



# User Manual

## Glowforge Air Filter

*Version January 27, 2023*

Version 0.4

# Safety

First, it's time to be serious. Improperly operating the Glowforge Air Filter unit can cause fire and health hazards. These can result in serious injury or even death.

## Before you start

- Read this manual before using your Glowforge Air Filter, and ensure everyone else who uses it reads this too.
- Always follow all instructions in this manual, in the Glowforge Manual and in the Glowforge App.
- Use the Glowforge Air Filter only with a compatible Glowforge 3D laser printer.
- Children require the supervision and assistance of an adult at all times.
- This product may be subject to regulations and standards, particularly when installed in an educational institution or place of work. Ensure that you comply with all applicable rules.

## Electrical Safety

To reduce the risk of electric shock or fire:

- Do not try to service, repair, or modify the Glowforge Air Filter in a manner not described in this manual.
- Do not open any sealed portion of the Glowforge Air Filter or try to access the wiring. Damage caused by opening the case is not covered by the warranty.
- If the Glowforge Air Filter or its power cord is damaged, unplug the power cord and contact [support@glowforge.com](mailto:support@glowforge.com) immediately.
- In the event of any emergency or malfunction, unplug the power cord on the back of the unit.
- Use only a properly grounded 110/240 VAC outlet that meets local building codes.
- The Glowforge Air Filter may draw up to 2 amps. Ensure that the circuit can support at least a 240 Watt load. Note: a standard household outlet can support both a Glowforge printer and a Glowforge Air Filter if nothing else is drawing power from the circuit.

## General Safety

- **If you detect a strong, sharp smell that also causes eyes, nose, or throat irritation, or if there is visible smoke escaping your Glowforge printer while the lid is closed, your Glowforge Air Filter is not operating properly. Follow all instructions in this manual. If the irritation and/or smoke emissions do not abate, discontinue using your Glowforge Air Filter and contact support.**
- Do not disconnect the hose, open the case, touch anything inside, or perform any maintenance or operations while the Glowforge Air Filter is plugged in.
- The Glowforge Air Filter has sparking parts inside. Do not use in areas where gasoline, paint, flammable liquids, or gasses are used or stored.
- Do not use the Glowforge Air Filter without a Filter Cartridge.
- Do not plug in the Glowforge Air Filter while the lid is open or the latches are not fully engaged. Doing so could cause electric shocks or physical harm from moving parts.
- Do not use the Glowforge Air Filter when the Filter Cartridge is clogged. This will shorten the life of the machine and any resulting damage caused is not covered by your warranty.
- Do not modify a Filter Cartridge for any reason.
- Use only with Filter Cartridges manufactured by Glowforge for use with this Glowforge Air Filter.
- Edges of the Air Filter and Filter Cartridge may be sharp. Use caution when handling.

## Operating Environment

To prolong the life of your Glowforge Air Filter and to reduce the risk of fire or mechanical failure:

- Do not use if the ambient temperature is below 40° degrees Fahrenheit (5° Celsius) or over 80° degrees Fahrenheit (27° Celsius).
- Do not use if the ambient air is below 20% humidity or above 80% humidity. Air above 80% humidity can clog the filter which may cause damage.

- Do not use the Glowforge Air Filter outdoors.
- Do not use the Glowforge Air Filter in an environment where it may come into contact with liquids, moisture, grease, or excessive dust or small particles.

## Materials Information

- Use your Glowforge Air Filter only when printing on material that is laser compatible. Only the manufacturer or supplier of material can confirm that it is laser compatible. Glowforge recommends the use of Proofgrade™ materials with the Glowforge Air Filter.
- Non-laser compatible materials may contain harmful or toxic chemicals that are not treated by the Glowforge Air Filter and could cause injury or death.
- Non-laser compatible materials may cause damage to your Glowforge Air Filter.
- Some laser-compatible materials, such as MDF or Proofgrade Draftboard, may cause the Filter Cartridge to need replacement more frequently.
- Damage resulting from the use of non-laser compatible materials is not covered by the Glowforge Air Filter warranty.

## Glowforge Air Filter Regulatory Information

This product conforms to:

EN/IEC 62368-1, EN 301 489-1, EN 301, 489-3 and EN 301 489-17, EN 300 328, EN 300 330, FCC Part 15 C - §15.225, FCC Part 15 C - §15.247

RoHS, WEEE

It is suitable for use with compatible Glowforge 3D laser printers.

FCC ID 2A83C-1JM2D

AF100 is only compliant if no changes or modifications are made to the device.

AF100 is compliant with the requirement for RF exposure in US with 200 mm separation distance between the user and/or bystander of the device.

