



HighLight DL HQ Series

High Quality Diode Laser

Coherent HighLight™ DL HQ series products offer a unique combination of high output power and high beam quality from a small diameter fiber (400 μm to 800 μm), making them an ideal solution for keyhole welding and other tasks that require the precision application of heat, including surface treatment, cladding, 3D additive manufacturing and brazing.

Furthermore, HighLight™ DL HP lasers offer enhanced ease of use because their highly reliable, conduction-cooled diodes do not require deionized cooling water. Additionally, these lasers support plug-and-play fiber exchange by the user, and their web interface enables simplified access and control through any device with a web browser.

A wide range of options and accessories are available for HighLight DL HP Series products to provide flexibility for integration and to facilitate their use in a variety of settings. For example, climate control of the laser enclosure allows operation in high humidity environments.

FEATURES & BENEFITS

- Output power: 2,000 Watts
- Fiber-coupled system
- Small fiber diameters
- Cost and energy efficient
- Modular concept

APPLICATIONS

- Keyhole welding
- Surface treatment
- Cladding
- 3D additive manufacturing
- Brazing



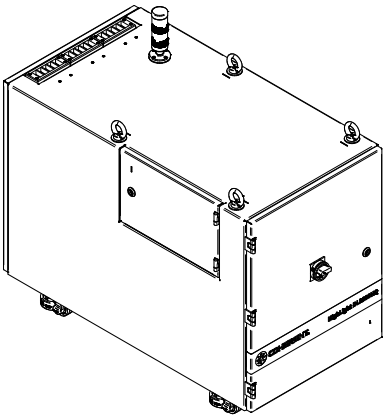
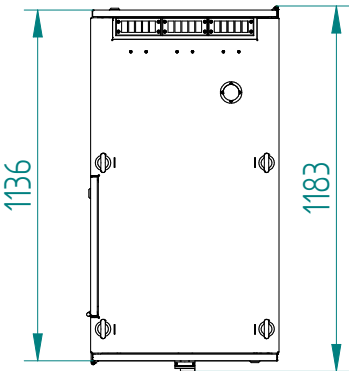
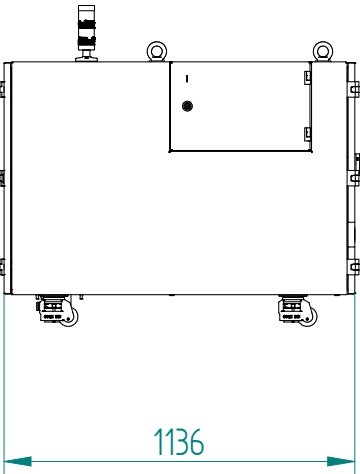
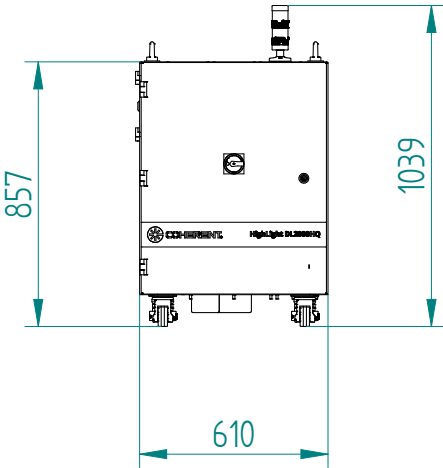
SPECIFICATIONS	HighLight DL2000HQ
Nominal Power (Wcw)	2000
Power Range (%)	10 to 100
Laser Beam Quality (BPP)	44mm x mrad
Power Stability	±2% over 24 h (cooling water ≤ ±1K)
Pulse Frequency Range	Laser ON signal: 1kHz Analog modulation: 600Hz
Wavelength (nm)	980
ELECTRICAL RATINGS	
Voltage	3x AC 230/400V ±10%; 50/60 Hz; PE or 3x AC 277/480V ±10%; 50/60 Hz; PE
Connected Load (kVA)	approx. 7
Effective Power at Nominal Power (kW)	approx. 6
Max. Current Consumption at 400 V (A)	<10
Fuses Type NH (A)	16
COOLING	
Recommended Cooling Capacity* (kW)	4.5
Temperature (°C)	Laser: 22; Optic: 22 or above dewpoint temperature
Temperature Tolerance Range (°C)	± 1
Flow Rate (l/min)	Laser: 16; Optics: 2 (fiber) + process head
Max. Pressure (bar)	<6
Pressure Drop (bar)	<3.5
Connectors laser cooling circuit	2x ¾" thread
Connectors optics cooling circuit	2x ½" thread
FIBER DELIVERY SYSTEM	
Interface	QBH, LLK-HP or QD
Diameter (µm)	400, 600, 800
Numerical Aperture	NA 0.22 (@400µm), NA 0.11 / 0.22 (@600 and 800µm)
Length (m)	<35
Accessories (options)	Processing heads for cladding / welding / heat treatment
DIMENSIONS & WEIGHTS	
Laser Dimension (L x W x H) (mm)	~1190 x ~610 x ~760
Laser Weight (kg) without cooling water	130
ENVIRONMENTAL CONDITIONS	
Ambient Temperature (°C)	+5 to +40
Humidity / Condensation	If dewpoint ≥19°C purging necessary
CUSTOMER INTERFACE	
Digital Signals (V DC)	24
Power Control (V DC)	0 to 10, 600Hz max. modulation frequency
Ethernet	For control via PC
OPTIONS LASER	
	Bus-Interface (CAN, EtherCAT)

* The recommended cooling capacity covers maximum power dissipation due to diode degradation and 100% laser power absorbed at an internal or external beam dump.

** CCU = Climate Control Unit

MECHANICAL SPECIFICATIONS

HighLight DL2000HQ



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Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice.
 Coherent offers a limited warranty for all HighLight Lasers. For full details of this warranty coverage, please refer to the Service section at www.Coherent.com or contact your local Sales or Service Representative.
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DANGER

VISIBLE AND/OR INVISIBLE LASER RADIATION
 AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION

MODEL: HighLight DL8000HP DIODE LASER
 MAXIMUM OUTPUT: ≤8000 WATTS CW at wavelength in the range of 630-670 nm
 CLASS IV LASER PRODUCT

ALIGNMENT LASER DIODE INSTALLED
 CLASS IIIb LASER RADIATION ALSO EMITTED
 AVOID DIRECT EYE EXPOSURE
 MAXIMUM OUTPUT: 5mW CW / WAVELENGTH: 630 - 670 nm

λ = 630 - 670 nm P = 8000 W	Wave Length 630-670 nm Continuous Output P _o 4000 W Pulse Output P _o 4000 W Pulse Duration 1 -100 ns
Laser radiation Avoid eye exposure to direct radiation! Class IV Laser product IEC 60825-1:2015	Invisible laser radiation Avoid eye or skin exposure to direct or scattered radiation Class 4 Laser product IEC 60825-1:2015

Coherent-Dilas industrial lasers are designed in strict accordance with the respective safety regulations. We certify that each laser manufactured by our company complies with FDA Radiation Performance Standards, 21 CFR Subchapter J and with IEC 60825. Warning labels as shown in the figure appear on each Coherent-Rofin laser to indicate the respective classification.