ZMORPH FAB

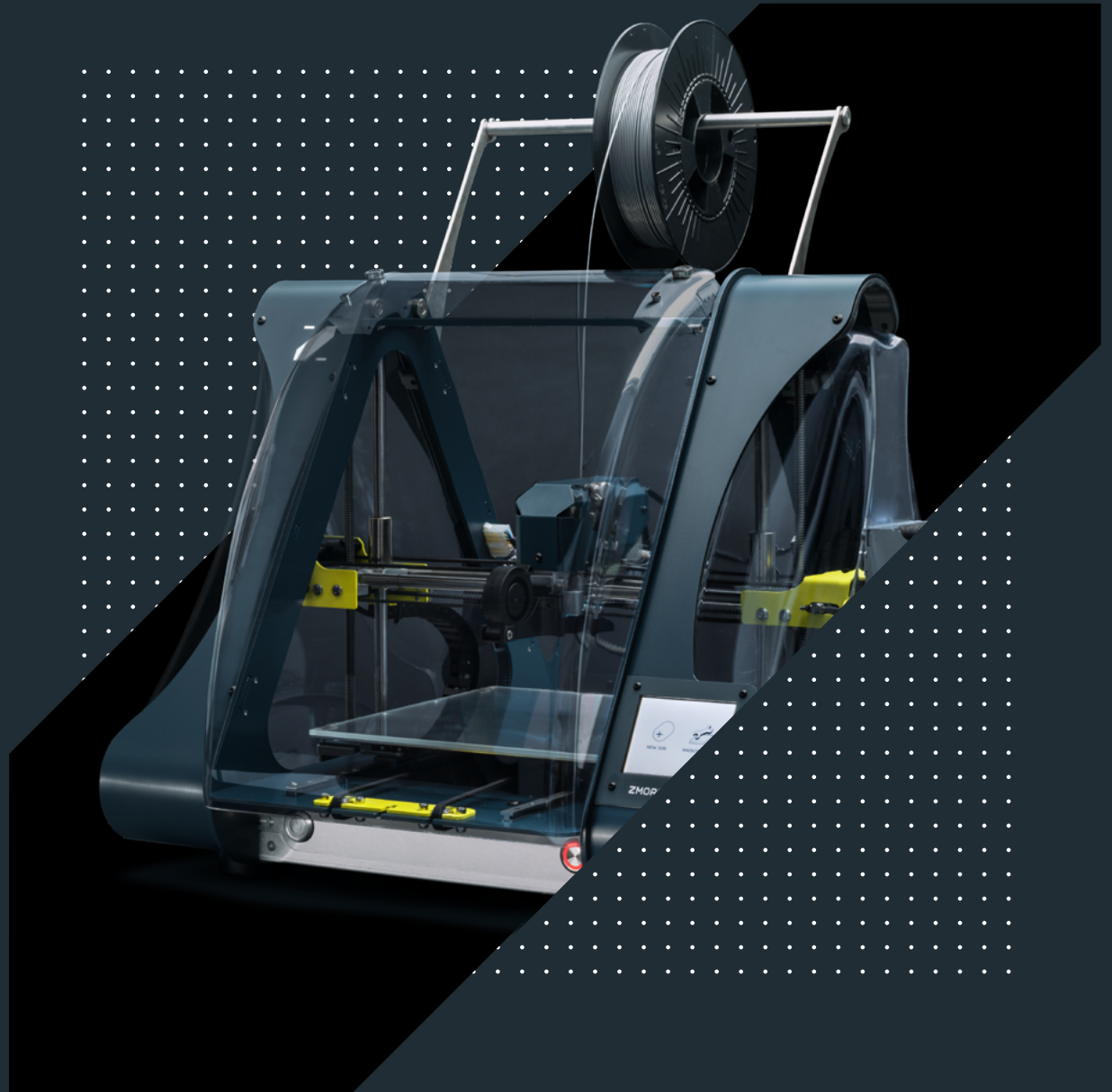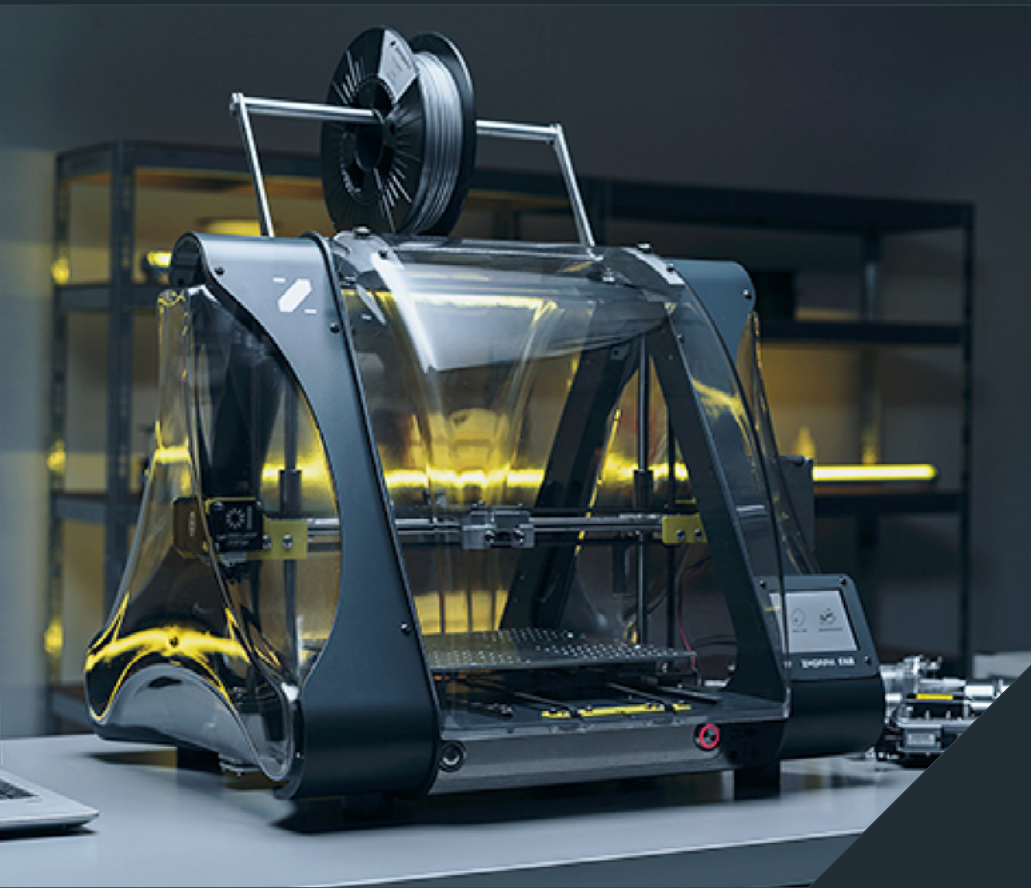## Multitool 3D Printer

