



AMDROID X™

EXPEDITIONARY UNIT

The AMDROID X is a robust Laser Directed Energy Deposition (LDED) self contained turnkey solution engineered for the most demanding operations with rapid deployment in demanding environments, it ensures mission critical capabilities in any austere terrain or maritim. Equipped with a powerful 12kW fiber laser, it enables the in-field production and repair of large-scale metal components, including mission-critical parts made from materials like stainless steel, aluminum, and copper with high deposi-

tion rates. The AMDROID X provides all the benefits of a robotic architecture in a compact 10-Foot Modular Container Expandable that is portable, allowing the first printed parts in unmatched time. Its 4 powerwalls provide 54 kwh of reliable, usable energy that can be recharge by its solar roof. 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.



12 kW fiber laser
for high
deposition rate



Rapid Deployment
to any austere
terrain or maritim



Expandable to
169 sqf



Wire feeder rated for
common
metals including
Al & Cu



Robot arm for
multi-axis large-scale
geometries



Portable enclosure for
forward deployment

Technical Data

Maximum laser power	12kW
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 1.4 m x 1.47 m (WxDxH)
Wire feed stock	0.8 – 1.2 mm Ø
Processable materials	Iron, nickel, copper, and aluminum alloys Localized (Argon or Nitrogen)
Shielding	Active water cooling
Cooling	Melt pool temperature (Pyrometer) based closed loop laser power modulation along with wire feeder control
Process control	

Laser DED Technology

Motion Technology

Motion axes	6+2
Robotic partners	ABB and Siemens
Robotic motion software	ADDiTEC Builder. Configured, compatible with other software programs
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	7000 kgs approx.
Power Requirements	60kVA 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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