VOXELAB Aries

VOXELAB Aries 3D Printer User Manual

Model: Aries

1. Introduction

The VOXELAB Aries is a semi-closed FDM (Fused Deposition Modeling) 3D printer designed for reliable and precise printing. It features a dual Z-axis for enhanced stability, WiFi connectivity for convenient operation, and is compatible with various filament types including PLA, ABS, and PETG. The printer offers a build volume of 200x200x200mm, suitable for a wide range of projects.

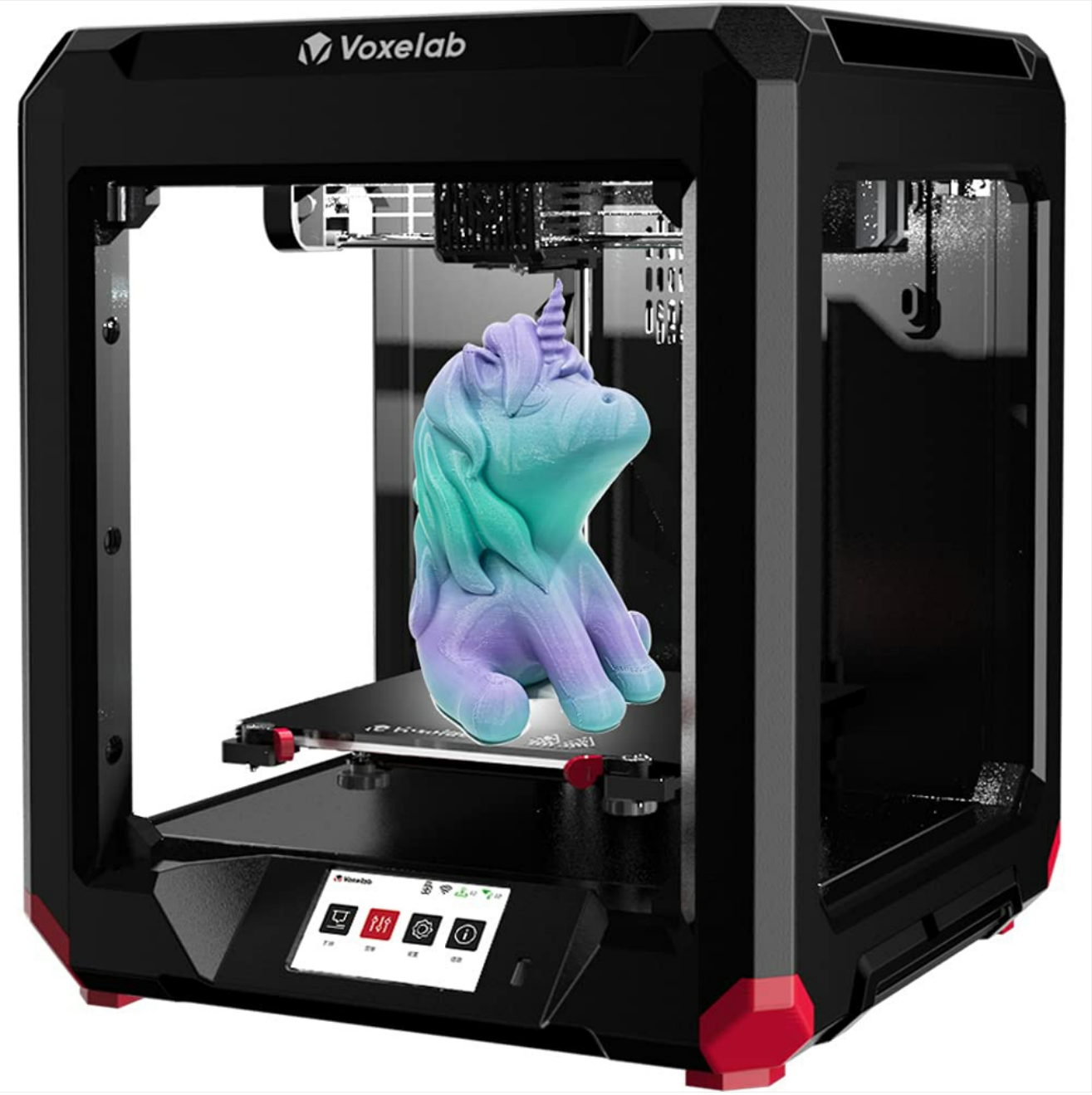

Figure 1: Front view of the VOXELAB Aries 3D Printer with a blue filament spool.

2. Safety Instructions

- Always operate the printer in a well-ventilated area.
- Keep hands clear of moving parts during operation.
- Do not touch the hot nozzle or heated build plate during or immediately after printing. Allow components to cool down.
- Ensure the power supply is correctly connected and grounded.
- Keep the printer away from flammable materials and moisture.
- Supervise children and pets when the printer is in use.
- Use only recommended filament types and sizes.