DISCOVER ZMORPH FAB

→

Multiple Tools in One Device for Learning and Prototyping

3D PRINTING

CNC MILLING

LASER CUTTING & ENGRAVING

DUAL EXTRUDER

THICK PASTE

Turn your desk into a workshop with Zmorph Fab Multitool 3D Printer.

The interchangeable toolheads system and a wide variety of compatible materials make it the most versatile desktop 3D printer on the market.

Read further to learn about all its features and functions.

| Hassle-Free 3D Printing

3D PRINTING

01   The new Single Extruder Toolhead features filament sensor for easier maintenance, and improved airflow for faster overhangs 3D printing.

02   Autocalibration makes 3D printing easy and fast, even for beginners.

03   Super-flat borosilicate 3D printing bed heats up to 100°C, which improves the first layer adhesion in more advanced materials such as ABS.

04   Zmorph Fab works with almost every plastic filament available on the market.

Use Case
Planetary Gearbox

Parts used in the center planetary gear mechanism were printed with 1.75 mm ABS filaments. The standard settings were sufficient to ensure the durability of components.

ABS is a sturdy, plastic material with great impact strength and mechanical properties. ABS is a good material for testing, post-processing, low volume manufacturing, and objects where you need a strong, stiff plastic that copes well to external impacts.

Use Case
Bridge Prototypes
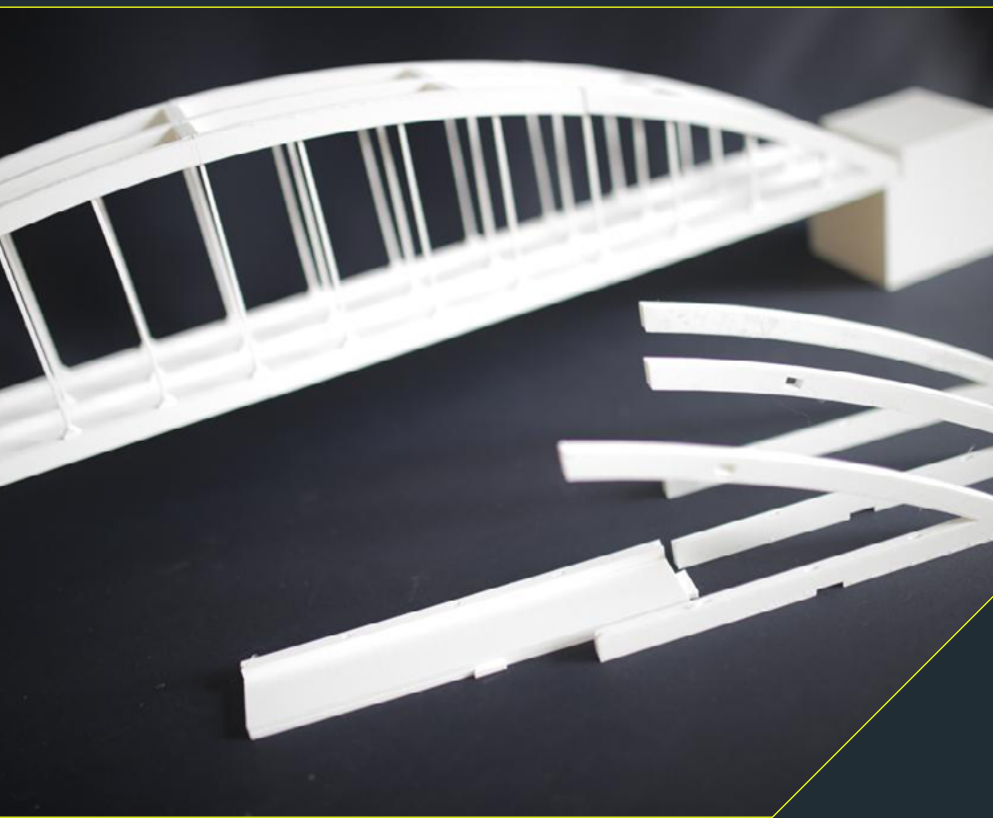
Held at the Gdansk University of Technology, the event gathered participants from various technical schools and universities from Poland. Competing students and their teachers had to familiarize themselves with new technologies and project management skills in order to apply a more practical approach to design and rapid prototyping. Digitally fabricated 3D printed bridge prototypes had to withstand professional stress tests to prove that a real-life construction could be built based on the idea.

