

"Innovative Solutions for Industry"

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# **RPMI 535 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": 914 mm, "Z": 1524 mm
- · Laser Build Envelope: 2.12 cubic meters

### Controls & Software

- · 5 axis motion
- $\cdot$  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
- $\cdot$  Two Dual-Hopper Servo Driven Powder Feeders for continuous operation
- · Industrially hardened Optics Box and Vision Camera
- $\cdot$  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
- $\cdot$  Long life nozzles and optics for continuous operation

### Atmosphere Control

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

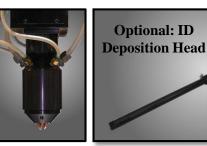
### System Construction & Parts Handling

- · 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)
- $\cdot$  Easy to clean and maintain











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