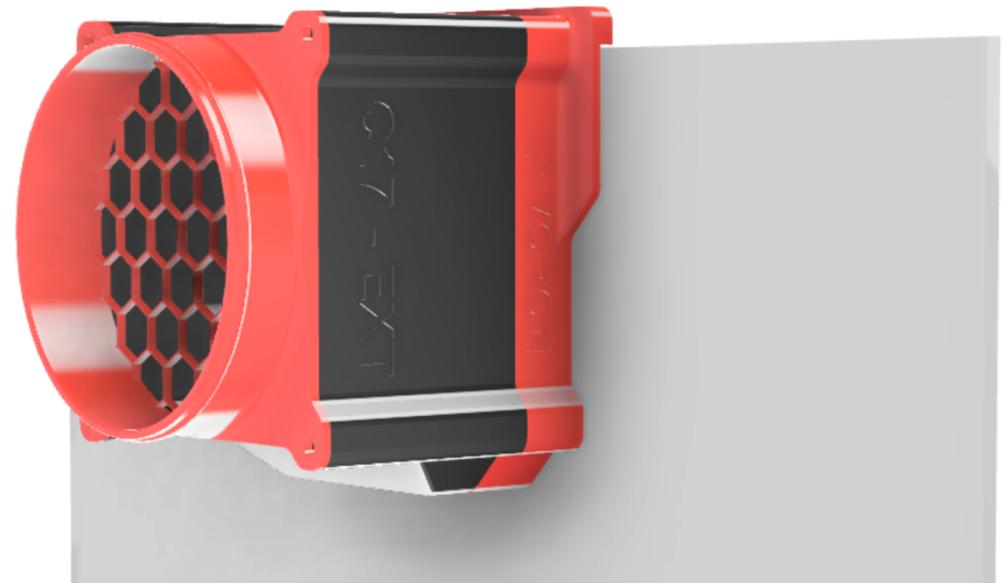




HEPA 13 - Carbon filter by OboMaker3D

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## 1.1 ASSEMBLY MANUAL

This document is not produced by VoronDesign.com

C17-EXT 1.0 TABLE OF CONTENTS

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## INTRODUCTION

## WARNING

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During the processing of plastics and polymerization, the rise in temperature can lead to the release of dust, nanoparticles, gases and potentially dangerous volatile products. 3D printing uses different plastics and resins with possible release of monomers from polymeric thermoplastic filaments or residual feedstocks, but also uses solvents and paints in the finishing of the parts. Thermal decomposition products (fumes and/or vapors) may be emitted during printing operations.

This assembly allows the use of professional cartridges that allow the filtering of odors and causes of irritation. Nevertheless you are responsible for the materials you use and the conditions in which you use them to make 3D prints.

Please, read the entire manual before you start assembly.

## CONFIGURATIONS



**CONFIGURATION 1**

Installation with adapter without modification of the back panel and only two fasteners on the frame. (Not compatible with Switchwire)



**CONFIGURATION 2**

Installation with adapter with back panel modification and four fasteners, two on the frame and two on the back panel. (Not compatible with Switchwire)



**CONFIGURATION 3**

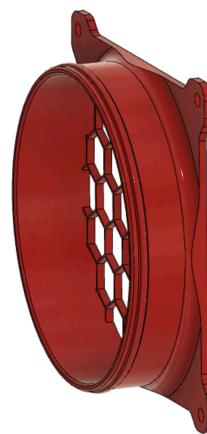
Installation without adapter with a new back panel and four fasteners on it.

## OPTIONS



OPTION 1

Single grid at the outlet of the carbon filter.



OPTION 2

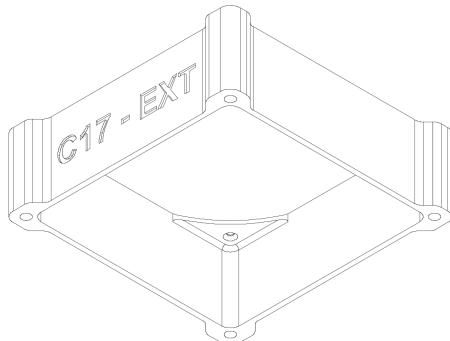
Grid and 125mm connector at the outlet of the carbon filter.



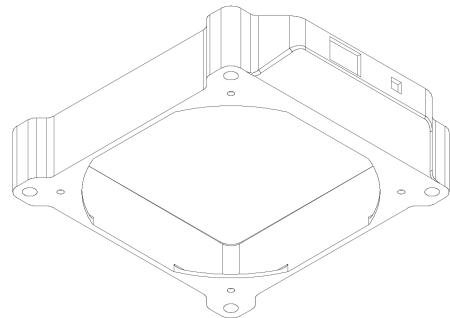
OPTION 3

Grid and 100mm connector at the outlet of the carbon filter.

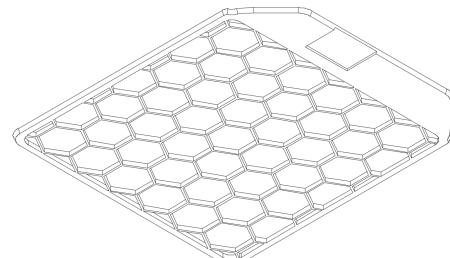
Use the standard Voron recommendations to print your parts.



