

4000W-12000W Variable Beam Profile Fiber Lasers

Everfoton's VBP (Variable Beam Profile) fiber lasers provide output power of up to 12kW and adjust the output beam mode parameters automatically. Using fibers and combiners by Everfoton, VBP lasers achieve Gaussian beam, ring beam, mixed beam, etc. The lasers realize the adjust the output beam mode independently, and can realize the combination of high-energy and high-brightness small center beam and larger ring beam according to the processing requirements to meet customers' wider material thickness range. The lasers have better piercing and cutting speed and quality, optimized welding performance, and improved processing quality and efficiency.



Applications

- Power battery package
- Hair-pin
- Car manufacturer

Characteristics

- Instant adjustable beam profiles
- Independently tunable power levels in the central and ring regions
- Customized core and ring dimensions are available
- Intelligent process optimization tools
- Cost-effective solution for variety of metal process applications

Specifications

Optical Parameters

Product Code	FFSC-2000/2000-VBP	FFSC-4000/2000-VBP	FFSC-6000/3000-VBP	FFSC-6000/6000-VBP
Operating Mode	CW / Modulated			
Output Power (W)	4000	6000	9000	12000
Core Output Power (W)	2000	4000	6000	6000
Ring Output Power (W)	2000	2000	3000	6000
Output Power Tunability (%)	10 - 100			
Ring Beam Quality BPP (mm x mrad)	Central < 4.0, Ring < 30.0	Central < 2.5, Ring < 7.0		Central < 4.0, Ring < 30.0
Output Power Instability 25°C (%)	< 2 (2 hours)			
Emission Wavelength (nm)	1080 ± 5			
Spectrum Width FWHM (nm)	< 6			
Modulation Frequency (kHz)	5			
Red Laser Power (µW)	> 200			

Fiber Delivery Cable Parameters

Output Type	QBH		
Length (m)	15		
Central Core Diameter (µm)	100	50	100
Ring Core Diameter (µm)	600	150	600
Minimum Bending Radius (mm)	200		

Electrical Characteristics

Operating Voltage (VAC)	340 - 420, 3P5W 50 / 60Hz			
Max Power Consumption (kW)	12	18	27	36
Control Mode	AD			

Other Characteristics

Operating Temperature(°C)	10 - 40			
Humidity (%)	10 - 80			
Cooling Method	Water Cooled			
Water-cooling Temperature (°C)	25 ± 1			
Water-cooling Flow (L/min)	> 70 (Laser), 1.5 - 2.5 (QBH)	> 100 (Laser), 1.5 - 2.5 (QBH)	> 100 (Laser), 2 - 4 (QBH)	
Water-cooling Pressure (Bar)	3 - 5			
Joint Diameter (mm)	25			32
Min Cooled Capacity (kW)	7	10		14
Dimension (mm)	W600 x D750 x H650 (Not Include Lights)	W735 x D750 x H650 (Not Include Lights)		W600 x D750 x H1100 (Not Include Lights)
Weight (kg)	180 ± 10	230 ± 10	250 ± 10	350 ± 10