

LIGHTWELD[®] XR

eXtended Range Handheld Laser Welding & Cleaning System

QUICK SPECS:

LASER POWER **HIGH PEAK POWER**
Up to 1500 W Up to 2500 W

WELDING CAPABILITY

- Stainless, Galvanized & Mild Steel: up to 6.35 mm (0.250")
- Aluminum 3 & 5 Series: up to 6.35 mm (0.250")
- Aluminum 6 Series: up to 5 mm (0.200")
- Titanium & Nickel Alloys: up to 5 mm (0.200")
- Copper: up to 2 mm (0.080")

CLEANING CAPABILITY

Pre- & Post-weld up to 15 mm width
Pulsed cleaning power up to 2500 W peak power

INCLUDES:

- LightWELD XR Unit
- 10 m (32') Gun Cable
- 10 m (32') Workpiece Clamp
- Welding Gun Cradle
- User Guide
- Welding Helmet with IR Shield
- (3) Cleaning Nozzles
- (4) Welding Nozzles
- Laser Safety Glasses OD 6+
- 3 m (10') CAT 6 Ethernet Cable
- (5) Cover Slides

APPLICATIONS:

- Metal fabrication shops
- Auto body applications
- Maintenance and repair
- Construction and piping
- Farm, furniture & appliances
- Aerospace & transportation



LightWELD XR extends the range of materials and thicknesses of previous models, enabling fabricators to benefit from a wide range of solutions. Pre-weld and post-weld cleaning functionality optimizes weld quality and productivity. LightWELD systems are easy to learn and operate, 4X faster than TIG welding and produce high-quality, consistent results for operators of all skill levels.



The heart of the system, the LightWELD laser is Made in the USA at IPG's state of the art production facilities located in Oxford MA, USA. Final system assembly, testing and calibration is performed at our Marlborough MA, USA facility.

LIGHTWELD® XR

eXtended Range Handheld Laser Welding & Cleaning System

LightWELD Laser Welding and Cleaning	
High Speed Welding	Up to 4X Faster than traditional methods - increased productivity for lower costs-per-part
High Quality Results	Consistent welding of thick, thin and reflective metals without distortion, undercut or burn-through - minimal heat affected zone
Easy to Use	Simple set up, easy to learn and operate for consistent high-quality welds and cleaning
Exceptional Visual Finishes	Removes oils, rust and coatings before welding, and debris and discoloration after welding without the time and expense of abrasives or chemicals
Enhanced Material Capability	Sheet metal up to 0.250" thick, copper, titanium, nickel alloys, metals with dissimilar thicknesses, ultra-thin parts, materials with low and high electrical conductivity
Wobble Welding	Up to 5 mm of weld width - increases capability and creates highly aesthetic seams
Operator Safety	Multi-level sensors and interlock safety features

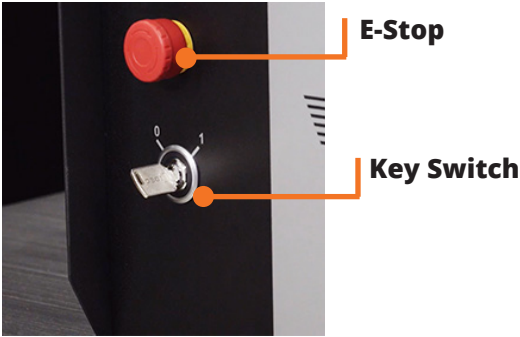
Laser Power	Pulsed Cleaning Power	Power	Mode Storage Capacity	Cleaning Width-Length	Wobble Length & Frequency	Dimensions LxWxH	Weight
Up to 1500 W	Up to 2500 W Peak Power	220V Single Phase, 24 A	100	Up to 15 mm	Up to 300 Hz Up to 5 mm	641 x 316 x 534 mm 25.2" x 12.4" x 21"	53 kg 118 lbs

SAFETY FEATURES:

LightWELD XR is a Class IV laser system and routine precautions are required for the safe operation of the equipment.

