

**MORGAN
RUSHWORTH**
SINCE 1872

IPG
PHOTONICS[®]

LightWELD Laser Welding Machines

LightWELDTM 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, will boost these capabilities even higher up to 8.25mm!

NEW!



LightWELD
1000



LightWELD
XC



LightWELD
XR

**Coming
Soon!**



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 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
- (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
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			

Coming Soon!

Coming Soon!