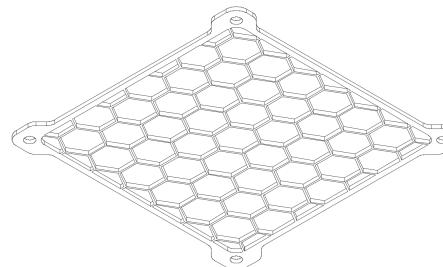
1 Filter box



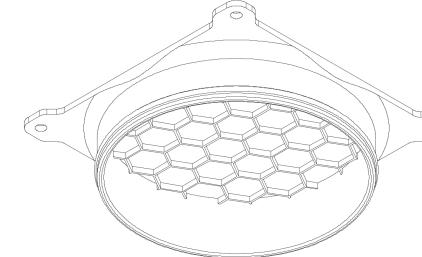
2 Fan box



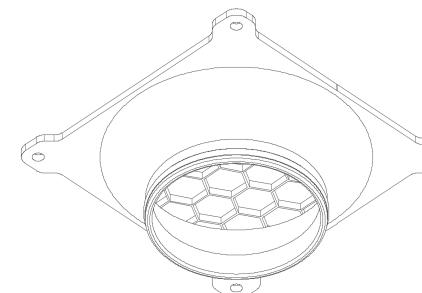
3a Fan grid



4a Filter box grid



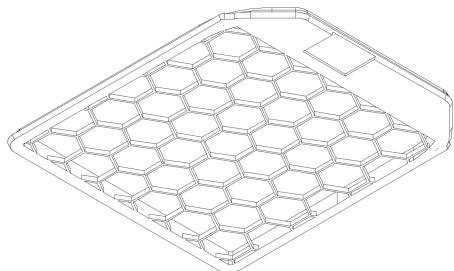
4b Filter box grid with 125mm extractor



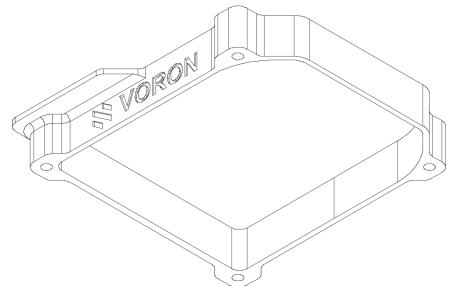
4c Filter box grid with 100mm extractor

## VORON ADAPTER

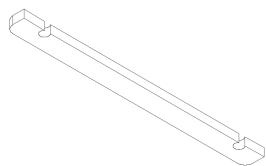
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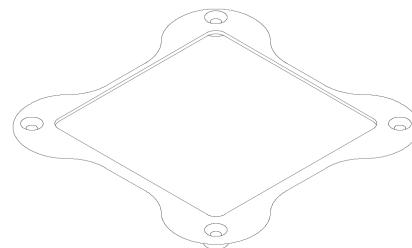
3b Fan grid with Voron adapter



5 Voron adapter part 1



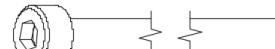
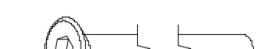
6 Voron adapter part 2



7 Voron adapter part 1

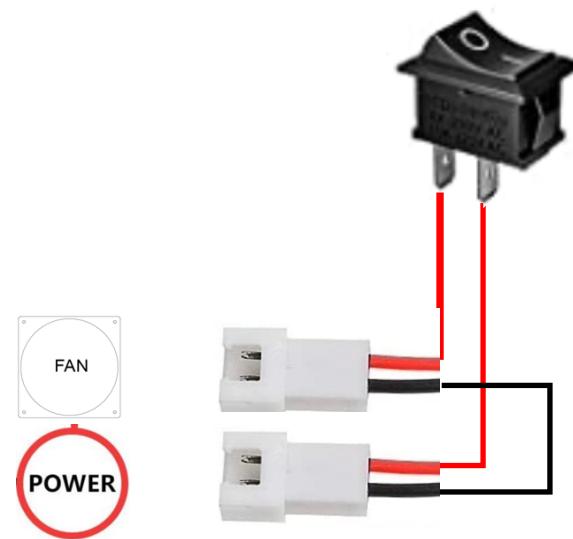
## LOGISTICS

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	CONFIGURATION 1	CONFIGURATION 2	CONFIGURATION 3
STL	1, 2, 3b, 4a or 4b or 4c, 5 and 6		1, 2, 3b and 4a or 4b or 4c
FAN	120×120×25, 3000 RPM, 120 CFM – 150m <sup>3</sup> /h – High pressure (Best requirement or more)		
FOAM	Single Sided Foam Tape 1mm – 5mm wide		
FILTER	Option 1 : Commercial Cartridge Option 2 : Mod C17-EXT-CARTRIDGE		
	MiMoo On/Off (See Appendix)		
	Hyper&Cara JST XH 2.54mm 2 pin, Male (í2), Female (í1) (See Appendix)		
	M3 Threaded insert (×4)		
	M3×10 FHCS (×4)		
	M5 Threaded insert 10mm (×4)	M5 Threaded insert 10mm (×8)	
	M5×40 SHCS (×2)	M5×40 SHCS (×4)	
	M5×115 SHCS (×2) (Unfortunately this size does not exist, just cut a 120mmmm)	NA	
	M5×50 FHCS (×2)	M5×55 or 60 FHCS (×2)	M5×55 or 60 FHCS (×4) (2.4)
	NA	NA	M5×55 SHCS (×4) (Sitchwire)

## WIRING

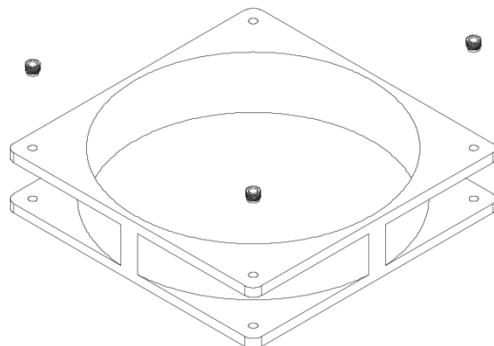
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## CONFIGURATION 1

