

LIGHTWELD™ 1500

Handheld Laser Welding System

Authorized Dealer
Serra Laser Center
Glenn Kline - 906-367-0026
LightWELD Sales

QUICK SPECS

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

SINGLE SIDED WELD THICKNESS
Stainless Steel, Galvanized Steel,
Mild Steel and Aluminum: Up to 4 mm
Copper: Up to 1mm

APPLICATIONS:

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

INCLUDES:

- Air-Cooled Base Unit
- 5 or 10 m (16 or 32') IPG Laser Welding Gun Cable
- 5 or 10 m (16 or 32') IPG Workpiece Clamp
- User Guide
- Welding Helmet with IR Shield
- (4) Welding Nozzle Tips
- Laser Safety Glasses OD 6+
- 3 m (10') CAT 6 Ethernet Cable
- (5) Cover Slides



LightWELD enables dramatically faster welding, is easier to learn and operate, and provides higher-quality, consistent results across a wider range of materials and thicknesses than MIG or TIG with minimal distortion, undercut or burn-through. The heat affected zone is dramatically minimized, as is the need for traditional post-processing grinding or polishing for increased productivity, less scrap and lower cost-per-part.

LIGHTWELD™ 1500

Handheld Laser Welding System

| LightWELD Laser Welding | |
|-------------------------------------|---|
| High Speed | Up to 4X Faster than traditional methods - increased productivity for lower costs-per-part |
| High Quality | 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 |
| Enhanced Material Capability | Metals with dissimilar thicknesses, ultra-thin parts, copper welding, materials with low and high electrical conductivity |
| Wobble Welding | Up to 5 mm of additional weld width - increases capability and creates highly aesthetic seams |
| Operator Safety | Multi-level sensors and interlock safety features |

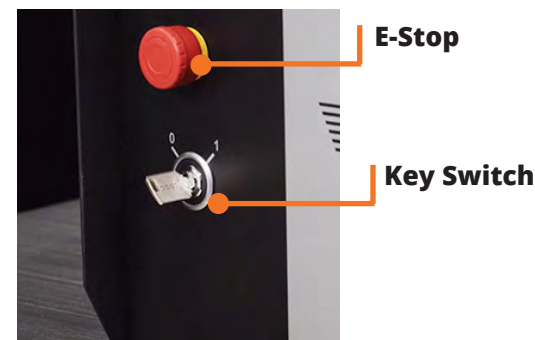
| Laser Power | High Peak Power | Power | Mode Storage Capacity | Wobble Length | Wobble Frequency | Dimensions LxWxH | Weight |
|--------------|-----------------|-------------------------|-----------------------|---------------|------------------|---|------------------|
| Up to 1500 W | Up to 2500 W | 220V Single Phase, 24 A | 74 | Up to 5 mm | Up to 300 Hz | 641 x 316 x 534 mm 25.2" x 12.4" x 21" | 53 kg 118 lbs |

SAFETY FEATURES:

