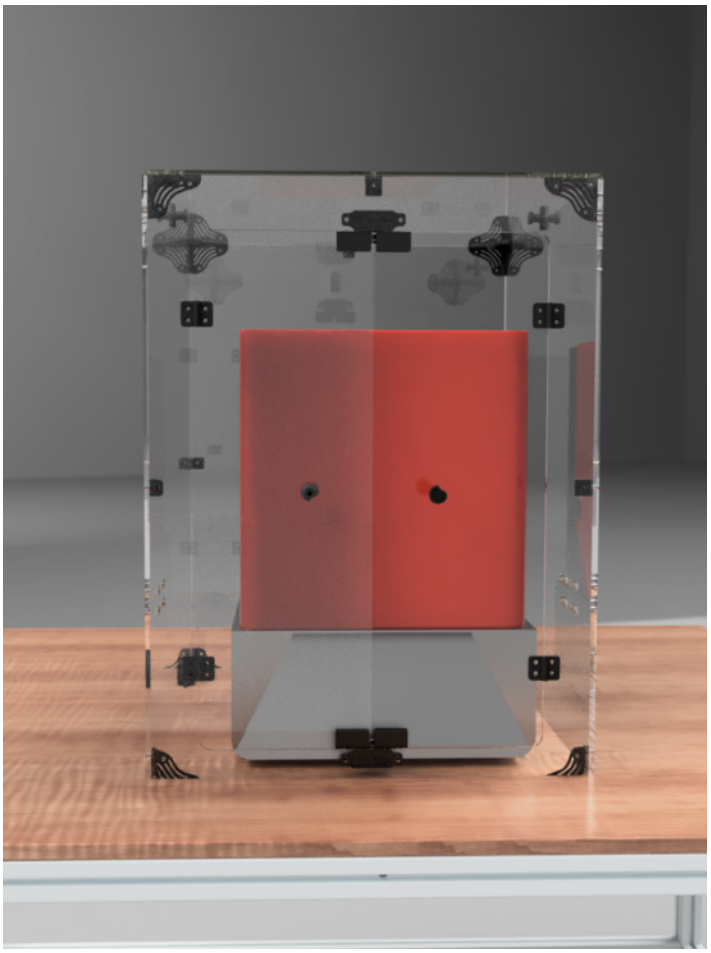
3D·UP FITTERS

Resin Printer Enclosure Kit

Installation Manual 1.1

January 2024



We forgot to put something on this page.

You Really Do Want to Read the Directions

Hey, we get it. You just got your new enclosure kit and want to start using it as fast as possible. How hard can assembling a few plastic panels possibly be? It's not really that hard, assuming you're following the directions, but try to use brute force, and you'll end up working through your vocabulary of swear words. While the acrylic pieces in the kit are strong and difficult to harm if handled correctly, they are still plastic and will break if bent far enough. The ghosts of the broken panels that have gone before you have become much stronger than you could ever imagine and are whispering into your ear, "just be a little careful."

Before you Start

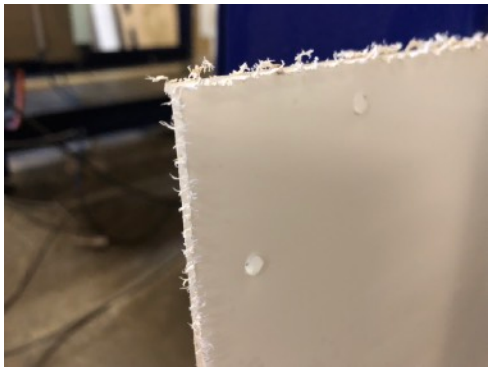
Is This Manual for *Your* Kit?

This installation manual covers how to install a variety of our enclosures for resin printers but may not match your enclosure exactly. You'll want to refer to the renders you received during the design process or viewed online to determine how your enclosure should look. One thing that changes between models, for example, is the location of the cable grommet.

