

OptX™ 2kW

Handheld Laser Welder

Laser
Welding



QUICK SPECS

Applications

Sheet metal
Fabrication
Manufacturing
Aerospace and defense
Transportation
HVAC

Processes Laser welding and cleaning

Laser Output

2,000 W average power, 3,000 W peak power
Class 4 primary laser: invisible high-power fiber laser
(material processing laser for welding/cleaning)
Class 2M guide laser: visible red guide laser beam
(visual aid laser for positioning torch nozzle prior to
starting welding/cleaning process)

Input Power

Power source: 32 A, 240 V, single-phase
Wire feeder: 0.6 A, 120 V, single-phase

Process Gases Argon, nitrogen

Net Weight

Power source: 140 lb. (64 kg)
Wire feeder: 46 lb. (21 kg)

The new generation of laser welding: More confidence. More productivity. More opportunity. OptX helps businesses expand capabilities, take on new opportunities, increase throughput, and deliver consistent, high-quality results. Built to make more possible.

Highly productive

- High speed welding that is up to four times faster than TIG, with simple material preparation and minimal post-finishing.
- OptX wire feeder centralizes all controls in a single, intuitive 7-inch LCD display.
- Spot, autogenous and wire welding, along with a cleaning function, provide high-quality, consistent results.

Easy to use

- Simple interface with pre-built parameters for welding and cleaning that provide reliable results for different material types and thicknesses.
- Nearly eliminate the need for pre- and post-weld processing where tight part fit-up is available.



OptX™ 2kW
Complete Package shown.

CUSTOM MILLER
PROGRAMS



INDUSTRIAL
MILLER
OptX
WIRE FEEDER

HIGHLY
PRODUCTIVE

AUTO-SET™



REDUCED
TRAINING TIME



TRUE BLUE®
3YR. WARRANTY

Power source and wire feeder warranted for three years, parts and labor.
Torch is warranted for one year, parts and labor.



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An ITW Welding Company
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Equipment Sales US and Canada
Phone: 866-931-9730
International Phone: 920-735-4554

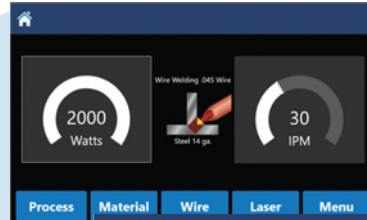
MillerWelds.com



OptX™ System Features



Manual screen for laser process



Synergic screen for laser process

OptX wire feeder is designed and manufactured specifically for laser application, providing consistent results in an industrial setting.

Integrated safety features help support safe operation through built-in safeguards and laser-rated PPE.

OptX cart provides enhanced portability and convenient storage for accessories, consumables and PPE (see page 6).

USB. Front panel port provides the ability to easily update software. Visit MillerWelds.com/OptXSoftware for the latest software updates and expansions.

Easy-to-understand interface with 7-inch color LCD display ensures proper machine setup and parameter selection, reducing setup time and increasing weld time.

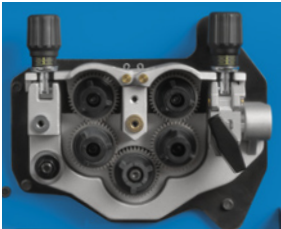
- Informative on-screen explanations and dynamic images enhance the parameter selection process.
- Soft-key buttons below the display change function depending on which screen is displayed. Makes setup or change quick, easy and intuitive.
- Large text for easier readability.

Auto-Set™ automatically sets the proper weld parameters based on the application, simplifying setup and helping operators of all skill levels achieve consistent results.

- Set weld parameters by selecting process, material type, material thickness, joint type, and wire diameter.

Synergic controls. Available in the synergic screen following Auto-Set setup, synergic controls allow operators to adjust wire feed speed while automatically optimizing supporting parameters to maintain consistent, high-quality results.

OptX™ Wire Feeder and 2kW Power Source Control Panels



Balanced-pressure drive-roll design and tensioners feed wire in its truest and straightest form for consistent feedability, resulting in better welding performance.

Wire jog/retract buttons feed or retract wire through the system.

Control knob adjusts parameter values and navigates menus depending on mode.



OptX wire feeder

Full-color LCD screen simplifies setup, operation, and parameter selection with an intuitive graphical interface.

Soft keys provide quick access to functions based on the active screen.

Home button returns user to home screen.

USB port provides the ability to easily update software.

Auto-Set™ button guides users through application and process selection to generate optimized starting weld parameters.

Laser emission indicator

Interlock indicator

Weld gas indicator



OptX 2kW power source (shown behind cart panel)

Emergency stop button

Key (power switch)

OptX™ Specifications (Subject to change without notice.)

