



## 1. Overview

The system shall be a high-performance **Chamber Type 3D Printer** designed for precision additive manufacturing using **Fused Filament Fabrication (FFF)** technology. It shall incorporate advanced sensing, motion control, and thermal management features to ensure high-quality printing across a wide range of materials.

The printer shall apply an **active XY-axis vibration compensation algorithm** along with a **pressure advance function** to maintain excellent print quality even under vibration caused by rapid mechanical movements.

In addition to easily printable materials such as **PLA** and **PETG** at lower temperatures, the system shall also be capable of processing more demanding engineering materials through premium components and precise thermal control.

The printer shall be equipped with **micro LiDAR technology** capable of providing micrometer-level precision. This feature shall measure the nozzle height and automatically calibrate the flow rate for improved dimensional accuracy.

For bed leveling and print stability, the system shall utilize **two independent sets of sensors and algorithms** to measure the **nozzle-to-bed distance**, enabling reliable and automatic bed leveling.

A **built-in chamber camera** shall provide remote live streaming of the printing process and support **time-lapse recording mode** for monitoring and documentation.

The printer shall include a **chamber temperature sensor** that automatically adjusts fan speed to regulate internal chamber temperature during operation.

A **filament detection sensor** shall be provided to pause the print automatically when filament runs out during a job.

The printer shall allow **remote print control and monitoring** through the manufacturer's

*Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.*



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slicing software. Printing shall also be possible by transferring projects via **SD card or local network connection**.

## 2. Technical Specifications

Parameter	Specification
Body Type	Chamber Type
Printing Method	Fused Filament Fabrication (FFF)
Build Volume	256 × 256 × 256 mm or more
Nozzle Diameter	0.4 mm (Supports 0.2 mm, 0.6 mm, and 0.8 mm nozzles)
Maximum Hot End Temperature	300°C or higher
Supported Filaments	PLA, PETG, TPU, ABS, ASA, PVA, PET, PA, PC, Carbon Fiber Reinforced Polymers, Glass Fiber Reinforced Polymers, etc.
Build Plate Temperature	Max. 110°C (220V) / 120°C (110V)
Maximum Toolhead Speed	500 mm/s or higher
Maximum Toolhead Acceleration	20 m/s <sup>2</sup> or higher
Display	5-inch touchscreen, 1280 × 720 resolution or higher
Motion Controller	Dual-Core Cortex M4 or equivalent
Application Processor	Quad ARM A7 1.2 GHz or equivalent
Power Supply	100 ~ 240 V AC, 50/60 Hz
Product Dimensions	389 × 389 × 457 mm <sup>3</sup> or less

## 3. Standard Accessories

Item	Quantity
Main Unit	1 No.
Build Plate	1 No.
Sample Filament for Test Printing	1 No.
PLA Spool Filament (1 kg)	10 Nos.
Power Cord	1 No.
Accessory Kit Box	1 No.

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