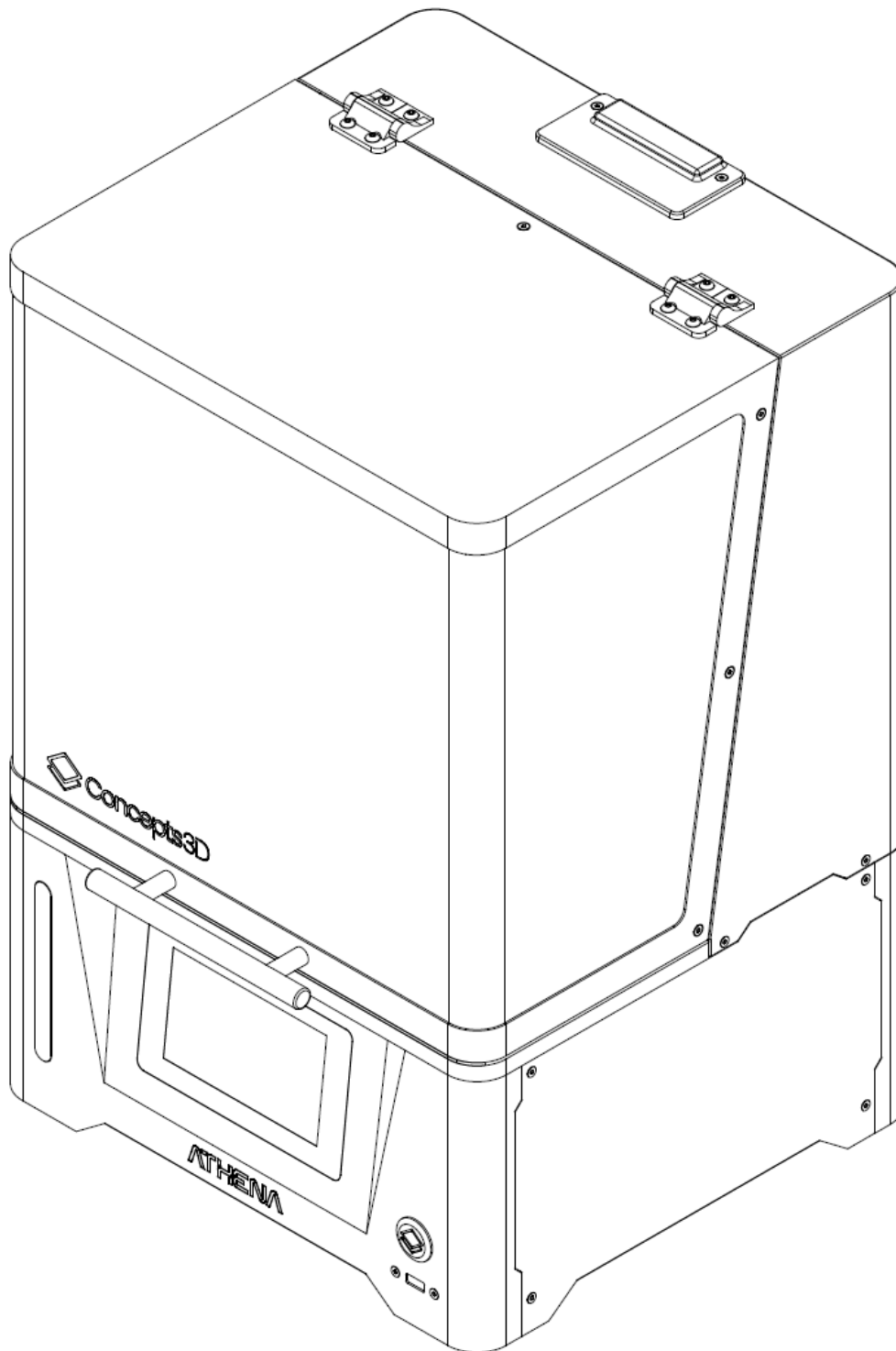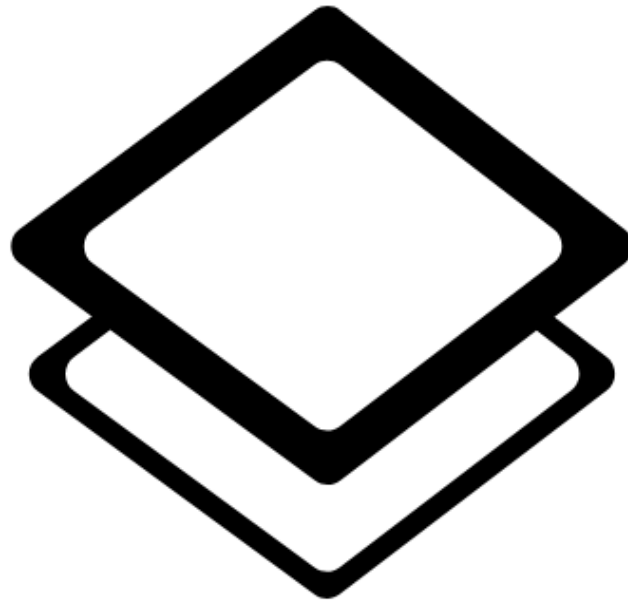# ATHENA II

