

# IEMAI 3D

## High Performance Materials 3D Printing Machine

### MAGIC-HT-PRO



Manufacturer: Dongguan Imai Intelligent Technology Co., Ltd.

## ● Equipment Overview

IEMAI high performance material 3D printer MAGIC-HT-PRO is a 3D printing device based on the principle of fuse deposition (FFF) technology, with printing temperature up to 450 ° C, hot bed temperature of 170 ° C, and 130 ° C chamber temperature.

It adopt detachable print heads,2 liquid-cooling system extruder, with a multi-functional moisture proof cabinet.

Supports most of the polymer 3D printing filaments on the market, including special engineering plastics PEEK, PEAK,PEKK,PPSU, ULTEM,CARBON,METAL FILL,GLASS FIBER, etc., with detachable double print heads, creating simple maintenance conditions, supporting PLA and water-soluble support materials (PVA), As well as the printing of ABS and limonene support material (HIPS), it also opens up the possibility of soluble support for special engineering plastics PEEK, PPSU and PEI.

IEMAI produces PEEK, PPSU, PEI, ABS and high-temperature cleaning materials. Together with the 3D printer MAGIC-HT-M/L, it became a domestic manufacturer to provide high-performance materials for 3D printed wire and high-temperature 3D printers,and solve the problem of cleaning high-performance materials.

Core parameters	Core functions
<ul style="list-style-type: none"> <li>● Large Build Volume : 310*310*480 mm</li> <li>● High Printing Temperature : Up to 450°C</li> <li>● High Chamber Temperature : Up to 120°C</li> <li>● Build Plate Temperature : Up to 170°C</li> <li>● 2 set 450°C print heads</li> </ul>	<ul style="list-style-type: none"> <li>● Liquid cooled system double print head</li> <li>● Power Failure Recovery</li> <li>● Filament Absent Warning</li> <li>● Wi-Fi Control ( Cell phone control )</li> <li>● Quick release printing platform</li> </ul>

### Support Materials

PEEK	ULTEM	PPSU	ASA	PC	PA	ABS	PETG
PLA	TPU	PVA	HIPS	WOOD	CARBON	SUPPORT	.....

## ● Specifications

### Materials

- Printable materials: PEEK ULTEM PPSU PEAK PEKK PC PA Carbon Fiber PETG TPU, etc.
- Filament diameter: 1.75 mm
- Open material system, Compatible with 3rd party filaments

### Build volume

- Print size (xyz): 310 x 310 x 480 mm ( 12.2 x 12.2 x 18.8 inches )

### Temperature

- Max extruder temperature: 842 °F / 450 °C
- Max chamber temperature: 248 °F / 120 °C
- Max hot bed temperature: 338°F / 170 °C

### 3D Printer and printing properties

- Layer resolution: 50 Microns
- Position Accuracy: X/Y 12.5 Microns Z: 1.25 Microns
- Feeder system: Direct, Near end extrusion
- Extruder type: Dual , detachable, 450°C high temperature hotend
- Nozzle size: standard 0.4 mm , optional 0.2~1.0 mm
- Max print speed: 150 mm/s

- Frame: Metal , glass
- Closed print chamber: Yes, fully enclosed
- Temperature controlled print chamber: YES
- Print bed: High viscosity fiberboard, CARBON FIBER Plate, Composite Metal ( optional )
- Display: 5 inches full color touch screen
- Firmware:Open-source
- Connectivity: USB / SD Card / Wi-Fi ( cell phone)

### Requirements

- Slicing: Cura , IEMAI 3D ,Simplify 3D, Compatible with other
- Operating system(s): Windows 7/8/10 64 bit.

