

Osprey Series AIR-COOLED DIODE-PUMPED Nd: YVO₄ LASERS

1064 nm

532 nm

355 nm



Quantronix's *Osprey Series* of air-cooled diode-pumped Nd:YVO₄ lasers are built upon a unique pumping design that results in higher power and higher efficiency. The *Osprey Series* of air-cooled lasers, require no chilled water and is completely cooled via a heat sink and a fan, which results in an ultra compact package. The laser is housed in a hermetically-sealed enclosure and has been designed to exceed the requirements of the harshest industrial environments. The *Osprey Series* pump-diodes are field replaceable and are warranted for 10,000 hours or 2 years, whichever comes first. The *Osprey Series* offers superior long-term stability, low utility costs, and is one of the easiest lasers to operate and maintain. Compared to other diode-pumped Nd:YAG lasers, the *Osprey Series* pulse width is considerably shorter (typically 20 ns @ 30 kHz) and its repetition rate is also much higher (up to 200 kHz). The *Osprey Series* is available in infrared, green or UV wavelengths and is ideally suited for material-processing applications. Fourth harmonic configurations (266 nm) available upon request.

OSPREY SPECIFICATIONS	1064-20-L	1064-10-L	1064-14-0	1604-7-0	532-8-0	532-4-0	355-1-0
Wavelength [nm]	1064	1064	1064	1064	532	532	355
CW Power [W]	20	10	14	7.0			
Q-Switched Average Power (W) ¹	16	8.0	12	6.0	8.0	4.0	1.0
Pulse-to-Pulse Stability (%rms) ¹	2.0	2.0	2.0	2.0	2.0	2.0	3.0
Pulse Width (Typical) (ns) ¹	17	23	26	24	23	22	18
Beam Pointing Stability (μrad) ²	30	30	30	30	30	30	30
Beam Diameter (mm) ³	0.8	0.9	0.7	0.7	0.6	0.6	0.75
Beam Divergence (mrad)	4.5	4.5	3.5	2.5	2.0	2.0	2.0
Beam Quality	2	2.5	1.2	1.2	1.2	1.2	1.3
Polarization	V=>100:1	V=>100:1	V=>100:1	V=>100:1	V=>100:1	V=>100:1	H=>100:1

1. Performance at 30 kHz for 1064/532 nm, and 20 kHz for 355 nm operations
 2. Standard deviation (3σ) of the centroid of the beam within ± 2°C room temperature fluctuation
 3. At output window locations
 4. V=Vertical, H=Horizontal
 All specifications subject to change without notice

Highlights

PERFORMANCE

High Power 20 W @ 1064 nm (IR)
8 W @ 532 nm (Green)
2 W @ 355 nm (UV)
 High repetition rate, up to 200 kHz
 Highly-efficient intracavity harmonic generation
 High output power stability

SYSTEM INTEGRATION ADVANTAGES

Air-cooled - no water required
 Hermetically sealed laser head to protect optics
 Field-replaceable pump diodes
 4U rack-mountable control electronics
 Interfaces with most beam delivery systems
 Full-featured *Laser Commander™* software

The *Osprey Series* is designed for the marking and micromachining of ceramics, diamond, silicon, steel and non-ferrous material and alloys.

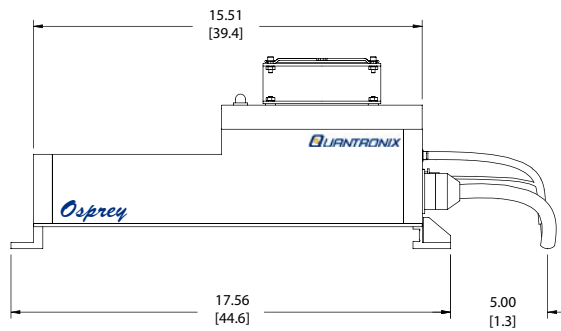
MECHANICAL & UTILITIES REQUIREMENTS

Size	Optical Head (LxWxH)	17.56 x 6.00 x 7.65 in (44.6 x 15.2 x 19.4 cm)
	Power Supply (WxHxD)	19.00 x 7.00 x 20.30 in (48.3 x 17.8 x 51.4 cm)
Weight	Optical Head	17 lbs (7.7 kg)
	Power Supply	45 lbs (20.5 kg)
Electrical Service	Single Phase	110-200 or 220-240 VAC \pm 10%, 50/60 Hz
	Typical Power Consumption	400 W
Control Interface	User Interface	Full Featured Front-Panel Control
	Serial Interface	RS - 232
	Control Software	MS Windows-based <i>Laser Commander™</i>
Umbilical Length		10.0 ft (3 m)
Environmental	Operating Temperature Range	15 - 35°C (15 - 30°C for 1064-20-L & 1064-14-0)
	Storage Temperature Range	-20°C - 50°C
	Relative Humidity	8 - 80%, non condensing

