Products Portfolio

LASER DIODE SERIES

Laser diode uses semiconductor materials as the working substance to generate laser. The laser is coupled via the fiber, and several small power semiconductor lasers are coupled into the fiber to form high power laser to output.

UW1000-915

ADVANTAGES

1.The laser diode with higher electro-optical conversion efficiency, more compact size and more competitive price than fiber laser. Due to the laser diode with large spot beam, even energy distribution, which more suitable for plastic welding, laser soldering,etc.
2.Long service life, high electro-optical conversion efficiency, no consumable parts.

APPLICATIONS

1.Mainly used for plastic welding, laser wire feeding, laser soldering, etc.

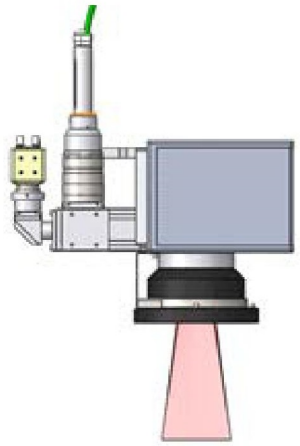
Model NO.	UW050-915	UW100-915	UW200-915	UW400-915	UW1000-915	UW2000-915
Max laser power	50W	100W	200W	400W	1000W	1000W
Laser working medium	Diode					
Laser wavelength	915nm					
Laser operating mode	CW					
Optical output quantity	1 path					
Total power consumption	<300W	<600W	<1200W	<1500W	<3000W	<6000W
Positioning	Red indicator					
Power supply	AC220V±10% 50/60Hz				AC380V±10% 50/60Hz	
Cooling type	Air cooling			Water cooling		
External chiller	0			0.8kw	1.5kw	3kw
Fiber core diameter	200um					400um
Fiber length	5m			10m		20m
Power stability	<±1%					
Working temperature	10-30°C					
Machine size	610(L)*480(W)*190(H)		800(L)*480(W)*240(H)	800(L)*470(W)*200(H)	1420(L)*690(W)*1060(H)	
Weight	33kg	33kg	42kg	39kg	244kg	249kg

Laser Welding Head

Diode Laser Head

Application of Plastic Laser Welding

This scanner laser head is mainly applicable to plastic samples of various complex trajectories, and has the characteristics of high efficiency and good consistency. Widely used in industrial applications, such as automobile parts, medical equipment, electronic sensors, etc.

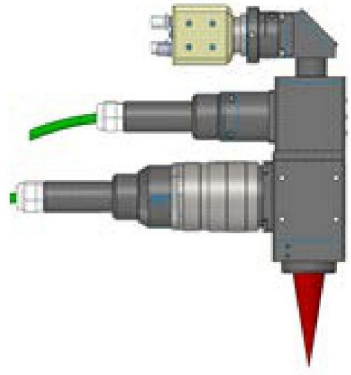


Model	UFL-42PLZJ-70170TZC-LD
Max. use power	400W
Wavelength	915nm
Collimation length (Fc)	70mm
Focus length (Fl)	170/254/330
Max. welding range	255*255mm
CCD magnification	30-fold(with 17-inch screen)
Weight	<8KG