### Dimensions and weight

- Machine outer dimensions (xyz): 702\*624\*1580 mm ( 27.6 \* 24.5 \* 62.6 inches)
- Packing dimensions (xyz): 780\*690\*980\*2 mm ( 30.7 \*27.1 \* 38.5\*2 inches)
- Net Weight : 238KG ( 524.7 pounds )
- Packing Weight : 260 KG ( 573.2 pounds)

### Power

100~250V, 50~60 Hz, 3000W

### Multifunctional moisture proof cabinet for tools and consumables.


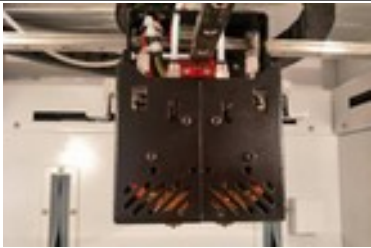
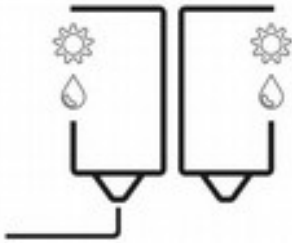



Humidity control range: 10~20% ; Internal volume is 180L, which can be placed in 36 rolls of



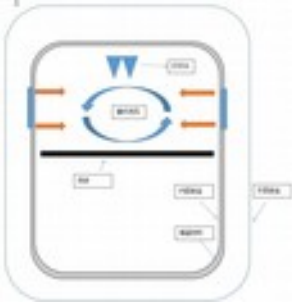
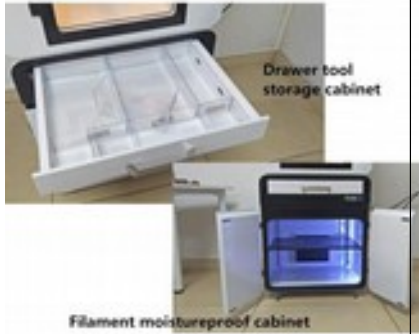
1kg/spool filament.

- Machine photos



## ● Advantage

Advantage	picture	Description
Detachable extruder		Easy replacement and maintenance;
High temperature double extruder		450°C Print temperature Expansibility; Support printing (HT support printing) ; Two material or two colors printing
Liquid cooling system		Liquid cooling print head Better heat dissipation Increased service life of accessories
Z axis Ball screw+ linear guide		High precision transmission; (With High temperature resistant belt);
XY axis drive (cross shaft linear guide)		Keep components in isolation from the constant temperature chamber Improve the life of moving parts and reduce maintenance frequency Improve equipment XY axis motion stability
Print temperature 450°C Hot bed temperature 170°C		Provide high temperature printing conditions Supports printing of high performance materials

<p><b>Constant chamber temperature 120°C</b></p>		<p>Maintain temperature gradient</p> <p>Achieve better material crystallization</p>
<p><b>Quick release printing platform</b></p>		<p>Easy model removal and platform replacement</p>
<p><b>Double hot air temperature system</b></p>		<p>More uniform temperature;</p> <p>The temperature is more effective ,and less affect to the service life of the circuit and the transmission part;</p>
<p><b>Material moisture proof cabinet</b></p>		<p>Supporting moisture-proof cabinet</p> <p>Provide suitable low humidity storage conditions for materials</p> <p>With multi-functional toolbox</p>
<p><b>Power Failure Recovery</b></p>	<p>/</p>	<p>Recovery of power off accident printing;</p>
<p><b>Filament Absent Warning</b></p>	<p>/</p>	<p>Reminding the material to break;</p>



● Our Certifications



CE

ROHS

software copyright

patent 01

patent 02

patent 03



US trademark








EU trademark

China trademark





high-tech enterprise title







## • Summary of Engineering Materials


Pictures	Material	Key Characteristics	Applications
	ABS	Multifunctional (strong)	High requirement prototype
	PETG	Transmittance	Tail lens and steering lamp Perspective, functional prototype
	ASA	UV stability and best aesthetic sense	End use parts for outdoor use Sports goods Building material
	PC	Sturdy (tension)	High requirement prototype Manufacturing tools, fixtures and carriers Composite tools and moulds and metal bending
	PA	Sturdy (impact)	Functional prototype High impact products and Applications Fixture and fixtures, fixture, product carrier
	ULTEM	Mechanical performance matured	Interior decoration panels and components: aircraft, buses, trains Mold style suitable for metal bending, composite laminated and fixed
	PEEK	Food grade Bio-compatibility	Medical tools, manufacturing tools, cooling fixtures, functional types

