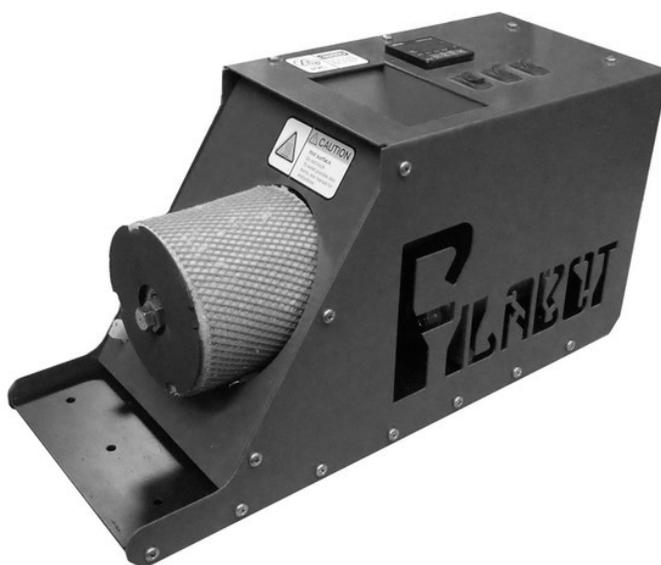


Triex® LLC
Montpelier, Vermont 05602 USA

Filabot Original™

Operational Manual



This manual applies to the Filabot Original™ from Triex® LLC.

2014, Triex® LLC, Montpelier VT, USA

General Specifications and Application

Filabot Original™ is a desktop filament extruding system, which makes plastic filament for 3D printers.

The Filabot Original™ filament extruder produces plastic filament in two common diameters. The Filabot Original™ makes filament from standard, widely-available plastic chips, or from recycled plastics from a variety of sources.

Inputs: The following are plastics that we verify that work in our Filabot Original. We are constantly testing new plastics, and will add them to the list as we can verify that they work.

- PLA (Polylactide)
- ABS (Acrylonitrile Butadiene Styrene)
- HIPS (High Impact Polystyrene)

Electrical requirements: 110/115/120 VAC, 60-cycle, single-phase power with supplied power cord; or 220/230 VAC, 50-cycle single-phase power with supplied power cord, and country specific adaptor.

Power usage: The Filabot™ will use about 400~600 watts, depending on heater temperature settings.

Output: 3mm or 1.75mm diameter plastic filament, using provided interchangeable nozzles

Dimensions: 17in x 7in x 9in (43cm x 18cm x 23)

Weight: About 28 pounds (13kg)

Safety

- Do NOT use PVC plastic with this device. PVC emits toxic gases.
- Use this device only to extrude plastic filament for 3D printing. No other use has been tested or approved for safety or applicability by Triex® LLC.
- The Filabot Original™ filament extruder is designed for indoor use only. Do not use it outdoors or on wet or damp surfaces.
- Do not use the extruder if any parts are missing or damaged. If you notice any damage to the unit, unplug the device immediately and contact the Triex LLC for guidance.
- Use the device only with specified input power. Using the device with any other input power is likely to damage the electrical and/or electronic parts of the device.
- Do not modify or alter this device without prior specific authorization from Triex® LLC. Unauthorized modifications may affect the safety or operation characteristics of the device, and void the warranty.
- Read the 'Setup' section of this manual for other specific safety steps to observe.
- Never try to extrude a plastic unless you are absolutely certain you know what type it is.

Contact Triex® LLC with any questions or concerns before installing, using, adjusting, or maintaining the device.

Setup

Place the Filabot Original™ on a secure, stable supporting surface at least as large as its base. Extra space will be useful as a spot for tools and supplies. The support should be at a convenient height for operator use. The support must be located no further away from an electrical outlet than the length of its power cord.

Do not place anything against the Filabot Original™. It requires unrestricted airflow, for cooling, proper operation and to keep the electronic components from overheating.

As the controls and input hopper are on the top of the device, do not place any other items on top of the enclosure. Do not store anything inside the device, as this could result in mechanical or heat-related issues.

Operation

PLASTIC NOTE: When using commercial pellets, rely on the maker's identification of the type of plastic. When using recycled plastic, check the markings on the item(s) to determine which type of plastic you are using. Do not mix types of plastic, as this may affect processing times, both in the extruder and in the printer.