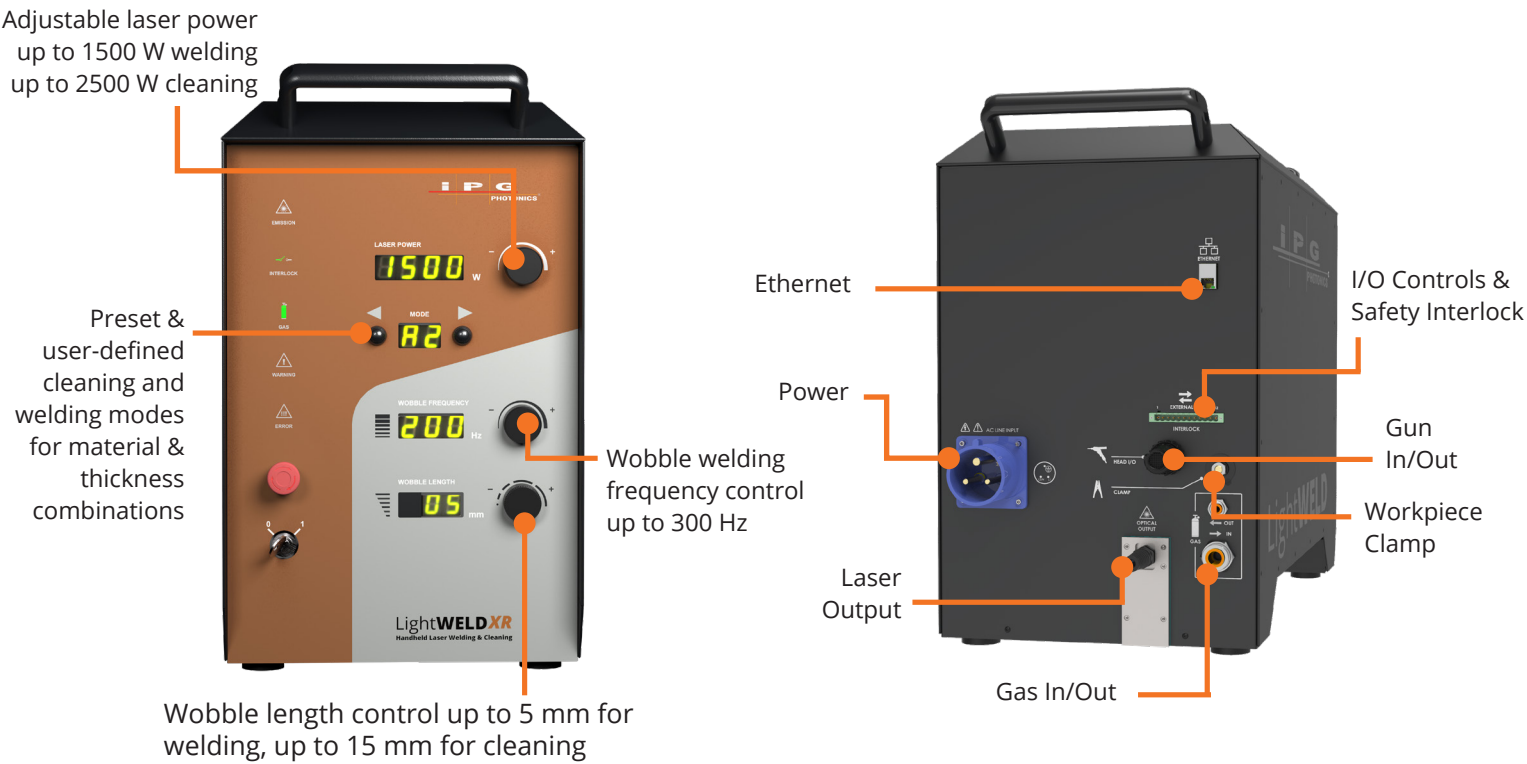
BUILT-IN FEATURES INCLUDE:

- Key switch control of laser source and Emergency-stop button ensure deliberate operation
- Fiber laser interlock verifies integrity of laser delivery to the welding and cleaning gun
- 2-step gun trigger, enable and then fire, for intentional operation
- Part contact electrical interlock turns off the laser power if the gun is not in contact with the parts



Operators must wear all recommended personal protective equipment (PPE), including the IPG laser safety glasses and IPG helmet with shield provided with LightWELD XR, laser-resistant and heat resistant gloves, caps, leather apron and other laser-resistant and heat-resistant clothing.

CONTROL PANEL AND CONNECTIONS:



Laser power up to 1500 W for welding, and high-frequency pulsed cleaning up to 2500 W peak power is easily adjusted with intuitive controls to quickly dial in optimum weld settings for various materials and thicknesses. With 100 stored preset and user-defined process parameters, novice welders can be trained and welding in a matter of hours.

