

# COMPACT-EVOLUTION Diode Laser System

## Features

- Easy-to-integrate fiber-coupled system
- Compact 19" rack-mountable unit (3HU)
- High beam quality of 22mm mrad
- Diode laser control unit (DLC)

## Applications

- Heat treatment
- Plastics welding
- Selective soldering and brazing
- Scientific applications
- Thin metal welding

Based on DILAS' tailored bar technology this system does not require industrial water cooling (no DI water).



## Device Specification

Optical Parameters	Units			
Optical Output Power (at the end of the fiber)	W	300	450	600
Stability Over 24-hour (Cooling-Water $\Delta T = \pm 0.5$ )	%		<1	
Wavelength <sup>1</sup>	nm		976 <sup>2</sup>	
Wavelength Tolerance <sup>1</sup>	nm		$\pm 10$	

## Pilot Laser

Wavelength	nm	650
Output Power	mW	<1

## Fiber Parameters

Fiber Connector Type <sup>1</sup>		QBH (Water-Cooled)
Numerical Aperture	NA	0.22
Smallest Fiber Core Diameter <sup>3</sup>	$\mu\text{m}$	200

## Electrical Parameters

Operating Voltage	V	200-240 Single Phase		
Frequency	Hz	50/60		
Power Consumption	kVA	760	1090	1420
Overall Efficiency (Without Cooling Unit)	%	>35		
Max. Repetition Rate	Hz	1000		
Modulation Pulse Width (Min. Value)	$\mu\text{s}$	>500		
Modulation Rise/Fall Time (Min. Value)	$\mu\text{s}$	<200		

## Thermal Parameters

Thermal Parameters				
Temperature Ambient in Operation (100% Duty Cycle)	$^{\circ}\text{C}$	15 to 40 (Non-Condensing)		
Storage Temperature	$^{\circ}\text{C}$	5 to 50		
Cooling Water Temperature	$^{\circ}\text{C}$	22		
Cooling Water Flow Rate (Min. Value)	l/min	5	7.5	10
Cooling Water Pressure (Water Inlet, Max. Value)	bar	<3		
Water Connector Type		Hose Fitting 10mm		

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## Interfaces

Standard Configurations - Analog/Digital Interface

V

0-10V Analog Power Setting  
24V Digital Signals

Options

CanOpen<sup>4</sup>

## Mechanical Parameters

Dimension [w x h x d]

inch x mm x mm

19 inch x 132.5 x 600  
19 inch x 132.5 x 820  
(Incl. Bending Radius of Fiber)

Weight (Without Chiller)

kg

<30

## Package Includes

COMPACT-EVOLUTION Diode Laser System Unit and 2 warning lights. Consult the COMPACT (EVOLUTION) Operating Instruction Manual for additional information.

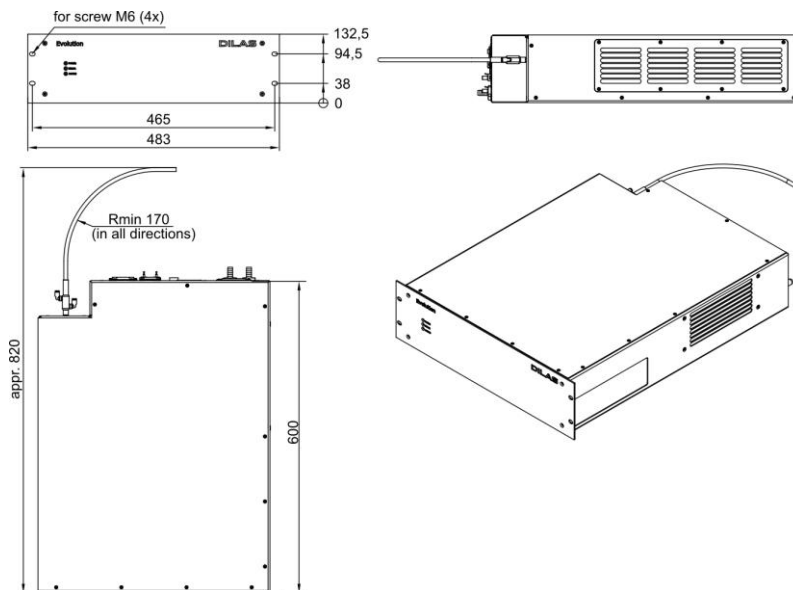
<sup>1</sup>Consult DILAS Industrial Laser Systems for other available options.

<sup>2</sup>Smaller wavelength tolerance on request.

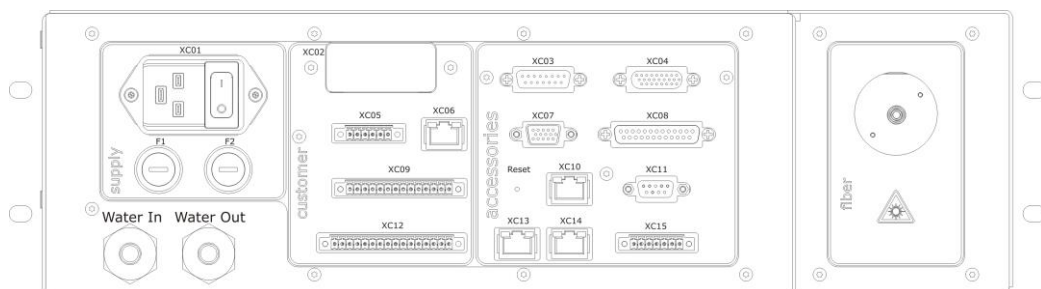
<sup>3</sup>Additional fiber core diameters available: 300µm, 400µm, 600µm, 800µm. Larger diameter than listed can be used.

<sup>4</sup>Other interface options are available upon request.

## Package Dimension



## Rear View



### U.S. CFR Regulation

The manufacturer and subsequent sale of laser equipment is under the guidelines governed by the U.S. Center for Devices and Radiological Health (CDRH). In accordance to those guidelines, specifically Subchapter J of the Radiation Standards, 21 CFR, the diode laser is registered as a CLASS 4 laser product.

### European Commission

In accordance to EN 60825, Safety of Laser Products, the diode laser is registered as a CLASS 4 laser product.

Products specifications are subject to change without notice. For handling precautions, please reference the general handling instruction manual. For additional information, please contact your local sales representative or visit our website at [www.DILAS-ILS.COM](http://www.DILAS-ILS.COM).

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