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

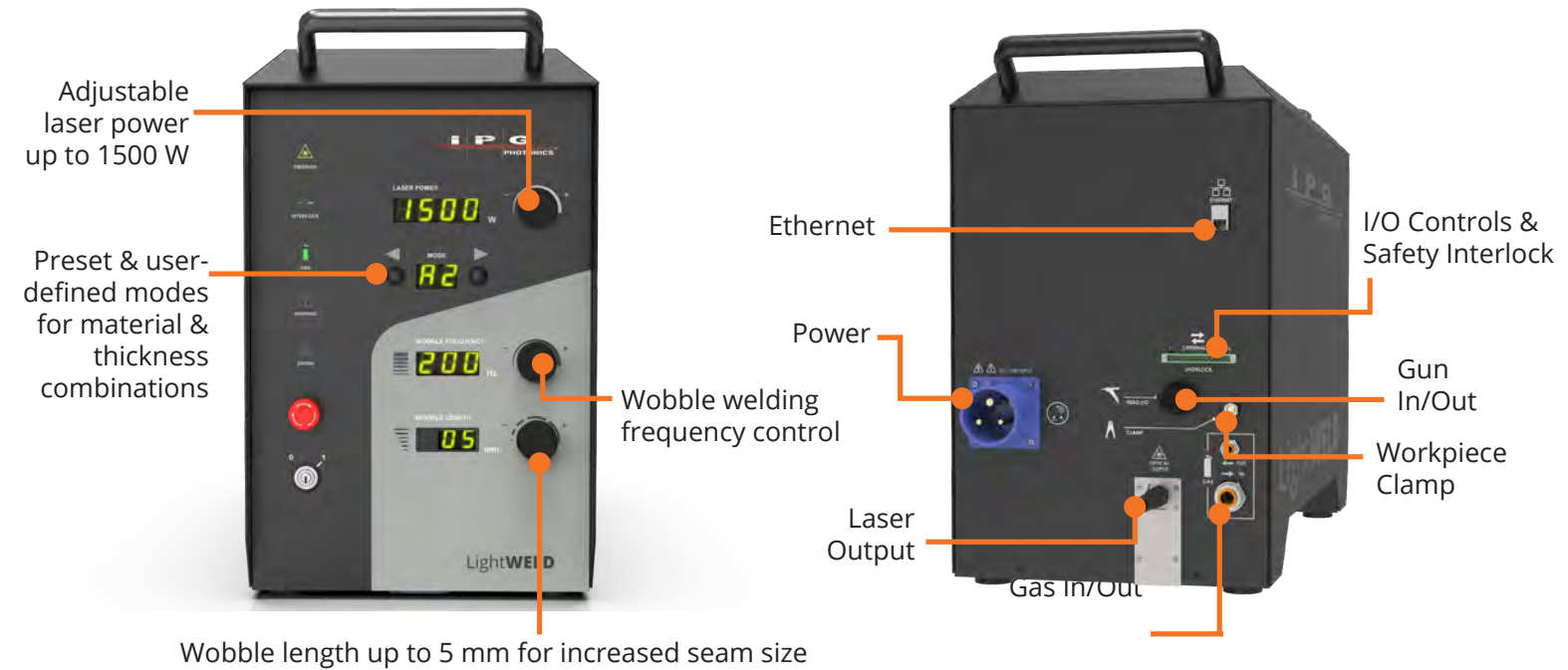
BUILT-IN FEATURES INCLUDE:

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



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

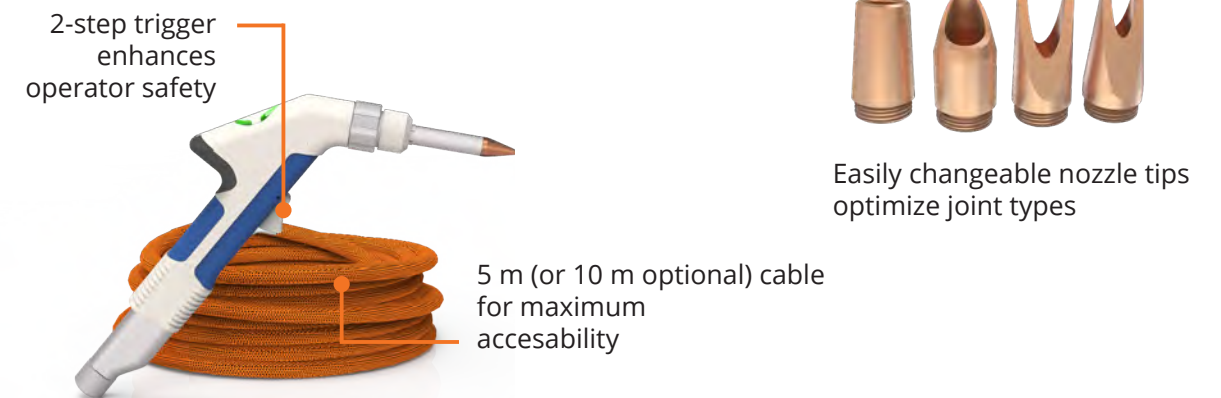
CONTROL PANEL AND CONNECTIONS:



Laser power up to 1500 W is easily adjusted with intuitive controls to quickly dial in optimum weld settings for various materials and thicknesses. With 74 stored preset and user-defined process parameters, novice welders can be trained and welding in a matter of hours. Select stored modes provide up to 2500 W of high peak power for even greater welding capability.

Clearly labeled rear connections make getting started fast and easy. Laser delivery, gas and gun control is pre-wired in a 5 m (optional 10 m) cable. Just plug in the power cord and gas connection, attach the 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.