Clearly labeled rear connections make getting started fast and easy. Laser delivery, gas and gun control is pre-wired in a 10 m cable. Just plug in the power cord and gas connection, attach the workpiece clamp to your work surface and you are ready to go. An ethernet connection provides access to advanced parameter settings to fine tune and save process parameters.

HANDHELD GUN & NOZZLE TIPS:



The handheld welding & cleaning gun is compact, ergonomic and comfortable. Specially designed nozzle tips for welding and cleaning applications, plus built-in wobble functionality enables operators to produce high quality welds consistently. Nozzle tips switch out easily to accommodate fusion welding, wire welding and cleaning which further optimizes productivity.

ACCESSORIES

LIGHTWELD WIRE FEEDER PACKAGE

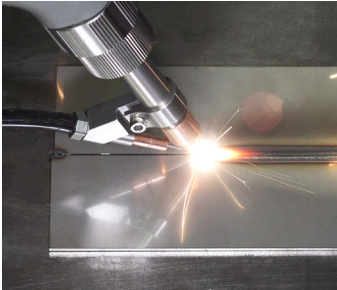
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This optional wire feeder package includes all necessary hardware and software to add a wire welding capability to the Light**WELD XR**.

Included with Wire Feeder Kit:

- Wire Feed Unit
- Proprietary Weld Head Nozzle Attachment
- System Trigger Cable
- 4 Tips: 0.8mm, 0.9mm, 1.2mm, 1.6mm
- 4 Rollers (2 U-Rollers, 2 V-Rollers)
- 4 Liners (2 Teflon liners, 2 Steel liners)
- LightWELD Wire Welding Presets



Used for manual laser wire welding of low carbon steel, stainless steel, aluminum, non-ferrous metals & other alloys. Wire feed settings adjusted on the wire feed unit and Light**WELD XR** provides synchronization trigger signal to wire feed unit. Wire feeder nozzle attachment guides wire precisely to the weld pool. Light**WELD XR** Process Modes provide standard parameter settings for typical materials and wire types.

Light WELD XR Wire Feeder Specifications	
Wire feed delivery length	2.7 m (9 ft)
Light WELD XR Interface	Low Voltage enable signal cable
Wire Feed Speed Range	30 - 600 cm/min (12 - 230 ipm)
Compatible Wire Diameters	0.8 mm - 1.6 mm
Wire Reel Capacity	1 kg (2 lb), 5 kg (10 lb) or 10 kg (25 lb)
Compatible Wire Materials	Steel, Stainless Steel, Aluminum
Power Requirements	115 - 230V 50/60 Hz
Weight and Dimensions	13 kg (28.7 lb) 520 mm (20.5") L x 245 (9.7") W x 420 (16.5") H

DUAL WIRE FEED ADAPTER

CEU00005612XXXXU



The optional Dual Wire Feeder Adapter allows simultaneous feeding of two wires into the weld pool to create larger welds. Parallel feeding of the wires at the nozzle tip with the laser centered between allows simultaneous welding both wires during feeding.

Features

- Dual Wire Feed
- Wire diameter up to 0.063"
- Twin Groove Weld Tip

Benefits

- Increase fillet dimensions
- Increase tolerance for poor part fit up
- Faster material build up

ACCESSORIES

LIGHTWELD WELDING CABINET

CMMIXXX0004362PX

This heavy duty welding cabinet provides mobility for your Light**WELD XR** system and accessories.

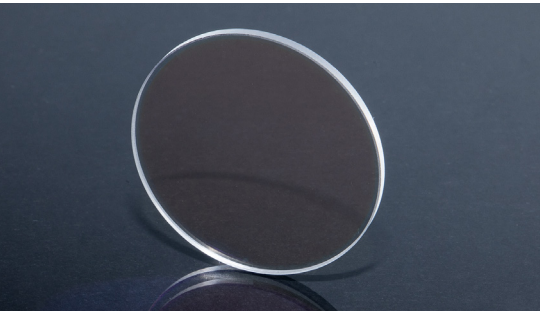
KEY FEATURES INCLUDE:

- Top platform sized for Light**WELD XR** system and & optional wire feeder
- Three storage drawers with ball bearing slides
- Cabinet for helmet storage
- Locking cabinet with adjustable shelves
- Platform & tether chains for two 9 in. gas cylinders
- Cable hooks for Light**WELD XR** gun cable
- Lockable swivel castors



