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

Deposition 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 aluminum alloys
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	Adaxis or Aibuild configured, compatible with other software programs

Portable Cell

Cell volume	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.

TRI-TECH 3D
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*These specifications are subject to change without notice.