Precise CNC Milling
for Professionals

CNC MILLING
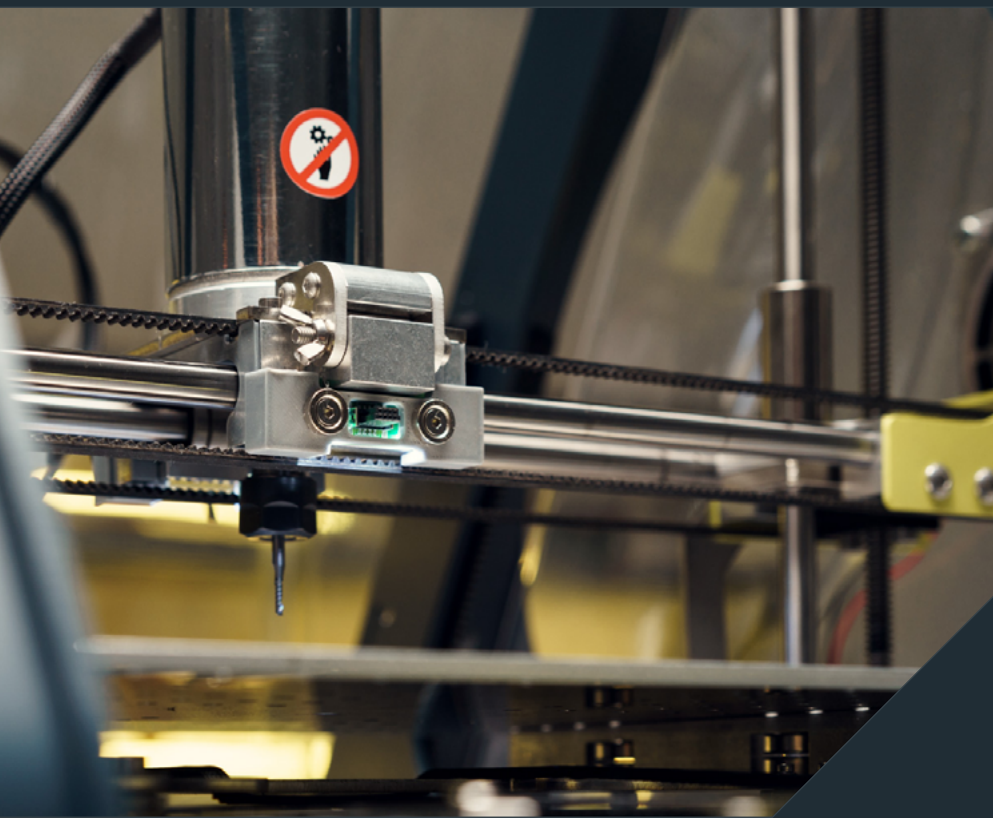
01   Heavy-duty aluminum plates provide amazing rigidity and keep electronics safe from dust and leftovers from CNC machining.