Resin 3D Printer

Quick Reference Manual V1.1

🙏 Thank You for Choosing Athena II

We sincerely appreciate your support and welcome you to the Athena community. Our team has worked hard to design a powerful, reliable, and feature-rich 3D printer that delivers exceptional results.

We are committed to providing excellent customer support. Whether you need assistance with setup, troubleshooting, or general questions, **don't hesitate to reach out, we're here to help**.

Join our community and get the most out of your Athena II:

- 💬 **Discord: discord.gg/concepts3d**
- 🎥 **YouTube: youtube.com/@concepts3ds**
- ℹ️ **Help Center: help.concepts3d.ca**
- 📧 **Email: support@concepts3d.ca**

Printer Overview

Exterior

1. WIFI ANTENNA
2. RGBLED PROGRESS BAR
3. RGBLED STATUS LED
4. FRONT USB-A PORT
5. SMART POWER BUTTON
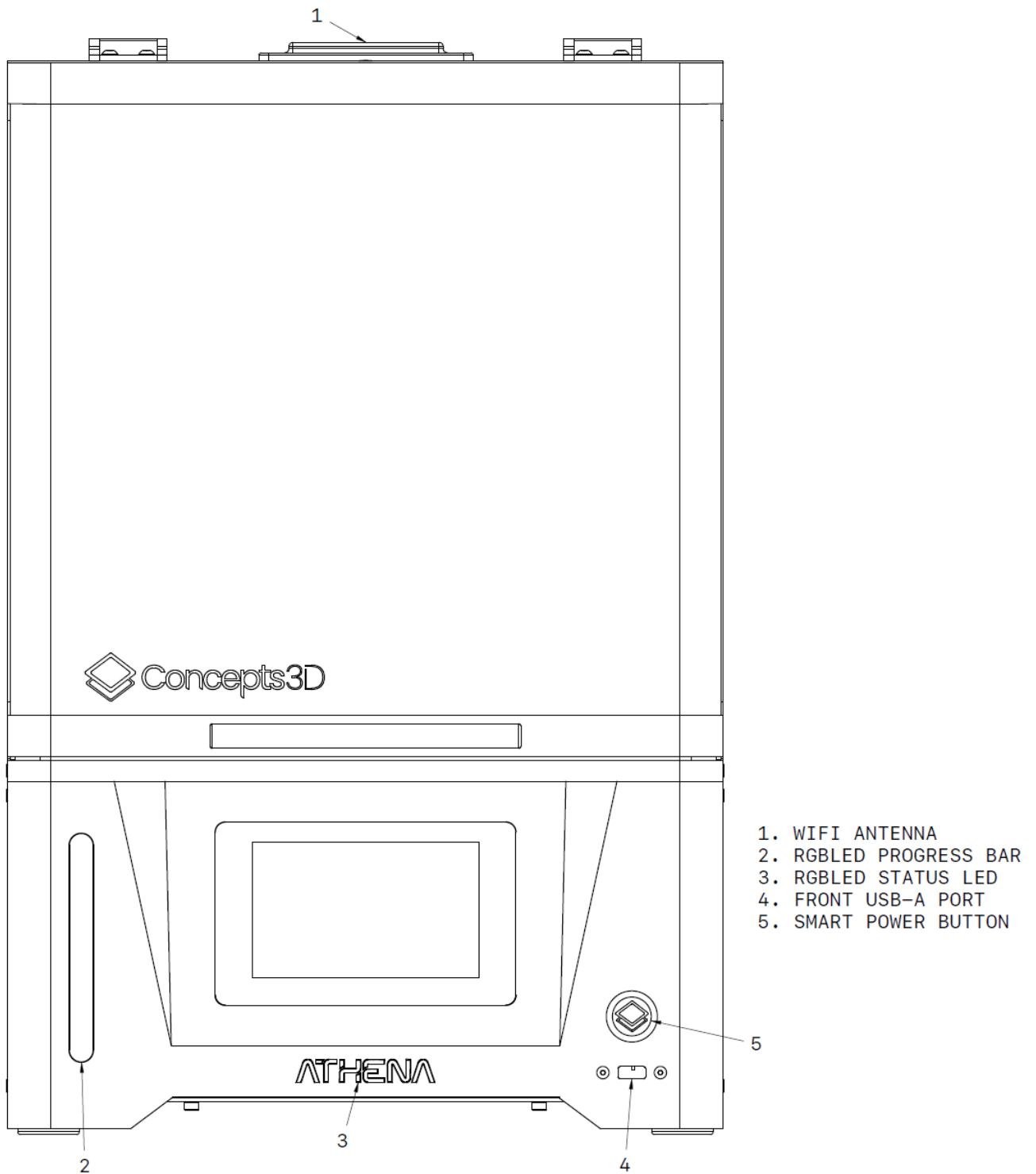
Build Chamber
Standard Build Arm
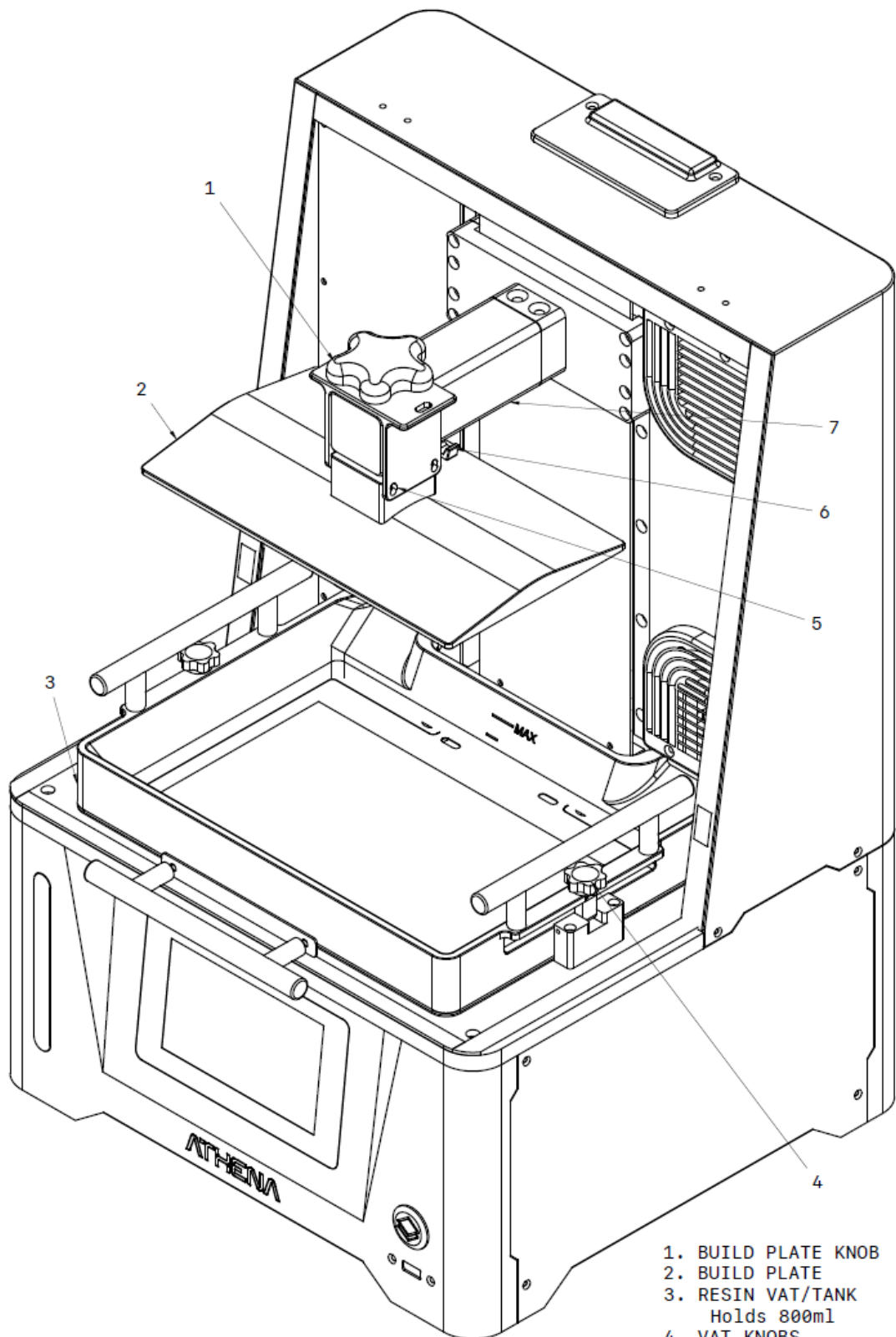
1. BUILD PLATE KNOB
2. BUILD PLATE
3. RESIN VAT/TANK
   Holds 800ml
4. VAT KNOBS
5. BUILD PLATE LEVELLING
SCREWS (4)
6. BUILD PLATE HANGAR
7. IR TEMPERATURE SENSOR

