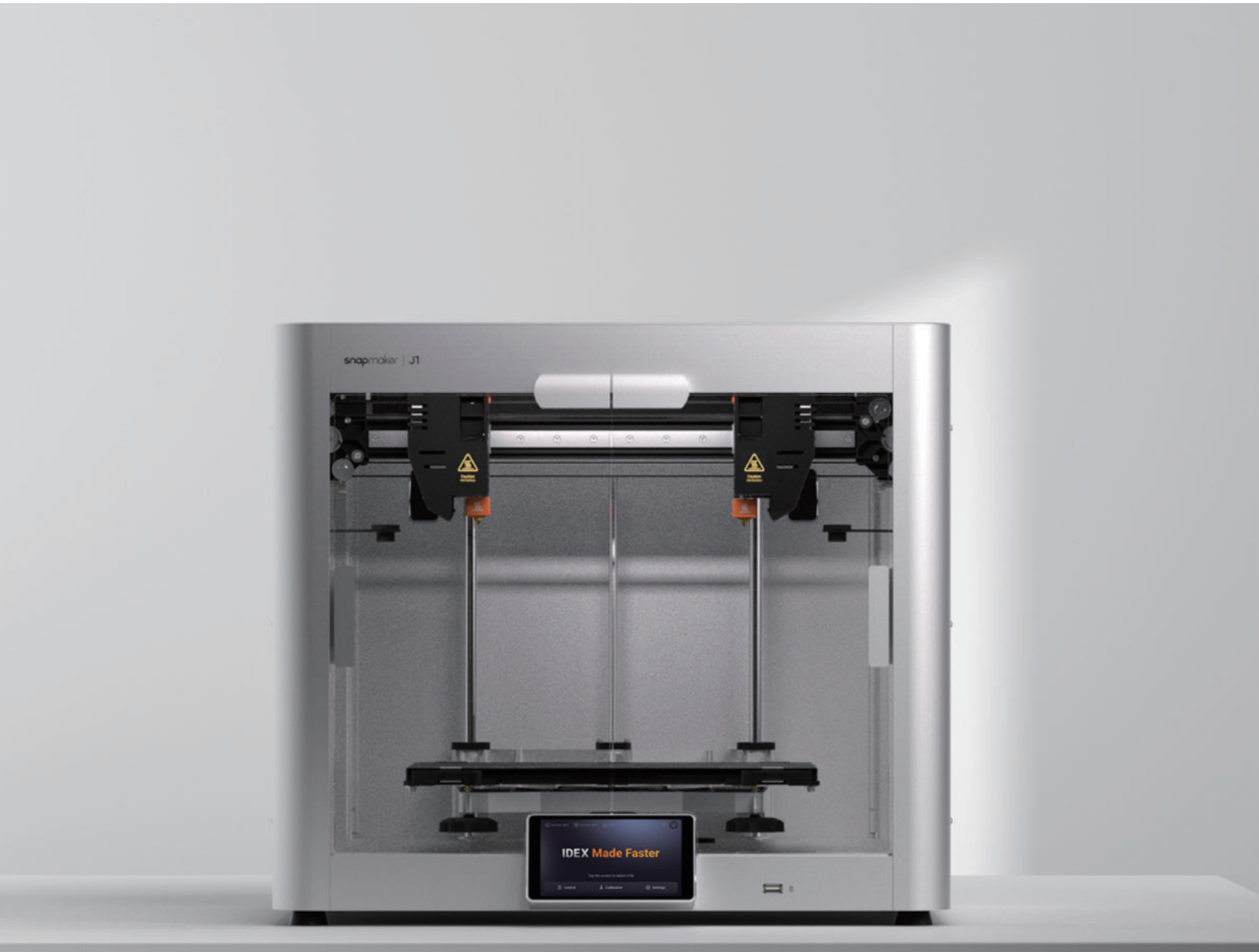
snapmaker

Snapmaker J1
High Speed IDEX 3D Printer

IDEX Made Faster

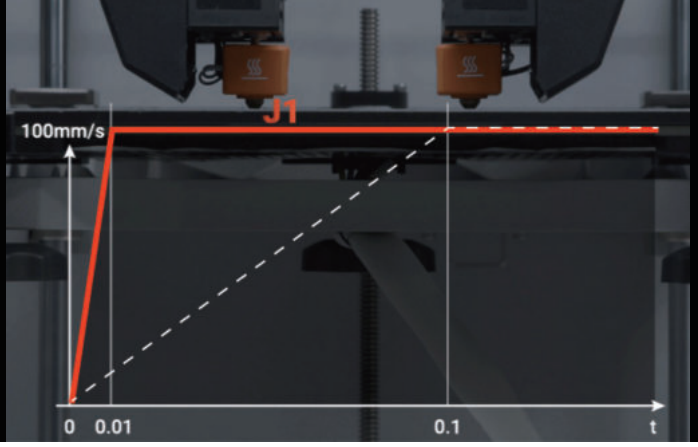


MAKE
SOMETHING
WONDERFUL

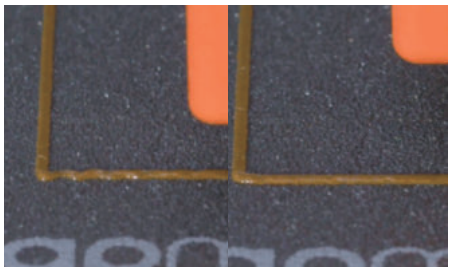
Fast and Forward.

Max. Acceleration
10,000 mm/s²

Max. Speed
350 mm/s

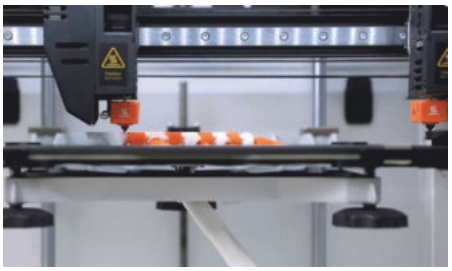


Speed Boosted by Advanced Control Algorithm.



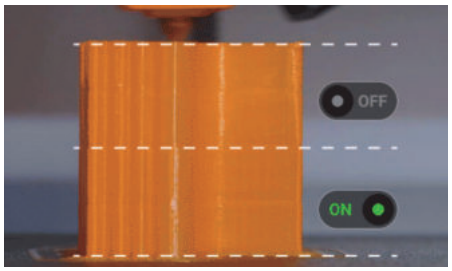
Vibration Compensation

J1 brings you a top-of-class printing speed of 350 mm/s while ensuring a high resolution of prints. It is made possible by the optimization of the vibration compensation technology. This technology reduces the vibrations caused by high-speed movements, minimizing ringing to enhance print quality. With the maximum acceleration of 10,000 mm/s², you can realize small models packed with details with efficiency.



Seamless Extruders Switching

During dual extrusion printing, the non-working extruder preheats while on standby, and starts printing right after the working extruder leaves, significantly reducing your waiting time.



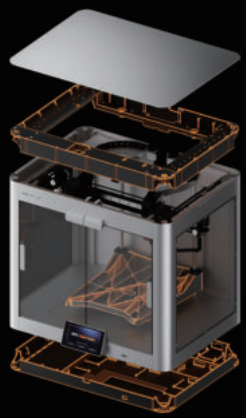
Cornering Optimization

By analyzing the extruders' moving directions ahead of time, J1 is able to prevent problems like corner bulge, delivering better print quality at corners.