02   The sturdy construction is designed to deliver both 3D printing and withstand CNC operations.

03   Reinforced Cartesian XZ-head motion system doubled up with dual glass-fiber-reinforced belts.

04   Support for a wide variety of engineering materials - wood, composites, soft plastics, even soft metals.

05   The all-new CNC worktable offers a convenient materials mounting system, great stability, and is open for custom user designs.
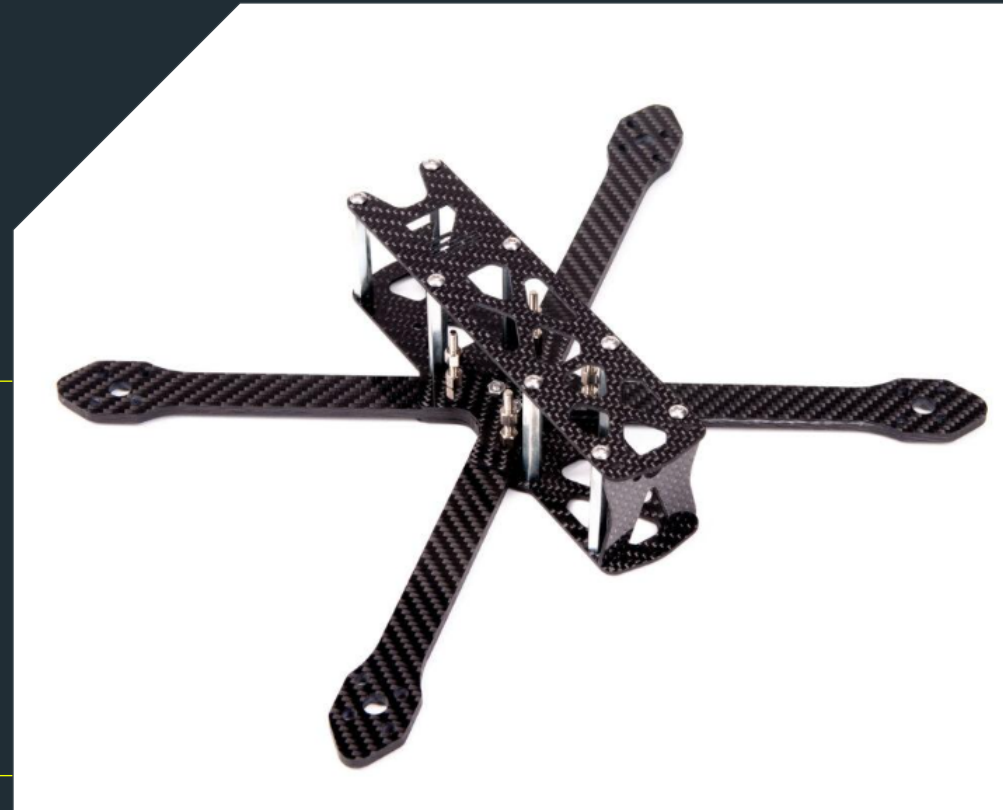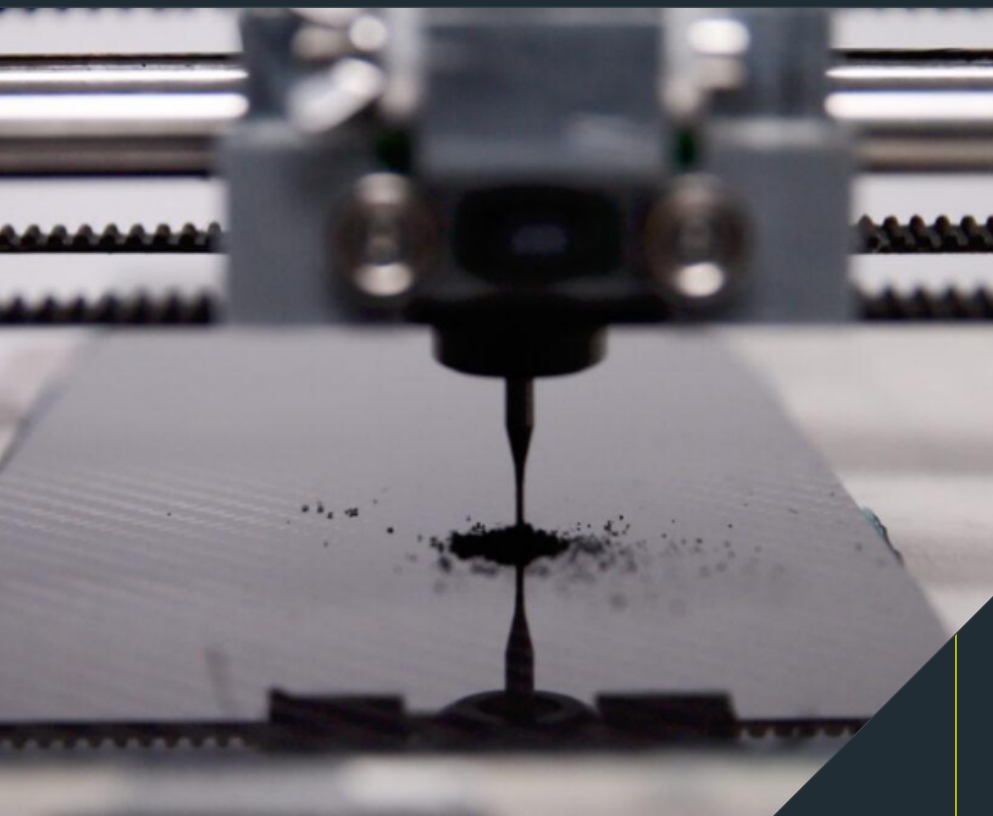
Use Case
Power Button
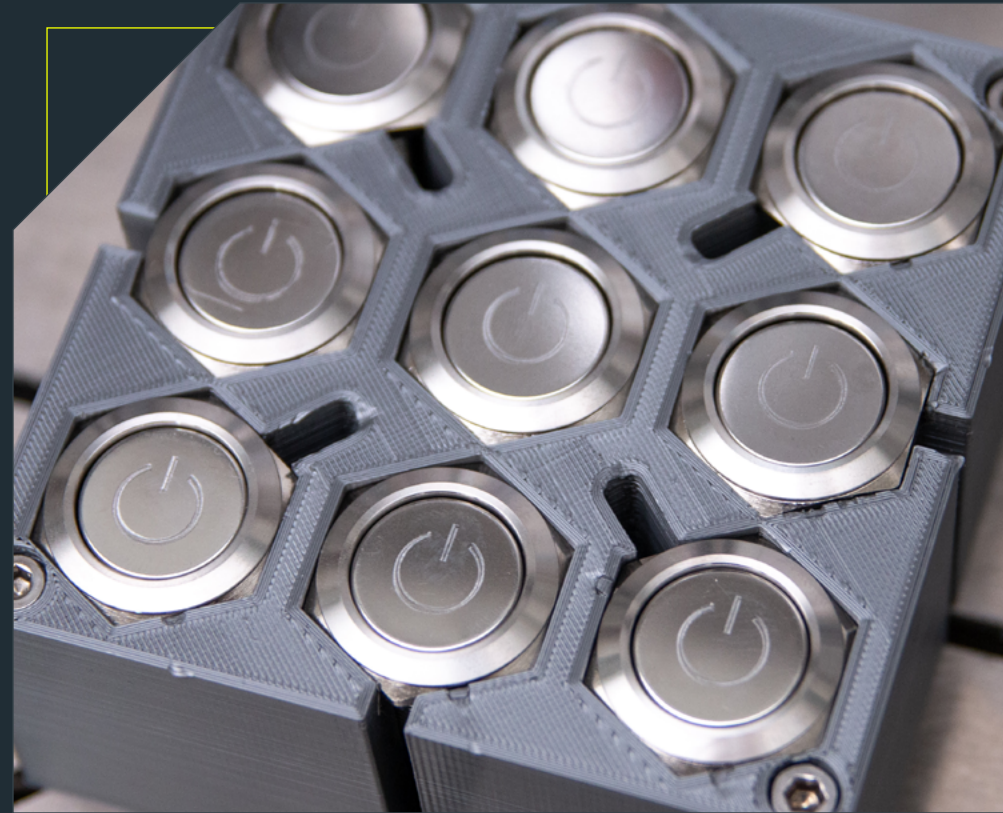
Aluminum is one of the most popular materials and offers an exceptional strength-to-weight ratio, excellent machinability, and great corrosion resistance.

Aluminum uses vary, but it's mostly used for prototyping and end parts. The material can be also easily engraved on.

Use Case
Drone

Carbon is a composite material that exhibits excellent strength-to-weight ratio and high-temperature resistance.

Carbon finds its applications in many fields, as it is often used as a lightweight alternative to some metals like aluminum. As a composite, carbon can be used in industrial automation, robotics, drones, aerospace, tooling, and construction plates.

Clean Laser Cuts and Engravings

LASER ENGRAVING AND CUTTING
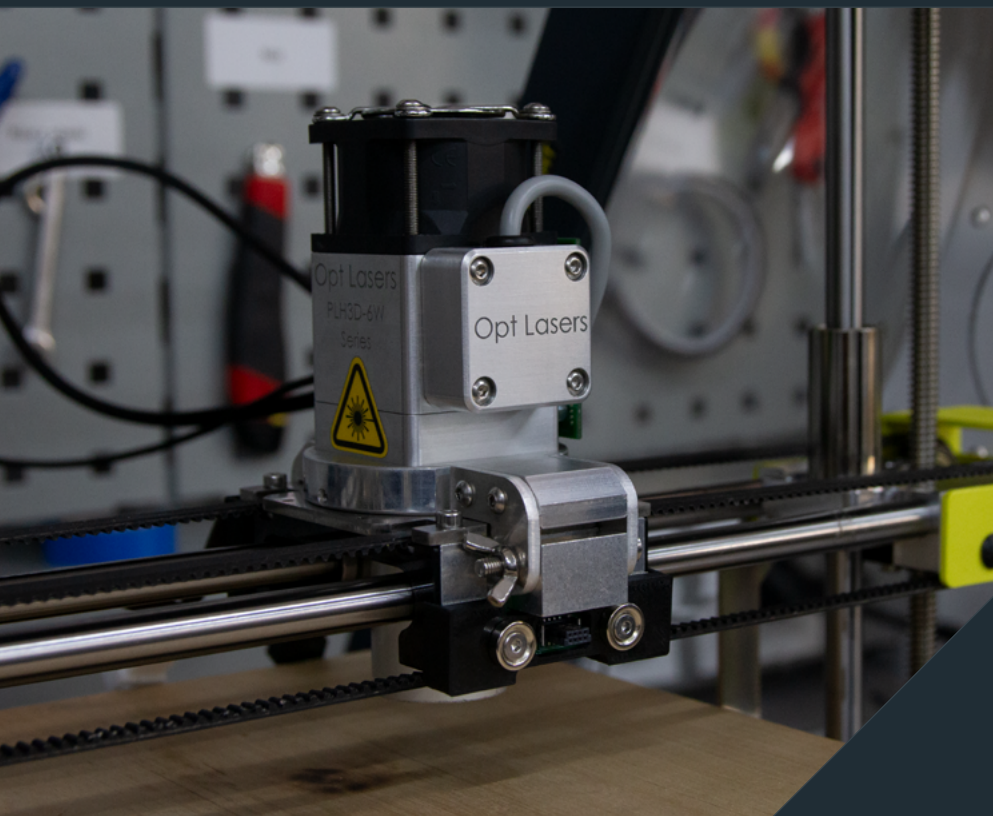
01 6W blue laser diode.