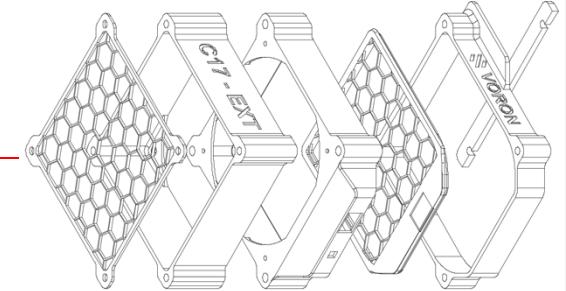
### STEP 1

M3

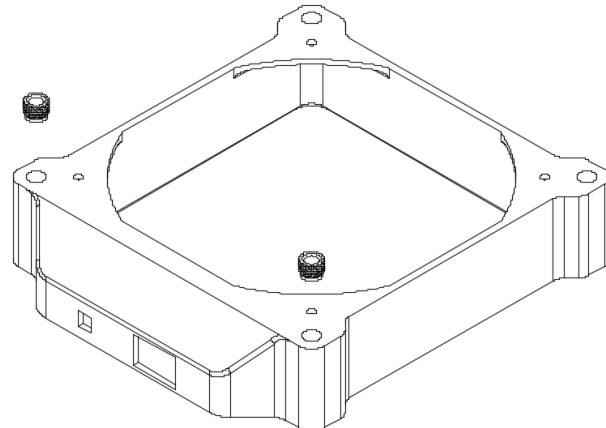


#### INSTALL HEAT SET INSERTS

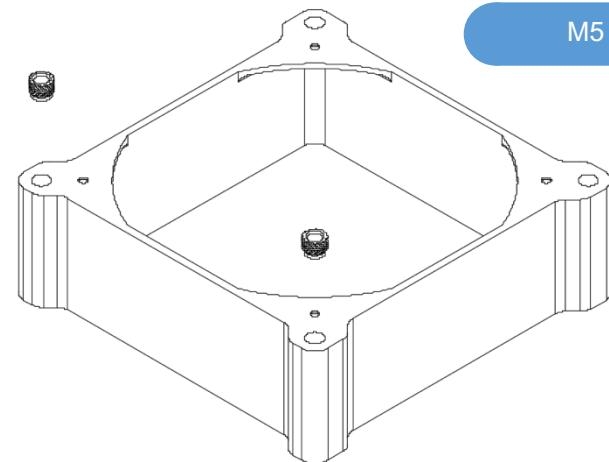
**Caution:** the inserts must be on the side of the outgoing air flow.



M5



M5



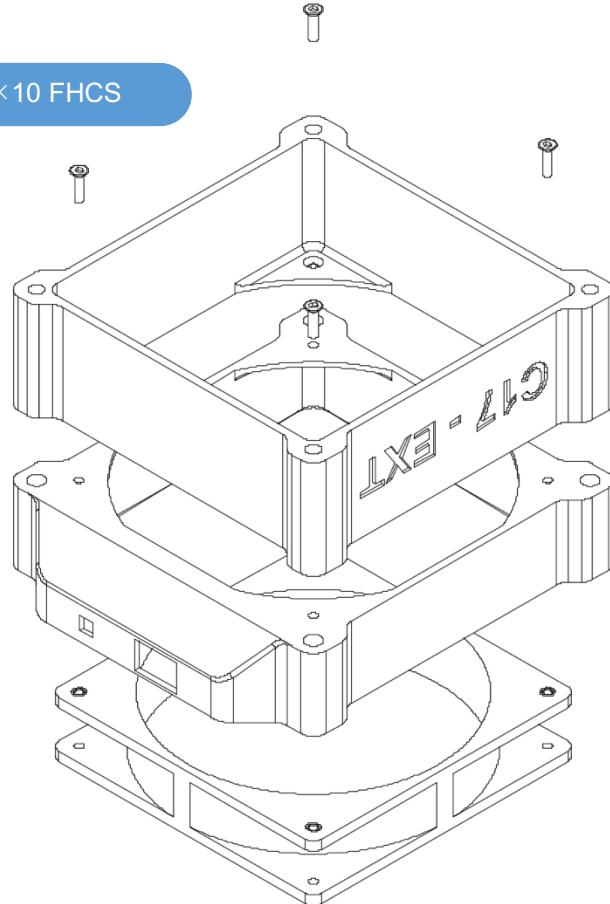
#### INSTALL HEAT SET INSERTS

**Caution:** the inserts must be installed at the bottom (look at the text C17-EXT on the side (EXT = bottom)).

## STEP 2

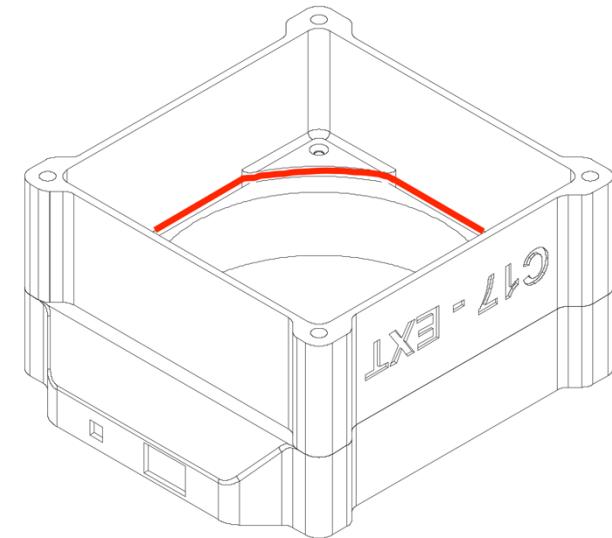
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### INSTALL FAN



You can keep the dampers on the screwed part if the fan is equipped with.

The dimensions of some fans sometimes exceed 120mm.