Speed Ensured by Elaborate Hardware Design.

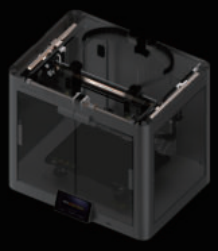
One-piece Die Casting

J1's body comprises an upper frame and a base made by one-piece die casting, and four aluminum alloy bars. Making the body with just a few highly integrated parts—an approach long adopted by the automotive industry—facilitates precision assembly.
J1 is so rigid and reliable with minimal wobble and deformation possible that you can print large projects one after another for a long time and get all prints of uncompromising quality.



High-precision Linear Rails

The industrial-grade linear rails are made by CNC grinding at the micron level, ensuring smooth and steady movements. A significant rise in precision, rigidity, and durability for you to savor a fast, accurate, and steady making experience.

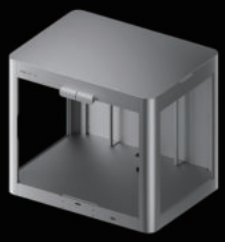


Repeatability
±0.03 mm (X/Y) ±0.02 mm (Z)

Expected Lifespan
Over 10 Years

Aluminum Alloy Frame

J1 inherits Snapmaker's iconic all-metal design which users highly value for its rigidity and durability. It provides better heat dissipation with the main board and power supply spread out on the base and aluminum alloy as its main material. All electronic components well oiled, at your command.



