



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 up to 4mm in Steel and Aluminium, while the soon to be available LightWELD **XR** extends the capabilities up to 6mm, as well as being suitable for Titanium, Nickel Alloys and natural Copper too!



LightWELD **XC**



LightWELD **XR**

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 4x Faster 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
- (2) Cleaning Nozzles
- (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 XC	LightWELD XR
STOCK CODE			IPG-XC	IPG-XR
Welding Capability	Mild Steel	mm	4	6.35
	Stainless Steel	mm	4	6.35
	Aluminium 3 / 5 Series	mm	4	6.35
	Aluminium 6 Series	mm	N/A	3
	Titanium & Nickel Alloy	mm	N/A	5
	Natural Copper	mm	N/A	2
Wobble Welding	mm	Up to 5		
Cleaning Scan Width	mm	Pre & Post-Weld up to 15		
Laser Output (Welding Mode)	w	Average 1500, peak 2500		
High Frequency Peak Power for Cleaning	w	2500		
Wire Welding Capability		Yes		
Welding / Cleaning Programme Modes		74		
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		