OptX Wire Feeder

INPUT POWER	WIRE FEED SPEED	WIRE DIAMETER CAPACITY	SPOOL SIZE CAPACITY	DIMENSIONS (H x W x D)	NET WEIGHT
120 VAC, 0.6 A, 50/60 Hz	5–80 ipm (0.127–2.032 m/min.)	.023–5/64 in. (0.6–2.0 mm), .045 in. (1.1 mm) recommended	8 in. (203 mm) and 12 in. (305 mm)	16 x 12.375 x 27.875 in. (406 x 314 x 708 mm)	46 lb. (21 kg)

OptX 2kW Power Source

MODE	INPUT POWER	OUTPUT	RATED OUTPUT AT 100% DUTY CYCLE	AMPS INPUT AT 240 V	AT RATED OUTPUT, 50/60 HZ KVA	KW	DIMENSIONS (H x W x D)	NET WEIGHT
Laser welding and cleaning	1-phase	2 kW	2 kW at 30°C	32	6	5.85	21 x 12.4 x 25.2 in. (533 x 315 x 640 mm)	140 lb. (64 kg)

OptX 2kW Performance Data

METAL	MATERIAL THICKNESS RANGE (WIRE AUTOGENOUS)	SPOT WELDING PENETRATION DEPTH	LASER WELDING TRAVEL SPEED	SHIELDING GAS REQUIRED
Steel/Stainless Steel	20 gauge–1/4 in.	20 gauge–1/4 in.	25–30 ipm (0.64–0.76 mpm)	Nitrogen
Aluminum	20 gauge–1/4 in.	20 gauge–1/4 in.		Argon
Copper	18 gauge–1/8 inch	18 gauge–1/8 inch		Nitrogen

OptX™ 2kW Packages

OptX 2kW Complete Package

951000288

Includes

- OptX 2kW power source
- OptX wire feeder
- OptX laser torch
- OptX cart
- 11-foot (3.4 m) wire conduit, steel
- 11-foot (3.4 m) wire conduit, aluminum
- OptX accessories consisting of:
 - OptX laser welding helmet
 - OptX standard laser safety glasses
 - OptX torch cradle
 - 10-foot (3 m) Cat 6 Ethernet cable
 - Work-sense clamp
 - Smith regulator (30-150-580) with 5 ft. (1.5 m) gas hose
- OptX consumables consisting of:
 - Consumables storage box
 - .045 in. V-Groove 4-drive roll kit
 - 1/16 in. V-Groove 4-roll drive roll kit
 - .047 in. U-Groove 4-roll drive roll kit
 - 1/16 in. U-Groove 4-roll drive roll kit
 - Focus lens installation tool
 - Focus lens assembly
 - Protective lens caps
 - Protective windows with o-rings (5-pack of each)
 - Welding nozzles (set of 5)
 - Cleaning nozzles (set of 3)
 - Contact tips
 - Nozzle extensions (steel and aluminum)
 - Fiber optic receiver and outlet protective caps



OptX 2kW Ready-to-Weld Package

951000289

Includes

- OptX 2kW Complete Package (see contents above)
- OptX laser welding enclosure (see below)
- OptX door interlock switch, 2NC, 32 ft. **301804**



Genuine Miller® Accessories



OptX™ Laser Welding Enclosure 301902
8 x 8 foot laser welding enclosure rated up to 2,500 W/cm². For use with all OptX products.

OptX™ Laser Welding Enclosure Panel 301904

48 x 92 inch laser welding panel rated up to 2,500 W/cm². For use with all OptX products.



OptX™ Cart 301942

Combines portability and organization with convenient front handles, cable holders, and a dedicated space for the consumable box. Securely stores and transports the OptX handheld laser welder, OptX wire feeder, and one gas cylinder.



OptX™ Carbon Fiber Laser Welding Helmet 301901

This lightweight, carbon fiber helmet was developed specifically for the OptX handheld laser system to protect against 1070 nm infrared laser light.



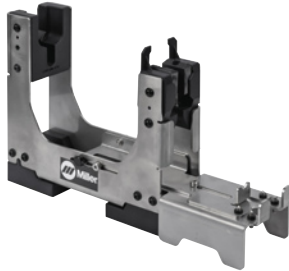
OptX™ Laser Safety Glasses

301830 Standard glasses
301831 Oversized frame
Polycarbonate glasses rated for OD 7 or greater at 1,070 nanometers.



OptX™ Torch Cradle 301803

Magnetic cradle used to support the OptX torch head. Attached to metal tabletop or OptX cart for easy storage.



OptX™ Process Validation Fixture 301878

Easily check the integrity of the protective window (301823) and focus lens (301802) to provide ongoing validation of laser power delivery.



OptX™ Torch Cover 301798

Rubber cover that helps protect the torch assembly from impact.



Work-Sense Clamp 301793

Ensures continuity between the laser torch nozzle and the workpiece.