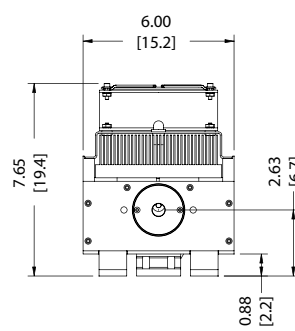
LASER HEAD

All dimensions are in inches [cm]

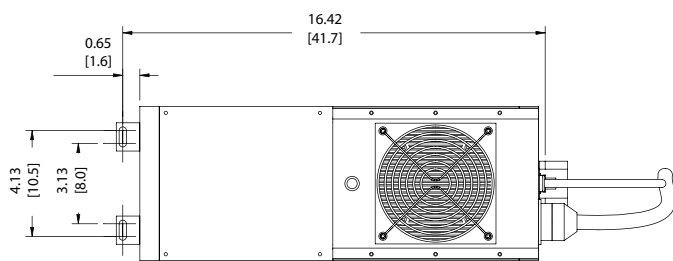
SIDE VIEW



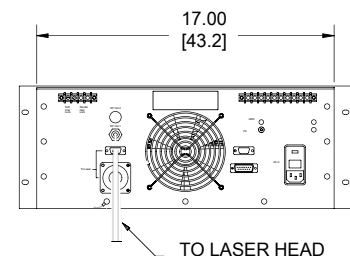
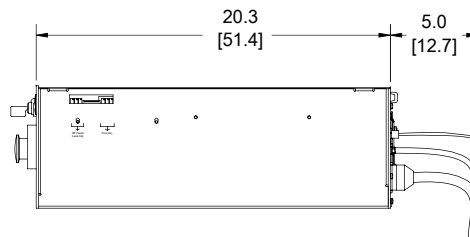
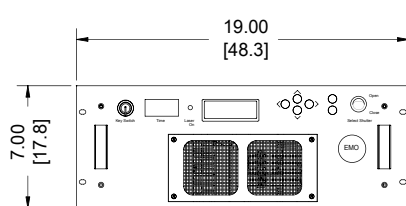
FRONT VIEW



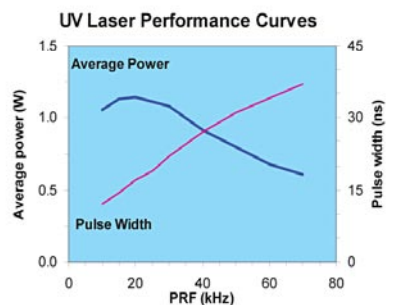
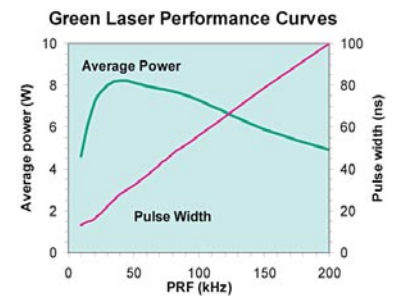
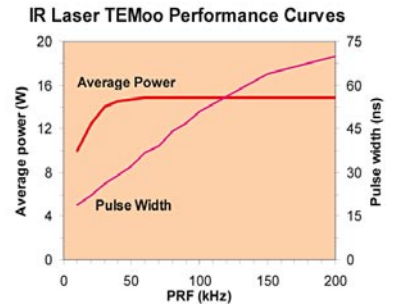
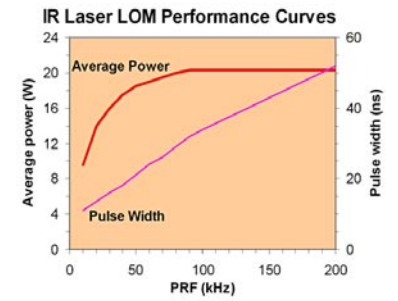
TOP VIEW



POWER SUPPLY



LASER SYSTEM OUTPUT CHARACTERISTICS



ISO 9001:2000



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