

Fume extractor (vase mode)

the the_ress

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updated 15. 2. 2023 | published 15. 2. 2023

Summary

Fume extractor components for use with flexible 125mm tube and 140mm PC fan. Printed using vase mode with 0.8mm nozzle.



10.57 hrs



6 pcs



0.55 mm
0.40 mm



0.80 mm



PET



476 g



Prusa
MK3/S/S+

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Tags: [vase](#) [fume](#) [vasemode](#) [extractor](#) [airduct](#)
[fumeextractor](#) [hood](#) [fumehood](#)

Fume extractor components for use with 125mm flexible tube and 140mm PC fan. Printed using vase mode with 0.8mm nozzle. The vase mode makes it print surprisingly fast and with the large nozzle, it's still sturdy enough.

Required components:

- 2 or more pieces of **125 mm diameter flexible tube**
- a standard 140mm PC fan (I used Noctua NF-A14 industrialPPC-3000 PWM, but a less powerful fan will work too)
- four M4x40 screws with hex nuts

Printing:

- Option 1 - use the uploaded gcode files (with 0.8mm nozzle)
- Option 2 - use the following slicer settings:
 - Nozzle size - 0.8 mm (I didn't test with with any smaller nozzles)
 - Layer height - I used 0.4 or 0.55 mm
 - Vase mode
 - Solid layers (bottom) - depends on the model and layer height - check the preview and adjust so there aren't missing layers (too few) and the inside isn't blocked (too many)

Assembly:

- Screw both **fan adapters** to fan with the M4 screws (take a note the fan airflow direction)
- Put the flexible tubes on **fan adapters**, **fume hood**, and **window exhaust** and secure each connection with couple pieces of tape
- Optionally you can connect multiple tubes with **couplers**

Usage: Hang the end with **fume hood** above your workspace, put other end (with **window exhaust**) in an open window, and power on the fan.

This is pretty much a first prototype. Here are some things I plan to improve:

- Better flexible tube attachment so it doesn't need the tape
- A way to hang the fume hood above the workspace
- Connectors between segments so it's easy to disassemble it and stow away
- Filter in front of the fan

Sneak peek of the new connector interface:

Version 2 design progress:



2023-02-15 update: coming soon(ish)



Model files



fume-hood.stl



fan-adapter-nuts-side.stl



fan-adapter-screws-side.stl



window-exhaust.stl



coupler.stl



smaller-fume-hood.stl

Print files



fume-hood_08n_055mm_petg_mk3s_3h3m.gcode

⚙ PET ⚙ 0.80 mm ⚙ 0.55 mm ⌚ 3.06 hrs ⚖ 156 g 🖨 Prusa MK3/S/S+



fan-adapter-nuts-side_08n_055mm_petg_mk3s_1h36m-1.gcode

⚙ PET ⚙ 0.80 mm ⚙ 0.55 mm ⌚ 1.60 hrs ⚖ 76 g 🖨 Prusa MK3/S/S+



fan-adapter-screws-side_08n_055mm_petg_mk3s_1h36m.gcode

⚙ PET ⚙ 0.80 mm ⚙ 0.55 mm ⌚ 1.60 hrs ⚖ 77 g 🖨 Prusa MK3/S/S+



window-exhaust_08n_04mm_petg_mk3s_4h18m.gcode

⚙ PET ⚙ 0.80 mm ⚙ 0.40 mm ⌚ 4.31 hrs ⚖ 167 g 🖨 Prusa MK3/S/S+



coupler_08n_04mm_petg_mk3s_1h41m.gcode

⚙ PET ⚙ 0.80 mm ⚙ 0.40 mm ⌚ 1.68 hrs ⚖ 48 g 🖨 Prusa MK3/S/S+



smaller-fume-hood_08n_055mm_petg_mk3s_2h26m.gcode

⚙ PET ⚙ 0.80 mm ⚙ 0.55 mm ⌚ 2.44 hrs ⚖ 119 g 🖨 Prusa MK3/S/S+

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