

## STUDIO SYSTEM+

# Printer specifications

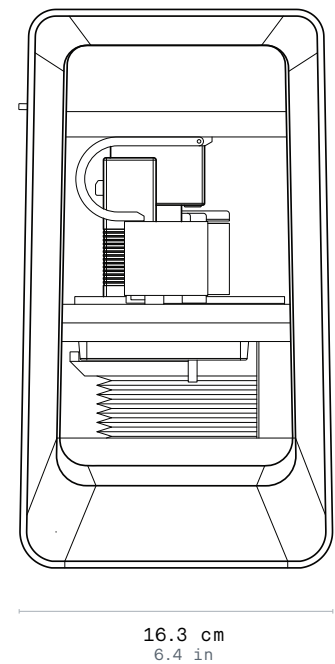
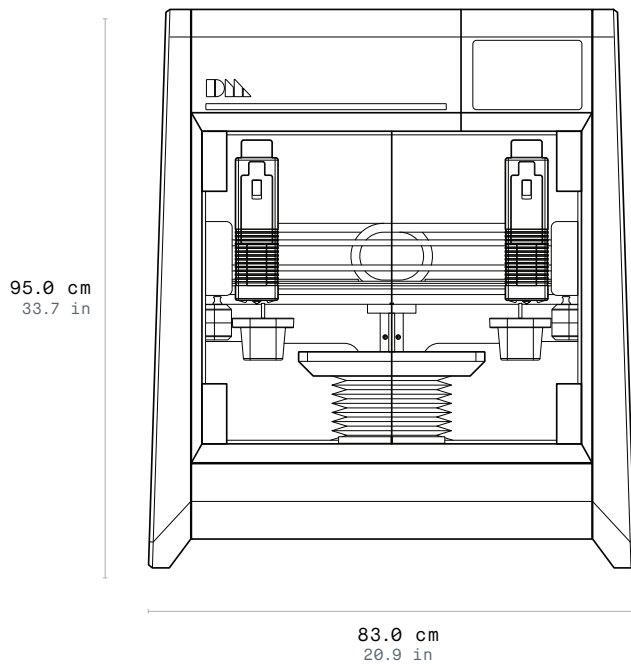
The printer was designed from the ground-up for simple installation and use. Its process is similar to the safest, most widely used 3D printing process—Fused Filament Fabrication (FFF). Unlike laser-based systems that selectively melt metal powder, the Studio System™ printer extrudes bound metal rods, eliminating the safety requirements associated with metal 3D printing and enabling new features like closed-cell infill for lightweight strength. New features introduced with Studio System+ include high-resolution printing and an in-chamber camera for live viewing of the part as it prints.

<b>TECHNOLOGY</b>	Print technology	Bound Metal Deposition™
	Support technology	Separable Supports™
	Interface technology	Ceramic Release Layer™
<b>PERFORMANCE</b>	Max build rate	16 cm <sup>3</sup> /hr 1 in <sup>3</sup> /hr
	Layer height	<ul style="list-style-type: none"> <li>• 50 μm high resolution printhead</li> <li>• 100-220 μm standard resolution printhead</li> </ul>
	Max build weight for all parts in job	6.5 kg 14.3 lbs in green state
	Safety features	Over-temperature protection
<b>PHYSICAL</b>	External dimensions	95 x 83 x 53 cm 33.7 x 20.9 x 37.4 in
	Weight	97 kg 214 lbs
	Build chamber	Heated up to 50 °C 122 °F
	Extruder assembly	Dual quick-release print heads
	Build envelope	28.9 x 18.9 x 19.5 cm 11.4 x 7.4 x 7.4 in
	Build plate	<ul style="list-style-type: none"> <li>• Heated, up to 70 °C 158 °F</li> <li>• Vacuum-enabled print bed</li> </ul>
	Print sheets	Polypropylene, peel-away
	Nozzle diameter build media	<ul style="list-style-type: none"> <li>• 0.40 mm standard resolution</li> <li>• 0.25 mm high resolution</li> </ul>
	Nozzle diameter interface media	0.40 mm
	Power requirements	100-120 VAC, 50/60 Hz, 15 A, 1-phase
	Onboard control	7-inch touchscreen display
	Chamber view	<ul style="list-style-type: none"> <li>• Glass doors and clear polycarbonate siding for 360° view</li> <li>• In-chamber build plate camera</li> </ul>
	<b>MEDIA</b>	Media holding
Media loading		Push-to-release
Build media		Bound metal rods (metal powder + wax and polymer binder)
Interface media		Bound ceramic rods

