



## 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** coming soon (expected Q4 2024) will boost these capabilities even higher up to 8.25mm!

**NEW!**



LightWELD  
**1000**



LightWELD  
**XC**



LightWELD  
**XR**

Expected  
**Q4 2024**



LightWELD  
**XR 2000**

## 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
Speed	Average	Fast - Over <b>4x Faster</b> than TIG
Quality	Depends on user's experience	Consistent, high-quality results
Learning Curve	Steep	Quick and easy
Part Set-Up	Critical and time-consuming	Minimal and fast
Material Flexibility	Limited with consumables changes	Wide range with no set-up
Heat affected zone	Large	Small
Distortion & Deformation	High	Very Low
Wobble Welding	No	Yes - up to 5mm
Pre-Weld Cleaning	No	Yes - Removes rust, oxides, oil & greases
Post-Weld Polishing	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	150 µm			
Ubilical 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			

Expected Q4 2024

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