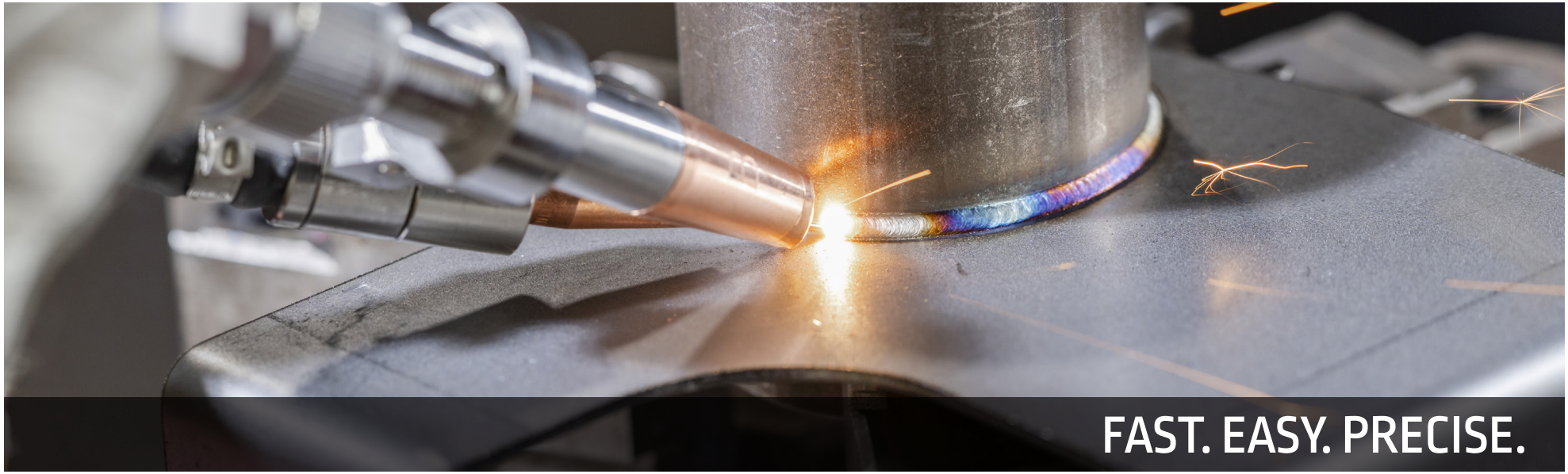
LINCOLN ELECTRIC

FLEX LASE

HANDHELD LASER WELDING SYSTEM

Fast.
Easy.
Precise.

The easy-to-use Flex Lase™ handheld laser welding system puts power, speed and precision at your fingertips. With 2kW of laser output power and a robust package, operators can tackle high-precision welding applications with faster travel speeds – up to 4 times faster than TIG – helping to improve productivity without sacrificing quality.



Easy Onboarding

Reduce training time and have new operators executing production-quality welds sooner than traditional welding processes.

Fast Travel Speeds

Boost productivity with travel speeds up to four times faster than a typical TIG welding process.

High-Precision Welding

Reduce material distortion, minimize spatter, and improve process quality with a focused heat input and smaller heat-affected zone. Achieve larger welds using Lincoln Electric's HyperFill® twin-wire process.

Industry-Driven Design

Have confidence in equipment built to withstand industry demands. The Flex Lase power source comes with a 2-year warranty, and the Flex Feed wire feeder boasts a market-leading 5-year warranty.

