

LIGHTWELD™ 1500

Handheld Laser Welding System

QUICK SPECS

LASER POWER
Up to 1500 W

HIGH PEAK POWER
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 m (16 ft) IPG Laser Welding Gun - Optional 10 m (32 ft) Cable
- 5 m (16 ft) Workpiece Clamp - Optional 10 m (32 ft)
- Getting Started Guide
- (4) Welding Nozzle Tips

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 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	Mode Storage Capacity	Wobble Length	Wobble Frequency	Dimensions LxWxH	Weight
Up to 1500 W	Up to 2500 W	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

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CONTROL PANEL:



Adjustable laser power up to 1500 W

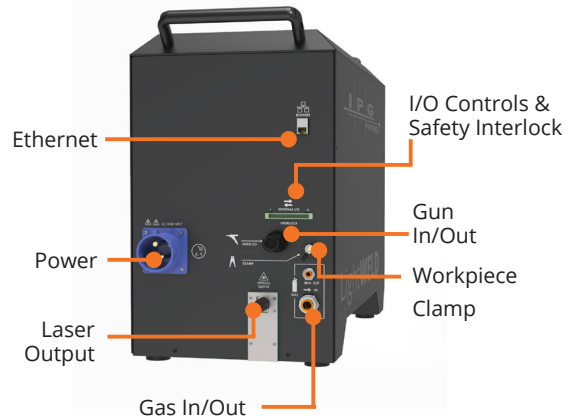
Preset and user-defined modes for material and thickness combinations

Wobble welding frequency control

Wobble length up to 5 mm for increased seam size

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.

CONNECTIONS:



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:

2-step trigger enhances operator safety



Easily changeable nozzle tips optimize joint types



5 m (or 10 m optional) cable for maximum accessibility

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.

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

Operator protective equipment including welding gloves, welding shield and 1070 nm laser-safe glasses are required



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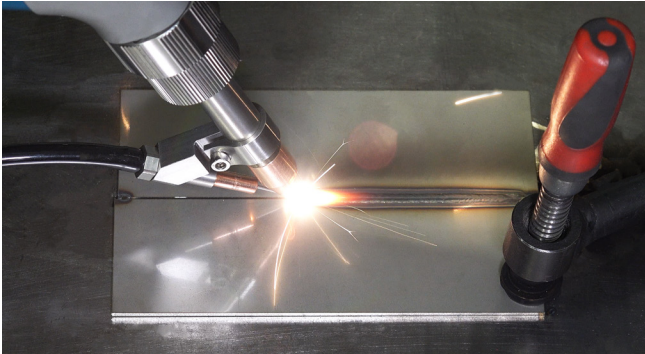
HANDHELDLASERWELDER.COM

MAX. AVERAGE OUTPUT POWER: 2500W
MAX. PEAK OUTPUT POWER: 5000W
PULSE DURATION: ≥ 50 μs
PULSE REPETITION RATE: 0 - 10kHz
WAVELENGTH RANGE: 900 - 1200nm

DANGER
INVISIBLE LASER RADIATION
CLASS 4 LASER PRODUCT
CLASS 4 INVISIBLE LASER RADIATION
WHEN OPEN
AVOID EYE OR SKIN EXPOSURE TO
DIRECT OR SCATTERED RADIATION
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

LIGHTWELD™ WIRE FEEDER PACKAGE (OPTIONAL) 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)
Interface to LightWELD	Low Voltage enable signal cable (included)
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, SST, Aluminum
Power Requirements	115V 50/60 Hz
Wire Feed Unit Weight	22 kg (48.4 lb)
Wire Feed Unit Dimensions	H 420 mm (16.5 in.) x W 210 mm (8.3 in.) x L 570 mm (22.4 in.)

LIGHTWELD™ WELDING CABINET (OPTIONAL)

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 x H)	875 mm (34.5 in W) x 515 mm (20.3 in L)	72.6 kg (160 lb)
Drawer A	320 mm (12.7 in W) x 410 mm (16.3 in) L x 32 mm (1.3 in) H	18.1 kg (40 lb)
Drawer B (X2)	320 mm (12.7 in W) x 410 mm (16.3 in) L x 115 mm (4.5 in) H	36.2 (80 lb) each
Helmet Cabinet	355 m (14 in W) x 495 mm (19.5 in) L	18.1 kg (40 lb)
Cylinder Platform	Up to two 9 in. gas cylinders	