02 Light and compact design with CNC-cut aluminum body.

03 Easy to use, especially with the all-new CNC worktable. Safely set up materials of different dimensions and thickness with the new mounting system.

04 Great toolhead for in-house PCBs production.

05 Use the laser workflow for art, decorations, educational materials, signage, and customization.

Use Case
PCB
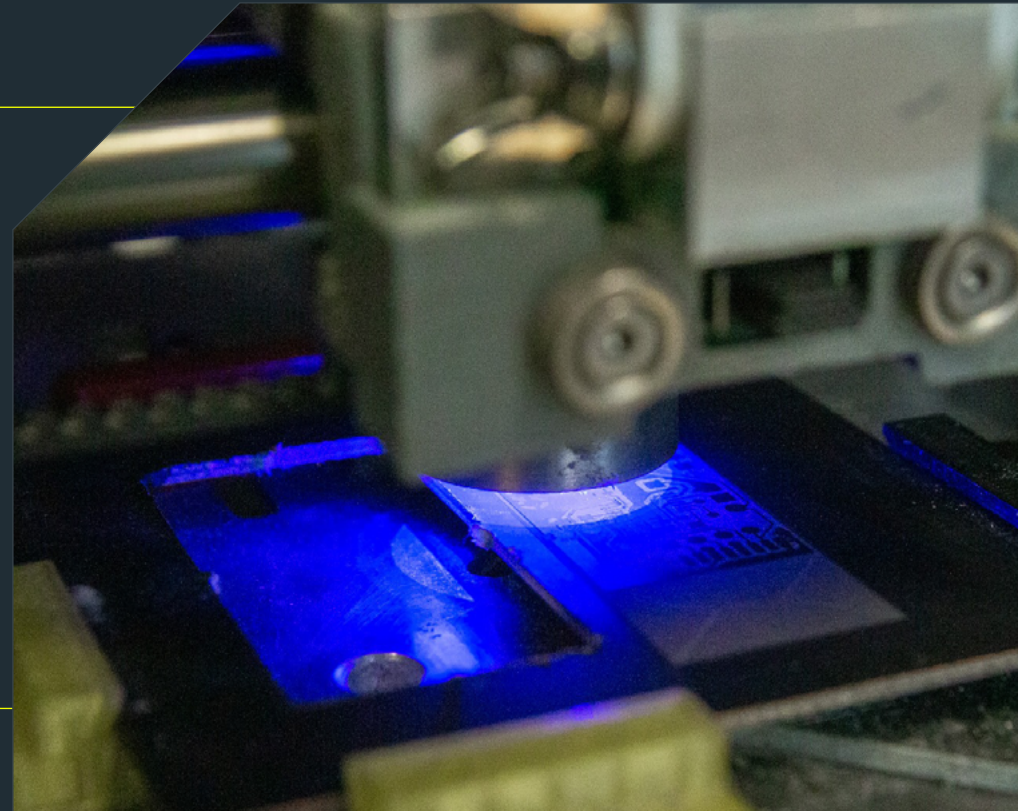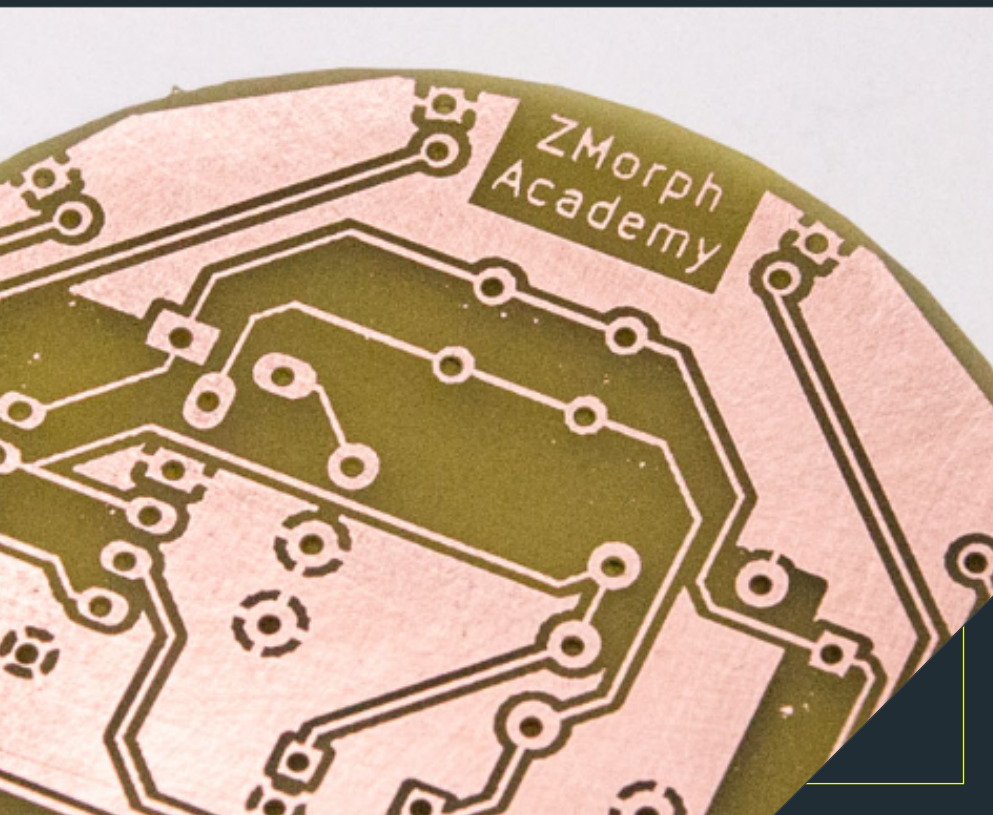
FR4 is the base material for PCB making. It's made of woven fiberglass cloth with an epoxy resin binder. You can utilize the versatile Zmorph Fab for a rapid manufacture of your own Printed Circuit Board.