Application of Laser Soldering

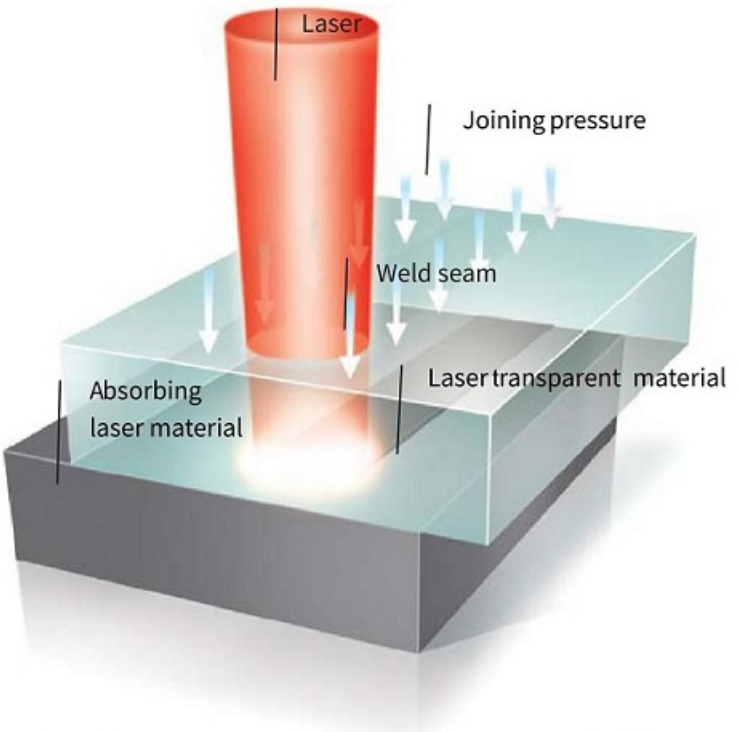
This thermostatic laser head integrates a coaxial temperature feedback module that can manually or automatically adjust the spot size for laser wire feeding and solder paste soldering. It is mainly used in industries with high welding requirements, such as automobile electronics, communication electronics and mobile equipment, etc.

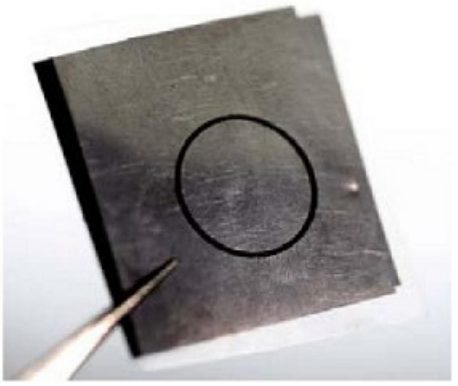
Model	UFL-42PLZJ-70170TZC-LD
Max. use power	400W
Wavelength	915nm
Collimation length (Fc)	70mm
Focus length (Fl)	70/100/150/300mm
CCD magnification	30-fold(with 17-inch screen)
Weight	<3kg



Technical Capability

Plastic Laser Welding Principle





The main welding principle of plastic laser welding is "transmission welding".
The laser(wavelengths 800 to 1950 nm) penetrates the upper layer, and is absorbed in the depth range of0.1-0.5mm below the lower layer, and then laser radiation is converted to heat.

Welding performance of different materials

Laser absorbing material \ Laser transparent material	PE-LD	PE-HD	PP	ABS	ASA	SAN	PMMA	PC	PS	PET	PBT	PVC	POM	PA6	PA66
PE-LD	●	●	●				●		●	●			●	●	●
PE-HD	●	●	●				●						●	●	●
PP	●	●	●				●						●	●	●
ABS				●	●	●	●	●	●	●	●	●	●		
ASA				●	●	●	●	●			●	●			
SAN				●	●	●	●	●	●	●	●	●			
PMMA	●	●	●	●	●	●	●	●	●		●	●	●		
PC				●	●	●	●	●	●	●	●	●			●
PS	●			●		●	●	●	●		●	●		●	●
PET	●			●		●		●		●	●	●			
PBT				●	●	●	●	●	●	●	●	●		●	
PVC				●	●	●	●	●	●	●	●	●			
POM	●	●		●			●						●		
PA6	●	●	●						●					●	●
PA66		●	●					●	●					●	●

● Excellent welding ● Good welding ● Poor welding (need to test)

Solution

Plastic Laser Welding

Workpiece	Auto part, Sensor, Medical instrument
Material	Plastic
Efficiency	25S/ pieces
Laser source	UW50-915 UW100-915 UW200-915 UW400-915

MACHINE OVERVIEW

1.Rotary table, loading& unloading & welding at the same time;
2.Special pneumatic fixture to complete the welding pressure;
3.Manually start and screen protection, protect the security of the operating staff.