The following is a table of general processing temperatures. Notice that the processing temperature may not be the same as the melt temperature.

| Plastic Type | Processing Temperature |
|--------------|------------------------|
| PLA | 150°C - 190°C |
| ABS | 160°C - 190°C |
| HIPS | 170°C - 200°C |

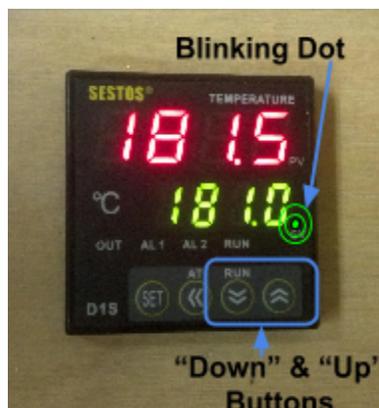
NOTE: The temperature ranges in the chart are approximate. It will require some trial and error to determine the right processing temperatures. Keep notes of actual temperature settings with different types of plastics, along with other operational notes, to develop a procedure that works well in your situation.

Break in Steps: These steps need to be followed with a new Filabot Original extruder to ensure proper filament extruding. These steps are only to clean out the extruder from the manufacturing process. This should be done in a well ventilated area. For general cleaning steps look at the Cleaning and Maintenance section of this manual.

Step 1: Install the 3mm Bolt Nozzle. Use a socket to tighten the bolt into the end of the extruder. This can be done with the extruder all the way off.

Step 2: With all switches off, flip the “Main Power” and “Temperature Controller” switches from “OFF” to “ON” the temperature controller will now turn on.

Step 3: Press the “Up” or “Down” Buttons. This will make a dot blink in the bottom of the screen near the green numbers.



Step 4: Move the decimal, using the Decimal Place Selector, to the place that you would like to adjust the temperature.



Step 5: Adjust the desired temperature using the “Up” and “Down” buttons.



Step 6: Once desired temperature is set, press the “Set” button to lock it in. Pressing once will change the green numbers to a countdown of the relay, pressing it again will change to display of the desired temperature. Repeat process to change or lower temperature.



Step 7: Wait for the extruder temperature to reach the set temperature. Allow machine to warm up for 30 minutes.

Step 8: Once temperature is reached fill hopper of extruder up about half way. Then flip the “Extrude” switch from “OFF” to “ON,” This will start turning the feed screw. It will take a few seconds for the pellets to be feed towards the nozzle. Light smoke may come out of the extruder at this point. This only happens during the break in procedure.

Step 9: As filament starts to extrude guide it to the ground so that it can coil up. This filament will be dirty, and may have some metal shavings in it. Do not use this filament in your 3D printer. Extruder all the pellets that were in the hopper, if filament still looks dirty after this step, extrude more pellets to further clean the system.

Step 10: Discard the “break in” filament that was just extruded.

Filament Making Steps

Step 1: If making 1.75mm change the nozzle while the extruder is heated up, and with the “Extrude” switch off. Only ever change the nozzle or remove the large nozzle when the extruder is heated up. Doing so otherwise could damage the parts.

Step 2: With extruder at the correct temperature for the plastic that is being extruded add pellets to the hopper and flip the “Extrude” switch from “OFF” to “ON.”

Step 3: If using the ground coil method place the extruder so that the front, where the filament comes out, is next to the edge of a table. Table should be between 24in to 40in tall. If using the spooler system, refer to the spooler operators manual on how to set it up.

Step 4: Slowly guide the filament into its natural spiral, either direction works fine. The start of the spiral is the hardest, but once it has spiraled around twice it should take care of itself and self coil.

Step 5: After the filament has coiled a few more times, carefully measure the filament diameter from the filament in the coil. If filament is too large increase the temperature of the of the extruder by a few degrees, of if the filament is too small lower the temperature a few degrees.

Step 6: Once enough filament has been made to print the desired part, shut off the extruder. From here the filament can either be spooled or feed directly into the 3D printer.

Care and Maintenance

The Filabot Original™ requires only minimal occasional maintenance, consisting of cleaning the device as needed, vacuuming out the hopper or purging out the plastic inside the extruder chamber.

Check for any signs of wear or deterioration. If there are any signs of wear, overheating, or deterioration, contact Triex LLC for guidance on how to proceed.

Parts, Supplies, and Accessories

Filabot provides replacement parts, supplies, and accessories to provide the best user experience. If you have any questions or need any special parts please let us know. The following is a list of the general items that we have available.

- Pellets
- Regrind Plastics
- Filabot Reclaimer
- Filabot Auto Spooler