Pro Build Arm
Optional Add-on
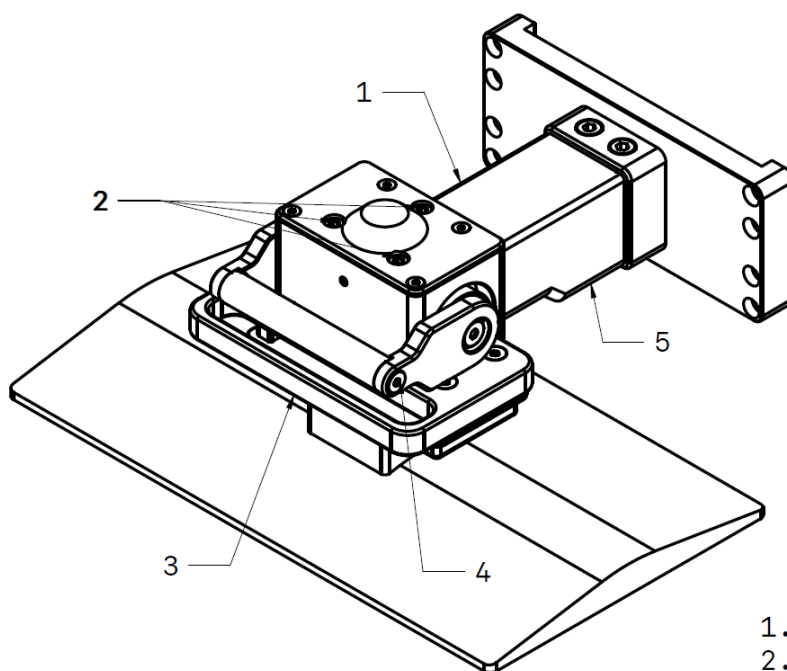
1. Force Sensor Load Cell
2. Leveling Screws (3)
3. Pro Build Plate
4. Build Plate Locking Latch
5. IR Temp. Sensor (Under)

Exterior Rear
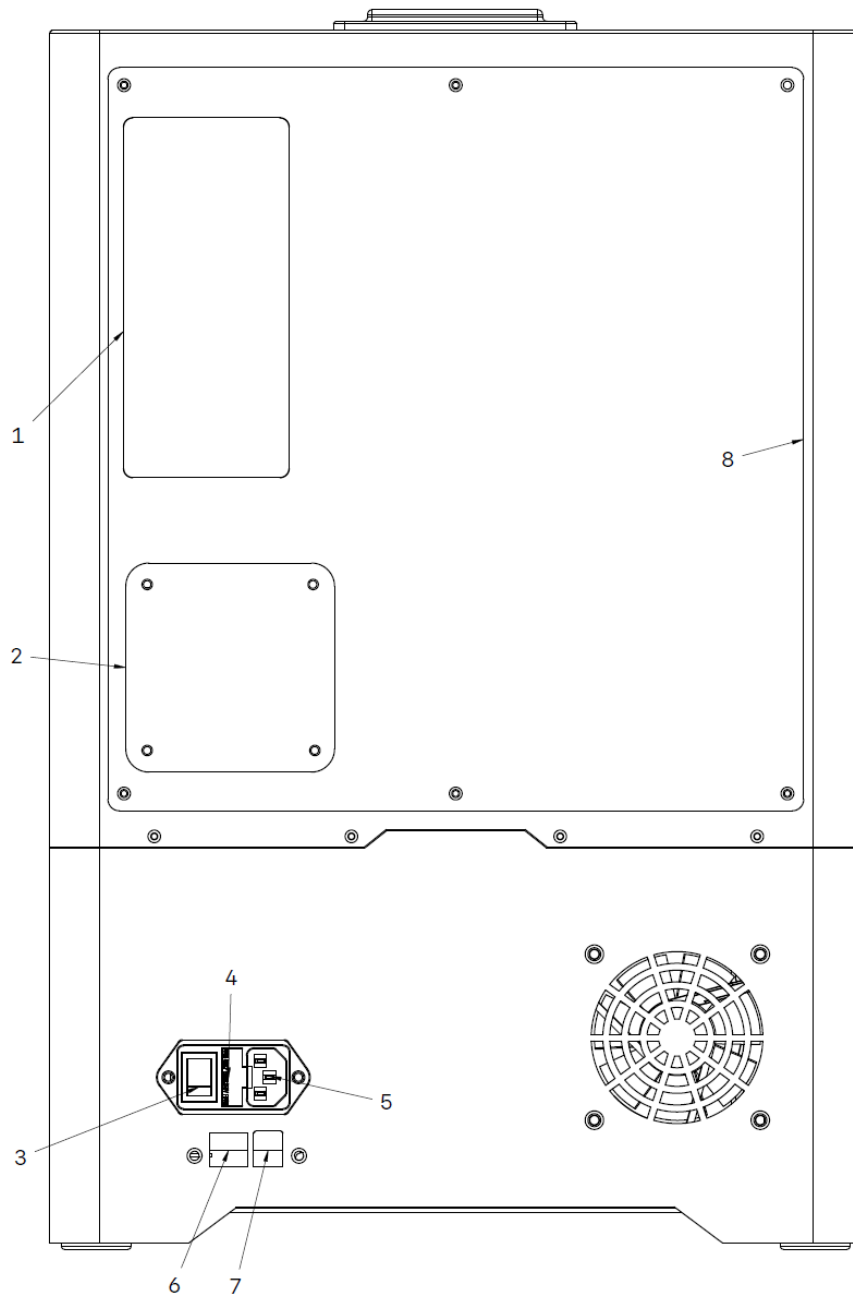
1. AEGIS AIR FILTER
   Optional Add-on
2. EXHAUST COVER
   80mm Fan Hole Spacing
3. MAIN POWER SWITCH
4. MAIN FUSE
5. MAIN POWER SOCKET
6. ETHERNET PORT
7. EXTERNAL CAMERA PORT
   Timelapse Shutter Control
8. REAR HATCH COVER

