

# AO<sup>®</sup> PRODUCT LINE

## HIGH POWER HIGH BRIGHTNESS BLUE LASERS



**Aerospace**



**Energy  
Storage**



**Healthcare**



**Consumer  
Electronics**



**Automotive**



**Research**

### Features/Benefits

- Based on NUBURU's patented proprietary technology, the AO lasers enable processing speed from 2 to over 20X current infra red lasers (1 $\mu$ m) for a large range of metal processing applications
- Blue dramatically improves or enables impossible process windows with IR
- Blue wavelength is superior to green even at equal power
- Enables
  - SPATTER-FREE™ welding process
  - Conduction mode weld in yellow metals

### Applications

- Welding: Lithium-ion Battery, Electronics packaging, Consumer Electronics, PV, Automotive interconnects, Cu – Au – Al – Ni – SS and others
- Cladding, Brazing, LMD
- Additive Manufacturing
- Solid state laser pumping (Ti:Sapphire – Alexandrite...)
- Projection Display

Covered by one or more of the patents listed at [www.nuburu.net/patents](http://www.nuburu.net/patents)

**NUBURU**  
AO

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# PRODUCT CHARACTERISTICS

	Units	AO-150 Typical	AO-500 Typical
<b>Optical</b>			
Wavelength <sup>(1)</sup>	nm	~450	~450
Bandwidth	nm	~10	~10
Output Power	W	150	500
Power Adjustment	%	0-100	0-100 ; Automated Power Control Mode
Power Stability (8 hours)	%	<3% at full power	<3% at full power
Fiber Diameter (Core)	µm	200	400
Fiber Numerical Aperture	NA	0.22	0.22
Minimum focus at f=100mm	µm	100	200
Beam Product Parameter	mm-mrad	<15	<30
Standard Fiber Length - Connector Type	m	5 - QBH	5 - QBH
<b>Electrical</b>			
Operating Current	A	6A	<20
Operating Voltage	V	200-240 (50/60Hz single Φ)	200-240 (50/60Hz single Φ)
<b>External Control Inputs</b>			
Laser Enable (High on)	V	+5	+5/+24
CW Analog Control	V	0-10	0-10
Modulation	kHz	50	0.5
TTL Control (Pulse line)	V	+5	+5
Communications		RS-232	RS-232 ; Ethernet
<b>Safety Interlocks</b>			
Interlock Voltage (Laser Enable)	V	24	24
Open Circuit (Laser Shut-down)	V	0	0
<b>Mechanical</b>			
Height	19" rack U	3	23.6 (600)
Width			24 (610)
Depth	mm / inches	642 / 25.25	38.4 (975)
Weight	Kg / Lbs.	28 / 62	330 / 150
IP rating			IP 52/NEMA 12
<b>Operating Conditions</b>			
Temperature	Degrees C°	20-30	20-30
Relative Humidity <sup>(4)</sup>	%	0-90	0-90
<b>Storage and Transport</b>			
Shock (3 axis, 11 ms)	g	± 2	± 2
Vibration, MIL_STD-810 G	Degrees C°	T-43A (737)	T-43A (737)
Temperature <sup>(5)</sup>	%	-10 to +60	-10 to +60
<b>Cooling<sup>(6)</sup></b>			
Min Flow Rate	Lpm/gpm	3.8 / 1	19 / 5
Supply Temperature Range	Degrees C°	22 ± 1	22 ± 1
Max Pressure Range	Bar / psi	4.1 / 60	4.1 / 60
Coolant Connections	mm/inches	9.5 / 3/8 Inlet/Outlet	19 / 3/4
QBH Cooling Connections	mm/inches	6 / 0.24	6 / 0.24

1. Typical
2. The user assumes all risks and liability whatsoever in connection with use of this product or its application
3. The product specification is believed to be accurate and subject to change without notice
4. Non condensing
5. Unit must be drained and purged with clean dry air prior to storage
6. Contact NUBURU for all requirements



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