Is your Printer Customized?

If your printer is stock, then no customization is needed. If you have customized the printer, you should examine any modifications to ensure they don't block the panels. If part of one of the panels is blocked, you can use a laser or drill to customize one or more panels. **This should be done before removing the plastic or paper covers on the acrylic panels. Cutting acrylic requires great care as the plastic can crack if mishandled.**

Don’t Panic If You See This!

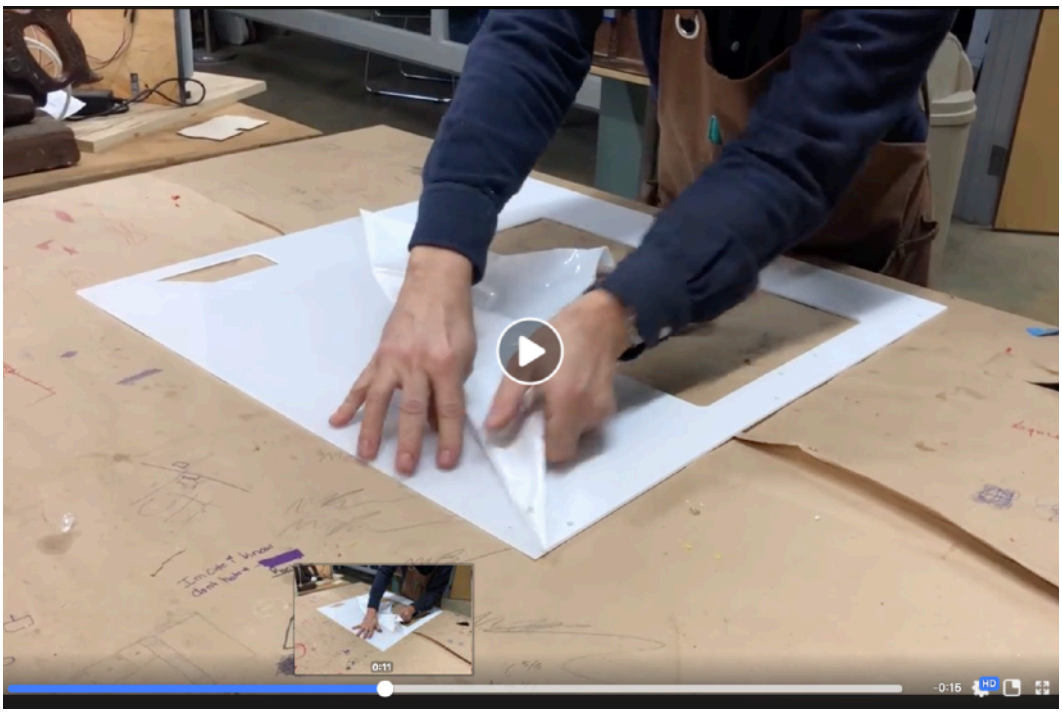


If you can’t see through the plastic, please don’t panic! What you’re seeing is just the plastic or paper protective covering. You, dear customer, are way too smart to think the plastic is flawed and then call and email us repeatedly, leaving increasingly irate messages on Christmas Day.

When plastic sheets are manufactured, they are covered by either a paper (brown colored) or plastic (white) covering to protect against scratches. Follow the directions below to remove the cover and discover the beautiful plastic underneath. But if, in some rare instance, the plastic arrives with a crack or scratch, either from manufacturing or shipping, we’ll, of course, replace it for free.

To remove the covering from an acrylic panel, lay the panel flat on a table. Then peel up a corner of the covering and **CAREFULLY and SLOWLY** pull horizontally to the sheet to reduce the lateral forces that would bend the acrylic. Watch the Video!

https://www.3dupfitters.com/blogs/news/acrylic.



