Guile mini RSCS fan for Voron V0.2

🌟 **thrutheframe**

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Summary

Guile is a mini RSCS fan for Voron V0.2 using 6028 blower fan.
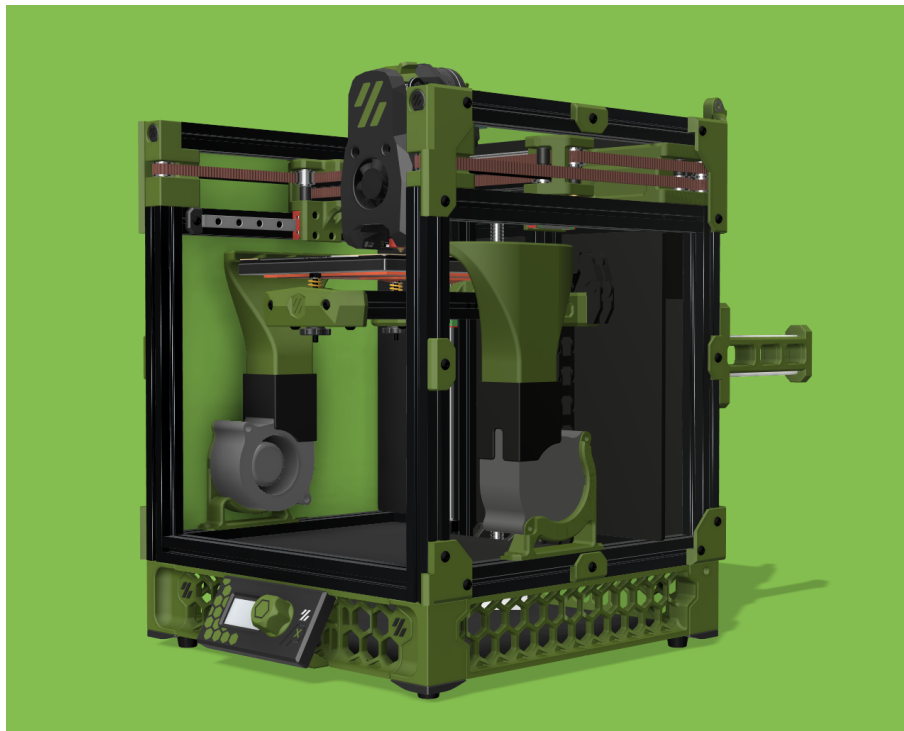
3D Printers > 3D Printers - Upgrades

Tags: rscs cooling voron mod fan v02 guile

UPDATE 31/5/23: Updated fan bracket (Guile fan_armchair v1_2.stl) to improve tolerance for mounting the 6028 fans. I have tested several iterations of the duct opening from 2mm-4mm. Still prefer a 4mm opening. As promised, I have also shared the step files of the design. All the best.

INTRODUCTION

Guile is a mini RSCS fan for Voron V0.1/0.2. I designed this because the two little 30mm part cooling fans are not going to cut it for me, plus I was bored waiting for the LDO V0.2 parts to be printed.

Inspired by Simon Vez's (designer of Vzbot) Remote Static Cooling System (RSCS), Guile applies the same principle in a mini form. I focus on printability and fitting into the 120x120mm bed. The stl, 3mf and step file is available for download.
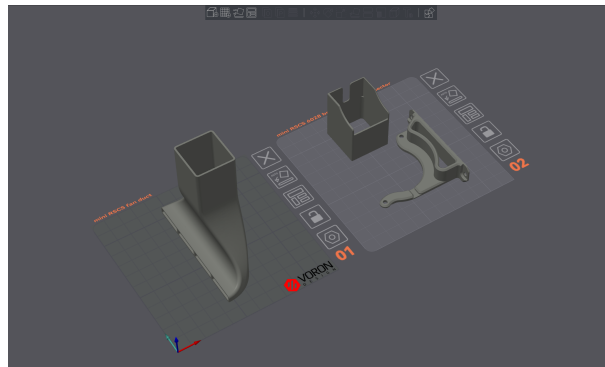
BOM

- Brass insert M3 of OD 4.6mm or 5mm - 2pcs
- BHCS M3x6mm - 4pcs
- M3 Drop-in nuts - 2pcs
- 6028 blower fan 24V - 1pcs