Processes »
Semiautomatic Laser welding

Applications »
General Fabrication, Aerospace, HVAC & Appliance, Automotive, Maintenance & Repair

Output »
2,000 W laser power
Class 4 primary laser
Class 2 guide laser

Input »

Product Number »
- K5772-1 Flex Lase™ Handheld Laser Ready-Pak®

Easy-to-Use

Large High-Resolution Display

The Flex Lase system was designed, evaluated, and tested to deliver one thing - machine interaction that is as simple as possible. Key Features include:

- Bright, 7-inch user interface
- Anti-glare and large text to easily check settings from a distance
- Glove-friendly touchscreen

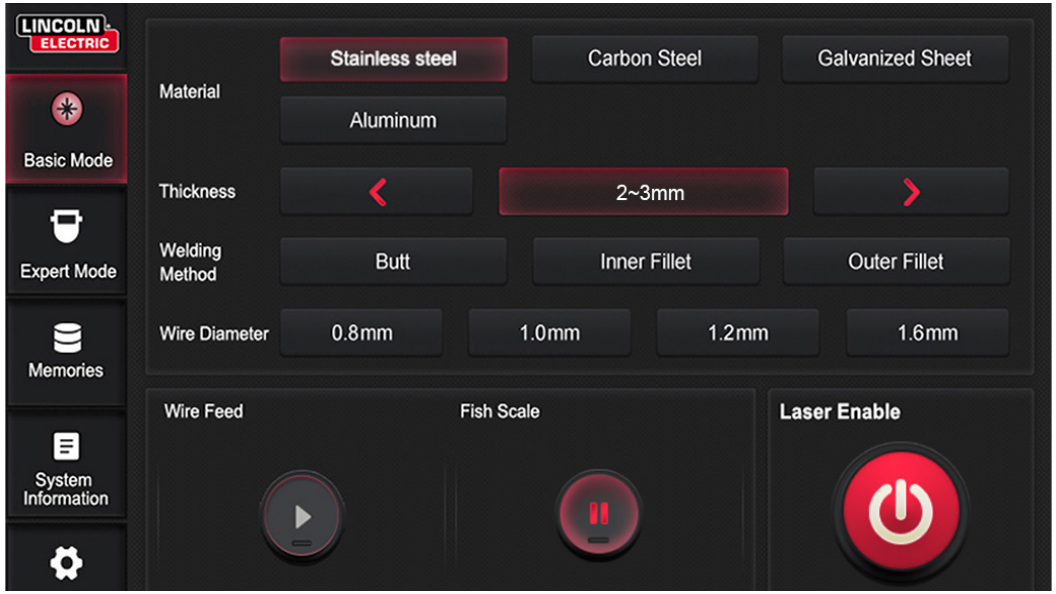
Unmatched Simplicity

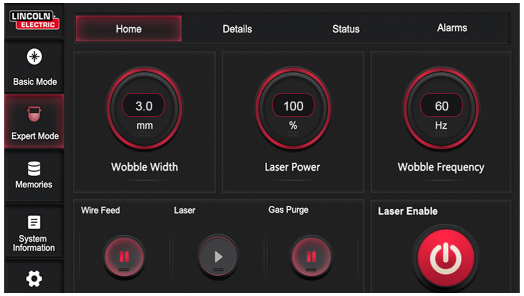
Operators can maximize welding time with straightforward navigation that allows them to easily dial in the machine for the task at hand.

- Simple, visual process setup
- Up to 32 memory settings to save and recall preferred parameters
- Single point of control for the wire feeder and power source

Basic Mode

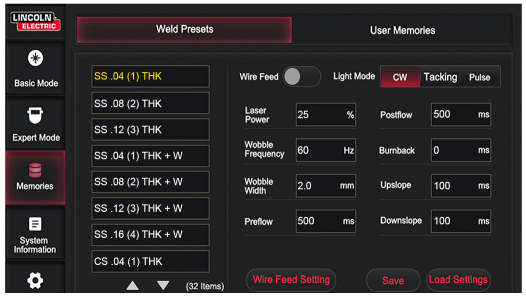
Guided setup based on material thickness and welding method.





