The LENS 860 is the newest model in the affordable Optomec Hybrid system line-up. With an 860x600x610 mm work envelope the system enables additive and subtractive manufacturing of mid-size and large parts. The LENS 860 comes standard with a hermetically sealed build chamber and closed loop atmosphere controls for producing parts with superior metal quality. The LENS 860 can be configured with a high power 3 kW fiber laser reducing manufacturing time for building, repairing or coating parts.

Built on a rugged CNC platform, the system features a 16 tool ATC and an 8,000 or optional 10,000 RPM spindle for machining operations. The base LENS 860 system is equipped with a 3-linear axis motion system, but optionally can be delivered with a user interchangeable rotary table and/or tilt-rotate trunnion for 4 and 5 axis for additive and subtractive metal processing. Additive manufacturing is enabled with the industry proven LENS Print Engine technology including integrated Steadyflow™ powder feeders, water-cooled LENS deposition head, and SmartAM™ closed loop process controls.

A Siemens controller manages the system’s additive and subtractive functions through an easy to use HMI. Powerful Optomec software enables multi-axis build strategies that combine additive and subtractive operations in a single tool path program. Optional material starter recipes and unparalleled customer service and support round out the LENS 860 Hybrid Controlled Atmosphere System.
Optomec® is a privately-held, rapidly growing supplier of Additive Manufacturing systems. Optomec's patented Aerosol Jet Systems for printed electronics and LENS 3D Printers for metal components are used by industry to reduce product cost and improve performance. Together, these unique printing solutions work with the broadest spectrum of functional materials, ranging from electronic inks to structural metals and even biological matter. Optomec has more than 300 marquee customers around the world, targeting production applications in the Electronics, Energy, Life Sciences and Aerospace industries. For more information about Optomec, visit http://www.optomec.com.

How the LENS Process works:

The LENS process is housed in a chamber which is purged with argon such that oxygen and moisture levels stay below 40 parts per million for LENS Hybrid CA Systems and 10 parts per million for LENS Additive CA Systems. This ensures there is no impurity pickup during deposition.

The LENS Deposition head delivers the laser and powder to the deposition zone. Metal powder is conveyed through nozzles to the focal point of the laser creating a melt pool. Argon gas is used to deliver the powder and protect the melt pool from contamination.

Toolpaths are generated from a CAD model and instruct the LENS system to build or machine the part using standard G & M commands. Material starter recipes provide pre-qualified LENS processing parameters to print a variety of commonly used powders including Titanium, Inconel, and Steels. The part is built layer by layer under the control of software that monitors a variety of parameters to ensure geometric and mechanical integrity. When complete, the part is removed and can be heat-treated, Hot-Isostatic Pressed, machined or finished in any other manner.

### ABOUT OPTOMEC

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