

# Laser Welding

## APPLICATIONS

Target Applications: hermetically sealed parts, electrical connectors, sensors, switches, e-water pump, e-ATF pump, slot liners

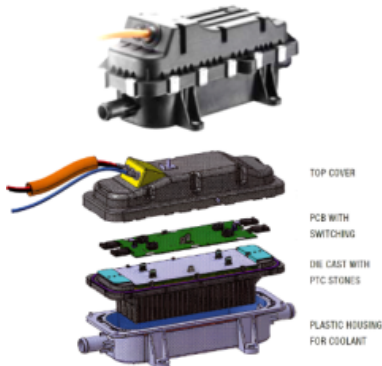
### Connectors



### Auxiliary ePumps

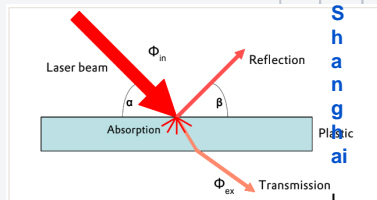


High voltage coolant heater - heat resistant coolant chamber



## THEORY, KNOWLEDGE, MODELS & DATA

### Introduction to Laser Welding



### Laser Welding Database

Ongoing updated database that contains historical data, laser settings, laser transmission values, etc

## LASER TRANSMISSIVE MATERIALS

Commercial Laser Transmissive "Black" Grades	Thicknesses	Absorbing Layer
R-3-410BL LZT	1mm	R-4-270BL, BR11BL
	1.5mm	R-4-270BL, R-4-240BL
	2mm	R-4-270BL, R-4-240BL
A-1130 HS LZT BK979	1mm	A-1625 HS BK324
	2mm	A-1625 HS BK324
AE-8940 LZT BK979	1mm	AE-8940
	2mm	AE-8940
A-1145 HS LZT BK979	1mm	A-1625 HS BK324
	2mm	A-1625 HS BK324
AE-8930 LZT (inactive)	1mm	AE-8935, AE-8940, AE-8950, AE-9933, AE-9950
	2mm	AE-8935 BK

## CAPABILITIES




Shanghai

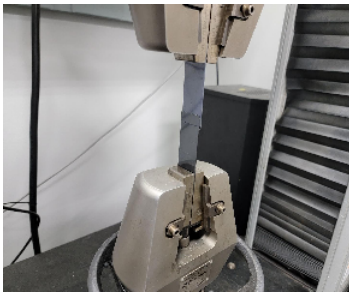
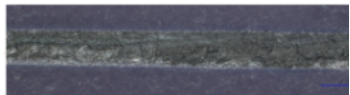
Leister Basic AT

200W Fiber Laser @ 1070nm

Spot size: 0.6mm / 1mm / 1.5mm / 3mm / 6mm



<p>Laser Welding Transmissive on Transmissive using "clearweld" dye</p>		<p>Alpharatta</p>	
		<p>50 W Fiber Laser @ 1064 nm</p> <p>Spot size: 1 mm</p>	
		<p>Laser Transmission measurement using % transmission at specific wavelengths</p>	<p>Alpharatta: Perkin Elmer Lambda 950</p> <p>Shanghai: LPKF TMG3</p> 

<p style="text-align: center;"><b>T e s t i n g</b></p>	<p style="text-align: center;"><b>W e l d S t r e n g t h</b></p>	
	<p style="text-align: center;"><b>L a p s h e a r t e s t i n g f o r w e l d s t r e n g t h</b></p>	

Laser Welding Team			
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