

HIGH-POWER, HIGH-BRIGHTNESS BLUE LASERS



Based on NUBURU's patented proprietary technology, our AO® lasers enable defect-free and spatter-free copper welding for a large range of metal processing applications. This technology also delivers improved processing speeds of 2× to more than 20× that of current infrared lasers (1μm). The product portfolio ranges from 200 Watts (AO-200) to 650 Watts (AO-650) and to 1.3kW (combining two AO-650 through a single welding lens).

Features/Benefits

- 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



eMobility/Energy Storage



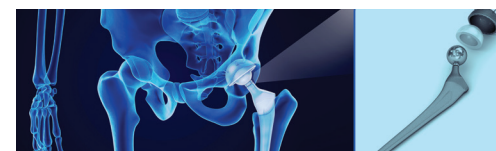
Consumer Electronics



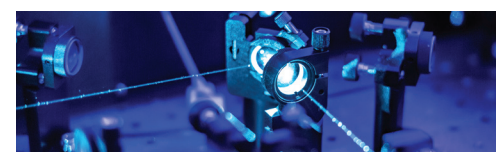
Automotive



Aerospace



Healthcare



Research

AO Product Line

Optical	Units	AO-200 Typical	AO-650 Typical
Wavelength	nm	~450	~450
Bandwidth	nm	~10	~10
Output Power	W	200	650
Power Adjustment	%	10 - 100	10 - 100
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
Beam Product Parameter	mm-mrad	<15	<30
Standard Fiber Length - Connector Type	m	5 - QBH	5 - QBH
Electrical	Units	AO-200 Typical	AO-650 Typical
Operating Current	A	6	20
Operating Voltage	V	200-240 (50/60Hz single Φ)	200-240 (50/60Hz single Φ)
External Control Inputs			
Laser Enable (High on)	V	+5	+5/+24
CW Analog Control	V	0 - 10	0 - 10
Modulation	kHz	50	50
TTL Control (Pulse line)	V	+5	+3.1
Communications		RS-232	Ethernet
Safety Interlocks			
Interlock Voltage (Laser Enable)	V	24	24
Open Circuit (Laser Shut-down)	V	0	0
Mechanical	Units	AO-200 Typical	AO-650 Typical
Height	mm (inches)	129.5 (5.1)	641 (25.2)
Width	mm (inches)	443 (17.5)	671 (26.4)
Depth	mm (inches)	640 (25.2)	1183 (46.6)
Weight	Kg (Lbs.)	28 (62)	~159 (350)
IP Rating		NEMA 12	IP52 / NEMA 12
Operating Conditions	Units	AO-200 Typical	AO-650 Typical
Temperature	Degrees C°	20 - 30	20 - 30
Relative Humidity	%	0 - 90	0 - 90
Storage and Transport ¹	Units	AO-200 Typical	AO-650 Typical
Shock (3 axis, 11 ms)	g	< 2	< 2
Vibration, MIL_STD-810 G		T-43A (737)	T-43A (737)
Temperature	Degrees C°	-10 to +60	-10 to +60
Cooling ²	Units	AO-200 Typical	AO-650 Typical
Heat Load	kW	0.9	4
Min Flow Rate	Lpm/gpm	7.7/2.0	26/6.9
Supply Temperature Range	Degrees C°	22 - 25	22 - 25
Max Pressure Range	Bar / psi	5.5/80	5.5/80

1. Unit must be drained and purged with clean dry air prior to storage
2. Non condensing

* The user assumes all risks and liability whatsoever in connection with use of this product or its application

** Contact NUBURU for all requirements



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NUBURU
The Blue Laser Company™

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