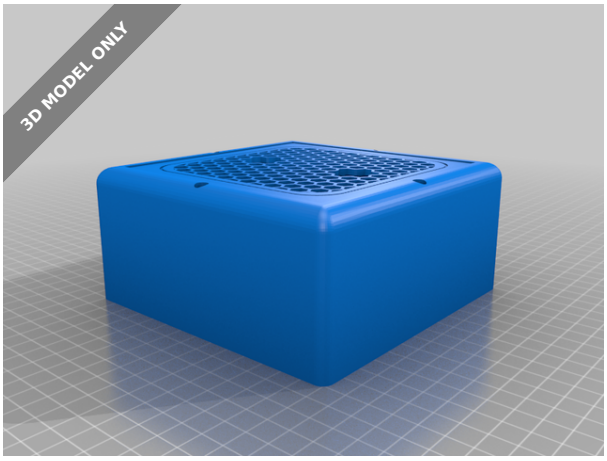

Server Enclosure HEPA Carbon Extractor Fan for 3D Printer

Colin

VIEW IN BROWSER

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Summary

Top mounting 120mm based Hepa/Carbon filter system for a server cabinet, when using 3d printer.

3D Printers > Accessories

Tags: filter case enclosure fan carbon server hepa extractor

Top mounting 120mm based Hepa/Carbon filter system for a server cabinet, when using 3d printer.
Designed primarily to filter out smells from PLA and PETG, but will also be used for fumes from ASA/ABS.
The fan will also assist reduding the case temp.

Print instructions Category: 3D Printing Summary

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Print Settings

Printer Brand:

Prusa

Printer:

I3 MK3S

Rafts:

No

Supports:

Yes

Resolution:

.4

Infill:

25%

Filament:
PETG

Supports only on the filter cover tabs</p> How I Designed This

Contains filter grill, top half with carbon and hepa filters [120mm Zortrax readily available and cheap].
Bottom section contains a high pressure 120mm 12v fan model X-Fan RDH1225S1. Although a more powerfull fan such as a Noctua IPPC 3000 12v fan could be used.
Dont use a bog standard 120mm PC case fan, it wont be powerful enough.
Designed to fit a standard 120mm fan cutout in a server cabinet.
12mm fan screws (Startech) mount from inside the metal case, through the bottom printed section and into the fan.
4 Hex bolts/square nuts hold bottom and top sections together.
A 2.6mm EPDM seal between the two halfs, and bewteen lower half and server case prevents unfiltered air escaping. or print your own TPU seals.
Body can be PLA or PETG, but grill must be PETG as it needs to flex when inserting.

Included STEP file for fan section for anyone using a fan thats different to the 25mm fan i used. You can modify as required.

Model files

fancase-server-bottom-fan-housing.step

fancase-server-grille.stl

fancase-server-filter-section.stl

fancase-server-fan-section.stl

Find source .stl files on Thingiverse.com

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