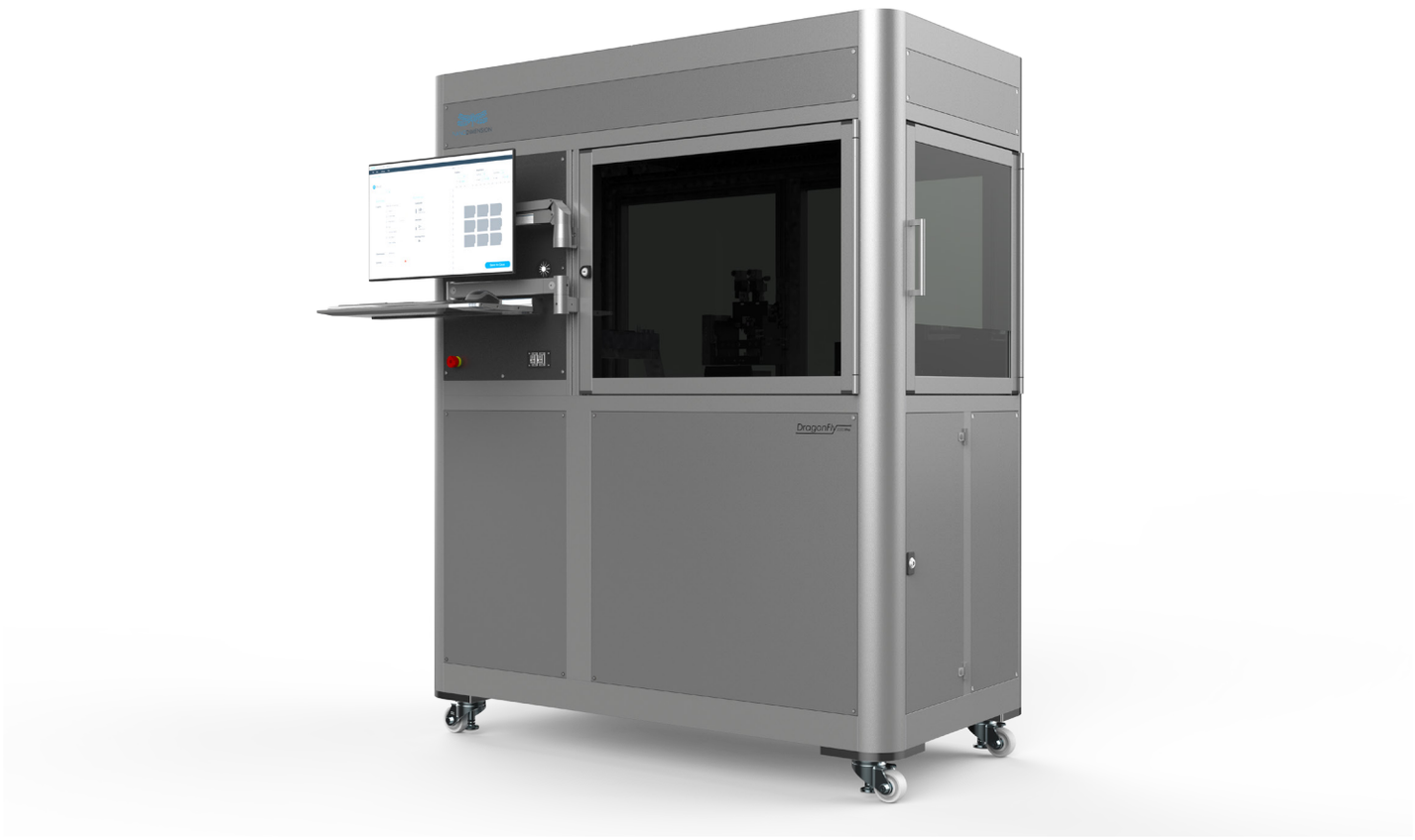
NANODIMENSION

DRAGONFLY™ 2020 3D PRO PRINTERS FOR PROFESSIONAL ELECTRONICS



SAVE TIME, MINIMIZE DEVELOPMENT RISK AND GET TO MARKET FASTER WITHOUT SECURITY RISKS

DragonFly 2020 Pro 3D Printers enable companies involved in electronics to take control of their development cycles by 3D printing their own circuit boards. From proofs of concept, to design validation, to test fixtures, in-house 3D printing of multilayer PCBs shortens design and test cycles, from months or weeks to days. Development teams can now introduce more agile hardware development processes at every prototyping stage. This reduces time-to-market and increases innovation.