How to Remove Protective Covering from Acrylic Video

Everything You Wanted to Know About Screws But Were Afraid to Ask

Screw	Tool Needed	Usage	Relative Size
30-50mm Hex Cap Head	3mm Hex Wrench	Attach fan/filter, attach large front latch mounts	 30mm Hex Cap
12mm Hex Cap Head	3mm Hex Wrench	Connectors, hinges	 12mm Hex Cap
16mm Hex Cap Head	3mm Hex Wrench	Knobs, small latch mounts on some models	 16mm Hex Cap
#6 3/4” Wood Screw	Philips Head Screwdriver	Attach magnetic latch to mount	 3/4 #6 Wood Screw

The most confusing thing about assembling this enclosure will be which fastener or screw to use. Luckily it's pretty easy to figure out once you know the system. While the same screw to use will be detailed in each section of the manual, you probably won't need to refer to it once you know the secrets.

The most common screw is the 12mm hex cap head screw. The 12mm screws are long enough to attach things to the acrylic front, top, sides, and back.

Each section will describe exactly which screw to use, read carefully, and use the specified screw for the best results.

The actual length of the "long" screws to attach the fan and or filter will vary depending on the depth of the particular shipment of fans we happen to get that month. They won't be hard to spot since they'll be the longest thing in the bags.

Finally, and we can’t stress this enough:

DON’T OVERTIGHTEN THE SCREWS
DON’T USE A POWER SCREWDRIVER

Leave the screws a little loose until the end adjustment phase. During that process, you’ll be **hand-tightening** until the screws are snug, but you can easily use so much force the plastic pieces or the acrylic crack over time. Please don’t be *that guy*.

Identify Panels

Before assembling the kit, lay out all the panels and identify which panel corresponds to the front, left, right, back, top and optional bottom. Although the panels are labeled, it's easy to get them mixed up once the covering is removed, and rarely a panel can be mislabeled.

3D Printed Connectors

If you ordered your enclosure kit with 3D printed parts, you could skip ahead to Assemble Panels on the next page. The STLs for the 3D printed details are automatically emailed when you purchase, so check your spam filter and then contact support if you can't find them. Please read the Blog article Printing Tips for 3D Upfitters Parts for detailed printing tips. Note that the solid grommets are 3D printed in TPU, but we're including those in every kit because many people don't have access to TPU.

Part		Quantity
L-Corner Connector		4
R-Corner Connector		4
Mid-Panel Connector		7
Small Latch Mount		1

Part		Quantity
Grommet Holder		1

Assemble Panels

1. The Front Door

Each corner of the enclosure will be held together by the connectors pictured below. There are only two versions, L and R, which can be identified by the letters stamped on the inside. The diagonally opposite connectors are identical, i.e., Bottom Right is the same as Top Left. In all cases, the surface of the connector with the cutout pattern faces front or back. Note that the two pictures below *show the inside of the front panel.*

If the holes don't line up, check!

https://www.3dupfitters.com/blogs/news/how-to-attach-corner-connectors

*R-Connector From **Inside***

Top Left (L)

Top Right (R)

Bottom Left (Labeled R)

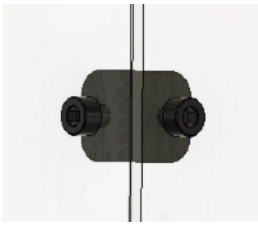
Bottom Right (Labeled L)

