

horizontal filament spool drybox

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Summary

horizontal filament spool drybox with minimum modification to the container



11.00 hrs



1 pcs



0.30 mm



0.40 mm



PLA



111 g



Creality
Ender 3 V2

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Tags: [drybox](#) [filamentdrybox](#) [filamentspoolholder](#)

This is a simple filament drybox that holds a single spool horizontally. The only modification that need to do to a sealed container is to drill a 10mm diameter hole for installing pneumatic connector.

Assembly after print took only about 5min.

Assembly instruction video: Off-the-shelf parts you need:

Part name	number
Sealed container(about 5.5L or more)*	1

Desiccant	as many as you like
Hygrometer	(optional)
608zz bearing(ID 8mm,OD 22mm, H 7mm)	1
M8 bolt with 20~25mm length	1
M8 nut	1
M8 washer	1
PC4-M10 pneumatic connector	1
M10 washer	1
M10 nut	1
PTFE tube(ID 2mm, OD 4mm)	distance from your drybox to printer

Tools you need:

Tool name	number
Drill	1
10mm drill bit	1
Adjustable wrench	2

*The sealed container I used is ASVEL KBOX F-30 5.6L with internal dimension around 285*192*100mm.

Note:

- For spool holder disk, choose the one that fits your M8 bolt. If using a hexagonal head bolt, prefer using “spool holder disk for hexagonal cap M8 bolt”.
- In order to make this design fits to different sizes of container, you may modify the length of spacers.
- To accomodate different spool hole sizes, insert the tapered pin to different holes in spool holder disk.
- All 3d printed parts need no support structure if oriented properly. And all of them are hollowed out to reduce filament usage.

The reason I chose to design horizontal drybox instead of more common vertical drybox:

- Most sealed containers about the size of a spool are shallow in depth. Which only allows spool to be placed horizontally.
- Converting a container that is designed to be used horizontally into vertical, takes effort modifying the side of the container, and sometimes need drilling more holes, which may introduce more moisture leakage.

- There are many horizontal spool holders that are usable. Which means my design isn't too weird.
- Horizontal containers are stackable, which ends up in smaller footprint. If not stacking too many of them (about 3 or 4), there isn't much difference between picking the top one and picking the bottom one.

Model files



short-side-spacer.stl



long-side-spacer.stl



end-cap.stl



end-cap.stl



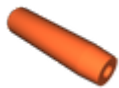
end-cap.stl



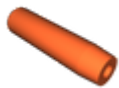
short-side-spacer.stl



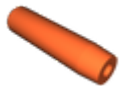
long-side-spacer.stl



tapered-pin.stl



tapered-pin.stl



tapered-pin.stl



spool-holder-disk-for-hexagonal-cap-m8-bolt.stl



end-cap.stl



central-hub.stl



spool-holder-disk-for-round-cap-m8-bolt.stl

Print files



horizontal-filament-spool-drybox.gcode

🌀 PLA 🌀 0.40 mm ≡ 0.30 mm 🕒 11.00 hrs 📊 111 g

☐ No support structure needed

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