AMDROiD™

Print Different

The AMDroid is the first laser-wire based portable additive manufacturing robot cell rated for reactive materials like titanium with a deposition rate as high as 4 kg/hr. The AMDroid provides all the benefits of a robotic architecture in a compact welded cell that is portable, allowing installation and the first printed parts in just one day.

The AMDroid features state-of-the-art software tools to accommodate complex multi-axis geometries, making printing easier and more accessible for experienced and new users. It is designed, developed and integrated by our innovative engineering team, and powered by a proprietary user interface command center.

Capable of simultaneous wire powder deposition for new alloy development

Integrated Vacuum Argon system to inert enclosure for reactive materials

Hermetically sealed portable enclosure for forward deployment

Wire feeder rated for common metals including Al & Cu

6 kW fiber laser for high deposition rate

Robot arm for multi-axis large-scale geometries

Technical Data

Laser DED Technology

Maximum laser power	6 kW
Laser type	Fiber laser
Laser wavelength	1080 nm
Layer thickness	0.6 – 1.8 mm
Maximum Deposition rate	4 kg/hr Material & Feature Dependent
Build volume	1.4 m x 1.0 m x 1.2 m (WxDxH)
Wire feed stock	0.8 – 1.2 mm Φ
Processable materials	Iron, nickel, titanium,copper, and aluminumalloys
Shielding	Localized (Argon or Nitrogen)
Cooling	Active water cooling
Process control	Melt pool temperature (Pyrometer) based closed loop laser power modulation along with wire feeder control

Motion Technology

Motion axes	6+2
Robotic partners	ABB
Robotic motion software	ADDiTEC powered by Aibuild configured, compatible with other software programs

Portable Cell

Machine Footprint (m)	2.3 m x 3.7 m x 3.0 m (WxDxH)
Inert chamber system	Vacuum and Argon
Oxygen sensor	0 - 25% minimum measurable oxygen level
Fume management system	HEPA air filter (MERV 17)
Total weight	6000 kgs approx.
Power Requirements	55kVA 80A 50/60 Hz 400V AC 3L + N + PE / 5 Wire 3 Phase

*These specifications are subject to change without notice.

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