**PLATFORM**

Network connectivity	Wireless and Ethernet
Software	Fabricate™ software
Browser requirements	Accessible via any web browser
Supported file types	STL, IGES, JT, STEP, VDA-FS, U3D, VRML and native file types (SolidWorks, ProE, etc)
Automation	<ul style="list-style-type: none"> <li>• Auto-generated build plans based on geometry and material</li> <li>• RFID-enabled supply monitoring</li> <li>• Live job progress tracking</li> </ul>

**DIMENSIONS**



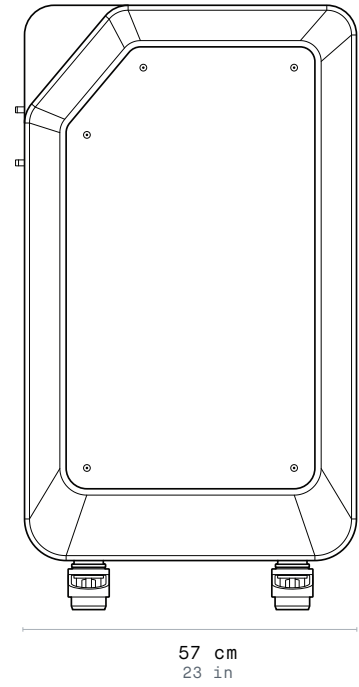
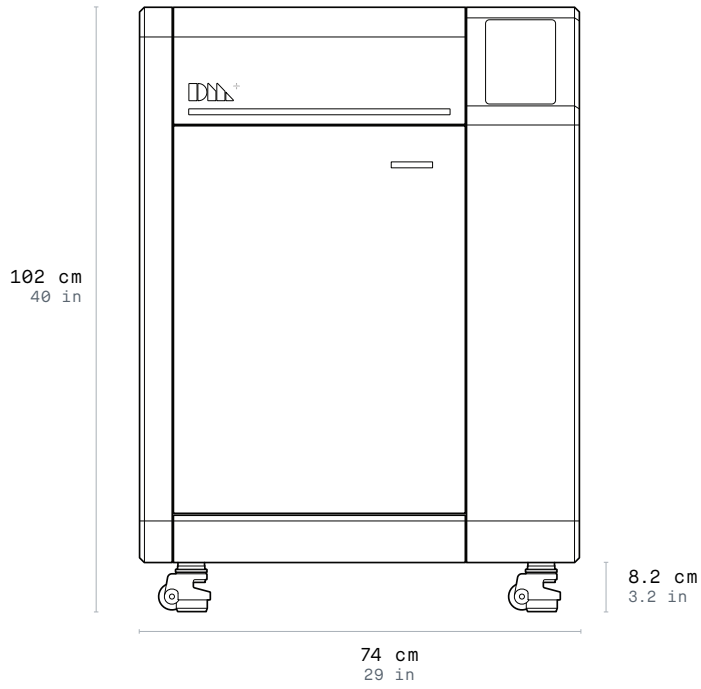
**STUDIO SYSTEM+**

# Debinder specifications

The Studio System™ debinder immerses green parts in proprietary debind fluid, dissolving primary binder and creating open-pore channels throughout the part in preparation for sintering. With a low emission design, the debinder is safe for use in an office environment. Automatic fluid distillation and recycling means there is no need to refill between each cycle. New features introduced with Studio System+ include adjustable shelving optimized for batch processing.