## • Summary of Normal Materials




Pictures	Material	Key Characteristics	Applications
	PLA	Environmental degradation	Education
	TPU	Flexible material	Clothes & Accessories
	TPE	Elastic material	Suitable for soles, uppers
	Carbon PLA	Low density	Education、Automotive

## • Summary of Support Materials

Pictures	Material	Key Characteristics	Relative material
	PVA	Water solubility	PLA、PETG、ASA
	HIPS	Soluble in limonene	PC、ABS、PA
	Easy Support	Easy to dismantle	PLA、ABS、PETG、PC、ASA
	Fire Support	Easy to dismantle	ULTEM

	<p>HT support</p>	<p>High temperature support materials</p>	<p>PEEK, PEI, PSU</p>
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● Peek Printing Show

Moving gear	Bracket	Bones
		
Shell	Dentistry	Gear
		



More PEEK printing samples ( For medical application )





More PEEK printing samples ( For industrial application )

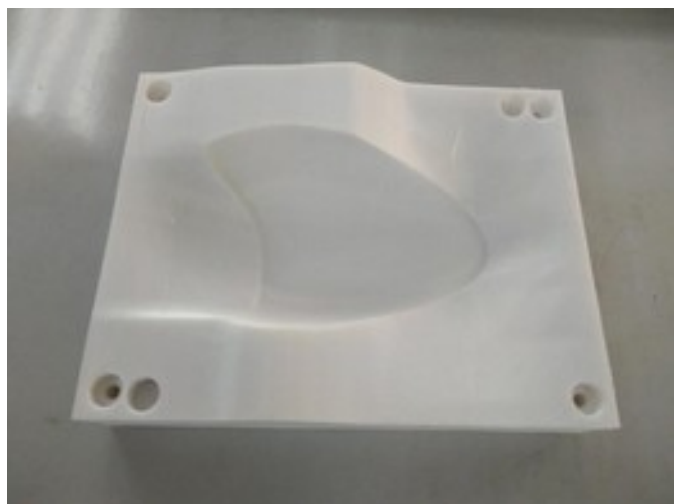




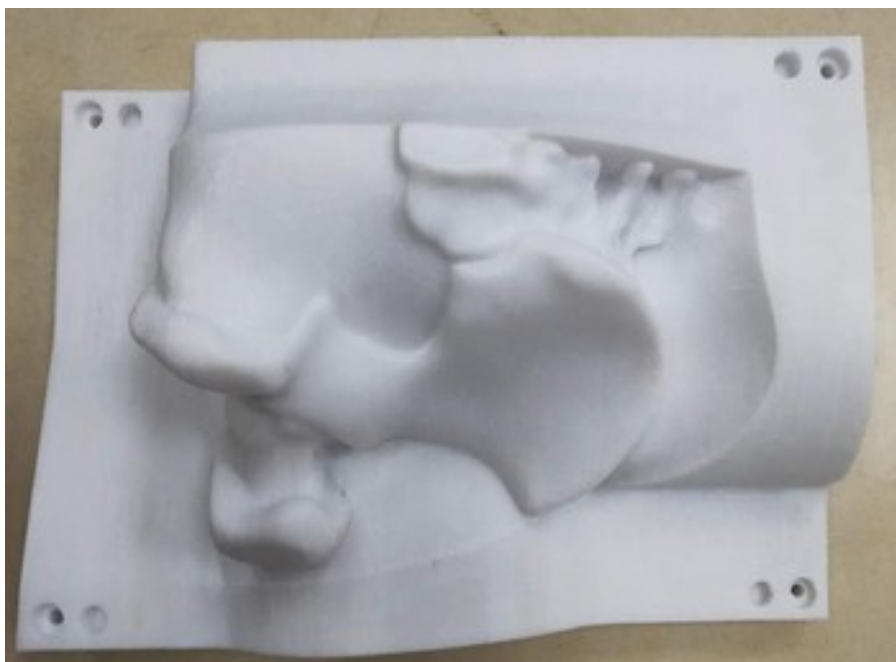
### PEKK printing sample



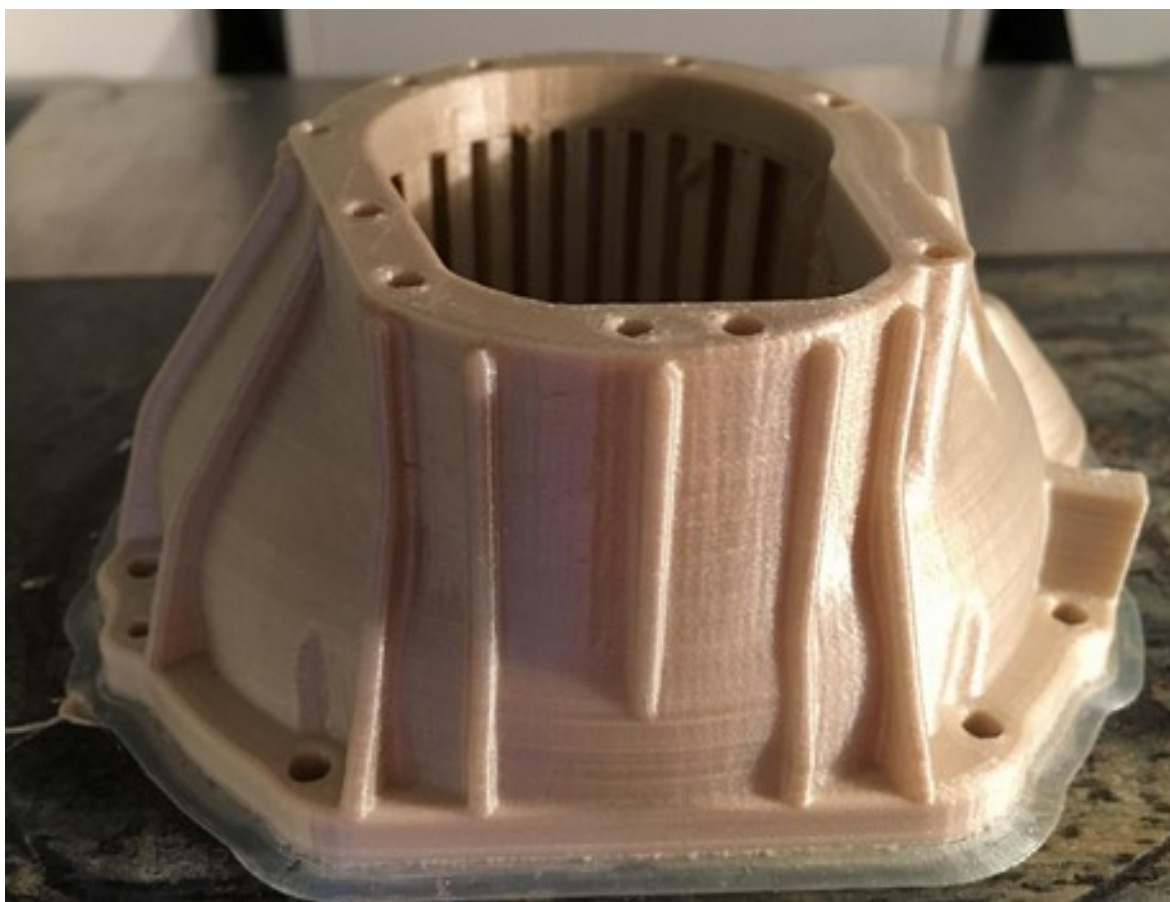
