

RPMI 557 Standard System

Professional grade system with Powder Fed Laser Metal Deposition Technology

Developed and perfected via extensive production experience

Designed, engineered and manufactured by RPM Innovations, Inc.

60,000+ accumulated hours of complex parts repair, free form & hybrid manufacturing

Aerospace, Defense, Energy, Marine, Mining, Construction, Tooling Industries

Production Reliable, Industry Proven in 3-shift Operation

Standard Configuration:

Working Dimensions

- Laser Head Travel: "X": 1524 mm, "Y": 1524 mm, "Z": 2133 mm
- Laser Build Envelope: 4.95 cubic meters

Controls & Software

- 5 axis motion
- CNC controlled axes X/Y/Z and Tilt/Rotate table
- Tool Path Generator (TPG)-Import STL files and create tool code (Includes "Layer Viewer & Simulator")
- Laser Deposition Machine Control software (LDMC) - Load tool path code and build parts (Manual position/activate features; rapid file loader; event logger; variable speed "jogger")
- RPMI Vision Software - View deposition surface, precisely align laser head (Movable and sizable crosshair for alignment/laser targeting; customizable zoom, iris and focus)
- Two (2) 600 mm displays, keyboard and mouse on HMI pendant

Laser and Powder Delivery Systems

- 3KW IPG Fiber Laser with Chiller
- Two Dual-Hopper Servo Driven Powder Feeders for continuous operation
- Industrially hardened Optics Box and Vision Camera
- Safe and reliable handling of high power levels and back reflection
- Industrially hardened Water Cooled 25 degree 4 nozzle Deposition Head
- Industrially hardened Water Cooled Co-axial Deposition Head
- Long life nozzles and optics for continuous operation

Atmosphere Control

- Argon atmosphere glove box
- Custom Gas Purification System
- Oxygen level controlled to less than 5 ppm
- Antechamber (375 mm D x 600 mm L) for passing smaller parts

System Construction & Parts Handling

- Polished Stainless Steel construction
- Hermetically sealed Class 1 Laser Enclosure
- Large 2400 mm Tall x 1700 mm Wide front/rear access doors
- Multiple viewing windows, Laser Safe
- Fume collection system
- Modular Heavy Duty (1000 KG capacity) Tilt and Rotate Table (+/- 90 degree Tilt; Continuous 360 degree Rotate)
- Heavy duty servo driven Part Shuttle (5000 KG capacity)
- Easy to clean and maintain



Optional:
ID Deposition Head