<b>PHYSICAL</b>	External dimensions	102 x 74 x 57 cm 40 x 29 x 23 in
	Height in open position	160 cm 62 in
	Weight	150 kg 330 lbs without fluid
	Max fluid volume processing tank	17.4 L 4.6 gal
	Max fluid volume storage tank	22.5 L 5.9 gal
	Workload envelope	30 x 20 x 20 cm 12 x 8 x 8 in
	Workholding	Stainless steel basket with adjustable trays (3 levels)
	Vapor management	<ul style="list-style-type: none"> <li>• Low emission design</li> <li>• Vapor-tight tank lid</li> </ul>
	Binder management	Disposable binder waste canister
	Fail safes	<ul style="list-style-type: none"> <li>• Over-temperature shutoff control</li> <li>• High vapor pressure shutoff control</li> </ul>
	Power requirements	<ul style="list-style-type: none"> <li>• 100-120 VAC, 50/60 Hz, 20 A, 1-phase</li> <li>• NEMA 5-20 plug</li> </ul>
	Onboard control	7-inch touchscreen display
	Mobility	Swivel casters with adjustable leveling locks
<b>SOLVENT</b>	Solvent	Desktop Metal's proprietary debind fluid
	Chemical properties	Refer to SDS
	Fluid management	Automatic distillation and recycling
<b>PLATFORM</b>	Network connectivity	Wireless and Ethernet
	Software	Fabricate™ software
	Browser requirements	Accessible via any web browser
	Automation	<ul style="list-style-type: none"> <li>• Auto-generated custom debind cycle</li> <li>• Automatic 2D nesting with part placement instructions</li> <li>• Fluid level monitoring</li> <li>• Live job progress tracking</li> </ul>

**DIMENSIONS**



**STUDIO SYSTEM+**

# Furnace specifications

Fully-automated and sized to fit through a doorway, the furnace delivers industrial-strength sintering in an office-friendly package. The furnace uniformly heats parts to just below their melting point to remove secondary binder, causing the metal particles to fuse together and the part to densify up to 96 to 99.8%—without residual stresses introduced in laser-based systems. New features introduced with Studio System+ include a newly designed retort box with adjustable shelving designed for batch processing.

<b>PERFORMANCE</b>	Atmosphere	Partial-pressure sintering (vacuum-enabled)
	Heating	SiC heating elements (4 sides)
	Max temperature	1400 °C 2552 °F
	Average heat load	8,100 BTU/hr
	Max heat load	15,600 BTU/hr for 2 hours
	Thermal uniformity	±5 °C at sintering temperatures
<b>PHYSICAL</b>	External dimensions	161.8 x 138.0 x 75.4 cm 63.7 x 54.3 x 29.7 in
	Height in open position	216 cm 85 in
	Weight	798 kg 1,760 lbs
	Workload envelope	30 x 20 x 20 cm 11.8 x 7.9 x 7.9 in
	Workholding	Adjustable multi-level trays with ceramic setters (6-position)
	Retort	Stacking graphite rings
	Ventilation	<ul style="list-style-type: none"> <li>• Effluent air exhaust line (0.5 in, push-to-connect)*</li> <li>• Liquid drain line (0.5 in, push-to-connect)</li> </ul>
	Binder management	Removable binder cold trap liner
	Pinch-point handling	Finger-safe light curtain protection
	Fail safes	<ul style="list-style-type: none"> <li>• Thermal interlocks</li> <li>• Front-mounted E-stop</li> <li>• Over-temperature protection</li> </ul>
	Power requirements	<ul style="list-style-type: none"> <li>• 208 VAC, 60 Hz, 30 A, 3-phase dedicated circuit</li> <li>• NEMA L15-30 plug (4-wire connection)</li> </ul>
	Onboard control	7-inch touchscreen display
<b>GAS</b>	Gas types	Forming gas, nitrogen (material-dependent)
	Gas connection	<ul style="list-style-type: none"> <li>• RFID-enabled, 900 L onboard canisters (x2)</li> <li>• External gas connection</li> </ul>
<b>PLATFORM</b>	Network connectivity	Wireless and Ethernet
	Software	Fabricate™ software
	Browser requirements	Accessible via any web browser
	Automation	<ul style="list-style-type: none"> <li>• Auto-generated temperature profiles</li> <li>• Automatic 2D nesting with part placement instructions</li> <li>• RFID-enabled gas supply monitoring (onboard canisters)</li> <li>• Live job progress tracking</li> </ul>

\*Temporary external line required pending final validation testing.

**DIMENSIONS**