### INSULATE

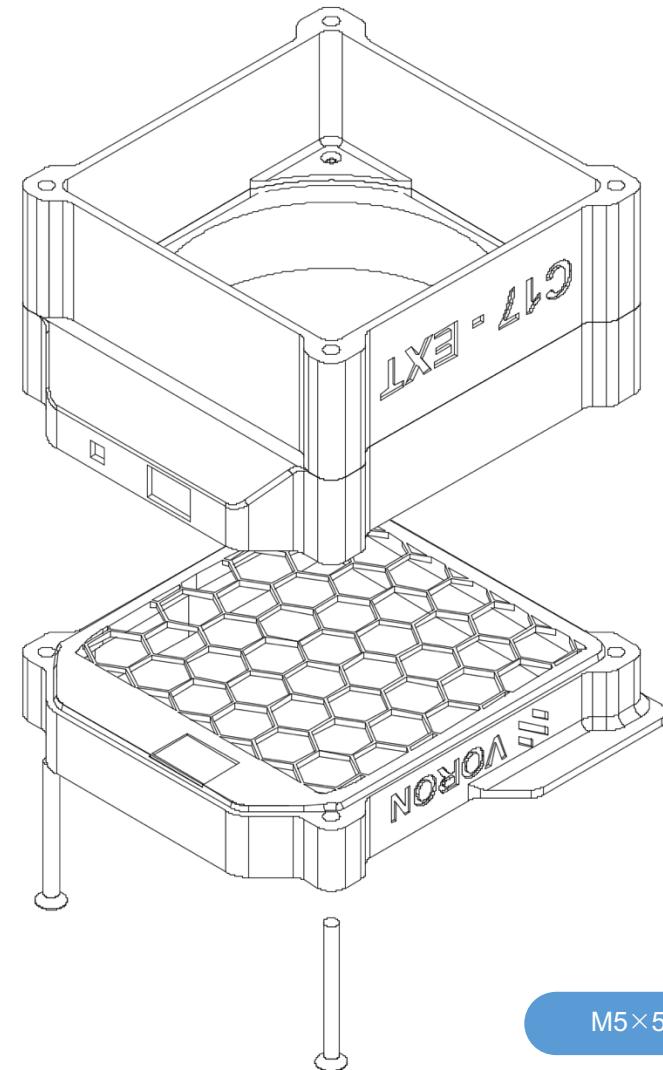
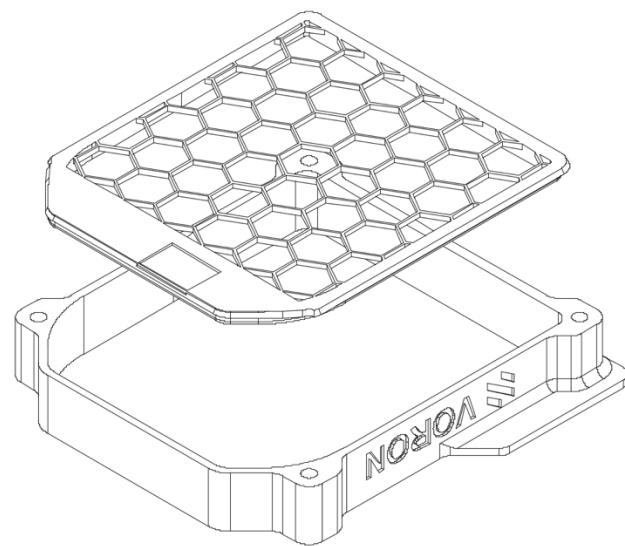
Use single sided foam all around.



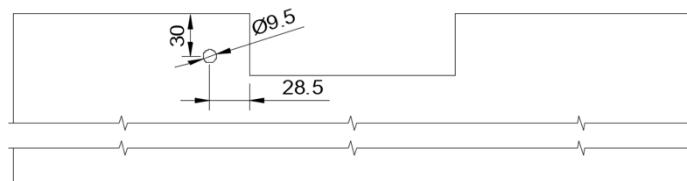
Be careful the parts are not symmetrical.