View from **Outside** the Front

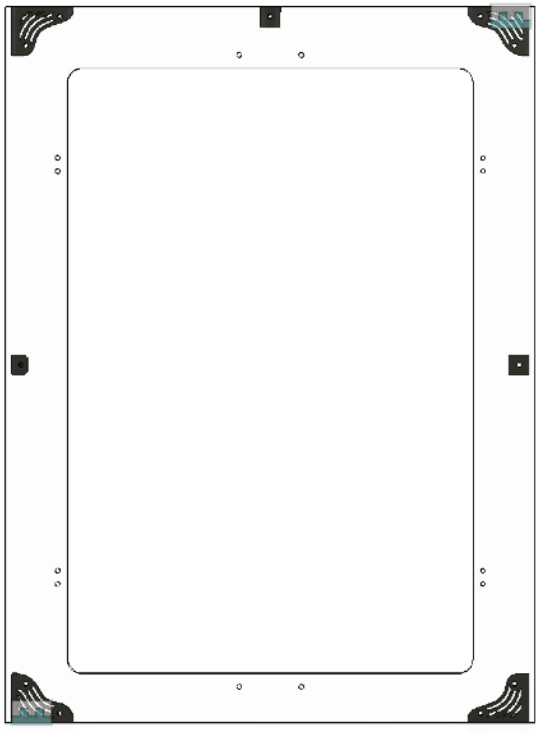
The front is designed with double doors that swing-out. Attach the corner connectors on the ***inside*** of the door frame using the provided cap head 12mm screws. The top of the connector should be flush with the acrylic top. Adjust the screws snugly but not tight, as you'll adjust them later.

When removing the interior front doors, remember the orientation, i.e., which part of the door is the inside and outside. You'll want to attach the door the same way it was taped. The laser cuts at a slight angle, so inserting the door backward can create interference, making it difficult for the door to swing correctly.

There are also mid-panel corner connectors to attach using 12mm M4 screws.

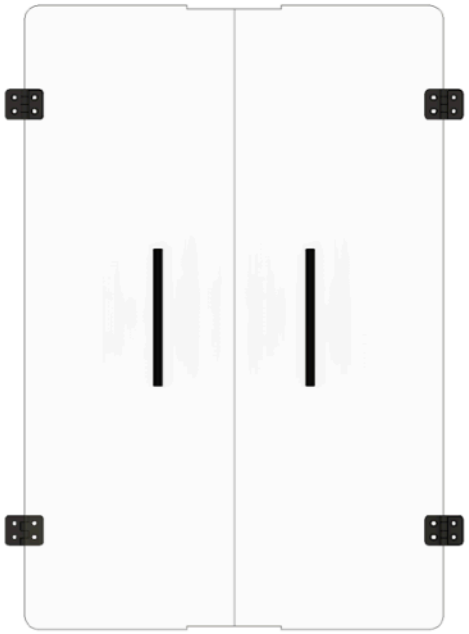


The front panel should look like this, noting that if you ordered the optional bottom, there would also be a mid-panel connector at the bottom.



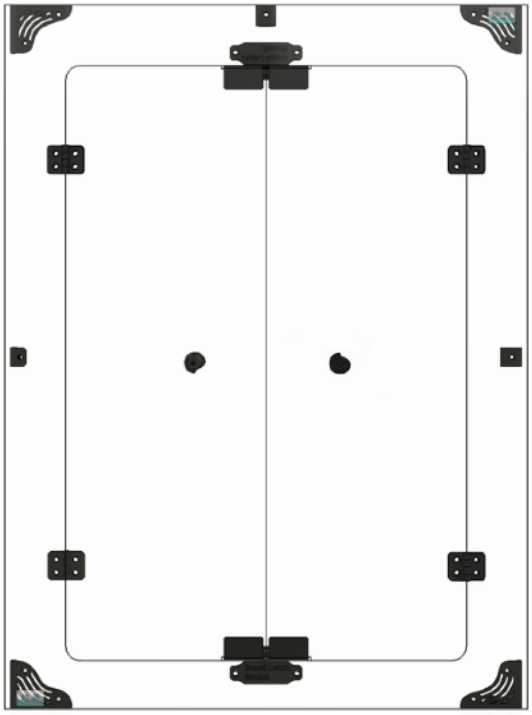
Locate the magnetic latches and use the **wood screws** with a Philips screwdriver to attach them to the latch mounts. Hand tighten and make sure they're secure, but do not over tighten, or they may strip. The magnetic latch can be adjusted front-to-back to ensure the interior doors are flush with the door frame. Each latch mount is attached to the outer door using two M4 12mm cap head screws. There will be some play in the hole size so that you can adjust the door to swing freely.