Interior Rear
Optional Add-ons
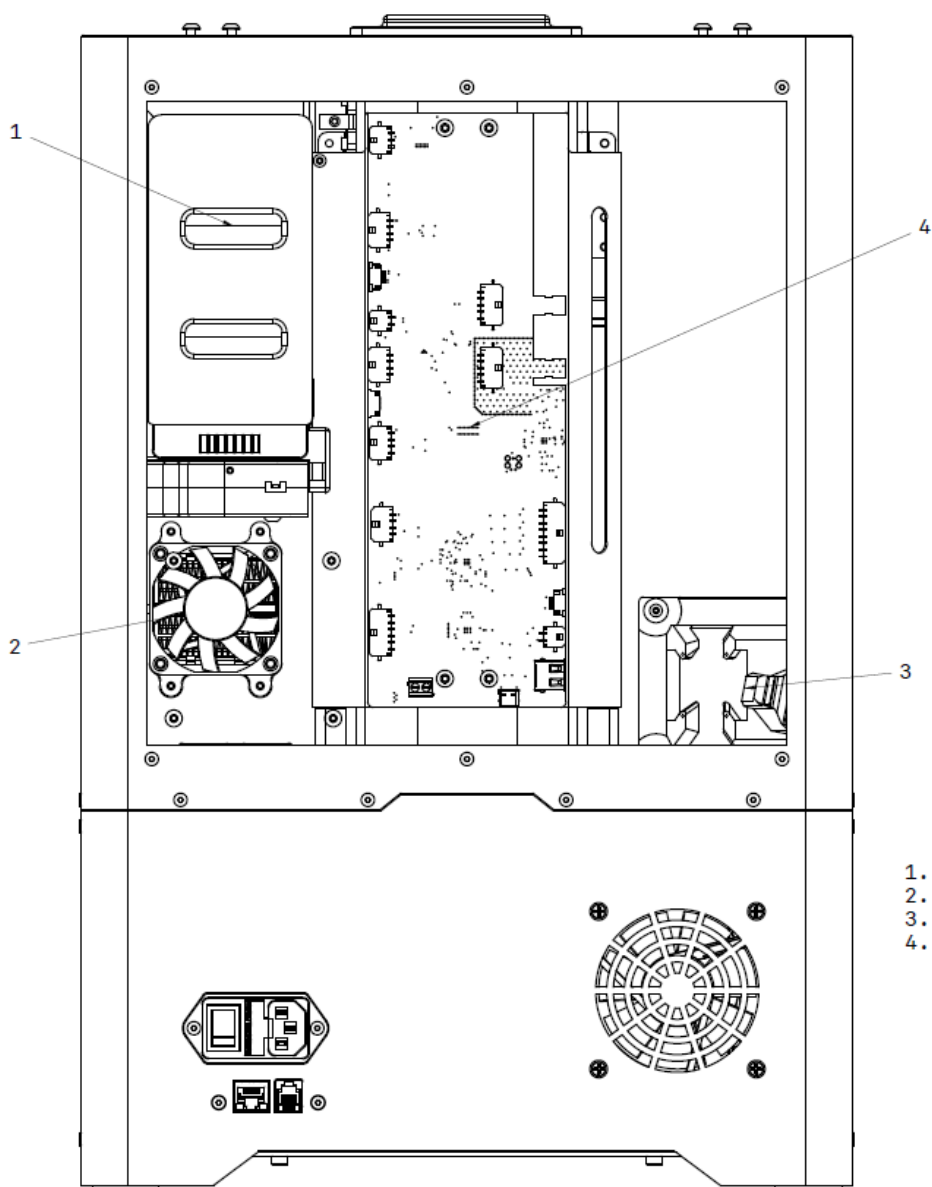
1. AEGIS AIR FILTER
2. PTC CHAMBER HEATER
3. CAMERA HOUSING
4. Z COLUMN BOARD
   Connections for:
   -Aegis Air Filter
   -Chamber Heater
   -Aux. Exhaust Fan
   -Vat Heater
   -Camera
   -Endstop
   -Force Sensor System
   -IR Temperature Sensor
   -Future Upgrades