22 min 16 s
Mirrored Benchy

1 h 18 min
Dual-color Shark

@mcgybeer

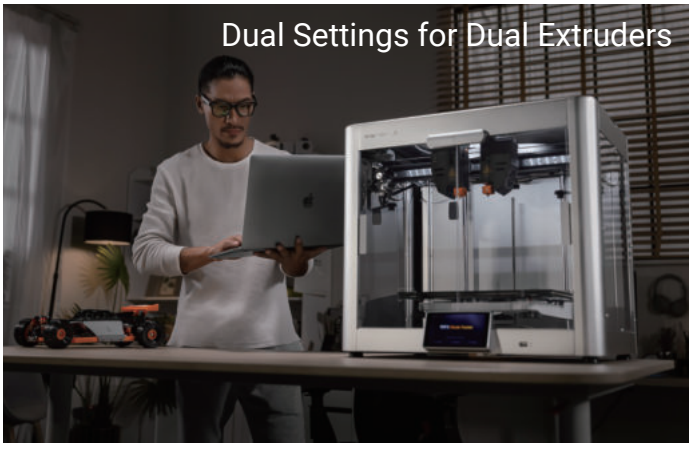
10 h 13 min
Protective cover with breakaway support

@Simon Zhi

Infinite Possibilities with IDEX.

IDEXcel in Dual-material Printing.

Compared with a multi-material unit, IDEX dual-material printing requires less time in filament changing and creates less waste. Plus, IDEX offers the cleanest two-extruder solution that prevents cross-contamination. It creates a clean interface between two materials, embracing hassle-free removal and avoiding stains and weird blending along the seam.



Print in Parallel.

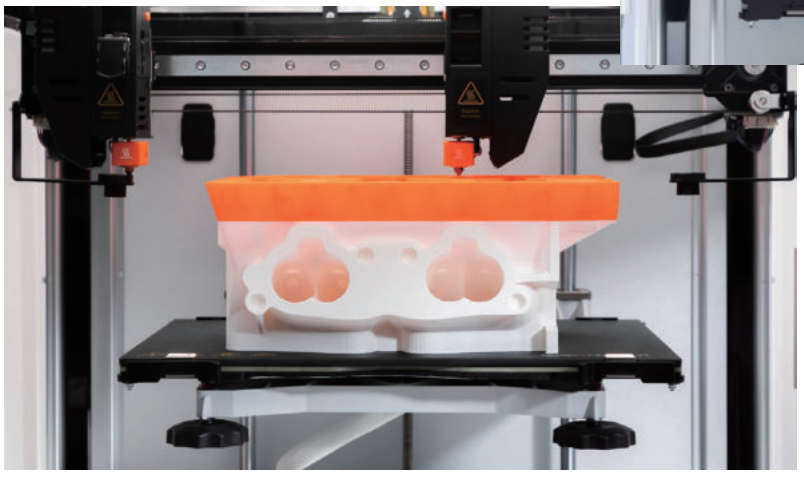
Halve your wait time, double your productivity. IDEX is the only extrusion system with two separate extruders moving independently on the X-axis, enabling you to run two prints simultaneously.

◂ Copy Mode

Print two identical objects in one go. It is especially suitable for batch printing, empowering studios and enthusiasts. If one of the prints runs into an issue, you can stop that print without affecting the other. This mode is a lifesaver for a promised delivery on a tight schedule.

Mirror Mode ▸

J1 directly mirrors your model and prints the original and the mirrored one in one go. For a symmetrical model, you can import half of it and print it in Mirror Mode to cut your wait time by 50%, perfect for quick drafts and concept models. Like in the Copy Mode, you can stop one print without affecting the other.



◂ Backup Mode

Under Backup Mode, you print with one extruder while the other stands by. If the working extruder bumps into a hiccup, the stand-by one would take over the job seamlessly and still deliver a fabulous print to you.

Advance for the Advanced.

Extruders are redesigned to deliver a superb performance consistently with demanding, advanced materials. Print high-quality projects that meet the structural and functional demands of various engineering applications with little fuss.

TPU

Flexible and liable to under-extrusion, and therefore requires accurate control of extrusion and heat dissipation.

Nylon/PA

Including nylon, PA-CF (Polyamide-Carbon Fiber) and PA-GF (Polyamide-Glass Fiber). Tough and wear-resistant, but require strict conditions of printing temperature and nozzle hardness.

