



Enclosure air filter using Sundström filter cartridges



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[VIEW IN BROWSER](#)

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Summary

This adaptor ring attaches a centrifugal blower to a Sundström filter cartridge.

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This adaptor ring attaches a centrifugal blower to a Sundström filter cartridge. The cartridges themselves clip together to filter different types of contaminants. I used an SR510 particle filter to reduce small particle pollution and an SR297 gas filter to capture any organic vapours. For the blower, I used a Sanyo Denki 76x76x20mm blower from RS components <https://uk.rs-online.com/web/p/centrifugal-fans/1919306>

I only print in PLA and PETG so I'm using the filter as an exhaust fan for my enclosure. If you're printing ABS you might want to recirculate the air to maintain temperature.

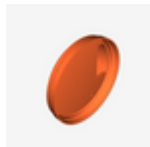
Hat tip to this website <https://www.smith-eng.co.uk/air-quality>, which gave me the idea to use those filters (they use them in their more beefy set-ups).

Print instructions

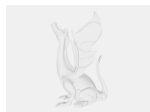
I printed the adaptor ring with the blower inlet on top in PLA with PrusaSlicer generated supports and bridging. Since the underside is hidden, I wasn't worried about the loose filaments on the large bridge.

The mounting bracket is designed to fit in a cut-out in 3mm plexiglass. Print the two parts with the circular hole uppermost (see slicer screenshot). To get a cutting guide; open the filter-mount FreeCAD file and print the "Page" at 100% size (don't print the attached image because the scale may not be right). The fine dotted line is the opening in the plexi (i.e. need to cut the plexi in the green zone marked on the attached diagram).

Model files



filter-blower-adaptor.stl



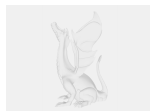
filter-adapter-blower.fcstd



mounting-bracket-bottom.stl



mounting-bracket-top.stl



filter-mount.fcstd

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