Light WELD XR Welding Cabinet Size		Weight Capacity
Cart (L x W x H)	1238 mm (48.75") x 648 mm (25.5") x 850 mm (33.5")	
Weight	73.2 kg (161.3 lb)	
Top Surface (L x W)	875 mm (34.5") x 515 mm (20.3")	72.6 kg (160 lb)
Drawer 1 (L X W X H)	410 mm (16.3") x 320 mm (12.7") x 32 mm (1.3")	18.1 kg (40 lb)
Drawers 2 & 3 (L X W X H)	410 mm (16.3") x 320 mm (12.7") x 115 mm (4.5")	36.2 (80 lb) each
Helmet Cabinet (L X W)	495 mm (19.5") x 355 m (14")	18.1 kg (40 lb)
Cylinder Platform	Up to two 9" gas cylinders	

CONSUMABLES



Cover Slides

- CDSBOM00023703XU
- Pack of 5



Gas Lens Nozzle

- CEU00005459XXXXU
- Ideal for materials sensitive to oxygen, moisture, or other atmospheric gases, this nozzle features a precision laser-drilled diffuser in a showerhead configuration.

ACCESSORIES

LIGHTWELD PPE



Carbon Fiber Welding Helmet
CEU00004522XXXXU

The helmet features a lightweight carbon fiber shell incorporating both UV and IR filters appropriate for use with LightWELD systems. Designed to be compliant with EN207 DLB8 + ILB9 @ 1070nm & ANSI+W16 rated for superior protection.



Welding Helmet with Shield
CEU00002506XXXXU

Auto-Darkening Laser Welding Helmet with IR Shield & IR coated lens provides protection from specular reflections.



Safety Glasses
CMMIXXX0002678PX
w/ Side Shield Protection
1000-1550 nm OD 7+



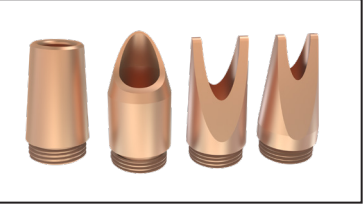
Safety Glasses LFO
CMMIXXX0002677PX
Large Fit Over
1000-1550 nm OD 7+



Safety Glasses ADJ
CMMIXXX0002679PX
Adjustable temple bar
1000-1550nm OD7+

CONSUMABLES

COPPER WELDING NOZZLES



Copper Nozzle Set
CDSBME000089XXXU



1 point
CMUS0008398002XU



2 point 6 mm
CMUS0008411XXXXU



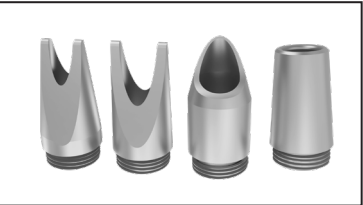
2 point 9 mm
CMUS0008719XXXXU



Cone
CMUS0008794100XU

Purchase Online:

ALUMINUM WELDING NOZZLES



Al 1100 Nozzle Set
CDSBME00008901XU



1 point
CMUS0009402XXXXU



2 point 6 mm
CMUS0009401XXXXU



2 point 9 mm
CMUS0009400XXXXU



Cone
CMUS0009399XXXXU

CLEANING NOZZLES



Cleaning Nozzle Set
CEU00004105XXXXU



2 prong
CEU00003909XRXXU



1 prong
CEU00003708XRXXU



Outer Corner
CEU00003803XXXXU



LEARN MORE



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HANDHELDSLASERWELDER.COM

MAX. AVERAGE OUTPUT POWER: 2500W
MAX. PEAK OUTPUT POWER: 5000W
PULSE DURATION: $\geq 1 \mu\text{s}$
PULSE REPETITION RATE: 0 - 100kHz
WAVELENGTH RANGE: 900 - 1200nm

**DANGER - INVISIBLE LASER
RADIATION AVOID EYE OR SKIN
EXPOSURE TO DIRECT OR
SCATTERED RADIATION
CLASS 4 LASER PRODUCT**

IEC 60825-1:2014

**LASER RADIATION
DO NOT STARE INTO THE BEAM OR VIEW
DIRECTLY WITH OPTICAL INSTRUMENTS
CLASS 2M LASER PRODUCT**

MAX. AVERAGE POWER: 1mW
WAVELENGTH RANGE: 600 - 700nm

IEC 60825-1:2014

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