PC

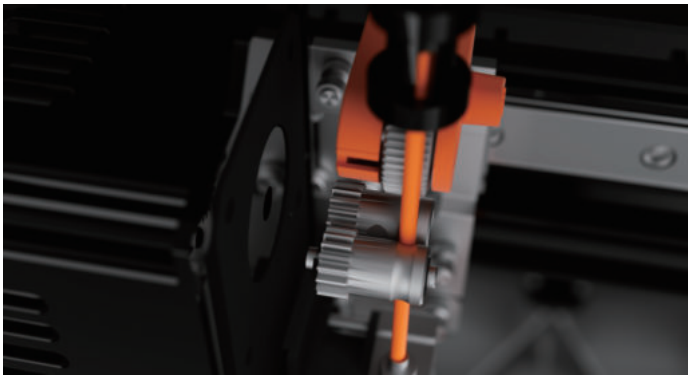
Displays high heat resistance and excellent durability. Prone to warping and shrinkage, thus requires stable ambient conditions, best provided by an enclosed space.

300°C Hot Ends

300°C maximum nozzle temperature comes in handy when you print with high-temperature filaments, like nylon, reinforced nylon, and PC. With silicone hot end socks preventing heat loss, filaments melting and heating up are much faster. Anti-clogging designs make the flow as smooth as possible.

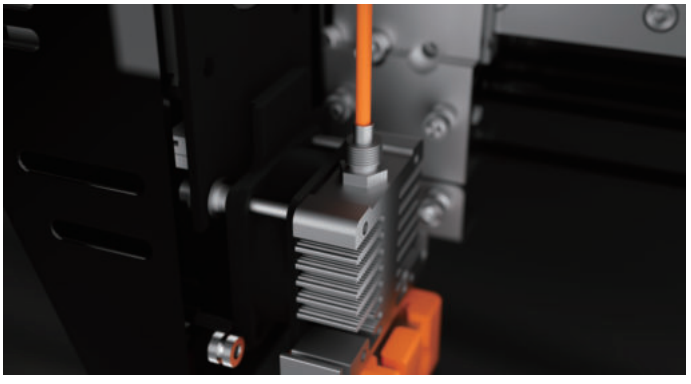
Dual Direct Drive

Excellent extrusion accuracy that aids in the extrusion of flexible filaments, along with the high responsiveness of dual direct drives to make deposition faster, smoother, and more accurately controlled. It is built in with a filament sensor to inform you and pause the print job in the case of filament runout, nozzle clogging, and other abnormalities that fail filament loading.



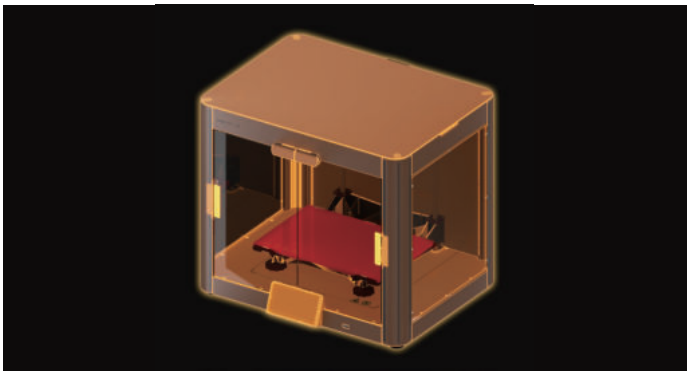
Compact Extrusion Path

The compact extrusion path of a unique design allows you to print seamlessly with TPU and many other flexible materials.



Enclosed Space

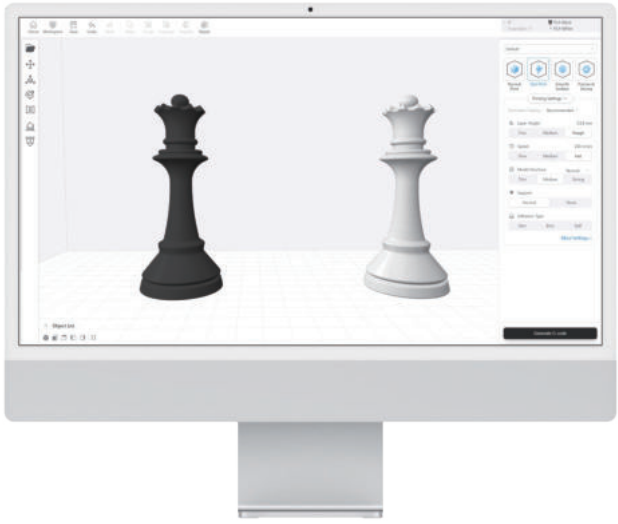
It provides stable ambient conditions to facilitate the consistently reliable performance of high-temperature materials. For instance, it keeps ABS and many other materials from warping.