Standard Packing List
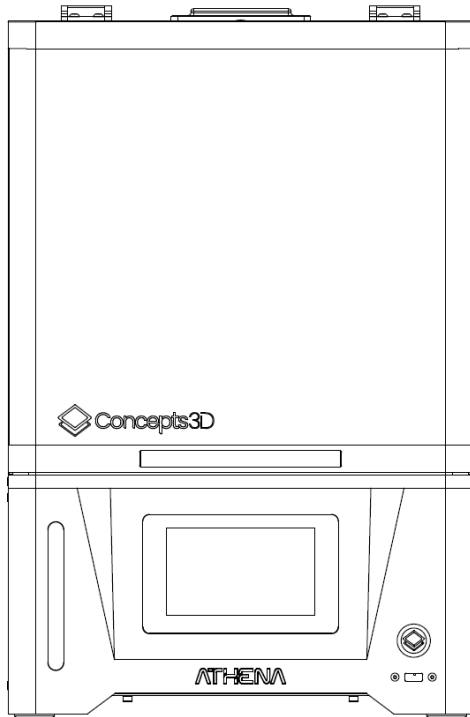
Athena II 3D Printer
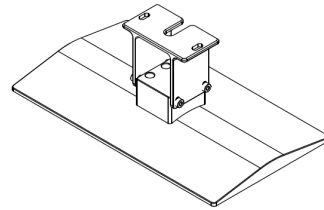
Standard Build Plate
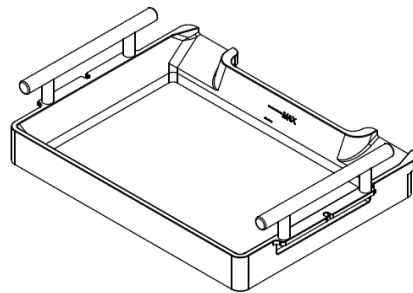
Resin Vat/Tank
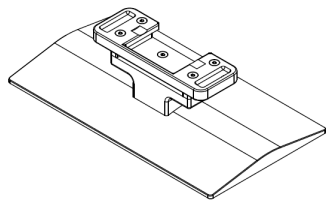
Pro Build Plate (Optional)
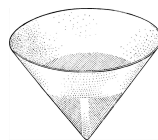
Resin Filters
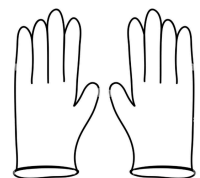
Gloves
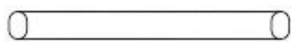
Spare Vat Film (nFEP/PFA)

Scraper

Hex Key Set
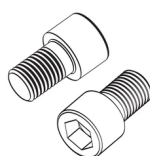
Spare Screws
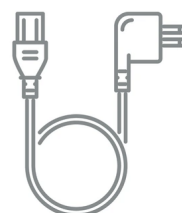
Power Cord

⚠️ Safety Guidelines

Intended Operation

This machine is designed for the production of physical objects using liquid photopolymer resin.

Foreseeable Misuse

The following uses are prohibited and may lead to damage, injury, or voiding of warranty:

- Use of unsupported or unsuitable materials
- Unauthorized modifications or repairs
- Operating the machine with the polycarbonate hood open or removed

Safety Instructions

- Read and follow all instructions in this document before operating the machine.
- Do not attempt unauthorized modifications or repairs.
- Always observe local safety regulations and material handling guidelines.
- When operating the printer or performing post processing tasks, please wear gloves and a respirator or use the printer in a well ventilated area.
- Avoid skin contact with the photopolymer resin.