Ethernet Cable 301810

Used to connect a PC to the OptX power source for online access to customizing parameter settings and troubleshooting.



Performance TIG Gloves

263346 Small
263347 Medium
263348 Large
263349 X-Large
Completely unlined, goat grain leather with triple-padded palm.



Grain Leather Jacket

231090 Large
231091 X-Large
231092 2X-Large
Top-grain pigskin leather with flame-resistant inside cuff, satin lining and tapered, athletic cut. Sewn entirely with Kevlar® thread, adding structural durability at each seam.

Spool Cover 295231

For 12-inch (305 mm) spool. Helps to protect wire spool from dust and other contaminants.

Hobart® Wire Straightener 418750-007

Wire drum adapter for .035–.062 inch wire.



OptX™ Storage Box 301968

Provides convenient storage for OptX consumables.

Genuine Miller® Consumables



Welding Nozzles

- 301811** Conical
- 301812** 1-point
- 301813** 2-point (6 mm)
- 301814** 2-point (9 mm)
- 301815** Wire feed
- 301832** Set of five — conical, 1-point, 2-point (6 mm and 9 mm) and wire feed



Cleaning Nozzles

- 301819** Outside corner
- 301820** 1-point
- 301821** 2-point
- 301833** Set of three — outside corner, 1-point and 2-point



Protective Windows (5-pack) 301823

Used to protect the laser optics from debris in the OptX torch.

O-rings for Protective Windows (5-pack) 301800



OptX™ Contact Tips (10-pack)

- 301822** .045-.047 in. (1.2 mm)
- 301845** 1/16 in. (1.6 mm)



OptX™ Focus Lens Assembly 301802

Replacement focus lens ensures consistent weld performance with OptX systems. Focus lens installation tool (301794) required for installation.

Feeder Consumables

Select drive roll kits from chart below according to type and wire size being used. Kits include four drive rolls, necessary guides and feature an anti-wear sleeve for inlet guide.

WIRE SIZE	WIRE TYPE	WIRE CONDUIT	V-GROOVE DRIVE ROLLS	U-GROOVE DRIVE ROLLS
.045 in. (1.1 mm)	Steel	301809	301825 (kit)	—
1/16 in. (1.6 mm)	Steel	301834	301843 (kit)	—
.047 in. (1.2 mm)	Aluminum	301808	—	301826 (kit)
1/16 in. (1.6 mm)	Aluminum	301835	—	301844 (kit)

Ordering Information

POWER SOURCE PACKAGES	STOCK NO.	DESCRIPTION	QTY.	PRICE
OptX™ 2kW Complete Package	951000288	See page 5 for contents		
OptX™ 2kW Ready-to-Weld Package	951000289	See page 5 for contents		
Accessories				
OptX™ Laser Welding Enclosure	301902			
OptX™ Laser Welding Enclosure Panel	301904			
OptX™ Cart	301942			
OptX™ Carbon Fiber Laser Welding Helmet	301901			
OptX™ Laser Safety Glasses	301830 301831	Standard Oversized		
OptX™ Torch Cradle	301803			
OptX™ Process Validation Fixture	301878			
OptX™ Torch Cover	301798			
Work-Sense Clamp	301793			
Ethernet Cable	301810			
Performance TIG Gloves		See page 6		
Grain Leather Jacket		See page 6		
Spool Cover	295231			
Hobart® Wire Straightener	418750-007			
OptX™ Storage Box	301968			
OptX™ 11-Foot Liner	301796 301836 301795 301837	For .045 in. steel For 1/16 in. steel For .047 in. aluminum For 1/16 in. aluminum		
1/16-Inch Conversion Kits	301827 301828	Steel kit: 1/16 in. steel wire conduit (11 ft. length), 1/16 in. V-groove drive roll kit, and 1/16 in. contact tips (10-pack) Aluminum kit: 1/16 in. aluminum wire conduit (11 ft. length), 1/16 in. U-groove drive roll kit, and 1/16 in. contact tips (10-pack)		
Consumables				
Welding Nozzles		See page 7		
Cleaning Nozzles		See page 7		
OptX™ Nozzle Extension	301817 301816	Steel Aluminum		
OptX™ Nozzle Tube	301818	50 mm		
Contact Tips		See page 7		
Protective Windows (5-pack)	301823			
O-Rings for Protective Windows (5-pack)	301800			
OptX™ Nozzle Protective Cap	301799			
OptX™ Focus Lens Assembly	301802			
OptX™ Focus Lens Installation Tool	301794			
Feeder Consumables				
Wire Conduit		See page 7		
Drive Rolls		See page 7		

DATE: TOTAL QUOTED PRICE:

Call us toll-free at 866-931-9730 or email us at PWSService@millerwelds.com for additional information on safety and laser processes.

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