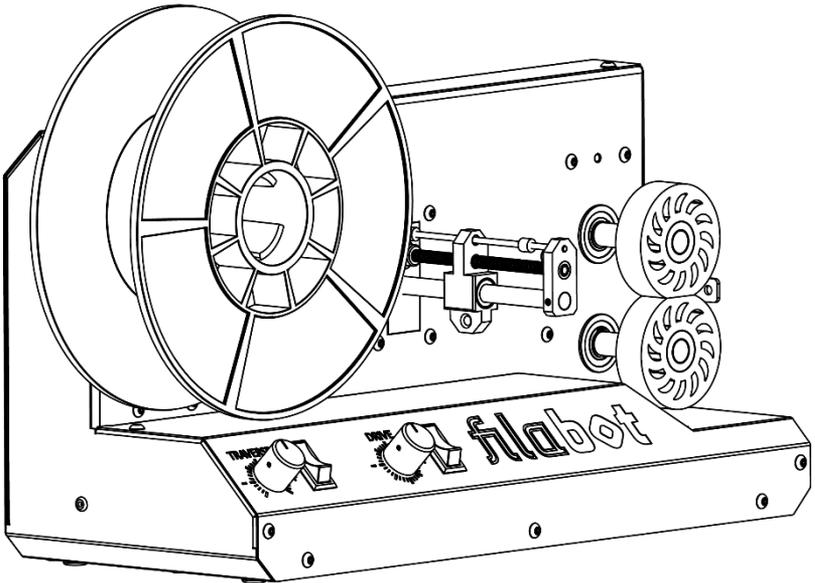


Filabot  
Vermont, USA, Earth  
1-802-505-6772



## Filabot Spooler Operation Manual



This manual applies to the Filabot Spooler  
Triex LLC, Barre, VT 05641, US

FSMR1 – REV 3 – 3/14/2019

# General Application and Specifications

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The Filabot Spooler is a filament spooling system. The Spooler takes extruded filament from extruders such as the Filabot EX2 and EX6 and winds the filament onto spools for use in FDM 3D printers. The Filabot Spooler can spool filament in any diameter (1.75mm, 2.85mm, and 3mm) with a max workable diameter of 4mm.

**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 Consumption:** The Filabot Spooler will use about 50 watts, depending on speed settings

**Dimensions:** 17" L x 7.25" W x 9.5" H (431mm x 184mm x 241mm)

**Weight:** 20 pounds (13kg)

**Spools Size:** Works with 0.5 kg and 1 kg standard Filabot Spools. Spool holder can be customized for other spool styles, design files located on [Filabot.com](http://Filabot.com)

**Max Spool Clearance:** 8.5" Diameter x 3" Wide (215mm Diameter x 76mm)

**Spooler Speed Range:** 0-470ipm (0-1193cm per minute)

**Puller Wheel Torque:** Approximately 13in-lbs (1.4nm)

**Spool Tension Clutch:** Adjustable tension to accommodate for range of filament properties

# Safety

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- Be sure to thoroughly read the Operator's Manual to familiarize yourself with the machine before you begin to spool.
- There are two pinch points to be aware of on the Filabot Spooler. The main pinch point is around the drive wheels and to a lesser extent on the traverser mechanism.
- Do not wear loose clothing, and tie up long hair around the machine.
- The Filabot Spooler system is designed for indoor use only. Do not operate the unit outdoors or in wet or damp environments.
- Do not use the spooler if any parts are missing or damaged. If you notice any damage to the unit, unplug the device immediately and contact Filabot for assistance.
- Do not modify or alter this device without prior specific authorization from Triex LLC. Unauthorized modifications may impact the safety or normal operation characteristics of the device and void the warranty.

Contact Filabot with any questions or concerns before installing, using, adjusting, or maintaining the device.

