

LASER-PAK PPL

LASER SYSTEMS



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LASER-PAK PPL LASER SYSTEM

Lincoln Electric Automation™ is proud to announce a revolutionary new process: Precision Power Laser™ (PPL™). PPL produces a weld deposit at high travel speeds with independent control of power inputs of the weld. In various applications, this process can be implemented to help improve production rates and increase quality using the Lincoln Electric Automation Laser-Pak™ PPL™ laser system.

SYSTEM INCLUDES

- Lincoln Electric® Precision Power Laser package
- Laserline® LDM series standalone laser tower
- Laserline OTS laser welding optical processing head
- Single-point disconnect panel - single arm

CDRH CLASS I LASER-SAFE ENCLOSURE

- “Light tight” to laser wavelength to help prevent exposure outside of cell
- Interlocked operator access door
- Pneumatic sliding doors with interlocks
 - » L-shaped for overhead crane access
- Interior safety scanners
- Laser-safe viewing windows
- Light curtains for added safety
- Sliding tailstock - maximum part length: 10 ft.

BENEFITS

- Superior efficiency compared to powdered metal processes
- Greater control of base metal dilution compared to MIG welding
- Up to 20lbs/hr deposition rate (w/8kW Laser Power)

INDUSTRIES

- Aerospace
- Agriculture
- Appliance
- Automotive
- Energy
- General Industry

IDEAL APPLICATIONS

- Welding
- Cladding
 - » Corrosion Resistance
 - » Wear Resistance
- Feature Building
- Joining
- Brazing
- Additive Manufacturing

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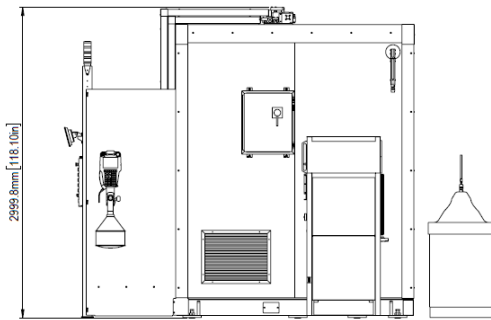
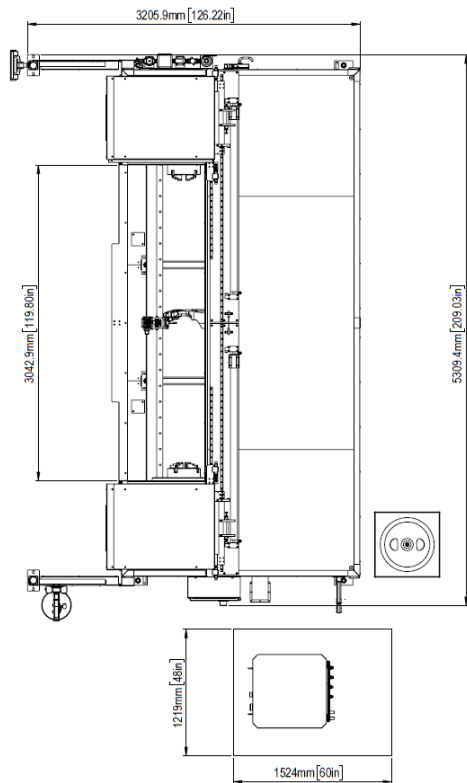


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PRODUCT DIAGRAM



SYSTEM DETAILS

LINCOLN ELECTRIC PRECISION POWER LASER PACKAGE

The Laser-Pak PPL cell is equipped with the Lincoln Electric Power Wave® R450 with Precision Power Laser waveform. This package is capable of providing the most preheat possible into a consumable before it enters the laser puddle. A closed-loop, arc-suppression routine helps process stability and maximize deposition rate. This single-point control offers accurate control of intermetallic dilution, helping to provide a higher-quality deposit than other controls.

LASERLINE LDM SERIES STANDALONE LASER TOWER

The innovative design of the compact, fiber-coupled LDM diode laser makes it possible to integrate the modules into nearly any production area, making it very suitable for OEM applications.

- LDM 8000-100 diode laser (8kW process output power)
- Unit dimensions (W x D x H): 750 mm x 850 mm x 1500mm
- 1000um core feed fiber x 10m length
- Includes 12kW dual-cooling channel, thermal-chiller, integrated into tower rack

LASERLINE OTS LASER WELDING OPTICAL PROCESSING HEAD

The Laserline OTS optics are designed for industrial material processing and used in combination with Laserline's diode lasers. Because of their modular design and the great number of possible spot geometries, the optics can be flexibly configured and optimally adjusted to just about any process demands.

SINGLE-POINT DISCONNECT PANEL - SINGLE ARM

480 Volt 3-phase 100A disconnect panel capable of supplying power to all the equipment:

- Robot controller
- Laser controller
- Laser chiller
- Environmental gear (If purchased)

This panel greatly simplifies connection of power to the robotic system at the end-user facility. It requires a single power drop splitting the connection to each individual piece of equipment. The panel is constructed per NFPA-70 (NEC) Article 409 and is lockout/tagout (LOTO) ready.

PRODUCT SPECIFICATIONS

Product Name	Product Number	System Dimensions LxWxH in. (mm)	System Weight lb. (kg)	Sweep in. (mm)	Span in. (mm)	Capacity per side lb. (kg)
Laser-Pak PPL	AD2493-4	126x209x118 (3,206x5,309x3,000)	10,424 (4,728)	40 (1,000)	118 (3,000)	3,307 (1,500)

Laser Type	Output Range	Rated Output, Constant Wattage [CW]
Laserline LDM-8000	800-8000W	[CW]: 8000W - 100% Duty Cycle

CUSTOMER ASSISTANCE POLICY

The business of Lincoln Electric is manufacturing and selling high quality welding equipment, automated welding systems, consumables, and cutting equipment. 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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