3. Product Overview

3.1 Key Features

- **Semi-Closed Design:** Provides a stable printing environment.
- **Dual Z-axis Rails:** Enhances print stability and precision.
- **WiFi Connectivity:** Allows for remote control and monitoring.
- **Filament Detection:** Automatically pauses printing when filament runs out.
- **Resume Printing:** Recovers from unexpected power outages.
- **4.3-inch Touchscreen:** Intuitive user interface.
- **Carbon Silicon Crystal Glass Platform:** Offers excellent adhesion and easy model removal.
- **Internal LED Lighting:** Illuminates the print area for better visibility.

Figure 2: VOXELAB Aries 3D Printer with text highlighting key features: "Out of the box", "Dual Z-axis rails", and "WiFi connection".

3.2 Printer Dimensions

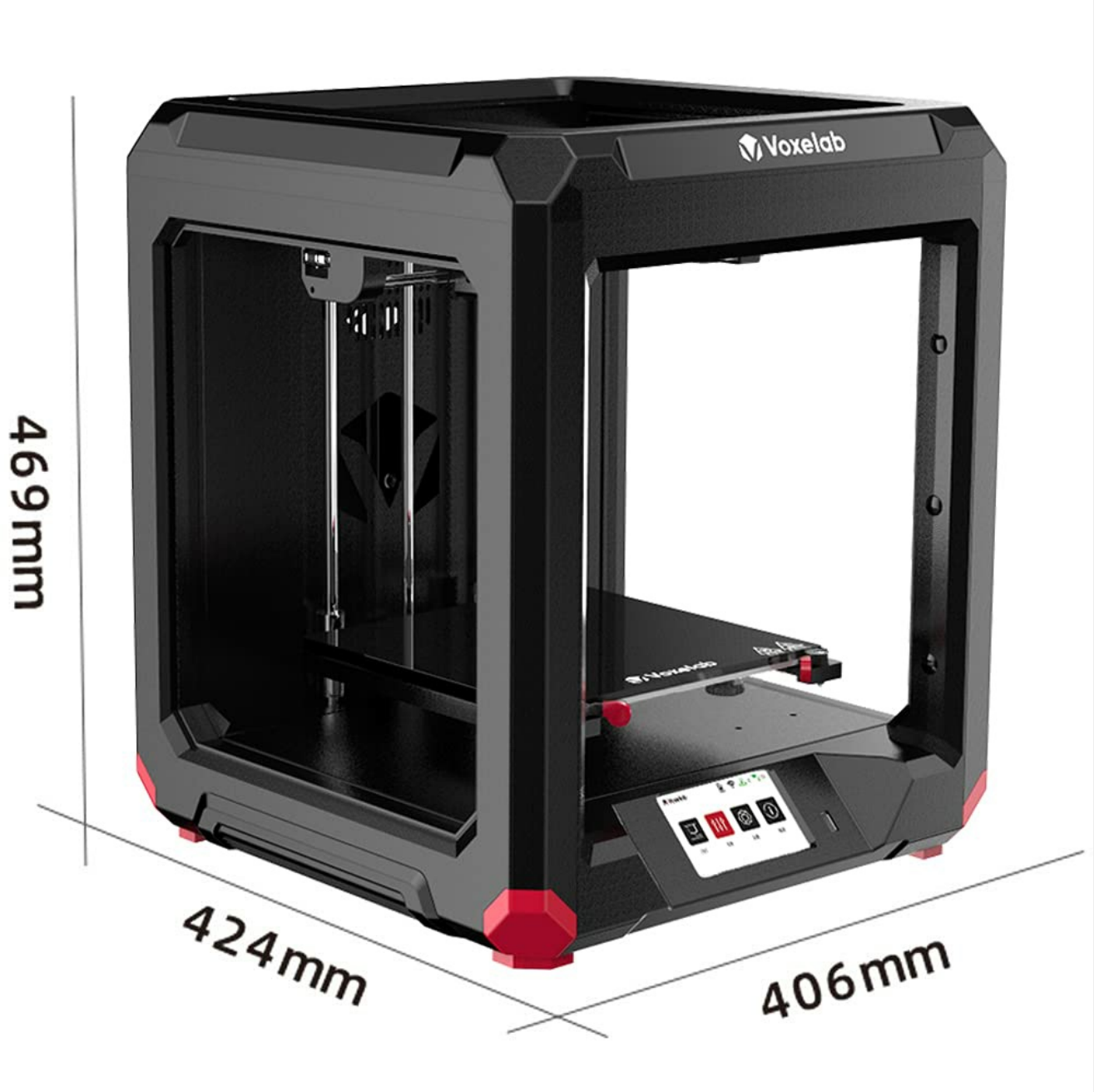

Figure 3: Diagram showing the external dimensions of the VOXELAB Aries 3D Printer: 424mm (width), 406mm (depth), 469mm (height).