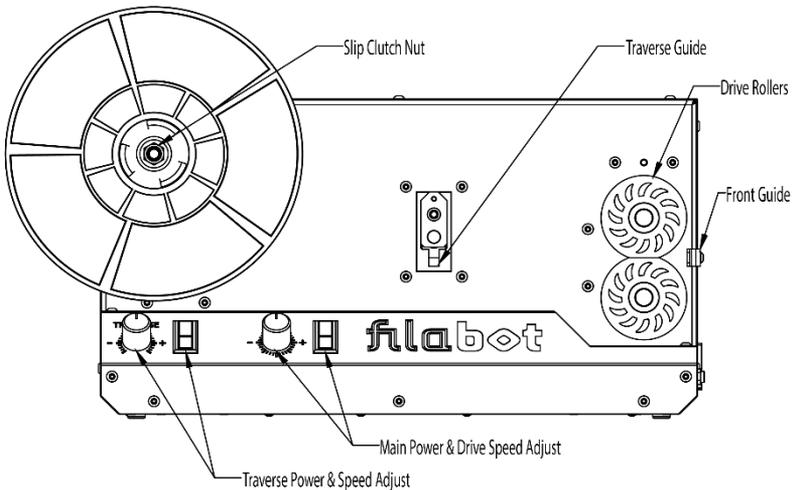
# Setup

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Position the Filabot Spooler on a suitable work surface. The work surface should be large enough to safely support the spooler at a comfortable height for the user, and level with the extruder. Additional space is ideal for convenient access to tools and supplies.

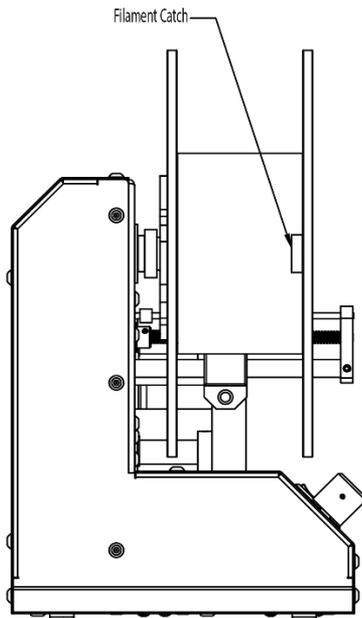
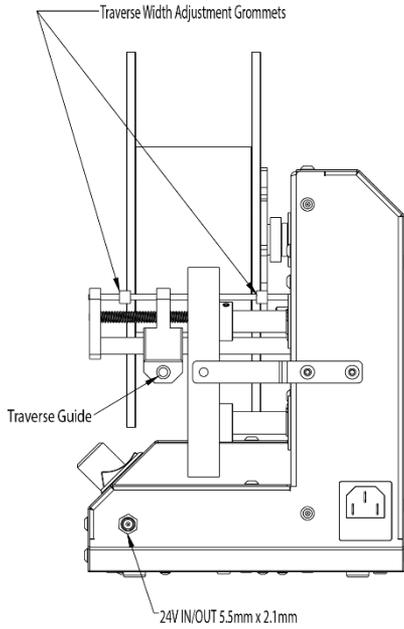
**Note:** The 24V IN/OUT barrel plug is connected directly to the 24 volt output of the internal power supply. Up to 2 amps can be drawn from the plug for auxiliary power or 2 amps can be supplied to the plug to power the spooler. Always use a protected power supply if using this port to power your Spooler.

Do not place any objects against the Filabot Spooler.



# Setup

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# Operation - Filament Production

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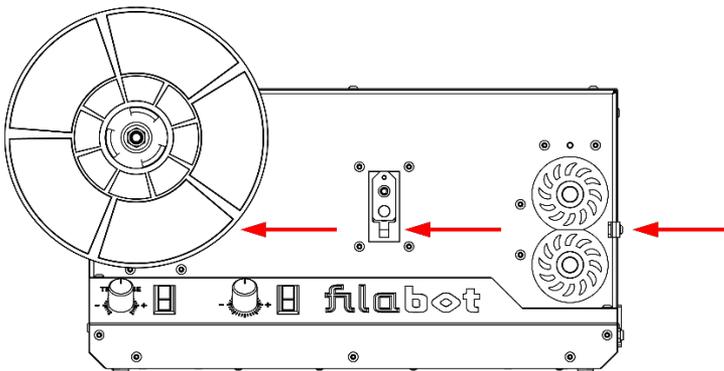
**Step 1:** Set your extruder and spooler level with each other and approximately 24-54 in. (60-140 cm) apart. The distance may change if you are using a cooling device. Filament must be firm by the time it reaches the spooler drive wheels.

