

# PH50 DL - Zoom Optic

Adjustable Focusing System for  
HighLight DL Series Diode Lasers

The PH50 DL - Zoom Optic works with HighLight DL Series high power diode lasers to deliver a homogenized, top-hat profile, rectangular focused spot. The length and width of the spot are independently adjustable on-the-fly under software control, and can cover a huge range of values depending upon the choice of collimating lens and focusing lens. This enables highly flexible operation in processes that range from surface heat treatment through laser assisted bonding.

The PH50 DL - Zoom Optic is compact and lightweight, making it easy to mount on a robot arm or use in space constrained production environments, like cleanrooms. It directly supports process monitoring options, such as a pyrometer, to maximize quality and yields.

## Features and Benefits

- Compact size
- Homogenized, top-hat beam profile
- Dynamically variable beam size
- Range of compatible focusing and collimating optics
- Process monitoring capabilities
- Water cooled and temperature sensor monitored

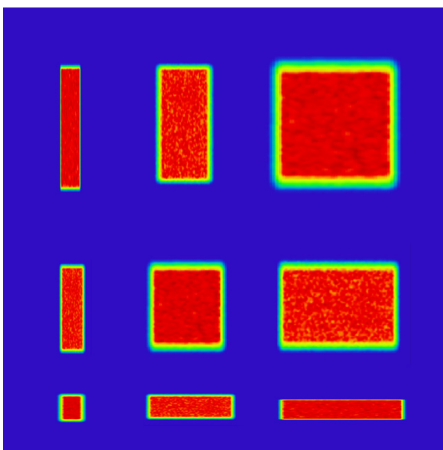
## Applications

- Laser Assisted Bonding
- Heat Treatment
- Hardening
- $\mu$ LED Bonding
- Tape Laying



## SPECIFICATIONS

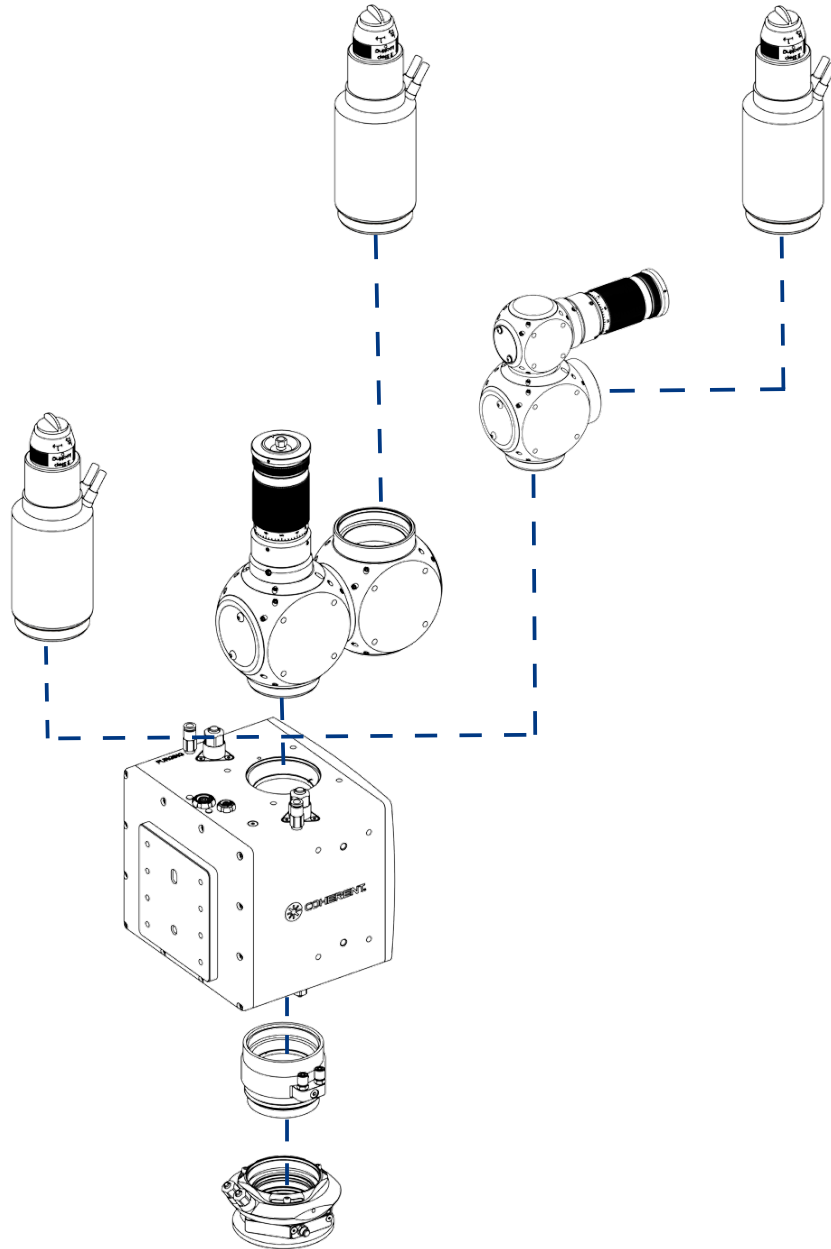
PH50 DL – Zoom Optic	
Fiber Connector	QBH, QD
Fiber Core Diameter (µm)	400 to 1000
Numerical Aperture	NA 0.1 or 0.2
Focal Length (mm)	200 to 750
Wavelength (nm)	880 to 1020
Maximum Input Power (W)	8000
<b>COOLING REQUIREMENTS</b>	
Water Quality	Distilled water
Cooling Temperature	22 to 35°C (71.6 to 95°F)
<b>DIMENSIONS &amp; WEIGHTS</b>	
Dimension (L x W x H) (fiber coupling straight 0 degree)	~170 x 170 x 350 mm (~6.69 x 6.69 x 13.78 in.)
Weight (kg)	<9
<b>ENVIRONMENTAL CONDITIONS</b>	
Ambient Temperature in Operation	+5 to 35°C (41 to 95°F)
Humidity (%)	85 non-condensing
<b>INTERFACE</b>	
Customer Interface (V)	Analog 0 to 10 or via Laser HMI
<b>OPTIONS</b>	
Accessories	Cross jet Coaxial pyrometer for laser power close- loop control Customized optics Various focusing lenses and collimators



Examples spot size ranges for various focusing lenses:

FOCUSING LENS (mm)	Spot Size Range Min. to Max. (mm)
f200	3 x 3 → 30 x 30
f300	4 x 4 → 45 x 45
f700	15 x 15 → 110 x 110

## MECHANICAL SPECIFICATIONS



Coherent, Inc.,  
5100 Patrick Henry Drive Santa Clara, CA 95054  
p. (800) 527-3786 | (408) 764-4983  
f. (408) 764-4646

tech.sales@coherent.com [www.coherent.com](http://www.coherent.com)

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Visible / invisible laser radiation.  
Avoid eye or skin exposure to  
direct or scattered radiation!  
Class 4 Laser product  
IEC 60825-1:2014