

EDGE Fiber Laser Series

Cost-Effective Fiber Laser Series for Demand Cutting Applications

The EDGE family of industrial, multi-kilowatt fiber lasers delivers the best total cost of ownership for any type of laser in a metal cutting application, leveraging unique Coherent innovations in fiber laser components, optical designs, and manufacturing scale.

Highly demanding cutting applications are met with an excellent laser beam quality and stability, providing unrivalled process control, repeatability and yield. The EDGE family is ideally combined, with Coherent's extensive portfolio of cutting heads, generating the highest user value possible.

Cost savings are achieved by a combination of high wall plug efficiency and a wide water-cooling temperature range, providing additional electrical cost savings combined with a reduced total carbon footprint. Leveraging Coherent's global service network of 50 service centers and 22 application labs, our customers enjoy increased system availability and productivity, minimal down time, reduced maintenance cost, and reduced cost of inventory holding

FEATURES

- Output power: 1.5 to 30kW.
- High beam quality at all power levels.
- High efficiency, wide water temp.
- Best in class total cost of ownership
- Low total carbon footprint.
- Maintenance-free operation.

APPLICATIONS

- Thin and Thick sheet cutting
- Reflective Material Cutting

Specifications	EDGE FL6	EDGE FL9	EDGE FL12
Nominal Power (kW)	6	9	12
Operation Mode	CW/Modulated		
Power Stability (%)	±1.5		
Power Range (%)	5-100		
Pulse Frequency Range (kHz)	CW – 5 (full depth modulation)		
Laser Beam Quality - BPP (mm x mrad), at end of process fiber	2.5 @ 50µm <4 @ 100µm		<4 @ 100µm
Wavelength (nm)	1070 ± 10		
Electrical Ratings			
Supply Voltage	380 to 528 VAC, 50/60Hz, Three-Phase (delta config)		
Power consumption (kW)	<18	<27	<36
Connected load (kVA)	20	30	40
Cooling			
Medium	Water		
Laser Water cooling temperature (°C)	20 → 30, non-condensing		
Laser recommended cooling capacity (kW)	12	18	24
Water Flow Rate Laser (l/min)	>40	>60	>75
Beam Delivery			
Standard Connector interface	QBH		QD
Standard Cable Dimensions	15m, 50µm core diameter/ 25m, 100µm core diameter		25m, 100µm core diameter
Dimensions and Weight			
Dimensions (L x W x H) (mm)	942 x 518 x 899 (without signal tower)		
Weight (kg)	<140	<180	<230
Environmental conditions			
Ambient Temperature (°C)	5 → 40		
Humidity	35 → 95%, non-condensing		
Customer Interface			
Digital Signals (V DC)	24		
Power Control Signal (V DC)	0 to 10		
Field bus interface	EtherCAT		

Specifications	EDGE FL15	EDGE FL20	EDGE FL30
Nominal Power (kW)	15	20	30
Operation Mode	CW/Modulated		
Power Stability (%)	±1.5		
Power Range (%)	5-100		
Pulse Frequency Range (kHz)	CW – 5 (full depth modulation)		
Laser Beam Quality - BPP (mm x mrad), at end of process fiber	<4 @ 100µm		
Wavelength (nm)	1070 ± 10		
Electrical Ratings			
Supply Voltage	380 to 528 VAC, 50/60Hz, Three-Phase (delta config)		
Power consumption (kW)	<45	<60	<90
Connected load (kVA)	50	67	100
Cooling			
Medium	Water		
Water cooling temperature (°C)	20 → 30, non-condensing		
Laser recommended cooling capacity (kW)	30	40	60
Water Flow Rate Laser (l/min)	>95	>130	>200
Beam Delivery System			
Standard Connector interface ¹	QF (Coherent flange connector) or QD style		HLC-16 type
Standard Cable Dimensions ²	25m, 100µm core diameter		
Dimensions and Weight			
Dimensions (L x W x H) (mm)	942 x 518 x 1292 (without signal tower)		942 x 1013 x 1292 (without signal tower)
Weight (kg)	<280	<370	<520
Environmental conditions			
Ambient Temperature (°C)	5 → 40		
Humidity	35 → 95%, non-condensing		
Customer Interface			
Digital Signals (V DC)	24		
Power Control Signal (V DC)	0 to 10		
Field bus interface	EtherCAT		

Notes:

1. See QF product specification.
2. Other fiber lengths available upon request.