

# Laserdyne® 811

DIRECT ENERGY DEPOSITION



## THE FASTEST SOLUTION FOR 3D FABRICATION, REPAIRING AND CLADDING WITH QUALITY AND ACCURACY

The latest development from Prima Additive in direct energy deposition additive manufacturing process. The machine provide precision and flexibility for a wide variety components. The machine is equipped with one of the fastest laser processing systems in the industry. The controller supports 7 axes of simultaneous motion, and integrated automation to load and unload component and subassemblies, i.e. robotic, automated stock inputs, turn-table, or out feed platform.

### FLEXIBLE



A single machine that supports additive, welding, drilling and cutting 3D and 2D Components. With the BeamDirector® and quick change nozzles, in a matter of a second the machine can be changed from additive, welding to drilling or to cutting. The machine can be equipped with 3 axes configuration or up to 7 axes.

### RELIABLE



The machine encompasses over 40 years engineering and industrial laser processing expertise. The LASERDYNE® have strong reputation for consistently and quickly manufacturing quality components.

### EFFICIENT



Higher overall equipment efficiency due reduced downtime and maintenance. Less resources dedicated to maintaining the machines. More efficient use of floor space for the total working envelope.

### INERT CHAMBER



The machine is designed to be equipped with an inert chamber option in order to print reactive materials such as Aluminum and Titanium. The inert chamber reaches 50 ppm of oxygen concentration in all the working volume and it is possible to remove the entire building volume thanks to a pre-chamber without loose inert atmosphere inside the working chamber.

### INNOVATIVE



The machine can be equipped with **REAL\_DED** (REal-time Adaptive Laser beam for Direct Energy Deposition) laser deposition head, developed and patented by Prima Additive to increase the performance and the efficiency of the deposition process and let the end-user to adapt the laser beam spot dimensions in real-time during the process.

# Technical Specifications

## Laserdyne® 811

<b>DIMENSIONS</b>	System: 2800 (L) - 6780 (W) - 3500 (H) mm
<b>WEIGHT</b>	9550 Kg
<b>POWER SUPPLY</b>	480 V / 60 Hz / 24 kW
<b>LASER IR</b>	Fiber Laser Yb, CW multimode, 1-6 kW, IR 1070-1080 nm
<b>WORKING VOLUME</b>	1100 x 800 x 600 mm
<b>AXES (CONFIGURATION 3 AXES)</b>	X = 1100 mm Y = 800 mm Z = 600 mm
<b>HEAD AXES</b>	BeamDirector® (C-D): axe C +90 -90 degrees Axe D +90 - 90 degrees
<b>AXES VELOCITY</b>	X-Y-Z >50 m/min BeamDirector® (C-D): 0-30 rpm
<b>RESOLUTION</b>	BeamDirector® (C-D): 0.005 degrees
<b>ACCURACY</b>	Linear (X-Y-Z): 25 µm bi-directional BeamDirector® (C-D): +/- 15 arc-second
<b>REPEATABILITY</b>	Linear (X-Y-Z): 25 µm bi-directional BeamDirector® (C-D): +/- 15 arc-second
<b>ROTOR TILT TABLE</b>	2 interpolated axes (Tilt & Rotation) standard load capacity 120 kg, optional 300 kg
<b>DEPOSITION RATE</b>	up to 100* cm <sup>3</sup> /h * Dependent on process parameters and material used.
<b>ROUGHNESS RA</b>	min 20 micron - typical 40 micron
<b>DEPOSITION ACCURACY</b>	+/- 0.2 mm / 2 mm
<b>POWDER FEEDER</b>	1 to 4 hopper (1.5 or 5 lt)
<b>CAM SOFTWARE</b>	MasterCam DED
<b>CNC SOFTWARE</b>	S94P Prima Power

- Laser
- Machine and additive process details
- Peripheral & auxiliaries - Software