4. Setup

The VOXELAB Aries is designed for quick setup, allowing you to begin 3D printing shortly after unboxing. Follow these steps for initial preparation:

1. **Unpacking:** Carefully remove the printer and all accessories from the packaging. Remove any protective films or shipping restraints.
2. **Attach the Glass Build Plate:** Secure the carbon silicon crystal glass build plate to the heated bed using the provided clips.
3. **Assemble the Filament Spool Holder:** Mount the filament spool holder to the designated position on the printer.
4. **Load Filament:** Insert the filament into the extruder's PTFE tube. The printer supports auto filament loading/unloading.
5. **Power On:** Connect the power cable and turn on the printer.

4.1 Language Settings

The factory default operating language is English. To change the language, for example to Japanese, follow these steps on the touchscreen:

1. Tap: **[Settings]** -> **[Language]** -> Select your desired language (e.g., Japanese).
2. Once the language setting is complete, click the back button to return to the main screen.

Figure 4: Screenshots of the VOXELAB Aries 3D Printer's touchscreen interface, illustrating how to change the language settings.

5. Operating Instructions

5.1 Slicing Software

Before printing, you need to prepare your 3D model using slicing software. The VOXELAB Aries is compatible with various slicing software, including Cura, Simplify3D, and Voxelmaker. This software converts your 3D model into G-code, which the printer understands.

Figure 5: VOXELAB Aries 3D Printer next to a computer displaying 3D slicing software.

5.2 Printing Process

1. **Prepare Model:** Load your 3D model (.STL, .OBJ, etc.) into your chosen slicing software.
2. **Configure Settings:** Adjust print settings such as layer height, infill, print speed, and support structures.
3. **Slice and Export:** Slice the model and export the G-code file to a USB drive or send it directly to the printer via WiFi.
4. **Start Print:** On the printer's touchscreen, select the G-code file and initiate the print. The printer will preheat the nozzle and build plate before starting.

5.3 Advanced Features

- **Filament Detection:** The Aries is equipped with a filament run-out sensor. If the filament runs out during printing, the print will automatically pause, allowing you to load new filament and resume the print without failure.
- **Resume Printing Function:** In case of an unexpected power interruption, the printer can resume printing from where it left off once power is restored, preventing print failures and saving material.
- **WiFi Connectivity:** Connect your printer to your local network via WiFi to monitor print status and control the printer remotely from your computer.

Figure 6: Image showing the Aries 3D printer connected wirelessly to a laptop, demonstrating WiFi connectivity and remote monitoring.

6. Maintenance

Regular maintenance ensures optimal performance and longevity of your VOXELAB Aries 3D printer.

- **Cleaning the Build Plate:** After each print, allow the carbon silicon crystal glass platform to cool. Once cool, models should detach easily. Clean the surface with isopropyl alcohol to remove any residue and ensure good adhesion for subsequent prints.
- **Nozzle Maintenance:** Periodically check the nozzle for clogs. If a clog occurs, use the provided needle or perform a cold pull to clear it. Replace the nozzle if it shows significant wear or damage.
- **Lubrication:** Apply a small amount of lubricant to the Z-axis lead screws and X/Y axis rods every few months to ensure smooth movement.
- **General Cleaning:** Keep the printer free of dust and filament debris. Use a soft brush or compressed air to clean hard-to-reach areas.

Figure 7: Close-up of the carbon silicon crystal glass build platform with a printed model, highlighting its adhesion properties.

7. Troubleshooting

This section addresses common issues you might encounter with your VOXELAB Aries 3D printer.

Problem	Possible Cause	Solution
Filament not extruding	Clogged nozzle, tangled filament, incorrect temperature.	Clear nozzle, check filament path, verify print temperature settings.
Poor bed adhesion	Unleveled bed, dirty build plate, incorrect bed temperature.	Level the build plate, clean with isopropyl alcohol, adjust bed temperature.
Layer shifting	Loose belts, excessive print speed, motor issues.	Check and tighten belts, reduce print speed, inspect motor connections.

Problem	Possible Cause	Solution
Excessive noise during operation	Loose components, worn fans, stepper motor noise.	Inspect for loose screws, consider fan replacement if noise is excessive. Note that some motor noise is normal for FDM printers.

If you encounter issues not covered here or require further assistance, please refer to the support section.

8. Specifications

Feature	Specification
Brand	VOXELAB
Model	Aries
Printing Technology	FDM (Fused Deposition Modeling)
Build Volume	200 x 200 x 200 mm
Compatible Filaments	PLA, ABS, PETG
Connectivity	WiFi, USB
Display	4.3-inch Touchscreen
Build Platform	Carbon Silicon Crystal Glass
Printer Dimensions (W x D x H)	424 x 406 x 469 mm
Item Weight	16 kg
Voltage	115 Volts
Color	Black

9. Warranty and Support

All VOXELAB 3D printers come with lifetime technical support. If you have any questions regarding product operation, software, or require troubleshooting assistance, please do not hesitate to contact VOXELAB customer support. For the most up-to-date contact information, please visit the official VOXELAB website or refer to the documentation included with your printer.