Next, attach the interior doors to the hinges and the hinges to the door frame. Attach the handle pulls using the steel-colored speciality screws included in the package with the pulls.



Now that the latches are mounted, it is time to connect the strike plates. Each plate comes with a squishy adhesive covering the exact size of the plate. Carefully attach the adhesive side to the acrylic at the location of each latch. Then, adjust the width of the metal strike plate so that it is held on by the pressure of the two sides of the plate. The adhesive covering will keep the strike plate from scratching the acrylic.

The front panel should now look approximately like this:



PRO TIP!

You can adjust the way the door swings by using the magnetic latch to hold the side of the door in place and then placing the front on its side, so the hinges are at the top and the latch at the bottom. Loosen the screws and adjust the position of the hinges so that there's an even gap on all sides of the door. The door should open and close freely. If you have trouble getting the door to fit correctly, confirm that the door was attached in the same orientation before removing the tape.

2. Attach Left Side

The left panel is distinguishable by its small U-shaped hole for a cable grommet and having “left side” written on it.

Attach the corner connectors to the top and bottom of the left side of the panel. The U-shaped grommet hole will be at the bottom left, and the air intake vents will be at the front. Again, if you ordered a bottom panel, there will be an extra mid-panel connector at the bottom.

Insert the grommet as pictured at the right before attaching the front of the left side to the door frame. This is to connect a power cable to the printer.

The assembly will now look like this:

3. Assemble Back

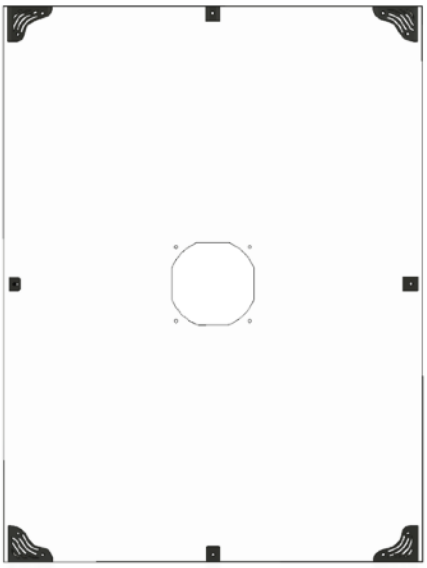
The four corner connectors are mirror images of the front.

On each side are “mid-panel corner connectors,” simple L-shapes for added strength.

The large hole is either for an air filter (purchased separately) or a hose connector.

The hose connector should be attached to the outside of the enclosure.

The fan should be oriented to pull air OUT of the enclosure.



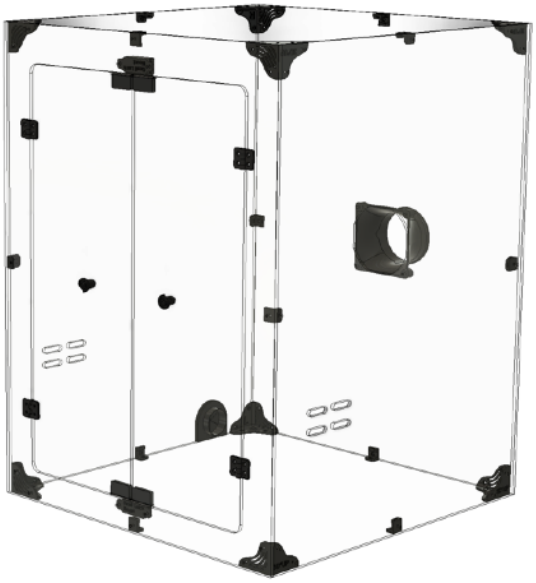
Refer to the air filter manual for instructions if you are attaching an air filter. If you use a hose connector, it should be attached with long-ish screws depending on the size, usually between 20 and 30mm M4.