More posibilities with Dual Extruder

MULTIMATERIAL
3D PRINTING

01 Most advanced applications of 3D printing that use and combine two 1.75 mm filament materials to 3D print one object.

02 Light and compact design with CNC-cut aluminum body.

03 It is compatible with the Zmorph interchangeable toolhead system and can be easily swapped with any other toolhead in just a few steps.

04 The Dual Extruder Toolhead works with 1.75mm filaments, like ABS, PLA, PETG as well as other filament materials.

05 Dual Extruder Toolhead with its single-nozzle mixer hot end enables two color or two material 3D printing, with advanced features like image mapping, and color blending.

Use Case
Architecture Mockups
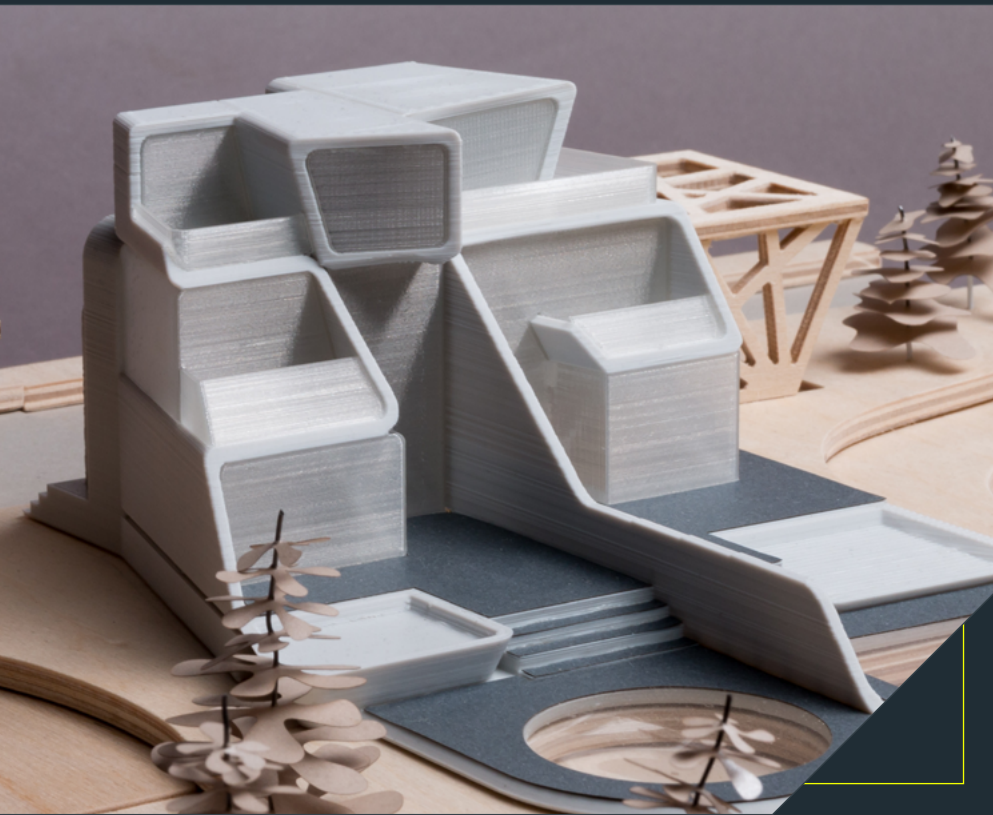
Buildings were 3D printed using Dual Extruder Toolhead. This way it was possible to manufacture the entire model in one piece even though it's built from two materials. Grey PLA was used for walls while translucent PLA imitates glass. Various 3D printing services would require you to prepare separate files to print this object in parts that you'd need to assemble later.

Thick Paste Toolhead

THICK PASTE

01   Enables 2D and 3D printing of dense masses, which are extruded at high pressure through an exchangeable nozzle.

02   Wide potential for experimental applications in art projects, material research, and custom cake decorations.

03   Simple construction also makes it safe for educational purposes and working with children.

04   The toolhead can print using medium and dense masses like ceramics silicone, porcelaine.

Use Case
Christmas Decorations

With the Thick Paste Extruder, you can make Christmas decorations of various shapes yourself. This is a good opportunity to learn and experiment with different materials.

Set comparison

Basic Set 2-in-1 for learning and prototyping includes Single Extruder Toolhead and CNC Milling Toolhead. With stellar built quality, user friendly interface, and industry standard electronics it would be the perfect match for all Makers. Changing tools is quick and easy - no more than 60 seconds, no tinkering needed.