🚚 Transport, Setup, and Commissioning

- Always unpack and set up the printer with **two people** to avoid damage or injury.
- Use **only the power cord** provided with the printer.
- Place the printer on a **level, stable surface** to ensure proper function.
- Only use the printer indoors, avoid direct sunlight and dusty environments
- Please keep the original packaging for at least 30 days for return or exchange.

▶️ Operation

- Always keep the **polycarbonate hood closed** during printing. Do not open it while the printer is operating.
- Do not insert sharp or rigid objects into the resin tank.
- Follow the **Material Safety Data Sheets (MSDS)** for any resin or chemical used.
- Please fill the resin tank to the lower line of the resin tank, but do not exceed the MAX line or the resin will overflow.
- If a print fails, you must run the Tank Clean function to remove debris and cured resin from the vat film. Filter and replace the resin before printing again. Failure to do so may result in damage to your printer.

🧼 Cleaning and Maintenance

- Use **only appropriate cleaning agents**, such as 91% or higher Isopropyl Alcohol (IPA) or Ethanol, with soft cloths or paper towels.
- Clean up any spilled resin immediately.
- Prevent resin from contacting the **monochrome screen** at all times.
- Replace the **vat film** regularly, or immediately if it shows scratches, dents, or clouding. Failure to replace worn film may result in print failures.

🗑️ Decommissioning and Disposal

- Dispose of the device at an authorized **electronic waste facility** or return it to the manufacturer for proper handling.

🔧 Technical Specifications

- **Dimensions**: 35.2 × 32.5 × 52.2 cm (L × W × H)
- **Weight**: 28 kg
  Build Volume: 211 × 118 × 235 mm (X × Y × Z)
- **XY Resolution**: 14 × 19 µm
- **Z Resolution**: 0.01 – 0.30 mm
- **Maximum UV Light Output**: 8 mW/cm²
  Power Input: 90–264V AC, 47-63Hz, max. 350W
- **Connectivity**: USB-A, Ethernet, Resin Timelapse Port
- **HMI Display**: 5" Touchscreen
- **Firmware Platform**: Athena OS, Klipper, NanoDLP.

🧪 Resin Handling & Storage

- Store resin in a **cool, dark place**, sealed tightly in its original container.
- Avoid prolonged exposure to **sunlight or UV light**, which will prematurely cure the resin.
- Shake resin containers well before use to ensure uniform consistency.
- Do not mix different types or brands of resin unless explicitly stated as compatible.
- **Filter used resin** before reuse to remove any cured particles.
- Expired resin may not cure properly or could fail during printing; check expiry dates.

Resin Disposal

- **Do not** pour uncured resin down the drain or into the environment.
  Cure waste resin (including soaked paper towels and failed prints) under UV light before disposal.
- Follow local hazardous waste disposal regulations.

🛡️ Limited Warranty Summary

Your Athena II printer comes with a one-year limited warranty, covering manufacturer defects in materials and workmanship under normal use.

Warranty Terms Include:

- Valid for **12 months** from the date of delivery
- Covers Manufacturing Defects
- Excludes consumables (vat film, resin, main LCD, screen protector, filter media.), accidental damage, misuse, or unauthorized modifications

For complete warranty terms and service conditions, please visit:
https://www.concepts3d.ca/policies/refund-policy

If you experience any issues, contact us first — we'll do our best to make it right.

🔧 Initial Setup

This section guides you through powering on your Athena II printer, connecting to a network, and leveling the build plate before your first print.

🟢 Power & Network

1. Connect the **power cable** and optionally an **Ethernet cable** to the back.
2. Turn on the **Main Power Switch**, then press the **Smart Power Button**.
3. Follow the **touchscreen setup**:

   - Set **Language** and **Time Zone** *(if available)*
   - Connect via **Ethernet** or **Wi-Fi.** The majority of the printer's functionality is accessed via the WebUI, so a network connection is important for proper operation of the printer.

🧱 Install & Level the Plate

- **Standard Plate**: Tighten the knob to secure the plate.
- **Pro Plate**: Lock the plate using the lever latch.
  Although factory-leveled, shipping may affect alignment. Leveling before your first print is recommended.

🔩 Standard Plate Leveling

1. **HOME** to raise the plate.
2. Loosen the **4 leveling screws**.
3. Remove the vat.
4. Press **FLOOR** to lower the plate to the LCD.
5. Press down gently on the plate while tightening screws in a **cross pattern**.

⚙️ Pro Plate Leveling

1. Tap **HOME** to raise the plate.
2. Slightly Loosen the **3 leveling bolts** on the top of the build arm.
3. Remove the vat
4. Press **FLOOR**, then press down on the plate lightly with your hand
5. Tighen each leveling bolt 1/8 turn each until they are all well tightened

   Take care not to over tighten the bolts, they should be firm but not overly tightened.

