

LAB X2-MILL

HYBRID PRODUCTION SYSTEM

LAB X2-MILL is the only 3D printer that brings 3D printing and CNC milling together in a single integrated hybrid system: additive and subtractive processes within the same production cycle, with no need to move the part. Impeccable surface finish, tight dimensional tolerances and drastically reduced machining times.



Printing and milling

A single machine that prints and mills: additive and subtractive processes within the same production cycle, from building the part to finishing it, without ever moving it between different machines.



Automatic tool change

Active enclosed chamber, insulated and temperature-controlled up to 65°C, with an activated-carbon extractor: constant ambient conditions to get the best out of the most demanding technical materials.



Proprietary CAM software

A single proprietary 3DPRN software supports the whole process, from project preparation to printing and milling paths, for complete, integrated control at every stage.



Touch screen on board

Proprietary embedded control system with a touchscreen display (HMI) for advanced printer management. An intuitive interface, right on board the machine, to set and monitor every printing parameter.



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Main functionalities

2.5D and 3D milling. CNC milling unit with automatic tool change built into the 3D printer: it combines addition and subtraction in a single cycle, with tight tolerances and impeccable finishes without ever moving the part.

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.

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

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. 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
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	0.4mm, 0.6mm, 0.8mm, 1.2mm, 1.4mm
Print Area (mm)	
LAB 65	H2 400x500x200
LAB 95	H2 700x500x200

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...