### PC printing samples



### Big size PC printing samples

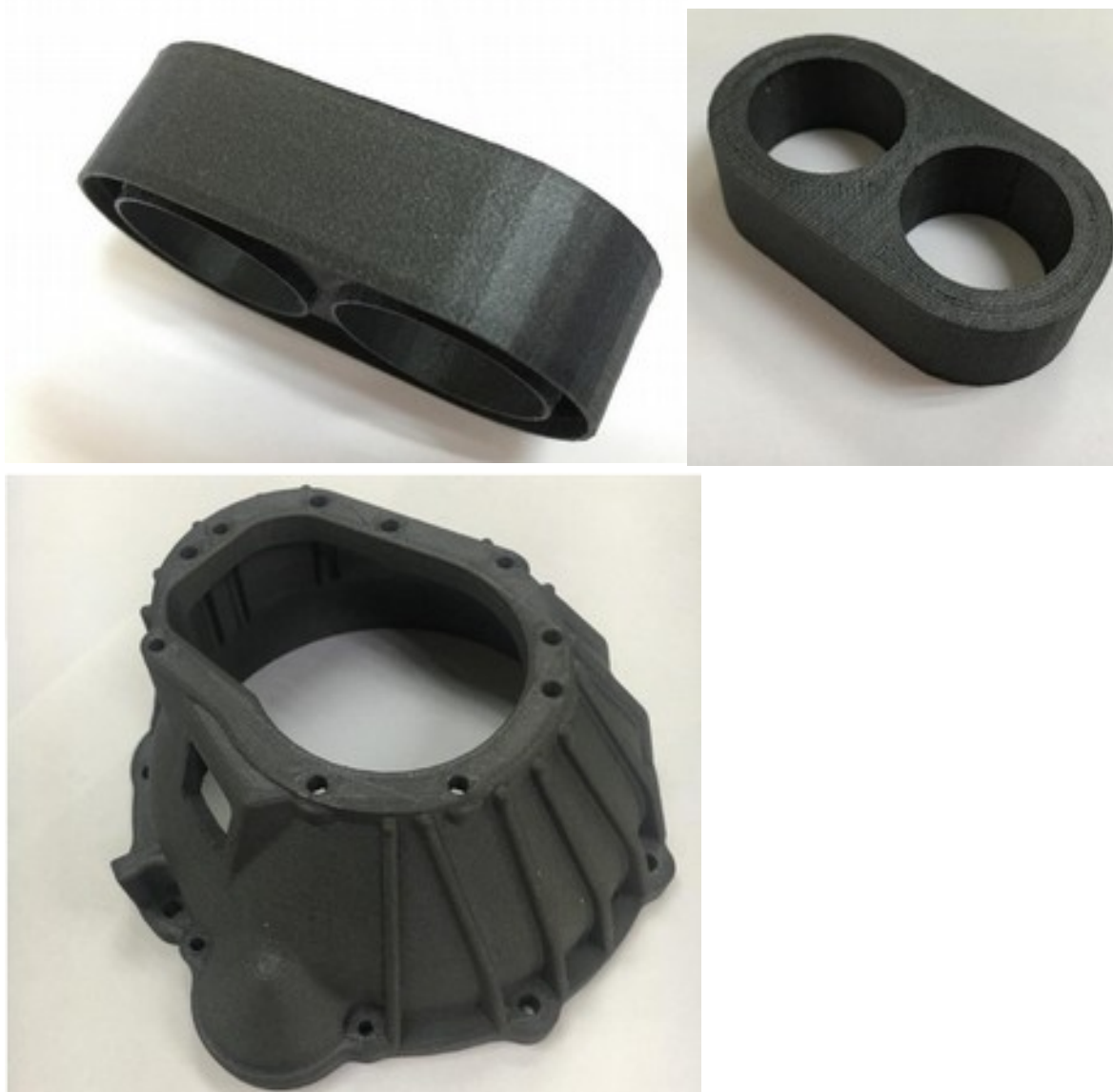


### ULTEM 9085 printing samples

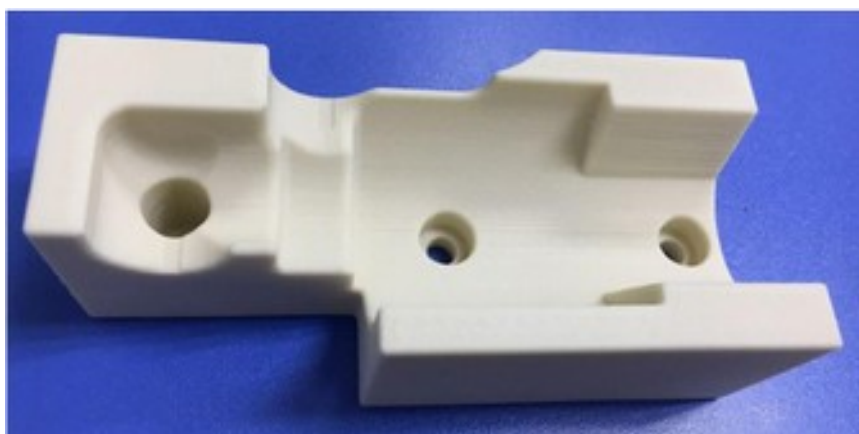




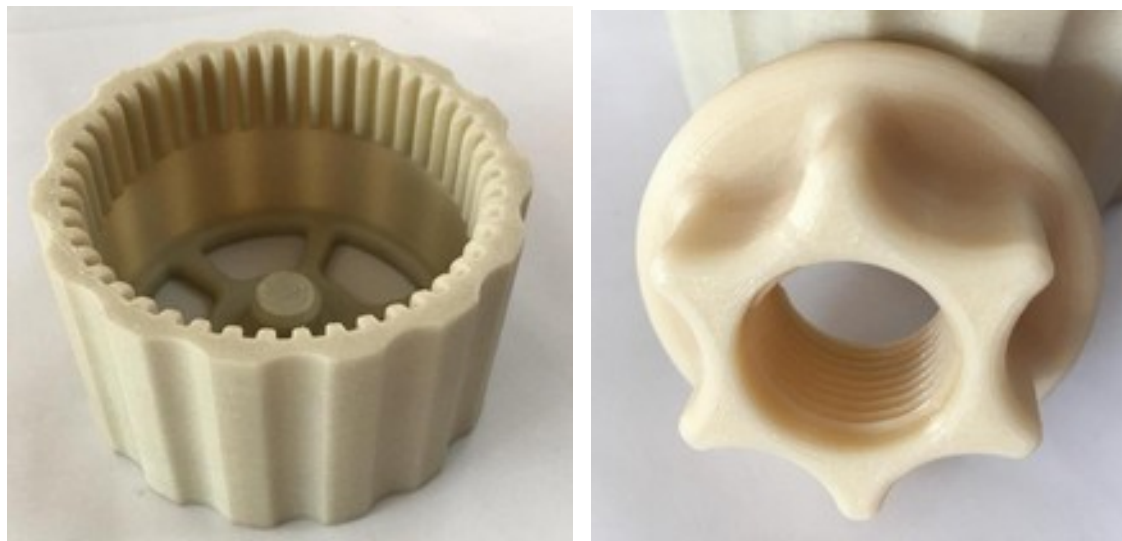
**CARBON PEEK printing samples**



**ABS printing samples**



### Nylon printing samples



### IEMAI HT printing samples