The build should look like this now:

4. Attach the Right Side

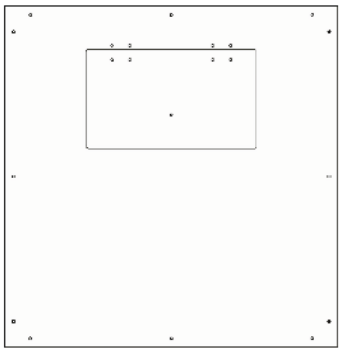
The right side has vents in a mirror image of the left side, although it may not have a U-shaped grommet hole.

The enclosure will now have four sides but no top or bottom.

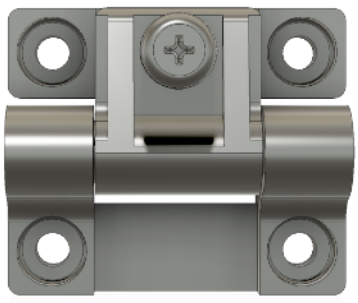


5. Attach Top

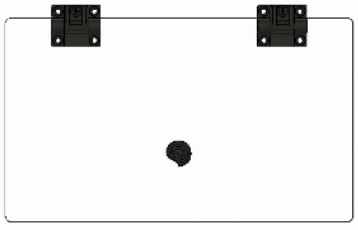
Some models have a door at the top. Assemble the top door before attempting to attach the top to the other panels.



Doors on the top have a pressure hinge that will hold the door in place when you open it. Adjust the pressure holding the hinge in place by tightening or loosening the Philips head screw in the hinge.

