

LAB Z

UNPRECEDENTED PRODUCTION VOLUMES

The LAB Z printer is the ideal solution for anyone who needs high-reliability, large-volume industrial additive manufacturing. Designed for continuous, intensive production cycles, it integrates exclusive 3DPRN technologies to ensure precision, operational autonomy and consistent results even in the most demanding conditions.



Large volumes

A generous build volume designed for intensive industrial production: it produces large parts or entire batches in a single production cycle, significantly reducing operating times and costs.



Solid, strong frame

With a weight exceeding 500 kg, the LAB Z is built around a certified industrial mechanical structure. Its durability and reliability are guaranteed over time, even during the most intense and continuous production cycles.



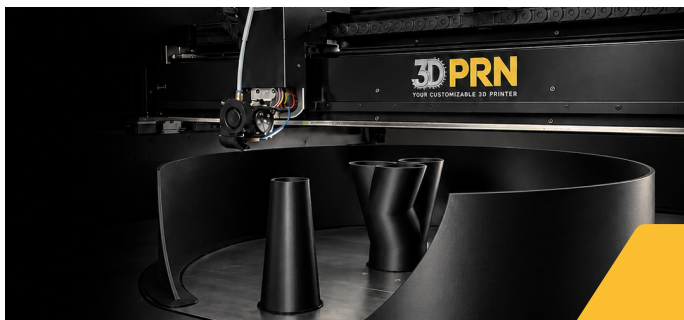
Dedicated electronics

Industrial-grade proprietary electronics to configure and adapt the machine to any production process, with no compromise on flexibility or performance.



Dual HMI

Two touchscreen displays positioned on opposite sides of the machine: complete, immediate control from any operating position, with maximum ergonomics for operators.



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Main functionalities

Integrated dryer. The dryer stays active throughout the entire print: it keeps the filament at optimum humidity levels, ensuring consistent quality and perfectly repeatable results in every cycle.

Dual filament feeder. Two-stage feed system with active filament push: it ensures precise, continuous extrusion even with large-format spools, eliminating slippage and irregularities.

Multi-Axis. A modular multi-axis architecture that allows the machine to be equipped with extruders, dispensers, a milling head or bespoke automation, turning it into a high-value multifunction production platform.

3DPRN-LOAD. Automatic bed-levelling technology that runs before every start: no manual intervention, maximum precision guaranteed print after print, with no human input.

Smart Power. Integrated UPS system with automatic print recovery: in the event of a power cut, the job resumes exactly from the last saved point, with no wasted material or lost production hours.

Controlled environment. Temperature-controlled build chamber up to 65°C, fitted with an intelligent activated-carbon extractor: it creates and maintains the ideal ambient conditions for the most demanding technical materials.

Single and dual-stage extruder. Extrusion system configurable in one or two stages with a dual thermal zone: it optimises material flow at higher speeds and significantly improves the mechanical properties of the printed part.

Dual HMI. Two touchscreen displays positioned on opposite sides of the machine: complete, immediate control from any operating position, with maximum ergonomics for operators.

Filament encoder. Continuous filament monitoring with real-time readings: the system constantly compares extruder output against the encoder, instantly detecting and flagging any anomaly.

Advanced kinematics. Next-generation kinematics with higher speeds than printers in the same class: smooth, highly precise movements, with instant position recovery should the axes slip.

3DPRN-WEIGHT. Integrated weight sensor for spool monitoring: it detects when material runs out and switches automatically to the second spool, pausing immediately if the filament tangles, so nothing goes to waste.

***PRINT ON AIR.** Technology designed and built by 3DPRN: printing of inclined surfaces and undercut geometries without support structures. Immediate material savings and zero post-processing time.

Heated build plate. Build plate heated up to 100°C, available in various power and surface configurations for maximum compatibility with all technical materials.

Magnetic rows. Hundredth-of-a-millimetre magnetic linear encoders for active, continuous control of axis position: absolute dimensional accuracy and automatic error compensation on every print.

3DPRN-WARE. Proprietary software suite developed specifically for 3DPRN printers: advanced print parameter management, real-time monitoring and an intuitive interface for total production control.

AI integration. Integrated artificial intelligence checks print quality in real time, runs predictive analysis of printing processes and also provides a virtual assistant, always on hand for immediate technical support.

Guaranteed upgradability. 3DPRN printers are designed with an open, modular architecture: hardware and software can be updated over time to incorporate the latest technological innovations, without replacing the machine. An investment that never ages.

Main features

Frame	Aluminium, Dibond panels
Technology	FDM-FFF, FGF
Plate	Aluminium, Glass, Polycarbonate, Carbon fibre, Ultem
Drives	Hybrid Step Servo, Closed Loop
Axis	1-2 or more Extruders, Spindle
Extruder type	Steel ($\leq 300^\circ$) Aluminium ($\leq 500^\circ$)
Filament diameter	1.75mm, 3mm
Nozzle	Steel, Brass
Nozzle diameter	Filament 0.4mm, 0.6mm, 0.8mm, 1.2mm, 1.4mm, 2.5mm Pellet 0.4mm, 0.6mm, 0.9mm, 1.2mm, 1.8mm, 2.5mm
Print Area (mm)	
H5	500x500x500 1000x1000x500
H10	500x500x1000 1000x1000x1000

Compatible materials

Pla, Pet, Carbon fibre Pet, Petg, Carbon fibre Petg, Pla-Flex, Tpe, Tpu (from 98 A to 60 A), Pva, Bvoh, Abs, Abs VO, Carbon fibre Abs, Glass fibre Abs, Asa, Porolay, Moldlay, Pc Abs, Pc Abs VO, Pc-Pbt, PPS, Carbon fibre PPS, PA 66, Short carbon fibre PA 6, Glass fibre PA6, Carbon fibre PA 12, Hips, Carbon fibre PP, Iglidur...