



## LightWELD Laser Welding Machines

LightWELD™ hand-held laser welding and cleaning systems are fast, easy to learn and operate, and produce high quality, consistent results across a wide range of materials and thickness's. Pre-weld and post-weld laser cleaning functionality optimises weld quality while increasing productivity.

Up to 4x faster than TIG Welding, Laser Welding is fast, effective, and helps to de-skill basic welding by being incredibly user-friendly.

The LightWELD **XC** can weld and clean up to 4mm in Steel and Aluminium, while the newly released LightWELD **1000** offers all of the welding capabilities of the XC, without the Cleaning ability, for a more cost-effective welding solution. LightWELD **XR** extends the capabilities up to 6mm, as well as being suitable for Titanium, Nickel Alloys and natural Copper too. Finally the LightWELD **XR 2000**, boosts these capabilities even higher up to 8.25mm!



LightWELD  
1000



LightWELD  
XC



LightWELD  
XR



LightWELD  
XR 2000

**NEW!**

## Advantages & Benefits

Light**WELD**™ enables dramatically faster welding and is easier to learn and operate than MIG or TIG. Light**WELD**™ provides higher-quality, consistent results with minimal distortion or part deformation.

	Traditional Systems	LightWeld Systems
<b>Speed</b>	Average	Fast - Over <b>4x Faster</b> than TIG
<b>Quality</b>	Depends on user's experience	Consistent, high-quality results
<b>Learning Curve</b>	Steep	Quick and easy
<b>Part Set-Up</b>	Critical and time-consuming	Minimal and fast
<b>Material Flexibility</b>	Limited with consumables changes	Wide range with no set-up
<b>Heat affected zone</b>	Large	Small
<b>Distortion &amp; Deformation</b>	High	Very Low
<b>Wobble Welding</b>	No	Yes - up to 5mm
<b>Pre-Weld Cleaning</b>	No	Yes - Removes rust, oxides, oil & greases
<b>Post-Weld Polishing</b>	No	Yes - Removes soot, debris & discolouration



Light**WELD** systems are easier to learn and operate and are **4X faster** than TIG welding. The low heat input and extensive material and thickness capabilities increase productivity, repeatability, and improve weld quality for operators of all skill levels.

## Machine Features

- Fast and Efficient Welding
- Air-Cooled Base Unit
- 5 or 10m Gun Cable
- 5 Work piece Clamp
- (3) Cleaning Nozzle Inserts
- (4) Welding Nozzle Tips
- 3m CAT 6 Ethernet Cable
- (5) Cover Slides

*Please note - you will require a laser welding booth with a safety interlock system in order to use this laser welding machine*

## Optional Equipment

- Welding Helmet with Shield
- Laser Safety Glasses
- Additional Nozzles and Tips
- Wire-Feeder System
- Portable Extraction Unit
- LightWELD XR Welding Cabinet
- Safety-Interlock Modular Laser Welding Booth (The configuration of this can suit your space, however this would be a requirement to use the laser welding machine)

**TIG welding** can generate extreme heat that deforms thin materials and produces poor visual finishes. Welding copper is difficult and welding metals of dissimilar thickness's is limited. TIG welding is a highly skilled process, and experienced TIG welders are a scarce resource.

**MIG welding** requires consumable wire, material pre-cleaning, and bevelled joints for full penetration of thick metals. Travel and working angles are limited, and vertical positions can be extremely challenging. MIG is a high-heat process that can cause part deformation.





## TECHNICAL SPECIFICATIONS

MODEL			LightWELD 1000	LightWELD XC	LightWELD XR	LightWELD XR 2000
STOCK CODE			IPG-1000	IPG-XC	IPG-XR	IPG-XR2000
Welding Capability	Mild Steel	mm	4	4	6.35	8.25
	Stainless Steel	mm	4	4	6.35	8.25
	Aluminium 3 / 5 Series	mm	4	4	6.35	8.25
	Aluminium 6 Series	mm	N/A	N/A	3	5
	Titanium & Nickel Alloy	mm	N/A	N/A	5	7
	Natural Copper	mm	N/A	N/A	2	3
Wobble Welding	mm	Up to 5				
Cleaning Scan Width	mm	N/A	Pre & Post-Weld up to 15			
Laser Output (Welding Mode)	w	1000	Average 1500, Peak 2500			Average 2000, Peak 3000
High Frequency Peak Power for Cleaning	w	N/A	2500			3000
Wire Welding Capability		Yes				
Spot Size	µm	50 µm	150 µm	50 µm	50 µm	
Ubical Cable	m	5m (10m Optional) - (Includes Fibre Laser Delivery, Process Gas, Process Head Controls and Safety Interlock Circuits)				
Cooling		Air Cooled				
User Interface		Front Panel Controls of Laser Power, Mode, Wobble Length & Frequency				
Connections		Ethernet Connection for Computer Connection				
Safety		Requires Safety Interlock connection				
Width	mm	316				
Length	mm	641				
Height	mm	534				
Weight	kg	53				

**NEW!**