Work. Flow.

Tailored IDEX 3D Slicer in Luban

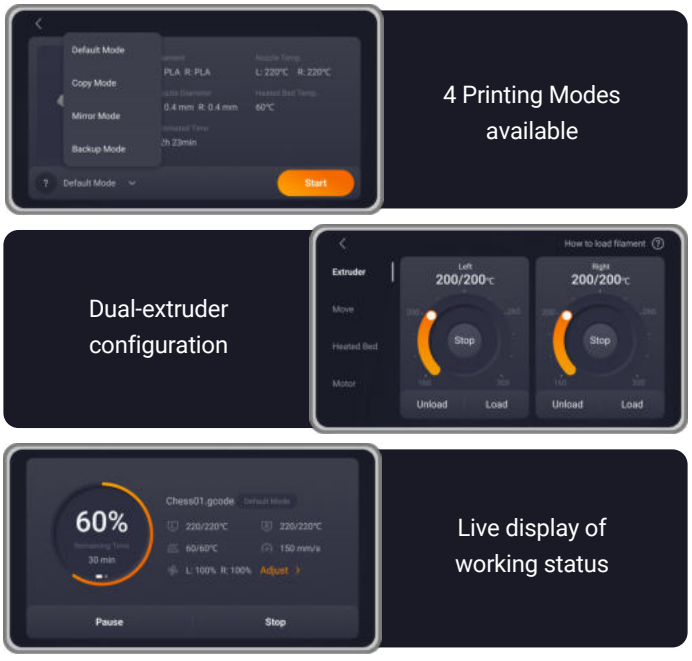
Streamlined to the core. Everything you need placed where you find most handy. Seamless interactions with you and with J1. In-depth customization, 300 parameter settings, for even the savviest makers. And it evolves as you do. Cura plugin is also provided for your convenience.



Dual-extruder configuration

5-inch Intuitive Touchscreen.

Your personal docent through set up and adept assistant in making with easy-to-follow instructions, file previews, and lots of details, addressing all your questions and needs.



3, 2, 1, Calibration Done.

We utilize electrical conduction to locate the two hot ends and the heated bed and measure the distances between the three entities—a creative solution to complex IDEX calibration. This time saver enables you to complete the calibration in 10 minutes under the Assist Mode.Taking away the calibration card and the judgement call, it reduces errors and arrives at better accuracy.

Hands-free XY Offset Calibration.

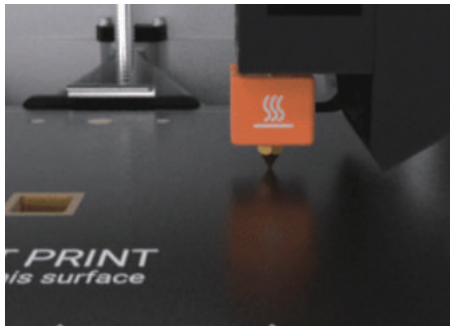
When the two hot ends touch the square opening on the heated bed, it sends out electronic signals to suggest their exact locations, and J1 calculates the offsets between them. J1 then auto-compensates the offsets during printing to ensure perfect XY alignment that avoids layer shifting and improves the success rate of dual-material prints.
It takes away the long learning curve and saves you from scrutinizing through an awful lot of lines. Tap start, and lay back for elevated precision.

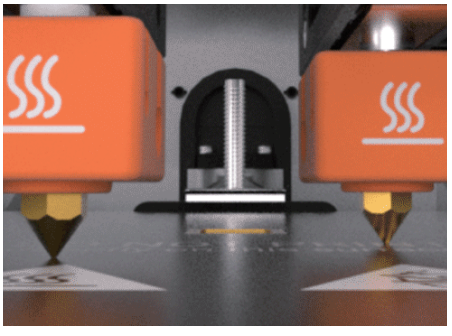
Tool-free Bed Leveling.