### STEP 3

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## STEP 4



M5×120 SHCS

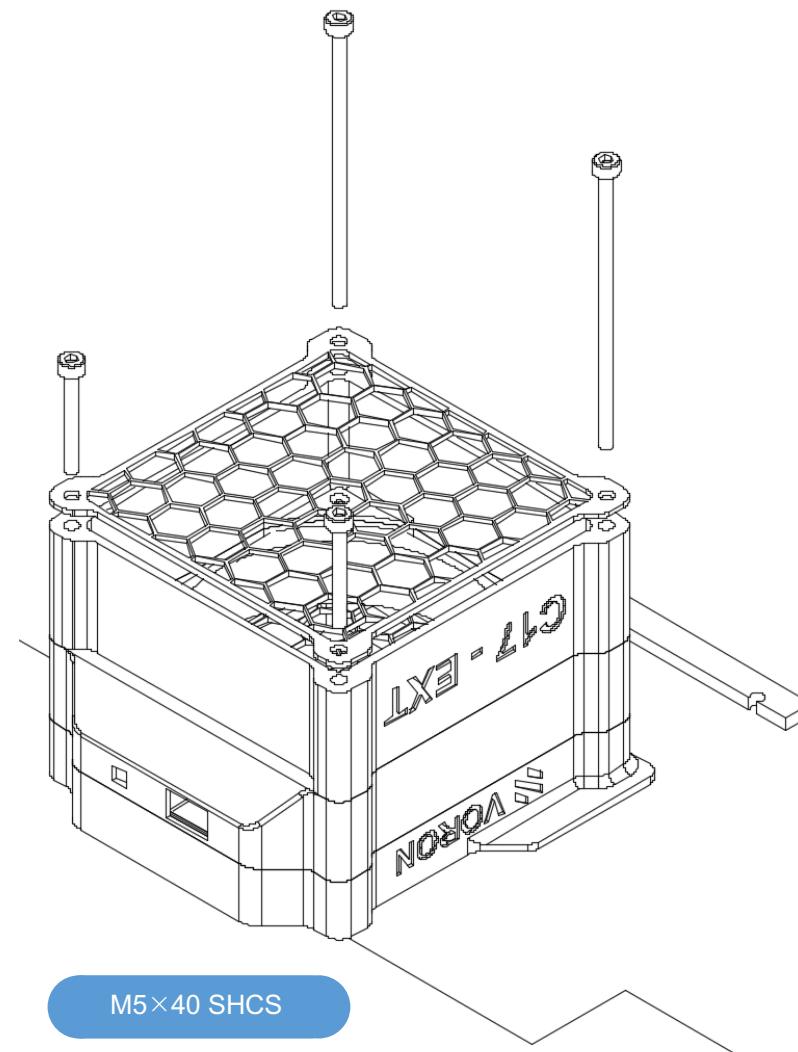
### DRILL THE BACK PANEL

9.5mm diameter for Bowden coupler.

**Caution:** Start with a diameter of 5mm then ins steps of 0.5mm to 9.5mm. Otherwise you risk breaking the back panel.

### INSTALL FILTER

Put the filter cartridge with the HEPA 13 filter side against the fan.



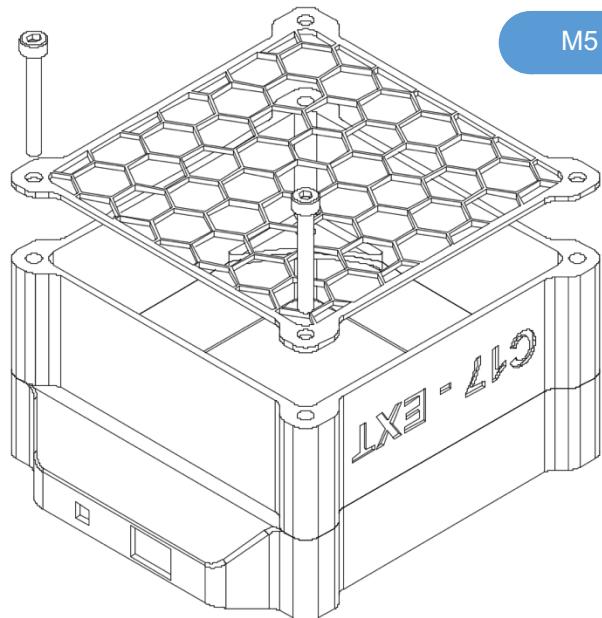
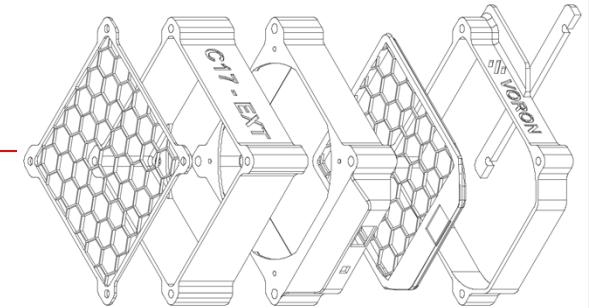
M5×40 SHCS

## CONFIGURATION 2

STEP 1 → STEP 3

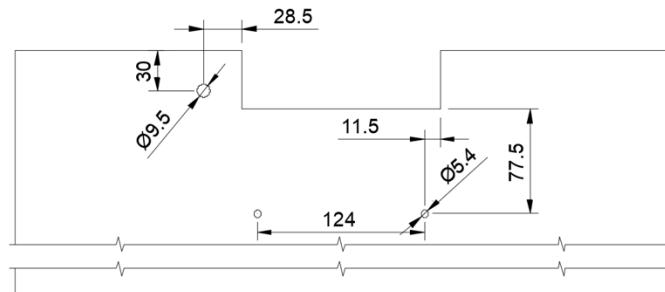
STEP 1 → STEP 2

Step 1 and 2 are the same as for configuration 1.



### INSTALL FILTER

Put the filter cartridge with the HEPA 13 filter side against the fan.



