



# ZMORPH FAB

## Technical Specification

### 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	115 [°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, 3.00 [mm]
Nozzle diameter	0.3, 0.4, 0.6 [mm]
Support structures	Mechanically and chemically removed - printed with the same material as the model
Connectivity	USB, Ethernet, SD card
Available Materials	PLA, ABS, PET, Nylon, PVA, HIPS, ASA, TPE, PP, PC, PMMA, PC/ABS
Third party materials	Applicable
Work speed	40 [mm/s]
Travel speed	120 [mm/s]

### TEMPERATURE PARAMETERS

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

### 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	ABS, Nylon, HDPE, PTFE, PC, PP, POM, PMMA, PVC, HIPS, LDPE, PET, Carbon, CCL FR4, Dibond, TCF, Wood, Wood-like, Aluminum, Brass, Copper, Cardboard, Wax, Modeling board, Styrodur
Tool holding	ER-11 collet

### LASER ENGRAVING / CUTTING

Toolhead	Laser
Laser spot size for 50mm	0.1 x 0.1 [mm]
Laser spot size for 80mm	0.1 x 0.18 [mm]
Wavelength	450 [nm]
Laser class	4
Laser power	2.8 [W]
Noise	40 [dB]
Work area leveling method	Manual
Work area	235 x 250 x 85 [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***





## 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]
Dual Extruder Toolhead	1.00 [kg]
CNC Milling Toolhead	0.90 [kg]
Laser Toolhead	0.32 [kg]
Thick Paste Extruder Toolhead	0.60 [kg]

## 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

## 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 Dual-head extruder	230 [W]
Power Consumption with CNC toolhead	330 [W]
Power Consumption with Laser toolhead	80 [W]

## 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

\* Depending on the diameter of the nozzle,

\*\* Depending on the mounted endmill and material,

\*\*\* Engraving - only when the surface is covered with black paint.