**Step 2:** Load an empty filament spool onto the spool holder. Adjust the grommets to the edge of the spool so the filament is traversed to each flange on the spool. The grommets can be adjusted during spooling if they are not guiding the filament to the spool edges.

**Step 3:** With your nozzle for the diameter filament you desire to make selected, heat up your extruder to the proper temperature.

**Step 4:** Power up your Spooler by flipping the switch adjacent to the 'DRIVE' knob.

**Step 5:** Begin to extrude your filament. Gently grab the end of the filament with a suitable tool such as needle nose pliers and guide the filament to the Spooler. Guide the filament through the drive wheels by first passing it through the eyelet in front of the drive wheels. Then pass the filament through the eyelet on the underside of the traverse mechanism. Allow the filament to take an unobstructed path while you begin the next step. Do not begin to spool at this point.



# Operation - Filament Production

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**Step 6:** With filament now running between your extruder and spooler, you will need to fine tune the equipment to achieve your desired diameter. Although these adjustments are both on the extruder and the spooler, the primary adjustment is performed with the 10-turn 'DRIVE' knob on the spooler. Additional tolerance tuning can be performed by adjusting the temperature you are extruding at. Measure your diameter with a micrometer or dial caliper 30 seconds to 1 minute after making an adjustment. Recheck your diameter periodically.

**Step 7:** Once your diameter is dialed in you can now begin to spool your filament. Clip the filament after the traverse eyelet and feed the strand into the hole on the inside rim of the spool hub. A 'slip clutch' on the spool allows you to hold the spool steady while you insert the filament strand. Release the spool and it will take up the slack and begin to coil around the spool.

**Step 8:** Now you'll need to adjust the traverser mechanism on the unit. The goal is to set the speed so the filament has traversed the spool by the exact width of the filament at each full rotation.

Note: If the filament is not winding tight around the spool, you will need to adjust the 'slip clutch' on the spool holder. The adjustment is made by tightening or loosening the 9/16 (14mm) nut at the center of the hub with a socket and ratchet. Tightening the nut will apply more force to the filament, loosening the nut will apply less force to the filament.

**Step 9:** Periodically monitor the diameter of your filament and make adjustments as needed.

**Step 10:** Once the spool is full or you are finished with your extrusion, clip the filament after the traverser mechanism and remove the spool from the spool holder. Pass the filament through an eyelet on the spool to prevent it from unwinding.

Note: When loading a new spool, be sure to have the small cutout built into inside hub of the spool facing out towards the operator, as facing it inward will not allow clearance for the filament to be inserted and secured.

# Care and Maintenance

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The Filabot Spooler requires minimal maintenance. Periodically oil the traverser screw with one or two drops of 'sewing machine oil' or a similar thin oil.

Wiping the contact surface of the drive wheels with rubbing alcohol or acetone should remove any residues that could affect the grip of the wheels.

Apply synthetic automatic transmission fluid to the felt washer under the slip clutch nut every 150 spools.

If there are any signs of visible damage, wear, overheating, or deterioration, contact Filabot for guidance on how to proceed.

# Troubleshooting

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<b>Problem</b>	<b>Possible Issue</b>	<b>Solution</b>
Filament is being flattened by the wheels	-Too high of an extrusion temp.  -Spooler is too close to the end of the extruder	-Lower Extrusion Temp.  -Move Spooler further from the end of the extruder.
Bubbles in filament	-Too high temp. -Damp plastic	-Lower temp. -Dry plastic
Filament diameter too small	-Temperature too high	-Lower temperature and recheck after two minutes
Filament diameter too big	-Temperature too low	-Raise temperature and recheck after two minutes.
Filament is too loose / tight on spool	-Slip-clutch is out of adjustment	-Tighten/loosen nut on spool holder

## Warranty Information

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The Filabot Spooler has a one year warranty. This includes replacement of any part that fails. Warranty is void if system is opened up or damage is a result of user error. Only Triex LLC technicians are allowed to service the internal parts. More information about our warranty is available on [www.filabot.com](http://www.filabot.com).

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