### DRILL THE BACK PANEL

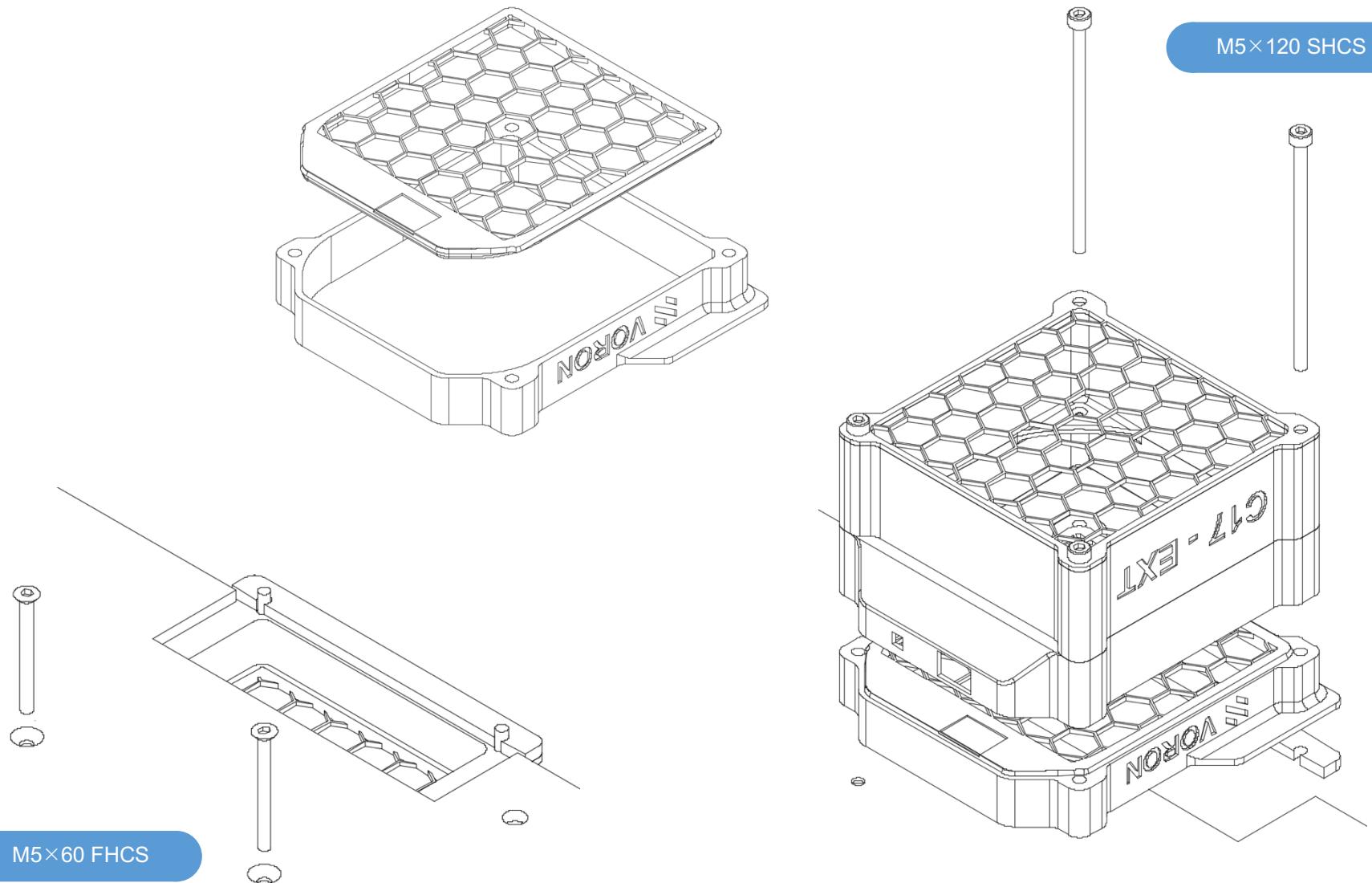
9.5mm diameter for Bowden coupler.

5.5mm hole countersunk.

**Caution:** Start with a diameter of 5mm then ins steps of 0.5mm to 9.5mm. Otherwise you risk breaking the back

## STEP 4

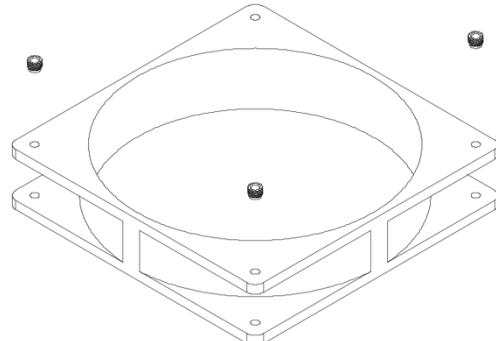
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## CONFIGURATION 3

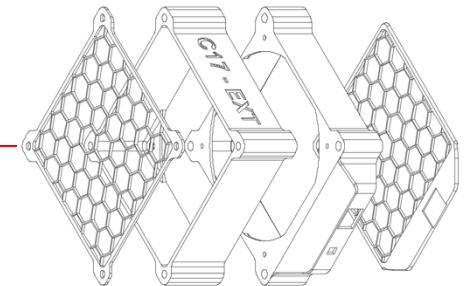
### STEP 1

M3

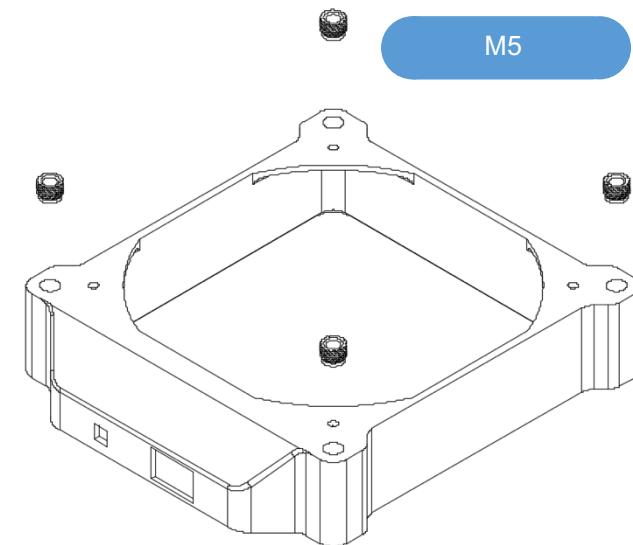
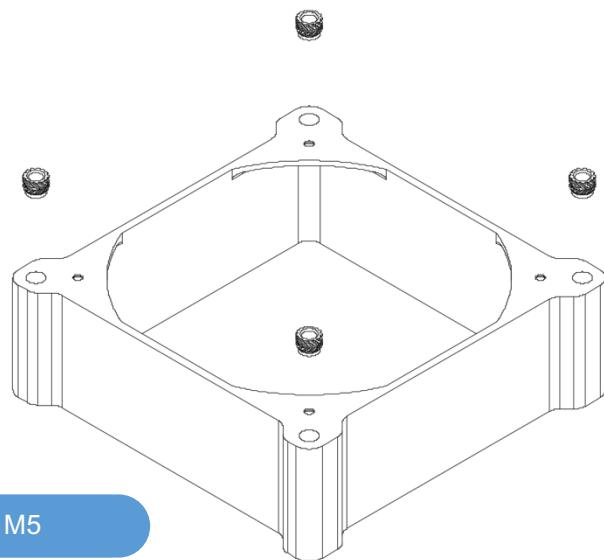