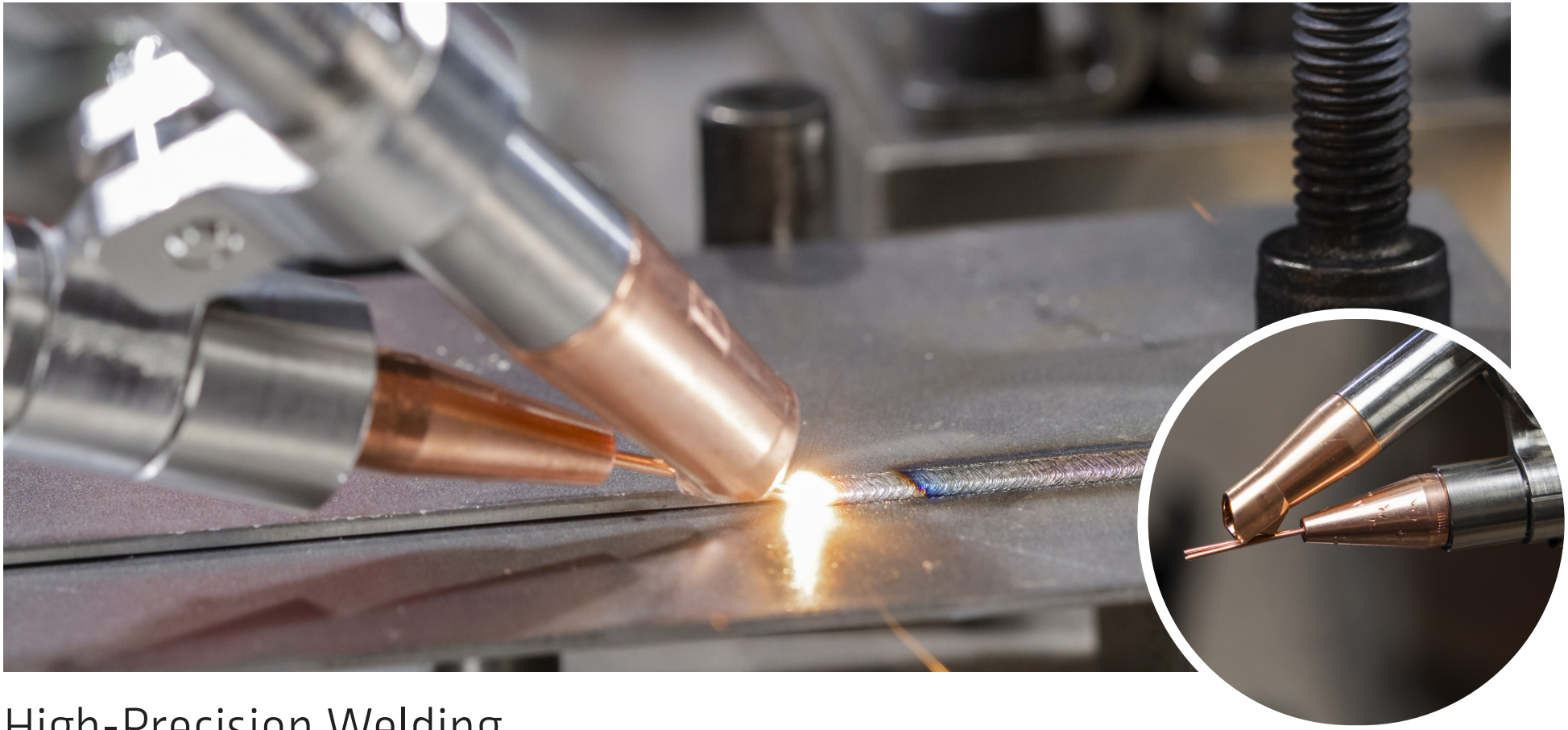
Expert Mode

Advanced settings for fine-tuned operation.



Memory Settings

Easily save and recall preferred parameters.



High-Precision Welding

Optimized Performance & Versatility

When you see Lincoln Electric® on the side of your equipment, you know you are getting the best welding performance on the market. Now we've taken that to the next level with the Flex Lase system, optimizing our weld modes to deliver smooth, stable laser performance specifically tailored for your application.

- Stainless Steel
- Carbon Steel
- Aluminum

HyperFill Capability*

The HyperFill twin-wire welding process is designed to maximize productivity by increasing deposition rates over single wire applications. It also improves weld quality by enhancing material fit-up tolerance. Additionally, the system maintains low complexity by utilizing just one power source, one feeder, one wire conduit, and one contact tip.

