



LASER WELDING SYSTEM - THERMOPLASTICS

Preliminary Information

In laser welding of thermoplastics, transparent and absorbing parts are bonded together. The laser beam penetrates the transparent plastic and is converted to heat in the absorbing plastic. Since both parts are pressed together during the welding process, heat is conducted from the absorbing to the transparent plastic, allowing both materials to melt and create a bond. Internal joining pressure is also generated through the local warming and thermal expansion. The internal and external joining pressures ensure strong welding of both parts. Laser welding is suitable for a wide range of industries and extremely diverse applications. Various concepts have been developed to offer the optimal solution for every application. The potential of this technique can therefore be brought to bear in every situation. The Systems are available for **contour welding** (or path welding), **simultaneous welding**, **quasi-simultaneous welding** as well as mask welding, for the following Industry:

AUTOMOTIVE:

sensor housing like fuel sensor, filter sensor etc., housing for lamp / material: PP, PA6, PA66, PBT, PPS

MEDICAL:





Tube, connector, vessel for blood, etc / Material: PMMA, PC, COC

ELECTRIC:

fuel cell, sensor housing, connection of ferrule for fiber, PCB housing, etc / Material: PPS, PBT, PA6, PA66, PC, PP, PS, PET

BIOLOGICAL:

Micro fluidics device, Micro pump, Micro well array, Micro reactor, etc / Material: PMMA, PC, COC

	<p style="text-align: center;">Laser Unit</p> <p>Controls the Power source and the cooling</p> <p>Fiber</p> <p>Connects the laser module and the optics</p> <p>Optics</p> <p>Collecting lens for laser light</p> <p>Robot</p> <p>Setting of motion control for welding contour</p> <p>Clamping Fixture</p> <p>To hold and supply pressure to the parts , allowing materials to flow into each other, generating strong welding</p>	
<p>System Mini</p>	 <p style="text-align: center;">Clampings</p>	
		<p>System Maxi</p>


MAIN SPECS:

Laser Power: 30-45-50-75 W-140W
Diode Laser Wavelength NIR - 808 or 940 nm
Different models available for different productivescale

MAIN BENEFITS:

Economical High Tech Systems
Easy to program and set up
Does not generate parts stress

For further Information

<p style="text-align: center;">ETNEO ITALIA Scientific & Technology Park Via Bovio 6 - 28100 Novara - Italy Tel +39 0321 697.200 - Fax +39 0321 688.515 www.etneo.com Email: info@etneo.com</p>	
---	--