#### INSTALL HEAT SET INSERTS

**Caution:** the inserts must be on the side of the outgoing air flow.



M5



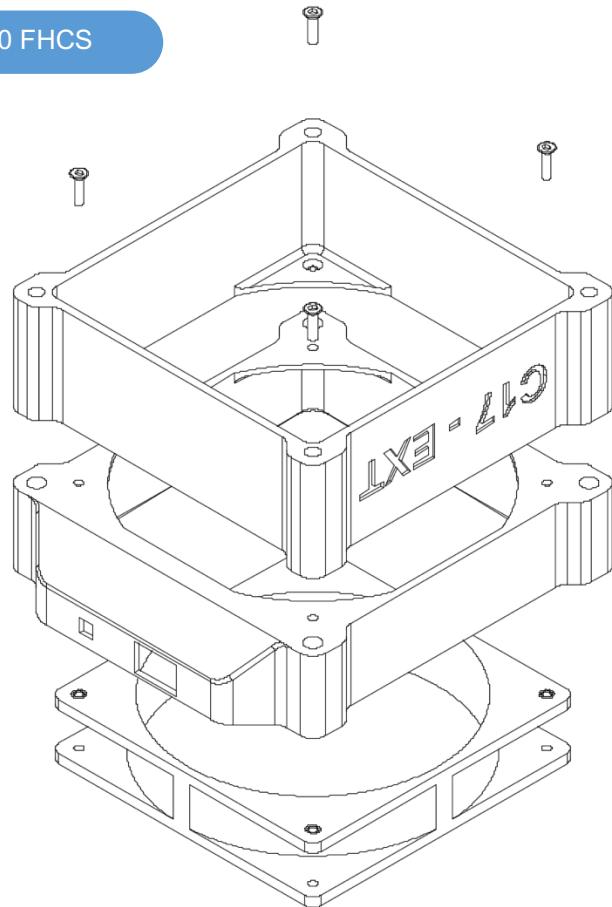
#### SWITCHWIRE SPECIFIC

 M5 Heat set inserts are not necessary for SwitchWire Model.

## STEP 2

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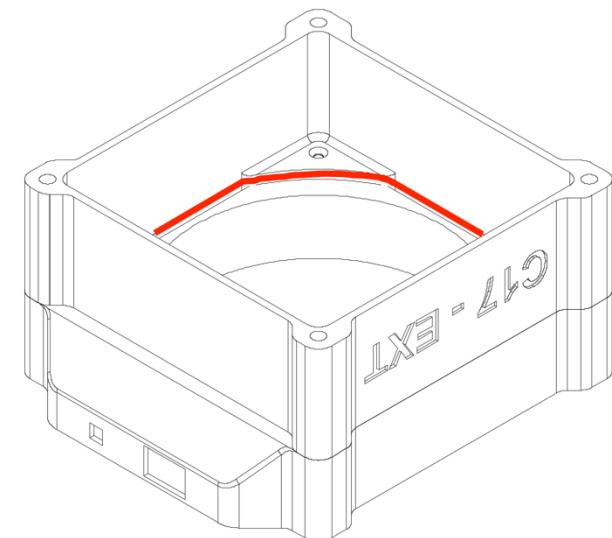
M3×10 FHCS



### INSTALL FAN

You can keep the dampers on the screwed part if the fan is equipped with.

The dimensions of some fans sometimes exceed 120mm.



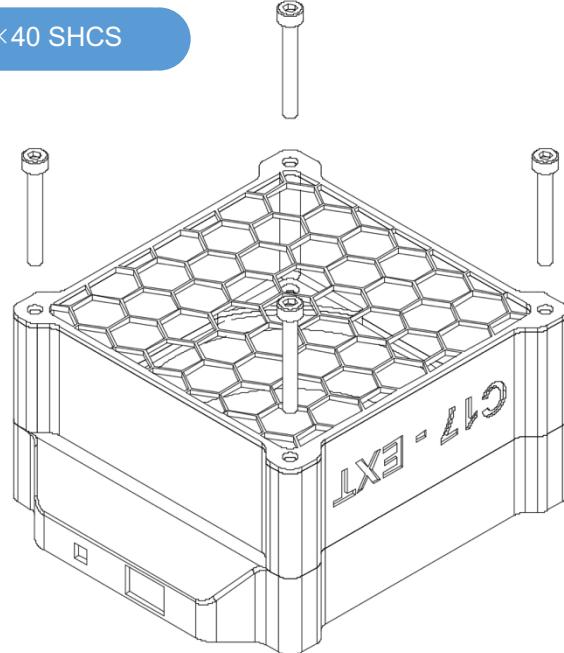
Be careful the parts are not symmetrical.

### INSULATE

Use single sided foam all around.