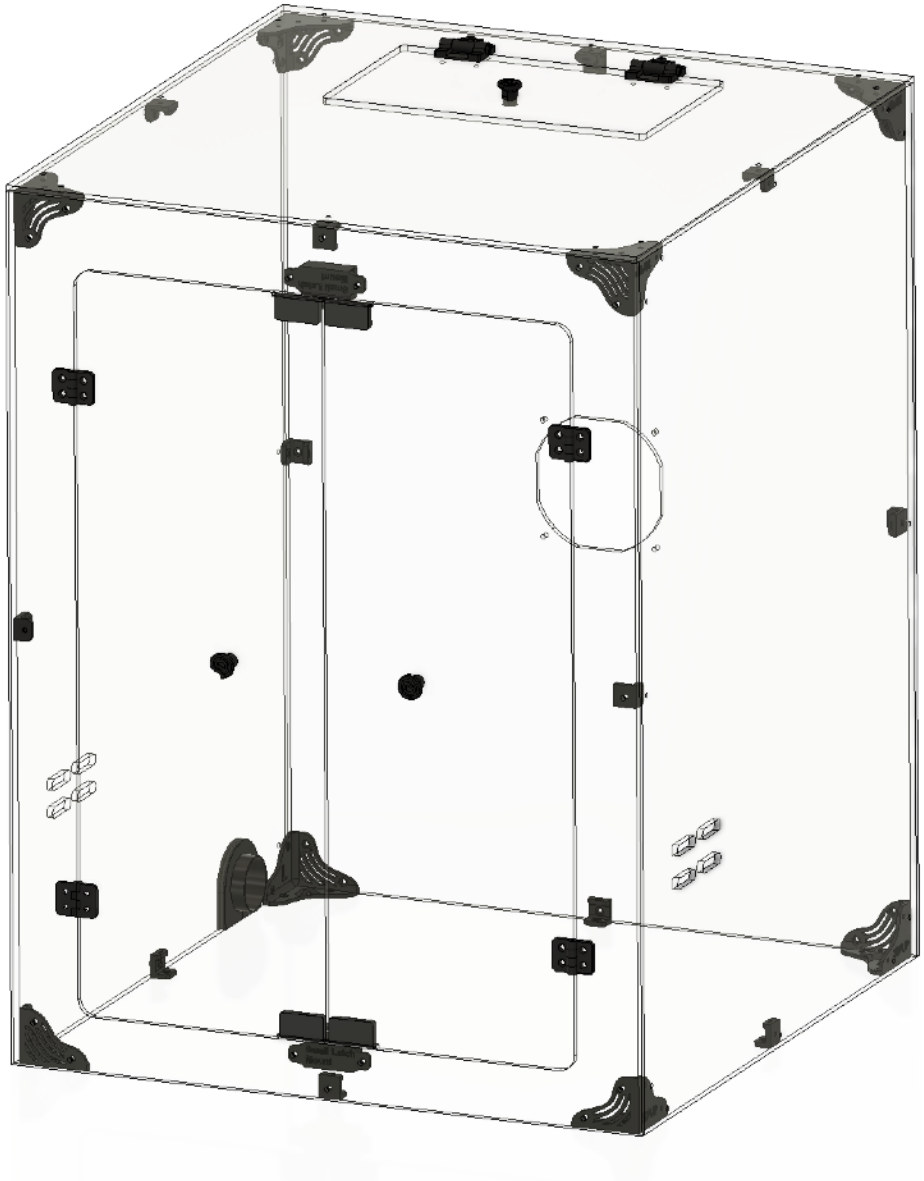


Connect the hinges using 4 M4 12mm cap head screws each.



The top fits evenly over all of the side panels. ***If you attach the top and there's an overhang in the back, it's attached backward.***

The easiest way to attach the top is to go through the open front doors.



6. Attaching the Bottom

The optional bottom relies on brass screw inserts to keep it flush with the table. Use the much shorter M4 8mm screws to secure the bottom to the other panels.

7. Sealing Gaps

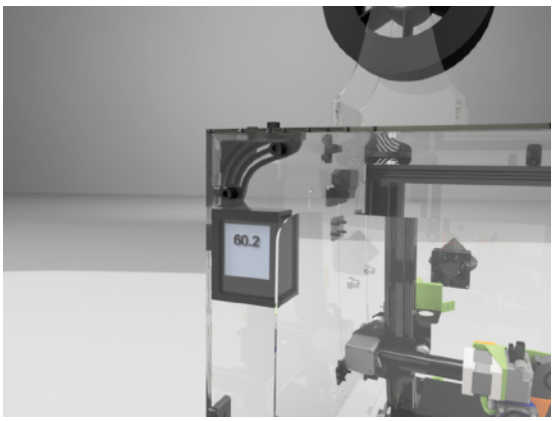
Once the enclosure is completely put together, it is time to ensure that each panel is held tightly to each adjoining panel. The connectors are designed with a small amount of play that allows you to make minor adjustments for the perfect fit.

1. Loosen screws on the panel to move.
2. Push that panel into place. You may need a friend to hold it tightly in the right spot.
3. Re-tighten the screws to hold the panel. Only tighten enough to hold the pieces snuggly. **DO NOT OVER-TIGHTEN!** These parts are sturdy, but they're still all made of plastic.

Repeat the process, going around the enclosure looking to make sure all panels are flush with each other.

8. Thermometer

The optional thermometer will let you know approximately what temperature it is inside the enclosure. It attaches to the left side of the door piece using the same hole as the top-most corner connector, as shown. It comes with a longer screw to fit through everything.



9. Tips and Tricks

On some surfaces, the enclosure can slide around a bit. In those cases, try using double-sided on the corners to hold it in place.

Another issue is that the magnets in the door are strong. You can either use two hands to open the door, one holding the enclosure and another to open the door or reduce the effects of the magnet by adding a piece of black electrical tape to the side of the strike plate that contacts the magnet. You'll need to adjust the location of the magnetic latch by loosening the wood screws, moving the latch, and retightening.