

Compact Mini Series

Industrial High Power
Diode Laser

The Compact Mini lasers are fiber-coupled diode lasers offering up to 50 W output power. These lasers have been set-up for easy integration, flexibility and reliability in industrial applications such as selective soldering and plastic welding. Their user friendly graphic interface via USB port allows also simple operation as stand-alone unit.

Compact Mini lasers are available with various accessories and provide flexibility for the integration into a wide range of laser-based manufacturing systems and scientific applications.

Advantages

- Output power: up to 50 W
- Fiber-Coupled
- Air-Cooled
- Long life diode modules

Applications

- Plastics Welding
- Selective Soldering
- Heat Treatment
- Scientific Applications



SPECIFICATIONS

SPECIFICATIONS	Compact Mini					
	30	40	50	37	40	30
Nominal Power (W)	30	40	50	37	40	30
Power Range (%)	10 to 100					
Laser Beam Quality (BPP) (mm * mrad)	11	22	44	22	44	44
Power Stability Over 24-hour; Cooling Water $\Delta T = \pm 1$ K (%)	-	-	-	-	-	± 2
Pulse Frequency Range (Hz)	100					
Laser On-Signal	100					
Analog Modulation	750					
Wavelength (nm)	980	980	980	808	808	1064
ELECTRICAL RATINGS						
Voltage	100 to 240 (1P/N/PE)					
Connected Load (kVA)	~0.35					
Effective Power at Nominal Power (kW)	≤ 0.31					≤ 0.15
Max. Current Consumption at 230 V (A)	≤ 3.7					
Fuses Type NH (A)	16					
FIBER DELIVERY SYSTEM						
Interface	SMA ¹	SMA				SMA ¹
Diameter (μm)	100	200	400	200	800	400
Numerical Aperture	0.22					
Length ² (m)	≤ 20					
Accessories (options)	Fixed Optics					
DIMENSIONS & WEIGHTS						
Laser Dimension (L x W x H)	336 x 144 x 169 mm (13.23 x 5.67 x 6.65 in.)					
Laser Weight	5 kg (11.02 lbs.)					
ENVIRONMENTAL CONDITIONS						
Ambient Temperature in Operation ($^{\circ}\text{C}$)	18 to 35 $^{\circ}\text{C}$ (64 to 95 $^{\circ}\text{F}$)					
Storage Temperature ($^{\circ}\text{C}$)	5 to 50 $^{\circ}\text{C}$ (41 to 122 $^{\circ}\text{F}$)					
CUSTOMER INTERFACE						
Analog Power (V DC)	0 to 10					
Digital Signals (V DC)	24					

¹ Non-detachable fiber.

² Fiber is not included.

AVAILABLE ACCESSORIES¹

COLLIMATORS



Collimators are available in different focal lengths for SMA and QBH fiber connectors.

FIXED OPTICS



The processing head with fixed spot size is used for soldering or contour welding. Different focal length allow a wide variation of spot sizes to meet the requirements of the application.

OPTICS FOR RADIAL WELDING



The processing head enables simultaneous welding of a symmetrical radial component without rotating the part or optics. The envelope and optical performance can be optimized to the specific welding geometry.

LINE OPTICS



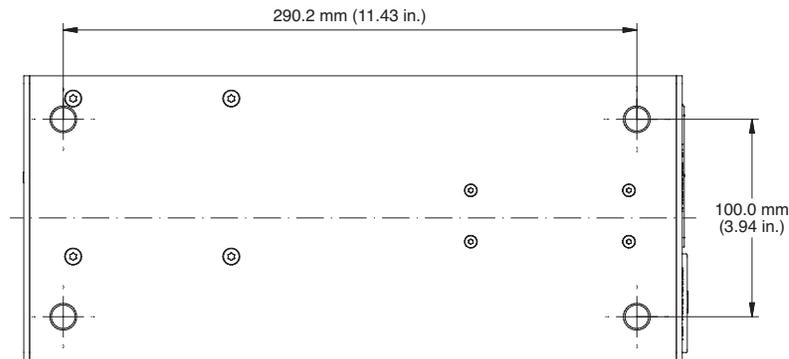
Used for applications requiring a rectangular or square spot. Customized optical layouts allow a wide variation of different focus.

¹ All processing heads are available with SMA or QBH fiber connector.

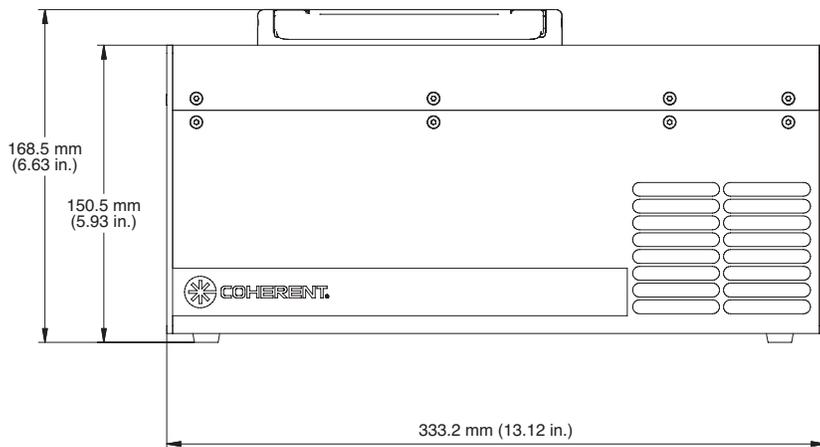
MECHANICAL SPECIFICATIONS

Compact Mini Series

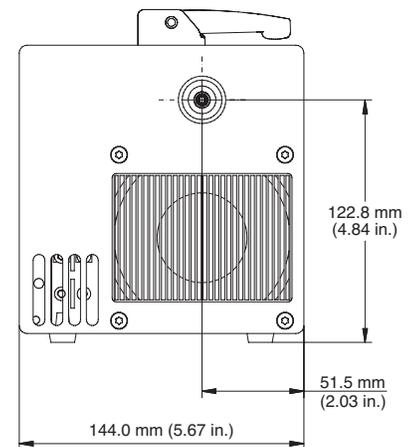
Top View



Side View



Front View



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Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice. Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

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