For those, who need more - **Zmorph Fab Advanced Set 5-in-1** is extended with Dual Extruder Toolhead, Thick Paste Extruder Toolhead and 6W Blue Laser Diode Toolhead. Make full use of the device's potential.

|	Basic 2-in-1	Advanced 5-in-1
Single Extruder	X	X
CNC	X	X
Dual Extruder		X
Thick Paste		X
Laser		X
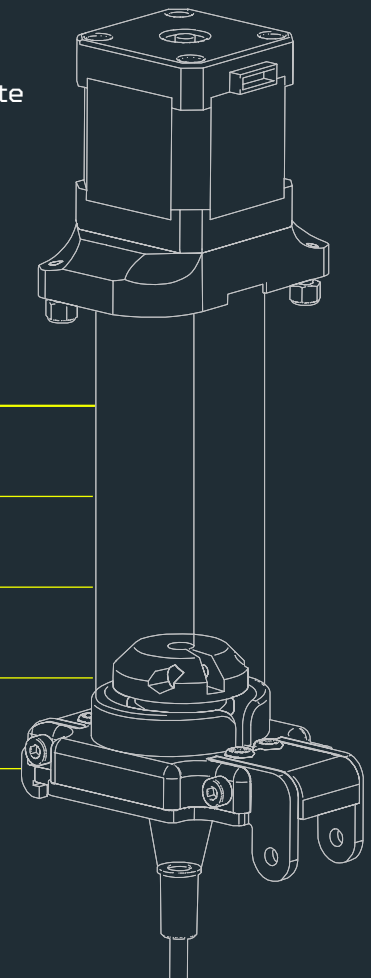
Lots of Reasons in One Device

CNC Environment

Zmorph Fab is equipped with a professional CNC worktable with a simple solution for materials mounting. The software features CAM-standard workflow for CNC procedures with STEP operations, ability to change the tool within one G-code, and path visualisation.
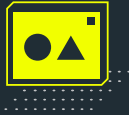
Seamless UI

Accessible and intuitive user interface is designed for both professionals and first-timers. Effortlessly maneuver through the menu

Voxelizer

The multi-featured software for 3D printing, CNC milling, and cutting. Voxelizer has an optimized workflow for Zmorph 3D printers ensuring the best and fastest results.

SMART Toolheads

Changing workflows in Zmorph Fab is fast and easy with the automatic toolhead detection. Switching tools takes just a few easy steps and no more than a minute

Quiet Work

Behind the quiet work stands the design of the 3D printer enhanced by high-quality electronics and carefully programmed drivers.

Air Filtration

Removable Carbon/HEPA filters disintegrate semi-toxic fumes and particles released by melted filaments during 3D printing and during laser engraving. Zmorph Fab will let you know when the filters need to be changed.

Voxelizer Software

Get the most out of Zmorph Fab with the dedicated slicing software.
Voxelizer covers all workflows available in Zmorph Multitool 3D Printers in one software.

Use materials presets for Zmorph Fab or make your own.

Work with upgraded CAM-standard CNC workflow with STEP operations, ability to change the tool within one G-code, and path visualisation.

Control your designs with local settings and advanced support structures.

GET VOXELIZER →

Materials

Zmorph Fab opens unlimited possibilities unavailable for single-purpose 3D printers.Choose from materials like plastic filaments for 3D printing, and soft metals for CNCmilling. Zmorph Fab can do it all.
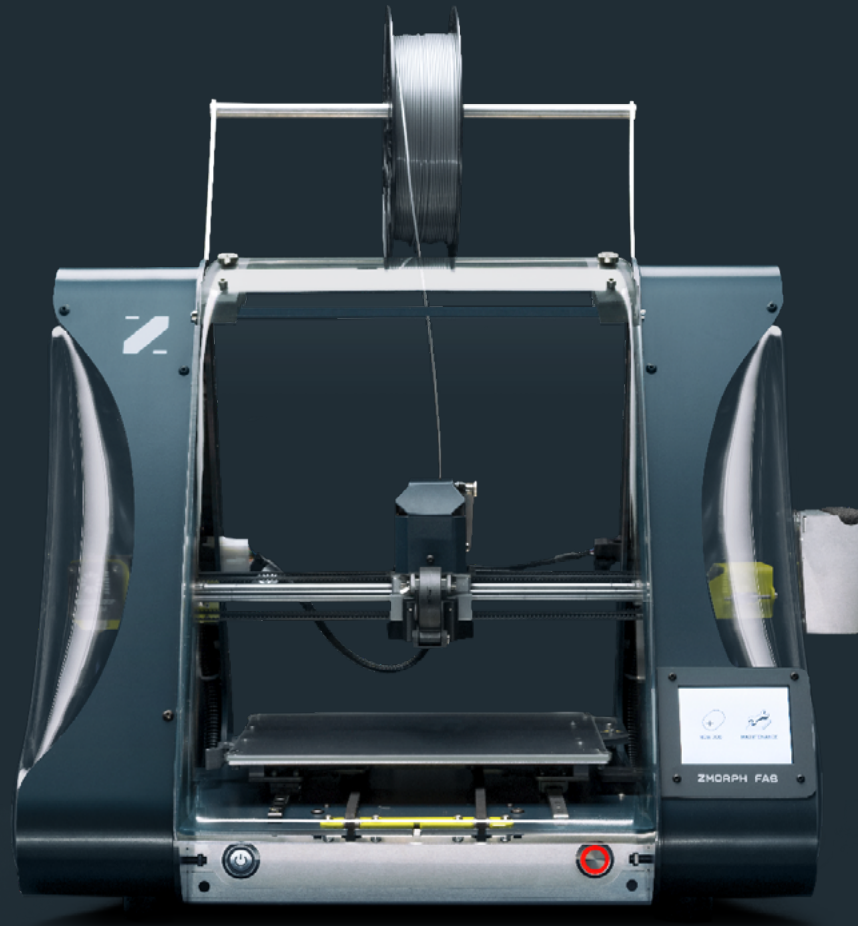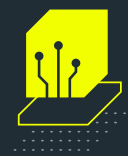
Designed for Reliability

HASSLE-FREE 3D PRINTING

STELLAR BUILD QUALITY

MULTI-FEATURED SOFTWARE

INDUSTRY-STANDARD ELECTRONICS

Products Trusted by Educators, Designers and Engineers

"

The Multitool for workshops, schools and FabLabs

3D Printing Industry

"