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## Specifications

The Glowforge Air Filter has the following specifications:

<b>Glowforge Air Filter</b>	
<b>Air Inlet Interface</b>	4 inch hose connection
<b>Input Voltage</b>	AC110V / 240V
<b>Maximum Power</b>	85W
<b>Noise</b>	<65dBa
<b>Dimensions of Main Unit</b>	470 mm H x 445 mm W x 254 D 18.5" x 17.5" x 10.0"
<b>Weight</b>	6.4 kg / 14 lb

The Glowforge Air Filter is manufactured by:

Glowforge Inc.  
1938 Occidental Ave S, Suite C  
Seattle, WA 98134

For more information or support, contact [support@glowforge.com](mailto:support@glowforge.com)

## Labeling

This label appears on the bottom of every Glowforge Air Filter, with an appropriate serial number, in the spot indicated by the arrow in the diagram below.



## Let's Get Started!

Now that you've read all about Safety and other important details, you're ready to use the product! Unboxing will take just a few minutes – we can't wait for you to get started either. Of course, if you encounter any challenges along the way, our Customer Success team can be reached at [support@glowforge.com](mailto:support@glowforge.com) to help.

Let's get started, shall we? Check for damage If your packaging or any part of your Glowforge Air Filter shipment is visibly damaged on arrival, we want to make it right as soon as possible! Send photos of the damage to [support@glowforge.com](mailto:support@glowforge.com) and wait until you hear back from us. If the Glowforge Air Filter itself is visibly damaged, do not plug it in or attempt to operate it; contact us immediately.

# Unboxing & Setting Up

## Prepare your Area

Your Glowforge Air Filter must be on a flat surface, like the floor. It needs to be positioned so that the 8-foot (2.4384 m) exhaust hose can connect to the back of your Glowforge while making no more than three 90-degree bends.

Your Glowforge Air Filter blows air out, so ensure that there are no obstructions within two inches (5.08 cm) of the vents on either side.

**Note:** As you unbox, save the packaging material including the box, foam, and bags. If you need to move your Glowforge Air Filter, for example to ship it back for warranty service, you'll need all the original packing materials. The Glowforge Air Filter cannot be shipped safely without the original packaging materials.

## Unboxing Your Glowforge Air Filter

1. Carefully cut tape sealing the top of your Glowforge Air Filter box and open it.
2. Remove the top cardboard.
3. Remove the power cord and set aside.
4. Remove the four pieces of molded packaging protecting the Glowforge Air Filter.
5. Grasp the handle on the rear of the Glowforge Air Filter through the clear plastic bag, and lift the filter out of the box.
6. Place it on the floor.

## Setup

### 1. Remove the bag from the filter

Open the bag, and push the clear plastic down over the bottom of the filter to remove it.

2. **Remove and unbag filter canister** Open the top lid of the Glowforge Air Filter and remove the inner canister in its clear plastic bag. Open the top of the bag, and lift the canister out of the bag.
3. **Remove the desiccant pack**
4. **Assemble your Glowforge Air Filter**  
Replace the canister. Replace the lid on the Glowforge Air Filter.
5. **Connect Glowforge Air Filter to your GFD**  
Connect the Glowforge Air Filter to your GFD Printer with the exhaust hose. Slide the hose with integrated rubber clamp over the exhaust connection on the back of your Glowforge printer. The rubber clamp pressure will hold the hose in place. Check that the clamp is holding the exhaust hose tightly to the exhaust connection. Make sure the hose does not come off with a gentle tug.
6. **Connect Hose to Glowforge Air Filter**  
Put the other clamp around the other end of the hose. Repeat the procedure above to attach the exhaust hose to the top of the Glowforge Air Filter with the ring clamp. Keep the hose as straight as you can, with no more than three turns of 90 degrees or less. Make sure the hose isn't twisted, pinched, kinked, punctured, or flattened. If there is extra hose, do not let it sag; wrap it tightly with duct tape to keep the hose length as short as possible.
7. **Connect to electrical power**  
Verify the filter is installed and the lid is firmly closed. Plug the power cord into the back of the Glowforge Air Filter, then plug the power cord into the electrical socket. A standard grounded household socket works well.

## Pairing your Glowforge Air Filter and Printer

1. Log in to the Glowforge App at <https://app.glowforge.com>.
2. Press the large button on the Glowforge Air Filter.
3. In the App, click the gear icon, then click the switch labeled "Bond to Glowforge Air Filter."
4. The printer and Glowforge Air Filter will run through a pairing sequence. This may take a minute or two.
5. When it is done, the switch should turn teal. The toggle for the switch should be in the right-hand position.

The GFD Printer and the Glowforge Air Filter will now communicate to run the fans when you print. The fan speed will be automatically set by the filter to match the fullness of the cartridge, and the material being cut.

When your cartridge is getting full and needs to be replaced, you'll be notified in the App.

## Print Amazing Things

After you've set up, plugged in, and paired your Glowforge Air Filter, perform the following steps for each print.