Nano Dimension's DragonFly 2020 Pro multi-material 3D printers bring together an extremely precise inkjet deposition printer, dedicated nano inks, and novel software to allow designers and engineers to effortlessly print conductive and insulating materials in one print job. The full range of PCB features can be 100% printed - including interconnections such as vias and through-holes – without etching, drilling, plating, or waste; to produce professional multilayer PCBs, within hours.

This advanced printing platform allows designers and engineers to develop different parts of the circuit in parallel – testing and iterating on the fly to accelerate innovation and improve organizational performance. With the DragonFly 2020 Pro many of the complexities and bottlenecks inherent in PCB prototyping are removed, allowing companies to take control of their development cycles. The result is reduced overall development time, improved flexibility, and fewer development risks. This enables companies to bring better electronics to the market more quickly, while keeping sensitive design information in-house and staying on budget.

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PRINT METALS AND POLYMERS IN ONE PRINT JOB

Nano Dimension's extremely precise inkjet deposition system allows for simultaneous 3D printing of conductive silver nanoparticle ink (metals) and insulating inks (dielectric polymers). This sets new standards for accuracy, complexity, and speed in the fields of both 3D printed electronics and professional electronics development. Upon completion of a 3D print job, there is no need for post-processing. Multi-material 3D printing is game-changing, allowing designers and engineers to print polymers and metals together to create a functional part. This is a revolutionary approach to making electronics with the potential to be more compact, denser, and ultimately non-planar.

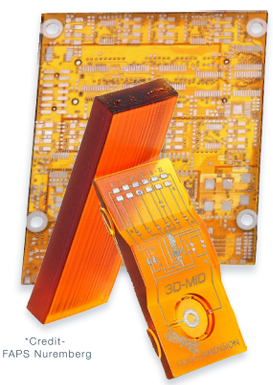
AgCite™ Conductive Inks For Inkjet	An advanced silver nanoparticle ink designed specifically for DragonFly 2020 Pro 3D Printers. The sizes and distributions of the silver particles are optimized for the printing of highly conductive traces.
Dielectric Ink	This polymer material mimics the dielectric properties of industry FR4. The ink insulates the conductive inks, enabling the printing of the entire circuit structure. The material is stable across large frequency ranges. Designed for compatibility with Nano Dimension's AgCite™ conductive ink.
	Decomposition Temperature (Td2, Td5) 2%-331°C, 5%-366°C
	• Dielectric Constant – Dc (Permittivity 2.9@1 MHz, 2.55@100 MHz
	• Dielectric Loss – DF(Loss tangent) 0.035@1 MHz, 0.05@100 MHz

DRAGONFLY 2020 PRO 3D PRINTER SPECIFICATIONS (Subject to change)

Deposition Technology	Piezo Drop on Demand inkjet printing
Number of Printheads	2 (One per material)
Print Trace and Space	100 Micron (3,937 mil)
Build Volume XYZ	20 cm x 20 cm x 0.3 cm
Software	Proprietary
Dimensions	140 cm x 80 cm x 180 cm (LxWxH)
Weight	500 kg TBD
Power Supply	110-240V AC; 50-60 Hz; 12A
Resolution	X: 2,160 dpi; Y: 2,160 dpi; Z: 8,500 dpi
Accuracy	0.001 mm
Build Plate	20 cm x 20 cm
Operating System	Windows, Mac, Linux
Material Compatibility	Nano Dimension's conductive and dielectric inks
Network Connectivity	Ethernet TCP/IP 10/100/1000, Wi-Fi
File Compatibility	Gerber (ODB++, IPC 2581 in process)
Regulatory Compliance	CE/FCC/RoHS/UL (In progress)
Operational Environment	Temp: 17°C-26°C (66°F-79°F); Relative Humidity: 28-75%

ADDITIVE MANUFACTURING OF ELECTRONICS

Nano Dimension (TASE: NNDM, NASDAQ: NNDM) is a leading additive manufacturing technology company. Nano Dimension is disrupting, reshaping and defining the future of how electronics are made. With its unique 3D printing technologies, Nano Dimension is targeting the growing demand for electronic devices that require increasingly sophisticated features and rely on printed circuit boards (PCBs). Demand for circuitry, including PCBs - which are the heart of every electronic device - covers a diverse range of industries, including consumer electronics, medical devices, defense, aerospace, automotive, IoT, and telecom.
These sectors can all benefit greatly from Nano Dimension's 3D printed electronics solutions for rapid prototyping and short-run manufacturing.



*Credit-
FAPS Nuremberg

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