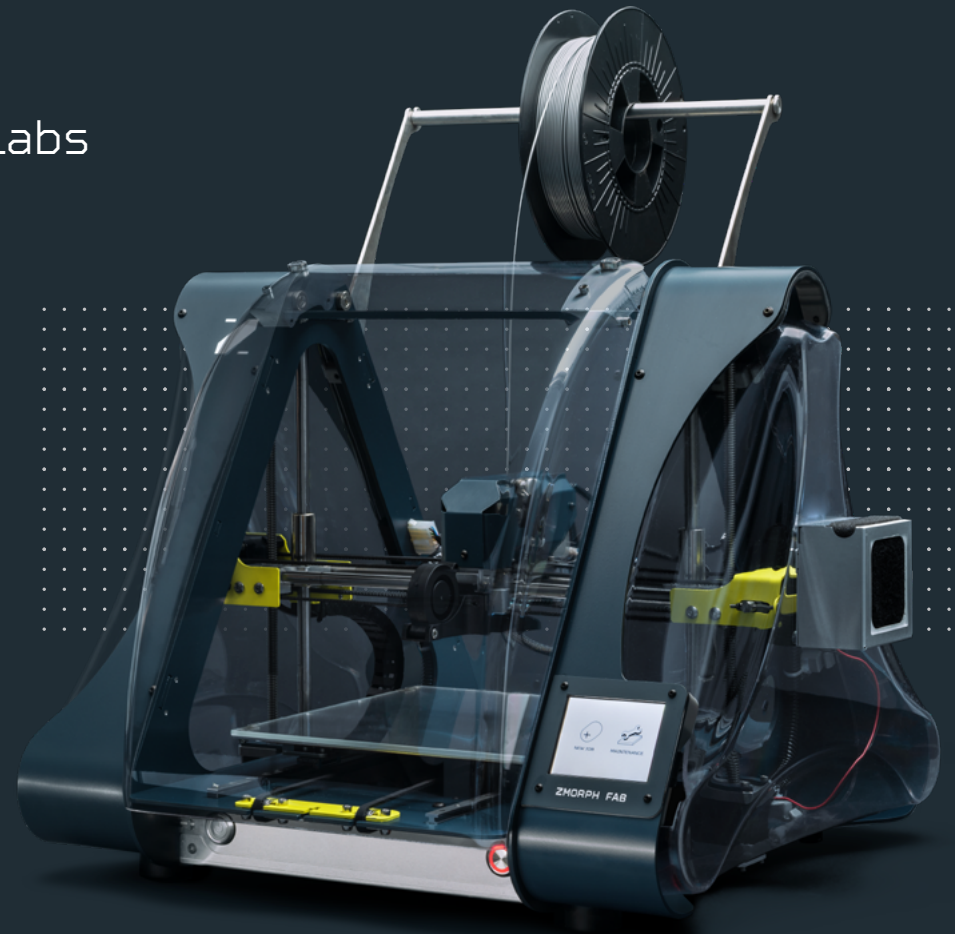A beast of a machine in more ways than one

A113DP

"

A prototyping Holy Grail

Breaks'n'Makes

Technical Specifications

3D PRINTING

3D printing technology	FFF (Fused Filament Fabrication)
Toolheads	Single Extruder Toolhead 1.75, Dual Extruder Toolhead
Layer resolution	0.05 - 0.4 [mm] *
Maximum printing temperature	250 [°C]
Work area	235 x 250 x 165 [mm]
Maximum bed temperature	100 [°C]
Minimum wall thickness	0.4 [mm] *
Dimensional accuracy	+/- 0.2 [mm]
Work area leveling method	Automatic, Manual
Material container	Spool, reel
Material diameter	1.75 [mm]
Nozzle diameter	0.4 [mm]
Support structures	Mechanically removed - printed with the same material as the model
Connectivity	USB, Ethernet, SD card
Available Materials	ABS, PLA, PETG
Third party materials	Applicable
Work speed	40 [mm/s]
Travel speed	120 [mm/s]

CNC MILLING

Toolhead	CNC spindle
Spindle max power	300 [W]
Noise	70 [dB]
Work area leveling method	Manual
Work area	235 x 250 x 85 [mm] **
Work speed	0.1 ~ 20 [mm/s]
Travel speed	120 [mm/s]
Available Materials	PCB/FR4, Carbon, Textolite, PVC, Plexi, PC, Dibond, Hips PP, PET, PE Plywood, Beech wood
Tool holding	ER-11 collet

LASER ENGRAVING / CUTTING

Toolhead	Laser
Laser spot size for 50mm	0.1 x 0.2 [mm]
Laser spot size for 80mm	0.1 x 0.3 [mm]
Wavelength	450 [nm]
Laser class	4
Laser power	6 [W]
Noise	58 [dB]
Work area leveling method	Manual
Work area	235 x 250 x 145 [mm]
Work speed	15 [mm/s]
Travel speed	120 [mm/s]
Available Materials	Wood, wood-like, leather, EPP, paper, cardboard, felt, foil, laminate, EVA Foam, CCL FR4***

Technical Specifications

WEIGHT AND PHYSICAL DIMENSIONS

Printer without a spool holder	520 x 500 x 450 [mm]
Printer with a spool holder	520 x 500 x 570 [mm]
Printer with a HEPA filter	570 x 500 x 570 [mm]
Dimensions of the transport box	600 x 600 x 570 [mm]
Full set weight	28.70 [kg]
Printer weight	14.45 [kg]
Single Extruder Toolhead 1.75 weight	0.70 [kg]
CNC Milling Toolhead	0.90 [kg]

ELECTRICAL PARAMETERS

AC Input	100 [VAC] ~ 4 [A] 50/60 [Hz] 240 [VAC] ~ 2 [A] 50/60 [Hz]
Maximum Power Consumption	350 [W]
Power Consumption with single-head extruder	220 [W]
Power Consumption with CNC toolhead	330 [W]

SOFTWARE

Software Bundle	Voxelizer
Supported File Types	.stl, .obj, .step, .dxf, .png, .bmp
Supported Operating Systems	Windows 7/10 (64 bit) or higher macOS 10.13 or higher

FILTRATION PARAMETERS

Filter type	HEPA/Carbon
Ventilation power	1.54 [W]
Filter dimensions	80 x 80 x 25 [mm]
Filter system dimensions	85 x 85 x 50 [mm]
Filtration control	Temperature

TEMPERATURE PARAMETERS

Ambient Operation Temperature	15 ~ 30 [°C]
Storage Temperature	-10 ~ 40 [°C]

Contact

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