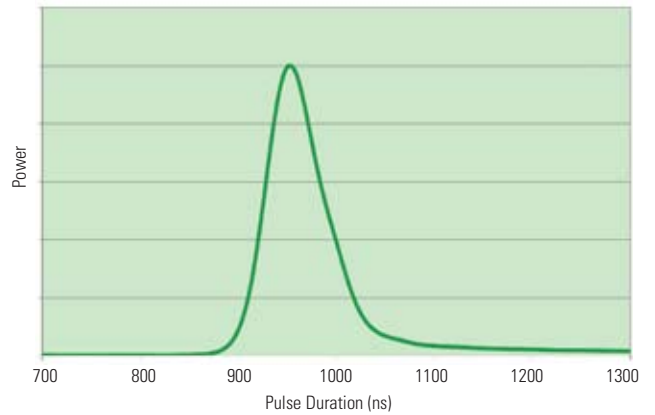
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Output Power Digital
Diode Current Digital
Diode Temperature Digital
PC Interface RS232

Standard NUQ™ Package



Pulse shape at rated power



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Rev A

