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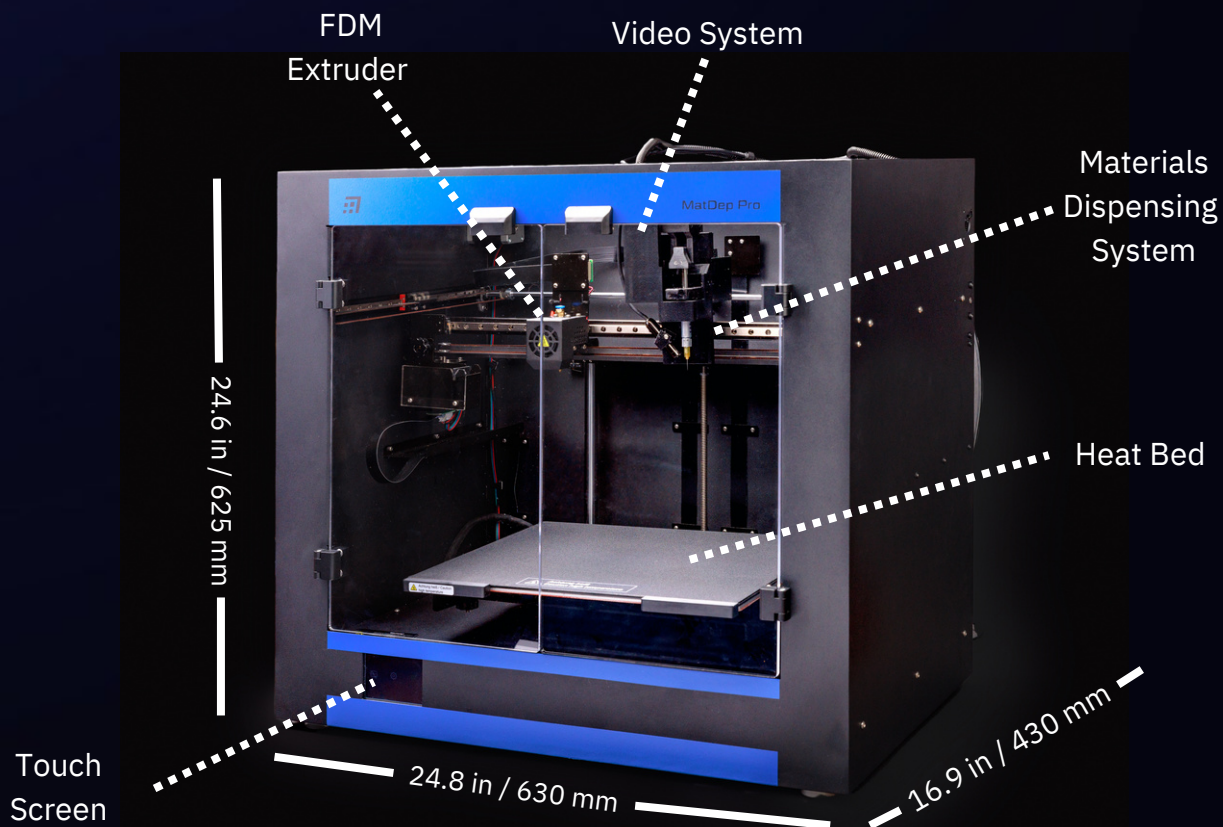
MatDep Pro 3D Printer Datasheet

The MatDep Pro is more than just a 3D printer; it's a dynamic platform that unleashes your creativity and empowers you to engineer advanced applications with a multitude of multi-materials, including functional pastes and inks.

This cutting-edge direct-write machine sets new standards in versatility and precision by harnessing the power of two print head assemblies that move independently. Effortlessly 3D print plastics (Fused Deposition Modeling materials like ABS and PLA) using the extruder while introducing highly conductive nano-particle inks (Au, Ag, etc.), versatile pastes (silicone, polymers, etc.), resistive, dielectrics, magnetic, thermo-electric, photovoltaic, graphene solutions, and more through the materials dispensing system.

The pinnacle of precision lies in our ultra-reliable positive displacement print head. It boasts accurate metering of functional inks, ranging from viscosities as low as 1 mPa·s to as high as 54000 mPa·s. Achieve a 200-micron resolution or 100-micron resolution with specialty nozzles.

Seamlessly switch between materials, achieve exceptional accuracy, and explore diverse printing possibilities.

FDM Extruder · Video System · Materials Dispensing System · Heat Bed · Touch Screen · 24.6 in / 625 mm · 24.8 in / 630 mm · 16.9 in / 430 mm

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MatDep Pro Specifications

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FEATURES

Extrusion/Dispensing	Single 1.75 mm FDM (Extrusion Position 1) with Materials Dispensing System (Dispensing Position 2)
Independent Motion	The extruder and materials dispensing system assemblies move independently. Both print heads are automatically wiped cleaned after use.
Continue Printing After Power Cut	Yes
Industrial Linear Guide	Stable and precise movement control
Connectivity	USB/SD and Card/WiFi

MATERIALS DISPENSING SYSTEM

Syringe Size	3 ml
Nozzle Size	14 to 30 Ga (1.6 mm to 150 μm) Higher Resolution Available: 30 Ga, 32 Ga, 34 Ga
Materials Support	Functional Pastes and Inks, Conductive Nano-Particle Inks, Resistive, Dielectrics, Magnetic, Thermo-Electric, Photovoltaic, and Graphene Solutions

FDM EXTRUDER

Extruder Size	0.4 mm (1.75 mm filament)
Materials Support	PLA, ABS, PETG, POM, Nylon (PA), PC, Carbon Fiber filament, Dissolvable filament (PVA, HIPS), and Flexible filament (TPU, PLA+)

SOFTWARE

Compatible with	Simplify3D, Repetier-Host, Cura, and Makerware
File Format	STL and GCODE
Operating System	Windows, Mac, Linux

BUILD

Build Volume	360 x 250 x 200 mm 14.17 x 9.84 x 7.87 inches
Stage Material	Flexible Magnetic Build Mat
Extrusion Layer Thickness	0.1-0.3mm
Positional Accuracy	XY axis: 0.011 mm Z axis: 0.0025 mm
Extruder Diameter	0.4 mm
Max. Extruder Flow Rate	24 cc/hour
Printing Speed	20-200 mm/s
Bed Temperature	Max 120℃
Printing Temperature	Max 260℃
Machine Dimensions	630 x 430 x 625 mm
Machine Weight	~ 92.5 lbs.