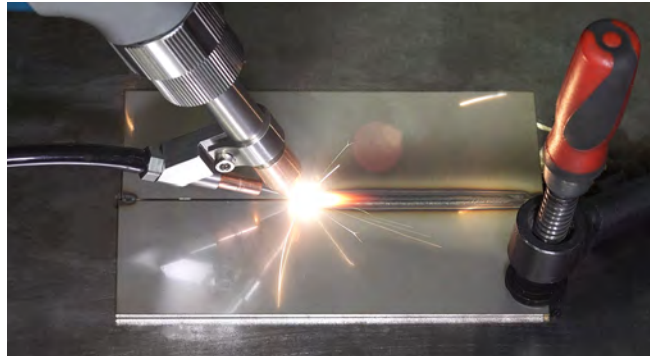
HANDHELD GUN & NOZZLE TIPS:



The handheld welding gun is compact, ergonomic and proven to be the most comfortable, well balanced and easy to use gun available with a selection of nozzle tips to optimize different joint types. The light weight and built-in wobble functionality enables operators to produce high-quality welds consistently throughout the day and safely with its 2-step trigger.

ACCESSORIES

LIGHTWELD™ WIRE FEEDER PACKAGE Handheld Laser Welding System



This Wire Feeder package includes all necessary hardware and software to add a wire welding capability to the LightWELD handheld Laser Welder.

Included with Wire Feeder Kit:

- Wire Feed Unit
- Proprietary Weld Head Nozzle Attachment
- System Trigger Cable
- 2 Wire Guide Tips (0.9 mm, 1.2 mm)
- IPG Process Mode software upgrade

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



| LightWELD Wire Feeder Specifications | |
|--|--|
| Wire feed delivery length | 2.7 m (9 ft) |
| LightWELD Interface | Low Voltage enable signal cable |
| Wire Feed Speed Range | 40 – 600 cm/min (15 - 230 ipm) |
| Compatible Wire Diameters | 0.9 mm (0.035 in.), 1.2 mm (0.045 in.) |
| Wire Reel Capacity | 1 kg (2 lb), 5 kg (10 lb) or 10 kg (25 lb) by shaft change |
| Compatible Wire Materials | Steel, Stainless Steel, Aluminum |
| Power Requirements | 115V 50/60 Hz |
| Wire Feed Unit Weight | 22 kg (48.4 lb) |
| Wire Feed Unit Dimensions (L X W X H) | 420 mm (16.5 in) x 210 mm (8.3 in) x 570 mm (22.4 in) |

LIGHTWELD™ WELDING CABINET Handheld Laser Welding System



This heavy duty welding cabinet provides mobility for your LightWELD laser welding system and accessories.

KEY FEATURES INCLUDE:

- Top platform sized for LightWELD base unit & 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 LightWELD to Head umbilical
- Lockable swivel castors

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

ACCESSORIES

LIGHTWELD™ PPE & CONSUMABLES Handheld Laser Welding System



Welding Helmet with Shield
CEU00002506XXXXU
Auto-Darkening Laser
Welding Helmet with IR Shield
& IR coated lens provides
protection from specular
reflections



Cover Slides
CDSBOM00023702XU
Pack of 20



Copper Nozzle tip
Set of 4
CMUSXXXXXXXXXX



1 point
CMUS0008398XXXXU



2 point 6 mm
CMUS0008411XXXXU



2 point 9 mm
CMUS0008719XXXXU



Cone
CMUS0008794100XU



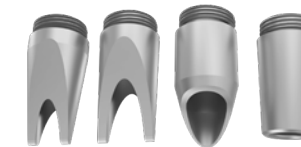
Safety Glasses
CMMIXX0002678PX
w/ Side Shield Protection
1000-1550 nm OD 7+



Safety Glasses LFO
CMMIXX0002677PX
Large Fit Over
1000-1550 nm OD 7+



Safety Glasses ADJ
CMMIXX0002679PX
Adjustable temple bar
1000-1550nm OD7+



Al 1100 Nozzle tip
Set of 4
CMUSXXXXXXXXXX



1 point
MUS0009402XXXXU



2 point 6 mm
CMUS0009401XXXXU



2 point 9 mm
CMUS0009400XXXXU



Cone
CMUS0009399XXXXU



LightSAFE™ is a modular welding enclosure for the LightWELD including door interlocks and Laser safe windows. Aluminum construction with easy to assemble panels. 45 in, 69 in, 93 in, or 141 in door openings. Compliant with ANSI 136-1 Safe Use of Lasers.



714-680-6211
 906-367-0026
ipglightweld@serralaser.com
glennkline@serralaser.com



MAX. AVERAGE OUTPUT POWER: 2500W
 MAX. PEAK OUTPUT POWER: 5000W
 PULSE DURATION: ≥ 1 us
 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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