



Parametric Cable Grommet

B **Blizzard**

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Summary

Customizable cable grommet with a nifty closing mechanism to cover cable holes of any size with lots of pre-made sizes.

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A cable grommet that can be used to cover holes drilled with a hole saw to pass cables through it. As it is parametric, even if your desired size is not available, you can just change the parameters to fit your hole diameter and depth exactly! After drilling the hole, put the printed ring into it, route your cables through it, snap the bottom and top disks together and then snap the disks into the ring. The disks fit snugly and don't fall out on their own. You can swing the top disk to cover as much of the hole as needed,

hiding the hole and preventing dust from entering. It can be used with tables, desks, shelves and other furniture.

If this helps you, please consider giving it a like, I would appreciate that a lot!

Printing settings

All parts print in the default model orientation without supports. Print each part of a given size once.

Please note the diameter of the ring is the **exact** size the ring will be printed at. So if you want a bit of a looser fit (or you know your printer runs prints a little bit larger usually), simply scale down all parts slightly in the slicer or change the parameters.

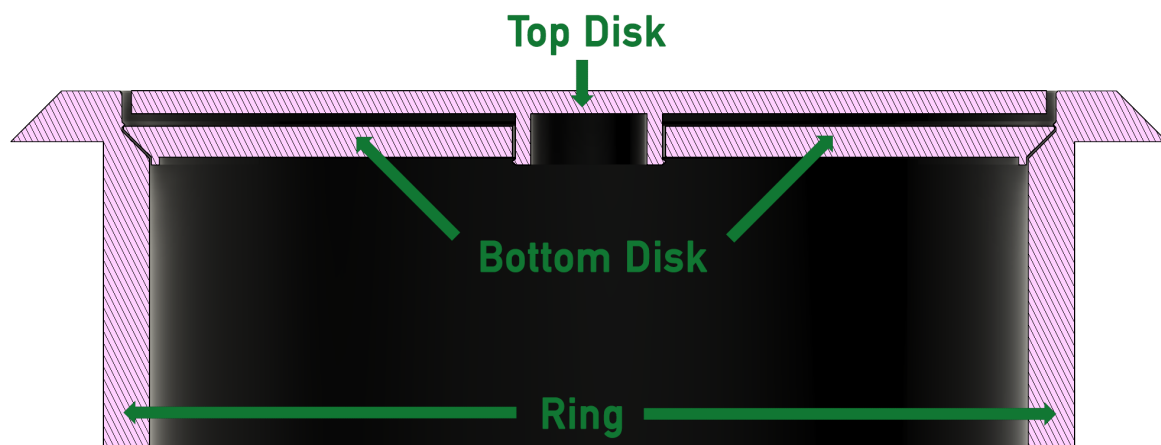
The depth of the part which goes into the hole in all of the pre-made sizes is 20 mm, if you need it to be shorter, you can slice some of the length off in your slicer. If you need it to be longer, have a look at the “Parameters” section.

I recommend a layer height of 0.20 mm, but others should work as well.

Assembly

Just snap the two disks together, put the ring into the hole, pass the cables through the ring and then snap the disks into the ring and twist the top disk to close it and you're done! You can also take out the disks with some force should you need to add/remove cables to make it easier and then snap them back into the ring.

This is how the grommet is meant to be assembled and how it should look like from a side section view:



Parameters


You can modify this design in Fusion 360 (the free version is enough) using parameters to make it fit a variety of different hole diameters and depths. Download the Fusion 360 design file, open it and then you can change the parameters by clicking on **Solid → Modify → Change Parameters**.


The only two parameters you will likely need to change are:


- hole_diameter → set it to the diameter of the hole saw / hole you drilled, in mm
 - If you prefer a tighter fit, set it to the exact diameter the hole has (or a bit larger, if your printer tends to print smaller)
 - If you prefer a looser fit, set it 1-2 mm lower than the diameter of the hole
- hole_depth → set it to the depth of the hole you drilled, in mm


The model will adjust automatically to fit. There are more parameters available where most of them are described, in case you need to change other things. Feel free to ask in the comments if you have any questions or want to request sizes you feel are common that I didn't cover yet.

Model files

 **Design Files** 2 files

**cable_grommet.f3d**
☐ Fusion 360 Design File to adjust parameters

**cable_grommet.step**
☐ STEP file for use in other 3D modeling software

 **Diameter of 25.4 mm (1 inch)** 3 files



cable_grommet_ring_25.stl



cable_grommet_bottom_disk_25.stl



cable_grommet_top_disk_25.stl



Diameter of 38 mm

3 files



cable_grommet_ring_38.stl



cable_grommet_bottom_disk_38.stl



cable_grommet_top_disk_38.stl



Diameter of 50 mm (~2 inches)

3 files



cable_grommet_ring_50.stl



cable_grommet_bottom_disk_50.stl



cable_grommet_top_disk_50.stl



Diameter of 60 mm

3 files



cable_grommet_ring_60.stl



cable_grommet_bottom_disk_60.stl



cable_grommet_top_disk_60.stl



Diameter of 64 mm

3 files



cable_grommet_ring_64.stl



cable_grommet_bottom_disk_64.stl



cable_grommet_top_disk_64.stl



Diameter of 76.2 mm (3 inches)

3 files



cable_grommet_ring_76.stl



cable_grommet_bottom_disk_76.stl



cable_grommet_top_disk_76.stl



Diameter of 95 mm

3 files



cable_grommet_ring_95.stl



cable_grommet_bottom_disk_95.stl



cable_grommet_top_disk_95.stl



Diameter of 101.6 mm (4 inches)

3 files



cable_grommet_ring_101.stl



cable_grommet_bottom_disk_101.stl



cable_grommet_top_disk_101.stl



Diameter of 127 mm

3 files



cable_grommet_ring_127.stl



cable_grommet_bottom_disk_127.stl



cable_grommet_top_disk_127.stl

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