

# Bambu Lab X1-Carbon

## Technical Specifications

| Technology              |                                       | X1-Carbon                                                                                                                                                               |
|-------------------------|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         |                                       | Fused Deposition Modeling                                                                                                                                               |
| Body                    | Build Volume(W×D×H)                   | 256 x 256 x 256 mm <sup>3</sup>                                                                                                                                         |
|                         | Chassis                               | Steel                                                                                                                                                                   |
|                         | Shell                                 | Aluminum & Glass                                                                                                                                                        |
| Tool Head               | Hot End                               | All-Metal                                                                                                                                                               |
|                         | Extruder Gears                        | Hardened Steel                                                                                                                                                          |
|                         | Nozzle                                | Hardened Steel                                                                                                                                                          |
|                         | Max Hot End Temperature               | 300 °C                                                                                                                                                                  |
|                         | Nozzle Diameter (Included)            | 0.4 mm                                                                                                                                                                  |
|                         | Nozzle Diameter (Optional)            | 0.2 mm, 0.6 mm, 0.8 mm                                                                                                                                                  |
|                         | Filament Cutter                       | Yes                                                                                                                                                                     |
|                         | Filament Diameter                     | 1.75 mm                                                                                                                                                                 |
| Hot bed                 | Build Plate                           | Flexible Steel Plate                                                                                                                                                    |
|                         | Build Plate Surface (Included)        | Bambu Cool Plate, Bambu Engineering Plate                                                                                                                               |
|                         | Build Plate Surface (Optional)        | Bambu High Temperature Plate                                                                                                                                            |
|                         | Max Build Plate Temperature           | 110°C @220 V, 120°C @110 V                                                                                                                                              |
| Speed                   | Max Speed of Tool Head                | 500 mm/s                                                                                                                                                                |
|                         | Max Acceleration of Tool Head         | 20 m/s <sup>2</sup>                                                                                                                                                     |
|                         | Max Hot End Flow                      | 32 mm <sup>3</sup> /s @ABS (Model: 150 x 150 mm single wall; Material: Bambu ABS; Temperature: 280°C)                                                                   |
| Cooling                 | Part Cooling Fan                      | Closed Loop Control                                                                                                                                                     |
|                         | Hot End Fan                           | Closed Loop Control                                                                                                                                                     |
|                         | Control Board Fan                     | Closed Loop Control                                                                                                                                                     |
|                         | Chamber Temperature Regulator Fan     | Closed Loop Control                                                                                                                                                     |
|                         | Auxiliary Part Cooling Fan            | Closed Loop Control                                                                                                                                                     |
|                         | Air Filter                            | Activated Carbon Filter                                                                                                                                                 |
| Supported Filament      | PLA, PETG, TPU, ABS, ASA, PET         | Yes                                                                                                                                                                     |
|                         | PA, PC                                | Ideal                                                                                                                                                                   |
|                         | Carbon/Glass Fiber Reinforced Polymer | Ideal                                                                                                                                                                   |
| Sensors                 | Bambu Micro Lidar                     | Yes                                                                                                                                                                     |
|                         | Chamber Monitoring Camera             | 1920 x 1080 Included                                                                                                                                                    |
|                         | Door Sensor                           | Yes                                                                                                                                                                     |
|                         | Filament Run Out Sensor               | Yes                                                                                                                                                                     |
|                         | Filament Odometry                     | Optional with AMS                                                                                                                                                       |
|                         | Power Loss Recover                    | Yes                                                                                                                                                                     |
| Physical Dimensions     | Dimensions                            | 389 x 389 x 457 mm <sup>3</sup>                                                                                                                                         |
|                         | Net Weight                            | 14.13 kg                                                                                                                                                                |
| Electrical Requirements | Voltage                               | 100-240 VAC, 50-60 Hz                                                                                                                                                   |
|                         | Max Power                             | 1000 W @220 V, 350 W @110 V                                                                                                                                             |
| Electronics             | Display                               | 5-inch 1280 x 720 Touch Screen                                                                                                                                          |
|                         | Connectivity                          | Wi-Fi, Bambu-Bus                                                                                                                                                        |
|                         | Storage                               | 4 GB EMMC and Micro SD Card Reader                                                                                                                                      |
|                         | Control Interface                     | Touch Screen, APP, PC Application                                                                                                                                       |
|                         | Motion Controller                     | Dual-Core Cortex M4                                                                                                                                                     |
|                         | Application Processor                 | Quad ARM A7 1.2 GHz                                                                                                                                                     |
|                         | Neural-Network Processing Unit        | 2 Tops                                                                                                                                                                  |
| Software                | Slicer                                | Bambu Studio<br>Support third party slicers which export standard G-code such as Superslicer, Prusaslicer and Cura, but certain advanced features may not be supported. |
|                         | Slicer Supported OS                   | MacOS, Windows                                                                                                                                                          |