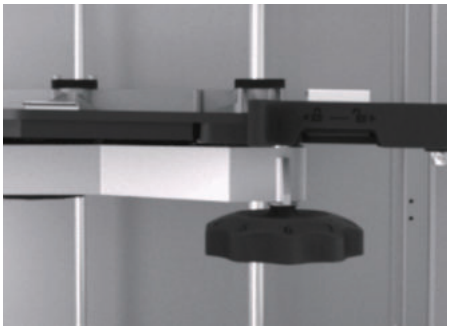
A level print bed lays the foundation for successful 3D prints, but the bed leveling of IDEX printers can be very time-consuming.
Using a PEI glass plate of high flatness, J1 can downsize from a 3 × 3 (9 points) or 4 × 4 (16 points) leveling to a 3-point one with no compromise on levelness and downtime dropped by 70–80%.
Turn the leveling wheel as guided on the touchscreen, and the bed is leveled for tip-top first-layer adhesion.

Easily-managed Z Offset Calibration.

Using electrical conduction, J1 can calculate the distances between the hot ends and the heated bed. Thus, we were able to cut the step of moving the calibration card back and forth while adjusting the Z offset. Simply turn the thumb wheel as guided on the touchscreen and you are now the Z offset calibration guru!







Make Anything, with Everything You Need.

Custom
PEI Glass Plate.

Easy-swap
Hot Ends.

Built-in
Nozzle Wipers.

Pre-assembled &
Tuned.
Ready When
You Are.

Specifications

Printing Properties

Technology	Fused Filament Fabrication (FFF)
Extruder System	Independent Dual Extruders (IDEX)
Printing Modes	1. Default Mode 2. Backup Mode 3. Copy Mode 4. Mirror Mode
Build Volume (W × D × H)	Default Mode & Backup Mode: 300 mm × 200 mm × 200 mm Copy Mode: 160 mm × 200 mm × 200 mm Mirror Mode: 150 mm × 200 mm × 200 mm
Layer Height (with 0.4 mm nozzle)	0.05 mm–0.3 mm
Build Plate	PEI glass plate
Max. Heated Bed Temperature	100°C
Nozzle Diameter	0.4 mm (included) 0.2 mm, 0.6 mm, 0.8 mm, Hardened (sold separately)
Max. Nozzle Temperature	300°C
Filament Diameter	1.75 mm
Supported Materials	PLA, ABS, HIPS, PC, TPU, TPE, PETG, ASA, PP, PVA, PA, PA-GF, PA-CF
Data Transmission Methods	Wi-Fi, USB cable, USB flash drive
Operating Noise	< 50 dBA

Operating Conditions

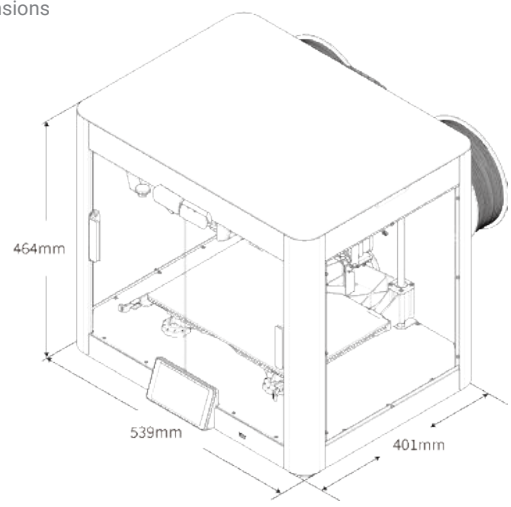
Operating Environment	Temperature: 10°C–35°C Relative Humidity: 10%–90% (non-condensing)
Storage Environment	Temperature: -20°C–55°C Relative Humidity: 10%–90% (non-condensing)

Power

Input	Rated Voltage: AC 100 V–240 V, 50 Hz/60 Hz Rated Current: 4.4 A Max.
Output	DC 24 V, 400 W Max.

Machine Properties

Dimensions



Net Weight	25 kg
Touchscreen	Size: 5 in. OS: Android Resolution: 1280 × 720 pixels
Memory	1 GB RAM, 8 GB eMMC
Repeatability of Linear Rails	± 0.03 mm (X/Y) ± 0.02 mm (Z)
Expected Lifespan of Linear Rails	Over 10 Years

Software

Supplied Software	Luban (third-party software supported)
Supported OS of Luban	Windows, macOS, Linux
Supported File Formats	STL, OBJ, 3MF
Output File Formats	Gcode