*Requires purchase of HyperFill Accessory One-Pak®

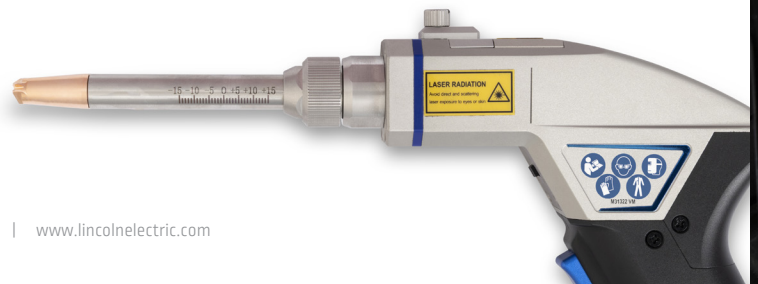
Industry-Driven Design

Flex Lase Laser Welding Gun

- Operator-focused, lightweight and ergonomic design
- LED indicator lights for output status
- Visible red guide light indicates where the laser energy will be focused
- Simple toggle switch to change from autogenous to wire-fed welding

Flex Feed® 25L Wire Feeder

- Industry-proven, rugged, reliable design
- Internal lighting illuminates the wire drive to aid operators working in dark environments.
- Two roll MAXTRAC® wire drive system
  - Two gear driven rolls with patented groove design. No tools needed to remove rolls.
  - Revolutionary split wire guide precisely aligns and supports wire through the entire system. Maximizes support and minimizes feeding problems.
  - Easy access for inspection, cleaning or changing to different wire sizes.
  - Covered by a market-leading 5-year warranty



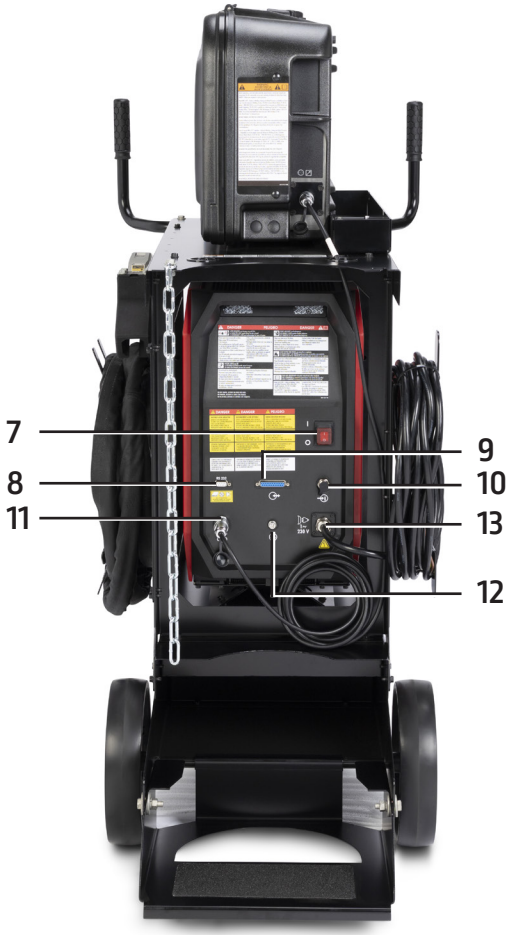
Key Controls Power Source

Front

1. User Interface
2. Status LED
3. Emergency Stop
4. Key Control
5. Safety Feedback Circuit
6. Laser Output

Back

7. On/Off
8. 9-Pin Serial Communication Port for Optional Cobot/PLC
9. 25-Pin External Control for Safety/Interlock/Inputs/Outputs
10. Gas In
11. 7-Pin Connector to Wire Feeder
12. Case Ground
13. Input Power



Key Controls Wire Feeder

1. On/Off Power Switch
2. 3 Amp Circuit Breaker
3. Two Roll MAXTRAC Wire Drive System
4. Cold Feed Forward/Cold Feed Backward
5. Light Switch

What's Included

Flex Lase cobots combine the power of Flex Lase laser systems and collaborative robotics for high-mix manufacturing processes.

