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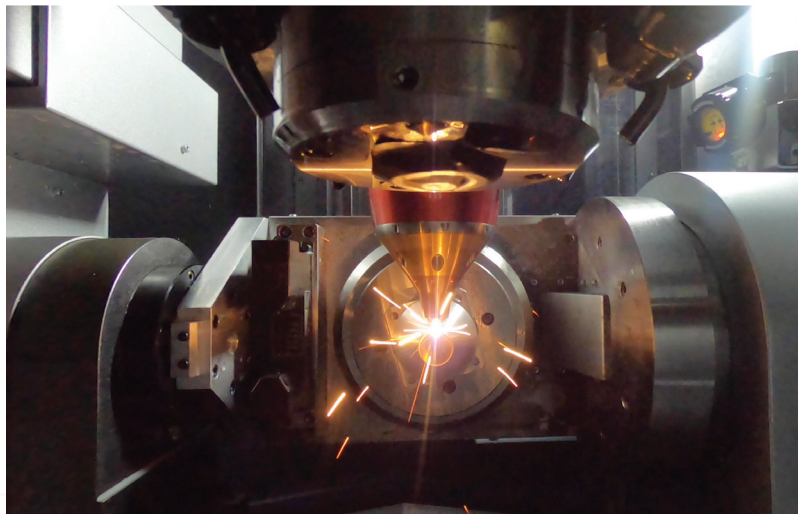
Creativity and production - extended.

Integrated industrial metal 3D printing (AM) and CNC machining

The XtenDED features a twin-head setup that combines the AMBIT laser processing head with the tool magazine of a CNC machine. AMBIT heads add metal using powder-fed Laser Metal Deposition (LMD) which is a form of Directed Energy Deposition (DED) - where a laser melts feedstock powder as it arrives to the surface of a workpiece. This is an ideal match for applications which benefit from higher metal deposition rates and do not require the internal complexity of powder bed fusion.

The XtenDED hybridized AM/CNC enables increased in-process finishing of AM parts with greater accuracy, higher deposition rates (thicker layers), better surface finish and improved productivity. XtenDED is less wasteful than machining alone and more productive and precise than 3D printing alone. LMD uses less energy and is more controllable layer-to-layer and gives a significantly smaller heat-affected zone (HAZ) versus plasma/wire AM systems.

See it at:
suginocorp.com/xtended



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Additive Specifications

Processing Head (Standard) – 1 mm		Processing Head (Optional) – 2 mm	
Deposition Width	0.8 – 1.2 mm	Deposition Width	1.5 – 2.2 mm
Deposition Volume (typical build rate)	10 – 25 cm ³ /H	Deposition Volume (typical build rate)	50 – 125 cm ³ /H
Deposition Mass (typical build rate)	0.1 – 0.2 kg/H	Deposition Mass (typical build rate)	0.4 – 1.0 kg/H
Compatible Power Range	200 – 700 W	Compatible Power Range	500 – 1,000 W
Fiber Laser		1064 nm	
Gas		Argon – nozzle and shield	
Chiller		Circuit 1 – laser	
		Circuit 2 – end of fiber	
		Circuit 3 – deposition head	
Water source for chiller		DI reservoir – circuits 1 & 2	
		Potable/Glycol reservoir – circuit 3	
Fume Extractor		HEPA filtered	
Material (powders) aAvailable for AM:		Nickel-based Superalloys (Inconel), Cobalt-based Alloys, Steels (Stainless to Tool Steels)	
Metal powder requirements:		40 to 90 micron, spherical, gas-atomized	

CNC Machining Specifications

Model	XION α-5AX
Type	Vertical 5-Axis Simultaneous Control
Spindle Taper	HSK-E32
Number of tools	13 (Option: 21)
Stroke	12.00 x 16.00 x 8.00 in. in XYZ (300 x 400 x 200 mm in XYZ) A-axis -105°~+120°. C-Axis 360°
Rotation Speed	40,000 rpm
Repeatibility	± 1 μm
Feed	709 in./min. (18m/min)
Torque	3.69 ft. lbs. (5N . m) (Rated)

Machine Size	123 in. x 98 in. x 100 in. W 3,125 x D 2,500 X H 2,550 mm
Machine Weight	Approx. 11,023 lbs. (5,000 kg)
Power	400V, 40 kVA – CE or UL Avail.

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