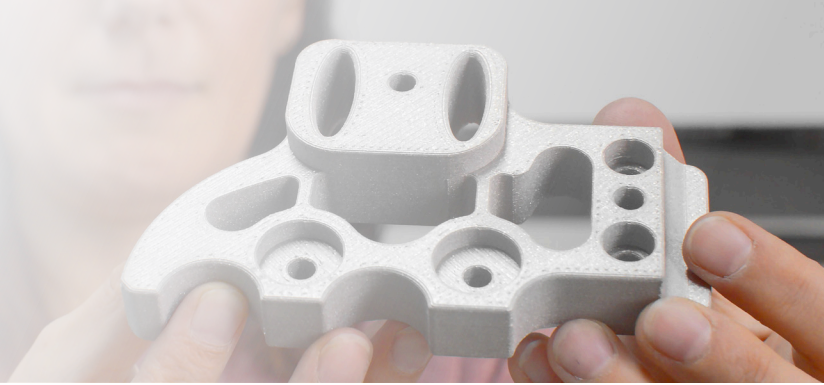


SYSTEM OVERVIEW

Sinter-Based Metal 3D Printing For Education



From the maker space to the laboratory, Desktop Metal is the trusted leader in sinter-based metal 3D printing systems that prioritize ease-of-adoption. Learn more about our additive manufacturing solutions with benefits tailored to every kind of educational environment.

	Studio System™	Shop System™	InnoventX™
Ideal for	Users who prioritize system access and ease-of-use: Makerspaces, mechanical engineering departments, student teams	Users who prioritize ease-of-use and batch productivity: Machine shops, advanced manufacturing centers	Users who prioritize customization: Materials science departments, research labs, application development centers
Technology	Bound Metal Deposition Extrudes metal rods into complex shapes layer-by-layer. Hand-stable green parts are sintered in a furnace for final densification	Binder Jetting Deposits powder into thin layers followed by binder. Delicate green parts are sintered in a furnace to final densification	Binder Jetting with Triple Action Compaction Technology (ACT) capable of processing a variety of powdered materials and various binders
Process steps	Print, sinter (depending on material a solvent debinding process may be required before sintering)	Print, crosslink, depowder, sinter	Print, crosslink, depowder, sinter (depending on material, post-print processing step may differ from sintering)
Feedstock	Hot-swappable, push-to-release, user refillable cartridges of pre-bound metal and binder rods	Desktop Metal engineered powders and processing parameters, optimized to deliver exceptional part quality and ensure part-to-part repeatability	Open powder architecture with the ability to process metal, composites, and technical ceramics, including sands, as well as a variety of binders
Materials qualified	17-4 PH, 316L, 4140, A2, Copper, D2, H13, IN625, Ti64	17-4 PH, 304, 316L, Cobalt Chrome, IN625	35+ powders processed on the open material platform
Software	Live Studio™ enables a seamless workflow from digital file to sintered part. Integrated with the Studio System printer and furnace to reduce operator burden, ensure process efficiency, and automatically optimize fabrication of high-quality metal parts	Live Build MFG™ is an intuitive and powerful tool to prepare 3D model and ensure build success with automatic nesting, support generation, and slicing in a simple-to-use platform. Live Sinter™ provides predictable sintering outcomes	Intuitive onboard software paired with Live Sinter™ multi-physics sintering simulation application delivers final parts with tight tolerances for predictable sintering outcomes with significantly improved dimensional accuracy
External dimensions of printer	94.8 x 82.3 x 52.9 mm (37.3 x 32.4 x 20.8 in) plus Desktop Metal furnace	1,990 x 760 x 1,630 mm (78.3 x 29.9 x 64.2 in) plus Desktop Metal crosslink oven, depowder station, and Desktop Metal furnace	1,208 x 935 x 1,434 mm (47.5 x 36.8 x 56.5 in) plus crosslink oven, depowder station, and Desktop Metal furnace
Weight	97 kg (214 lbs)	450 kg (992 lbs)	500 kg (1,100 lbs)
Build envelope	300 x 200 x 200 mm (12 x 8 x 8 in)	350 x 222 x 50-200 mm (13.8 x 8.7 x 2.0-7.9 in)	160 x 65 x 65 mm (6.3 x 2.5 x 2.5 in)
Layer height	50 - 150 µm high resolution printhead 150 - 300 µm standard resolution printhead	50 - 150 µm	30 - 200 µm
System throughput	Prototyping, batch production, 16 cc/hr	Prototyping, batch production, low-mid volume production, 800 cc/hr	R&D, scalable prototyping, 54 cc/hr at 65 µm layer thickness
Supports structures	Separable Supports™ via a ceramic release layer interface technology are automatically printed and can be broken away by hand after sintering	Parts are fully supported in the powder bed, requiring only sintering setters when necessary. Live Sinter develops distorted geometries that can dramatically reduce or eliminate the cost of printing such setters	
Final part quality	98% density, similar to cast parts. Employing an extrusion-based process, layer lines are typically visible and part surfaces are similar to cast part surfaces	Up to 99% density. ±2.0% dimensional tolerance with tighter tolerances achievable through the use of Live Sinter sintering simulation and compensation software	When using Triple ACT and Live Sinter software parts consistently fall within 1% of target dimension with as low as +/- 0.3% deviation after scan-based adjustments