I ordered my 6028 fans from Aliexpress Gdstime and M3xOD4.6mm brass inserts from Aliexpress HOTXYZ. These are not affiliated links. Just sharing where I get my stuff.
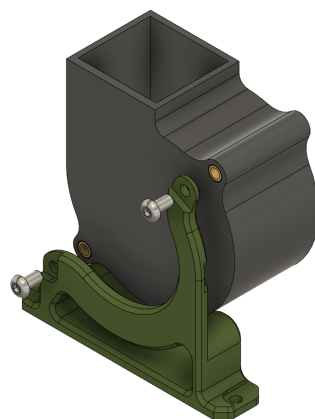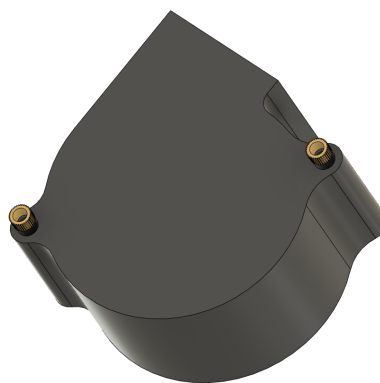
Drop-in nuts were included in LDO Voron 0.2 Kit.
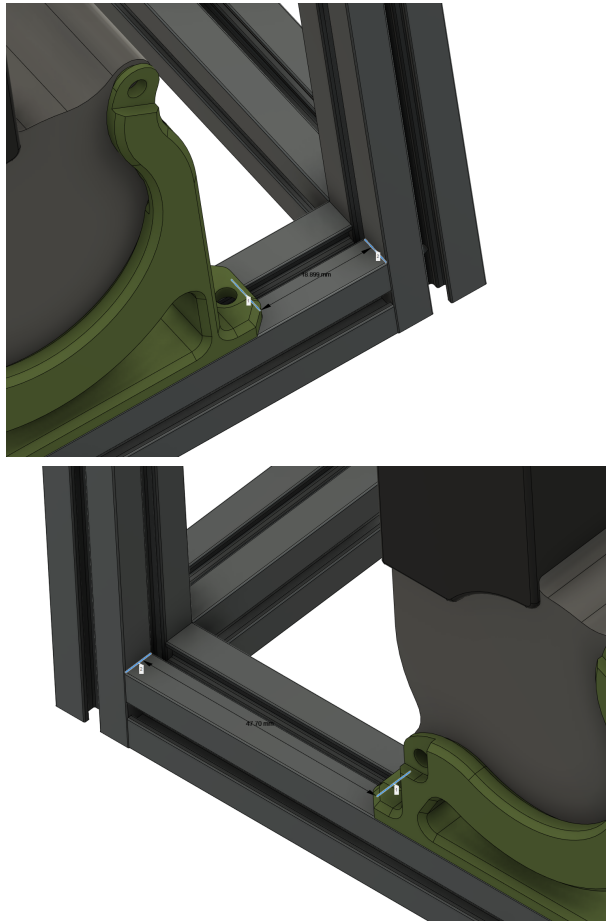
INSTRUCTIONS

- I designed Guile to fit a V0.1/0.2 build plate. The fan duct is printed upside down. No support is needed. (your printer should be able to do 20mm of bridging). I have prepared the 3mf file on SoftFever's OrcaSlicer for print orientation. The stl files are also available for download.
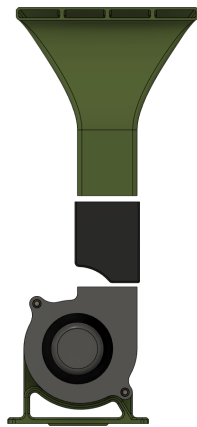
- Install the brass inserts on the back of the fan and use the M3x6mm BHCS to screw the bracket to it.

- I know inserting the capture nuts in the V0 is a pain, if you are doing a fresh build, please remember to add 2 extra nuts on each side of the frame.
- When installing Guile on the left of the V0.2, it has to be around **19mm** from the front of the frame. If installed on the right, it has to be around **48mm**. This will centre the fan duct opening to the build plate.

- Insert the fan duct connector (black) onto the 6028 first, followed by the fan duct (green). It should all fit snugly. You can adjust the height of the fan opening to the nozzle and secure it with tape.

- Wiring will depend on what pwn fan ports are available on your controller board. So all the best and enjoy this build.

Why Guile?

see the similarity 😁

Guile mini RSCS fan is free for individuals to use for their own personal non-commercial usage. There is no Patreon or OnlyFans (hahaha). However, if you like my designs and want to contribute to my coffee addiction & help fund the filaments I need for prototyping, a contribution to my Ko-fi or paypal.me will be greatly appreciated.

Caveat

As always, there will be some "experts" in fluid dynamics that will call me out and question if I have done due diligence to ensure that the air direction is correct, asking for CFD, etc. I have shared the step file, be my guest to do your due diligence and share with the community. As with all my designs, it may and may not work for you. So print and install at your own discretion.

Model files

 guile-fan_duct-v1_1.stl

 guile-fan_duct-connector-v1_0.stl

guile-fan_armchair-v1_2.stl

guile-mini-rscs-v1_2.3mf

guile-mini-rscs-v1_2.step

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