### 1. **Choose your material**

Your Glowforge Air Filter has been tested with a wide variety of Proofgrade materials, and designed to work with all laser-compatible materials. However, some materials, like Proofgrade Draftboard or MDF, will cause your filter cartridge to fill up and require replacement much more quickly than others.

### 2. **Run your print**

Your paired Glowforge Air Filter will automatically run throughout the print. When your print is done, the filter will automatically run for a while longer. This additional "flow time" helps prolong the life of the cartridge.

## Reducing Odors

The Glowforge Air Filter is designed to allow you to safely and comfortably operate your Glowforge printer indoors. It will dramatically reduce odors, smoke, and fumes to safe levels.

You should smell little to no odor coming from the exhaust vents of the Glowforge Air Filter itself. Note, however, that even when used properly, odors may still occur from the following:

- Opening the printer lid after a print  
Tiny amounts of smoke and fumes remain trapped in the crumb tray, and will escape when the lid is opened and the material is removed. This can be reduced by leaving the material in the Glowforge for a minute or two before removal
- The materials themselves  
After printing, the materials may have an odor for as long as a day or two. This can

be minimized by using Proofgrade material, removing and disposing of the protective coating (which has the bulk of the odor), and by setting the materials aside for a day

- The compatible Glowforge 3D laser printer itself  
After being used for many hours, tiny particles of dust and resin will accumulate on the compatible Glowforge 3D laser printer itself. To minimize the odor, keep the lid closed when not in use, clean according to the Glowforge printer user manual, and leave the Glowforge connected to the Glowforge Air Filter when not in use.

## Eliminating smoke and fumes

If you detect a strong, sharp smell that also causes eyes, nose, or throat irritation, or if there is visible smoke escaping your Glowforge printer while the lid is closed, your Glowforge Air Filter is not operating properly. Discontinue using your Glowforge Air Filter and follow these instructions.

- Ensure your Glowforge Air Filter is turned on before every print, and left running until the print is complete.
- Check if the exhaust hose is securely connected to the Glowforge printer and the Glowforge Air Filter.
- Check if the Glowforge Air Filter is paired in the Glowforge App. You will only need to do this once
- Ensure that the hose has no more than three 90 degree turns
- Check if the materials you are using are laser-compatible. The Glowforge Air Filter has been tested with Proofgrade materials; other materials might have smoke and fumes that are not fully removed by the Glowforge Air Filter.
- Change the filter cartridge. If you have been printing for a while, it may be time to replace your filter cartridge.
- Inspect all four latches to be sure they are tightly closed.
- Check the hose to make sure it is not kinked, squished, or twisted.
- Remove the hose and inspect the inside to ensure it is not obstructed.
- Review the “Reducing Odors” section above for other sources of smell.

If all of these do not help, you are using a new filter, and you are experiencing eye, nose, and throat irritation when using Proofgrade materials with your Glowforge Air Filter, stop using your Glowforge Air Filter and contact Glowforge support.

# Changing Filter Cartridge, Cleaning, Moving & Service

## Change Filter Cartridge

### 1. **Unplug the Glowforge Air Filter**

### 2. **Open Glowforge Air Filter**

The lid on top of the Glowforge Air Filter is held in place by magnets. Lift the Glowforge Air Filter lid. You do not need to remove the exhaust hose to change the filter cartridge.

### 3. **Remove and dispose of old filter cartridge**

Have a plastic bag on hand, such as the bag for the replacement cartridge. Grab and lift the handle on top of the cartridge to remove it. Carefully place it into the bag without shaking the cartridge. Tie or otherwise secure the bag and dispose in the garbage.

### 4. **Replace with a new filter cartridge**

You can purchase new filter cartridges from <https://shop.glowforge.com>. Remove the clear plastic bag and desiccant pack and place in the Glowforge Air Filter. Check the exhaust hose to ensure it has not become disconnected from either the lid or the back of your Glowforge. That's it - you're ready to print!

## Cleaning

1. Unplug your Glowforge Air Filter off before cleaning.
2. Ensure that the Glowforge Air Filter is closed before cleaning; interior areas should not be cleaned.
3. You can clean all exterior surfaces with a rag dampened with isopropyl alcohol.
4. Do not spray liquids on the Glowforge Air Filter as they may get inside.

## Moving

For protection, the Glowforge Air Filter must be packed in its original packaging when moved to a new location. Whether it's for a big move, taking your Glowforge printer and Glowforge Air Filter to an event, or for warranty service, you'll need to package your

Glowforge Air Filter properly with the original box and packing materials. The Glowforge Air Filter cannot be shipped safely without the original packaging materials.

To repack your Glowforge Air Filter:

1. Disconnect the power cord.
2. Disconnect the exhaust hose and hose clamp from the lid.
3. Re-pack in the original packaging.

## Service

Other than the procedures described above, the Glowforge Air Filter may not be serviced or repaired by the user. Should service or repair be required, it must be returned to the factory; contact [support@glowforge.com](mailto:support@glowforge.com) for instructions.