Flex Lase Ready-Pak (K5772-1)

- Flex Feed 25L Wire Feeder
- Flex Lase 20 Power Source
- Laser Rated Welding Helmet - Passive Lens
- Laser Rated Glasses - 2x Pair
- 0.045 in. (1.2 mm) Contact Tips
- Handheld Laser Nozzles
- Welding Gun Protective Windows
- Cables for Safety/Interlock/Case Ground
- Table-top Laser Welding Gun Holster
- Focal Tube Adjustment Tool
- Welding Gun Cavity Protection Tape
- Gas Filter Regulator Assembly
- Industrial Cart

Note: Gas filter regulator assembly is not shown

Robotic Application

Flex Lase Cobot System

Flex Lase cobots offer automated solutions to repetitive, low-mix/high-volume manufacturing processes.

- Let the cobot do the repetitive work to help increase productivity and efficiency.
- The cart-mounted enclosure design makes it a Class-1 laser system.
- The system fits the Flex Lase 20 power source and Flex Feed 25L wire feeder under the cart

Fully Integrated Robotic Programming

The Flex Lase power source's laser and wire parameters are set directly within the robot program. Pre-qualified procedures can be password-protected to prevent changes, while still enabling programmatic, per-weld parameter adjustments, all without stopping the cobot or leaving the primary cobot control interface.

Flex Lase Cobot Cart
AD2516-2

What's Included

- FANUC® CRX-10iA/L™ cobot with teach pendant
- Flex Lase 20 Power Source
- Flex Feed 25L Wire Feeder
- X-Tractor® Mini welding fume extractor
- Fixed welding table
- Mobile cart
- Cart-top-mounted enclosure

Recommended Accessories

VIKING ™ FLZ Passive Laser Welding Helmet
866 - 1100 nm (OD 7+)
Order: K5747-1

Lincoln® FLZ Laser Welding Safety Glasses
840 – 1600 nm (OD 7+)
Order: K5750-1

Laser Controlled Area (LCA) Enclosure
Light-tight enclosure with laser-blocking panels.
Order: Contact for Quote

Flex Lase HyperFill (0.035 in.) Wire Feeding Accessory One-Pak®
Necessary wire delivery components for HyperFill.
Order: K5913-1

Flex Lase Aluminum (1/16 in.) Wire Feeding Accessory One-Pak
Necessary wire delivery components for aluminum.
Includes Argon gas regulator and filter assembly, not shown here.
Order: K5914-1

Laser Safety

Integrated Safety Features

The Flex Lase power source was designed with several safety features to help facilitate safe operation.

- Activation code required for initial start-up
- Key switch to secure the equipment
- Emergency stop
- Shielding gas detection alarm
- Safety interlocking system
- Contact-based safety feedback circuit

Class 4 Laser Safety Considerations

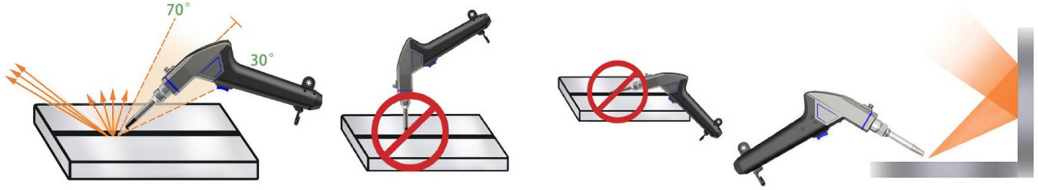
The Flex Lase power source is a class 4 laser instrument that requires careful attention to safety procedures. Read and follow all labels and the Operator's Manual before operating, installing or servicing. Each organization shall have a qualified Laser Safety Officer (LSO) who is responsible for the safety of operators.