🌐 WebUI

The Athena WebUI is a browser-based interface that gives you full control over your printer. While basic functions are available via the touchscreen, the **WebUI provides access to all advanced features**, including print job management, resin profiles, system monitoring, and more.

🔗 Accessing the WebUI

There are three ways to open the WebUI from any device on the same network as the printer:

1. **Printer Name (recommended)**
   - On the main screen of the touchscreen, you'll see the printer's name (e.g., Original-Lotus).
   - Enter that name in lowercase, followed by .local, into your browser:
     → original-lotus.local
2. **QR Code**
   - Go to **Settings > Network** on the touchscreen
   - Scan the **QR Code** using your smartphone camera to open the WebUI
3. **IP Address**
   - On the same **Network page**, you can find the printer's IP address
   - Enter it in your browser (e.g., http://192.168.1.123)

💻 What You Can Do in the WebUI

- Start, pause, or cancel print jobs
- Upload sliced files or STL files directly via the job upload page
- Adjust printer settings and calibration values
- Create and manage resin profiles
- Control vat and chamber temperature,
- Monitor print progress, Force and Printer Sensor Graphs
- View connected camera feed (if installed)
- Access system logs and previous job force sensor data
- And much more

📘 Want to Learn More?

Visit our **Help Center** at help.concepts3d.ca for the full Athena OS Manual, WebUI tutorials, and advanced configuration tips. You may also scan the QR code on the last page.

🖨️ First Print

This section guides you through preparing and completing your first successful print, from resin setup to post-processing.

🧪 Prepare the Resin

- If using **bottled resin**, shake the container well.
- If resin is already in the **vat**, mix it thoroughly using a **soft silicone spatula**.
  ⚠ Never use metal or hard plastic tools in the vat — this may damage the film.
- You can enable **"Mix Before Print"** in the resin profile to allow automatic mixing via plate movements.

Before printing, inspect the **vat film** and **resin surface** for any debris or cured fragments.

🛠️ Pre-Print Checklist

Make sure the following are in place:

- Build plate is **installed and locked** (knob or latch)
- Resin vat is **secured** and **filled with clean resin**
  Resin preheating is enabled if printing in cooler environments
   (Can be started from the **Touchscreen**, **WebUI**, or **automatically** in the resin profile)

🤖 Automated Checks at Print Start

The printer will run several routines before printing:

- **Crash Detection** – Ensures no cured resin is stuck to the plate or film
- **Resin Level Detection** – Confirms there's enough resin and no overfill
- **Mixing & Preheating** – Performed if enabled in the profile

🖌️ First Print: Exposure Calibration

We recommend starting with the **exposure calibration print**, available under the **Calibration** page on the touchscreen. This helps optimize print quality for your resin.

✅ Post-Print Steps

1. Wait for the resin to **drip off the part** completely. If installed, let the **Aegis Air Filter** finish scrubbing VOCs before opening the door.
2. Hang the build plate on the **drip hanger** inside the printer until dripping stops.
3. Remove the model using a **scraper tool**.
4. Wash the part in an **alcohol wash station**, then **UV cure**.

For model preparation, job uploading, and slicing settings, refer to the full Athena Manual at help.concepts3d.ca or by scanning the QR code on the last page.

🛠️ Troubleshooting Tips

Problem	Possible Cause	Recommended Action
Print not sticking to build plate	Build plate not leveled	Re-level the build plate and retry
Print has delamination or layer shifts	Inadequate exposure or lift speeds too fast	Increase exposure time; lower lift speeds
Cloudy or damaged FEP film	Prolonged use or Improper maintenance	Replace the film and take care when cleaning the vat.
Printer not connecting to network	Incorrect Wi-Fi settings or poor signal strength	Check settings, restart printer, move printer closer to wifi router
Print failures with hollow models	Inadequate drainage or suction forces	Add drain holes or adjust lift settings

📞 Contact & Support

For technical support, warranty inquiries, or replacement parts:

Concepts 3D Systems Inc.

105-3677 Highway 97

Kelowna, BC, Canada – V1X 5C3

📧 Email: info@concepts3d.ca

🌐 Website: www.concepts3d.ca

💬 Discord Community: discord.gg/concepts3d

📹 Videos and Guides: youtube.com/@concepts3ds

ℹ️ Help Guides and Support: help.concepts3d.ca

Our team is available Monday–Friday, 9:00am–5:00pm PST.

Scan this QR Code to access our Help System with access to guides, technical support, Order and After Sales support.

Manual Version: V1.1 | Last Updated: December 2025