



Hexagonal Hand Fan



Quint

[VIEW IN BROWSER](#)

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Summary

This hand fan has a mechanical look with a simple opening and closing mechanism.



9.20 hrs



2 pcs



0.20 mm



0.40 mm



PET



99 g



Prusa
MK3/S/S+

[Fashion](#) > [Other Fashion Accessories](#)

Tags: [fan](#) [fashion](#) [hexagon](#) [mechanical](#) [handfan](#)

This hand fan has a mechanical look with a simple opening and closing mechanism. I added a standard blade in the files if you want to create your fan design.

Parts

This hand fan design consists of only four parts and prints without any support.

The base blade has an attached cylinder to stack the other blades on top of each other. A bolt holds everything together by screwing into the top of the cylinder with inner threads.

The blade has two orientations, a stopper on one side and an inset on the other. This mechanism limits the blade rotation. In total, there are 11 of these blades needed for the fan.

The top blade is very similar to the other, but the inset is removed to create a flat top surface. So it is entirely optional.

Files

I made the fan in Blender. If you want to alter the design, I included the blend file in the attached files. The model has an animation of the opening and closing of the fan, scrubbing the timeline to preview the rotation of the blades.

I also included an empty fan blade model, which you can use to make a custom design.

Print instructions

I used the standard '0.2mm Quality' for my printer settings and tweaked the infill and the top/bottom solid layers amount.

Infill

Having a lightweight and sturdy fan is critical for displacing air. Therefore, I used a low % infill ratio of 10% with the honeycomb fill pattern (for aesthetic reasons).

Horizontal Shells

To see the infill on the transparent PETG blades, I decreased the top and bottom solid layers to 2.

Printing Difficulty: I

I: Novice printing knowledge

- Basic understanding of 3D printing principles and processes.
- Familiarity with operating a 3D printer.
- Able to follow step-by-step instructions for printing simple designs.
- Limited experience troubleshooting common printing issues.

II: Intermediate understanding

- Proficient in 3D printing principles and processes.
- Comfortable with various 3D printer settings and parameters.
- Capable of handling more complex designs and making necessary adjustments.
- Able to troubleshoot common printing issues and optimize print quality.

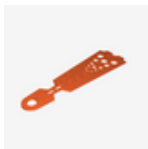
III: Experienced

- Extensive knowledge and expertise in 3D printing.
- Proficient in advanced printing techniques, such as multi-material or multi-colour printing.
- Skilled in fine-tuning printer settings for optimal results.
- Capable of handling complex and intricate designs.
- Experienced in troubleshooting and resolving various printing challenges.

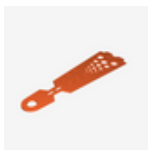
Materials

I used two different PETG filaments for the 11 fan blades in the photos.
(Prusament PETG Clear, Prusament PETG Prusa Galaxy Black)

Model files



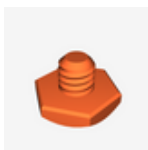
handfan_blade_01.stl



handfan_blade_top_01.stl



handfan_blade_base_01.stl



handfan_bolt.stl



handfan_standardblade_01.stl



handfan_standardblade_base_01.stl



handfan_standardblade_top_01.stl



hexagonal-hand-fan.blend

Print files



handfan_4blades_02mm_petg_mk3s_5h42m.gcode

🌀 PET 📏 0.40 mm 📐 0.20 mm ⌚ 5.70 hrs ⚖️ 64 g 🖨️ Prusa MK3/S/S+



handfan_base-top-bolt_02mm_petg_mk3s_3h30m.gcode

🌀 PET 📏 0.40 mm 📐 0.20 mm ⌚ 3.50 hrs ⚖️ 36 g 🖨️ Prusa MK3/S/S+

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