Personal Protective Equipment (PPE)– Wear proper PPE to avoid eye or skin exposures to laser radiation:

- Laser-rated eyewear
- Laser-rated welding helmet
- Laser and heat-resistant protective clothing
- Laser and heat-resistant protective gloves

Laser Controlled Area (LCA) – Class 4 lasers shall only be operated inside of an LCA, which is a light-tight enclosure with laser-blocking panels, an access door with an interlock switch, and a "Laser On" warning sign. Any barriers or windows used in the welding area shall be made of a laser-safe material that can withstand direct and reflected beams. Always ensure proper fume extraction is present when welding.

Torch Angle & Reflected Beams– Never position yourself or flammable material in the anticipated path of reflection. The proper torch angle is between 30° and 70°.



Trusted Expertise & Support

Welding Experts

High-quality products and excellent customer service are essential for the Lincoln Electric story. Still, our unmatched welding expertise, from the construction site to the right of way, truly sets us apart. If there's a better way for you to weld, we'll help you find it

Global Support

With a worldwide network of distributor and sales offices reaching over 160 countries, as well as 36 global technical application facilities, Lincoln Electric can provide trusted global support you can count on.

Trusted Protection

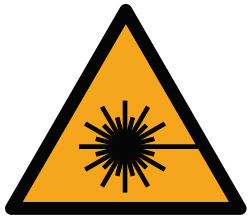
Purchase with peace-of-mind. The Flex Lase 20 power source comes backed with a 2-year warranty on parts & labor, and the Flex Feed 25L wire feeder comes with a 5-year warranty on parts & labor.

SPECIFICATIONS

Product Name	Product Number	Input Power Voltage/Phase/Hertz	Rated Output	Input Current @ Rated Output	Output Range	Dimensions - H x W x D in (mm)	Net Weight lb (kg)
Flex Lase Handheld Laser System	K5772-1	AC 230V / 1 / 50/60Hz	2000W	26A	200 - 2000W	53.7 x 23 x 45.5 (1364 x 584 x 1156)	246 (111.6)

Product Number	Product Number	Cart Dimensions L x W x H in (mm)	Robotic Arm Payload lb (kg)	Robot Arm Reach in (mm)	System Weight lb (kg)	System Work Envrlop in (mm)	Fixed Table Payload lb (kg)
Flex Lase Cobot Cart	AD2516-2	114 x 61 x 89 (2,896 x 1,549 x 2,261])	22 (10)	55.8 (1,418)	1200 (544)	46 x 48 (1,168 x 1,219)	500 (226)

⚠ DANGER



CLASS 4 LASER PRODUCT INVISIBLE LASER RADIATION

Avoid eye or skin exposure to direct or scattered radiation. See operator's manual, labeling and applicable laws, regulations and standards.

⚠ WARNING

LASER SAFETY OFFICER (LSO)

Establish a Laser Safety Program and appoint a qualified Laser Safety Officer who is responsible for the safety of observers and operators.

LASER CONTROLLED AREA (LCA)

Operate only in a Laser Controlled Area with safety interlocks that meets the requirements of applicable laws, regulations and standards and ANSI Z136.1

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Wear PPE as recommended by LSO to avoid eye or skin exposure to light radiation, heat and sparks.

LASER RADIATION EYE HAZARDS

Never look directly into a laser aperture, even if wearing full eye protection. Never point the torch at another person.

For best welding results with Lincoln Electric equipment, always use Lincoln Electric consumables. Visit www.lincolnelectric.com for more details. Manufactured at a facility with certified ISO Quality and Environmental Management Systems.

CUSTOMER ASSISTANCE POLICY

The business of Lincoln Electric is manufacturing and selling high quality welding equipment, automated welding systems, consumables, cutting equipment and EV charging systems. Our challenge is to meet the needs of our customers, who are experts in their fields, and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or technical information about their use of our products. Our employees respond to inquiries to the best of their ability based on information and specifications provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment, or to provide engineering advice in relation to a specific situation or application. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or communications. Moreover, the provision of such information or technical information does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or technical information, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose or any other equivalent or similar warranty is specifically disclaimed.

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Publication E22.06 | Issue Date 04/26

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