## STEP 3 – VORON 2.4

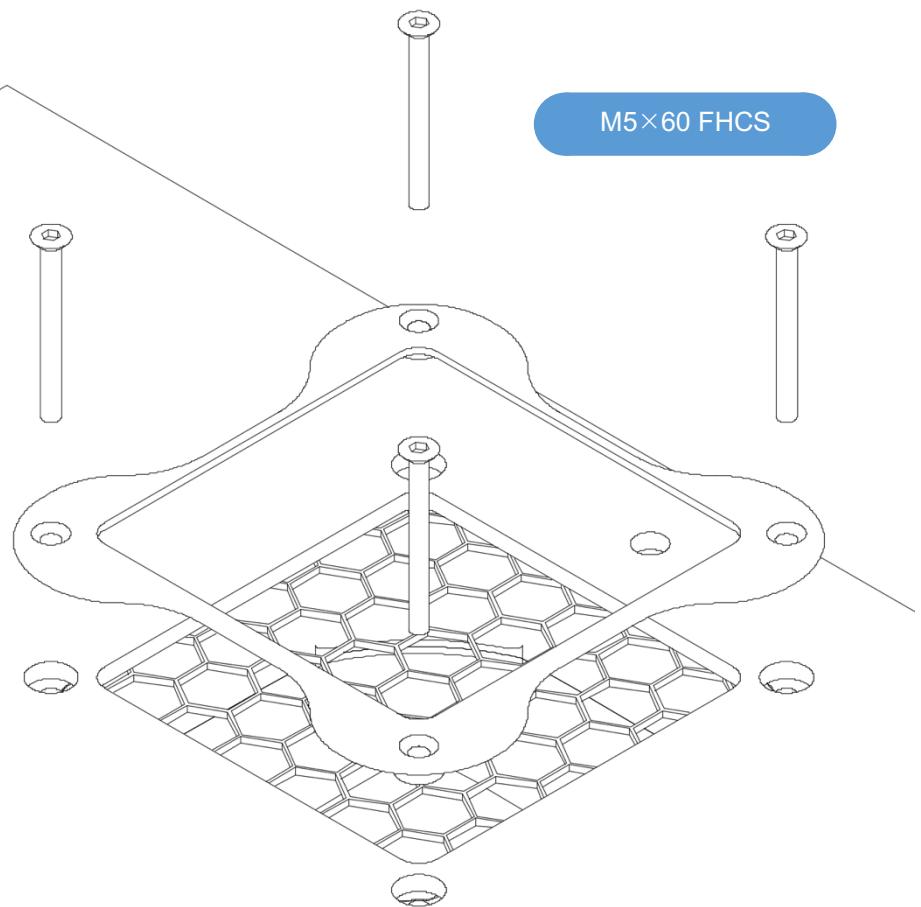
M5×40 SHCS



### INSTALL FILTER

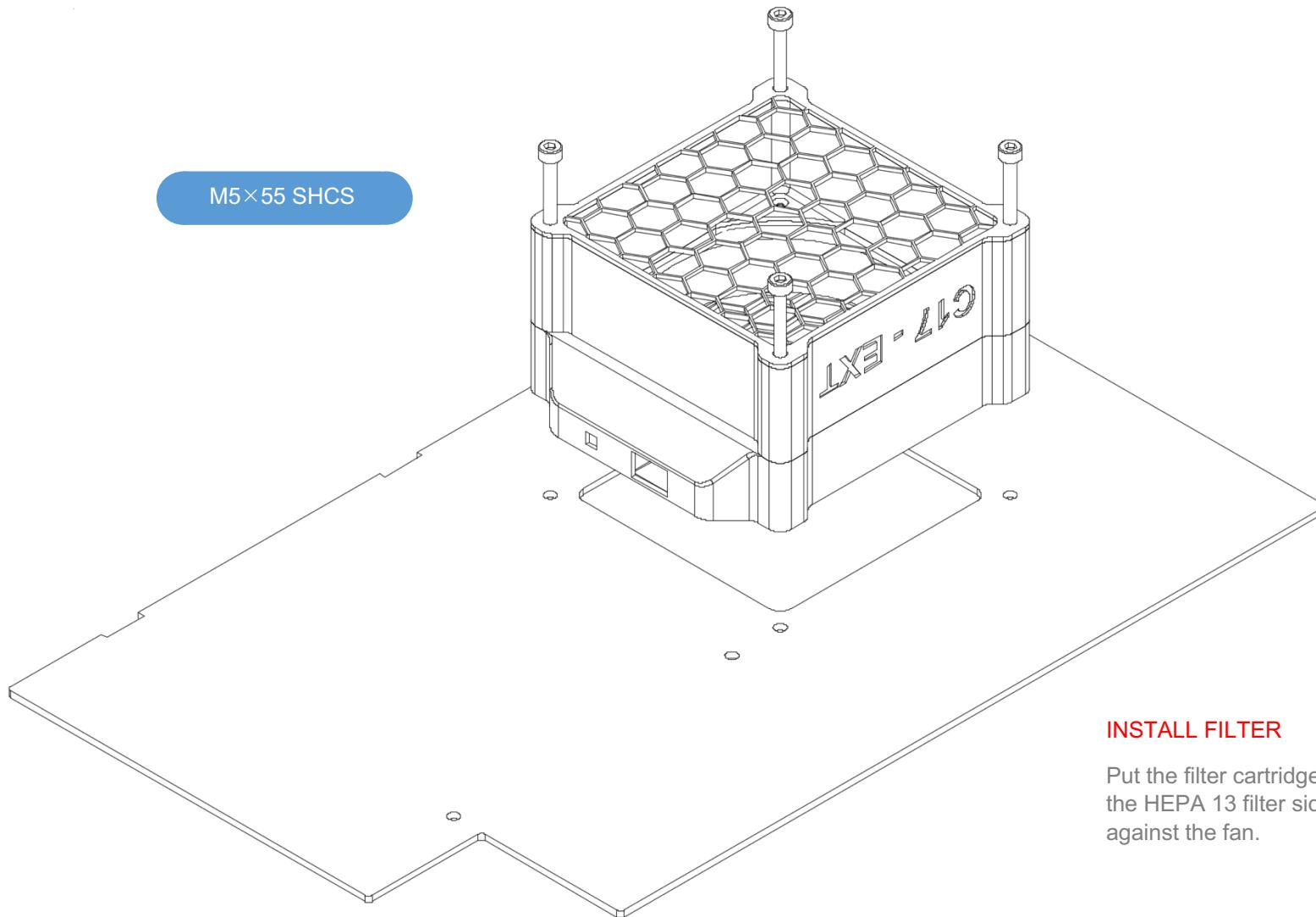
Put the filter cartridge with the HEPA 13 filter side against the fan.

M5×60 FHCS



## STEP 3 – SWITCHWIRE

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### INSTALL FILTER

Put the filter cartridge with the HEPA 13 filter side against the fan.

## APPENDIX

