



HEPA 13 - Carbon filter by OboMaker3D

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1.0 ASSEMBLY MANUAL

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INTRODUCTION

WARNING



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

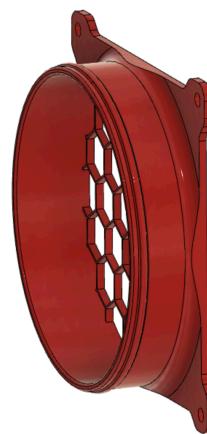
Installation without adapter with a new back panel and four fasteners on it.

OPTIONS



OPTION 1

Single grid at the outlet of the carbon filter.



OPTION 2

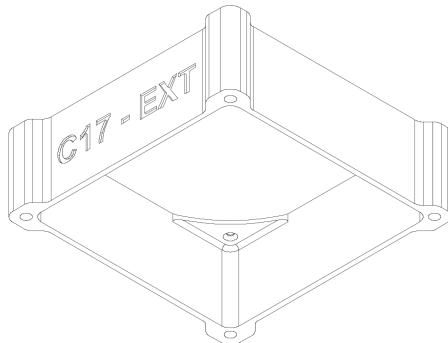
Grid and 125mm connector at the outlet of the carbon filter.



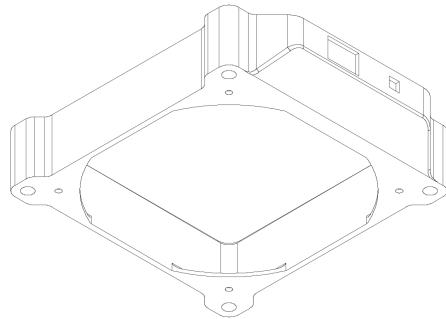
OPTION 3

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

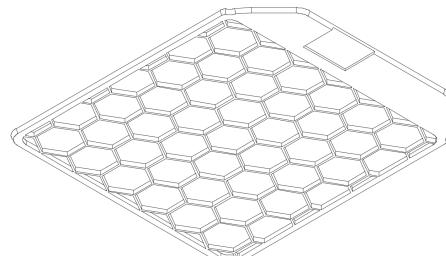
Use the standard Voron recommendations to print your parts.



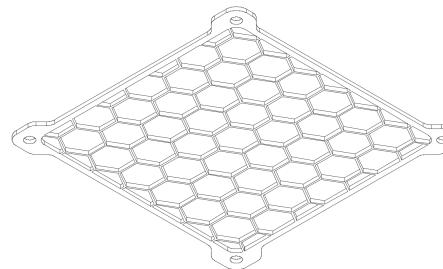
1 Filter box



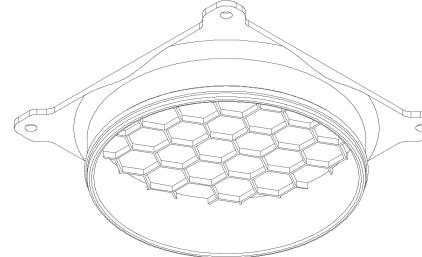
2 Fan box



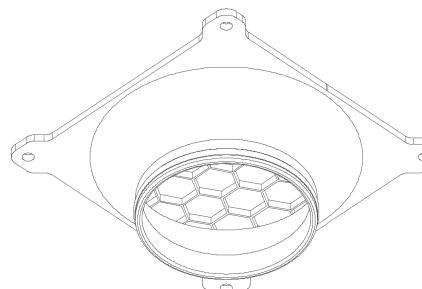
3a Fan grid



4a Filter box grid

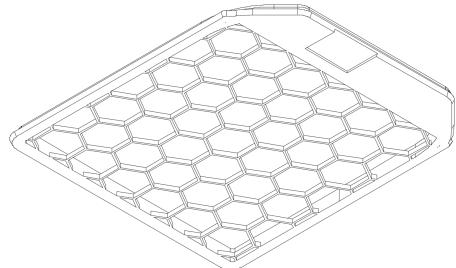


4b Filter box grid with 125mm extractor

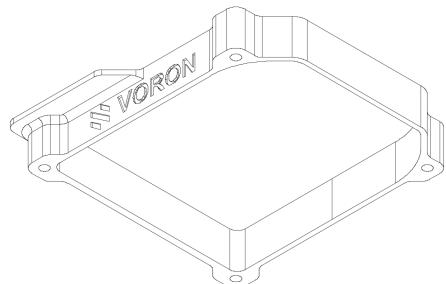


4c Filter box grid with 100mm extractor

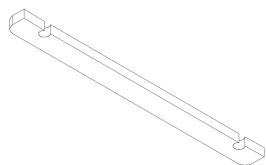
VORON ADAPTER



3b Fan grid with Voron adapter

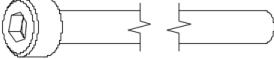
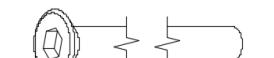


5 Voron adapter part 1

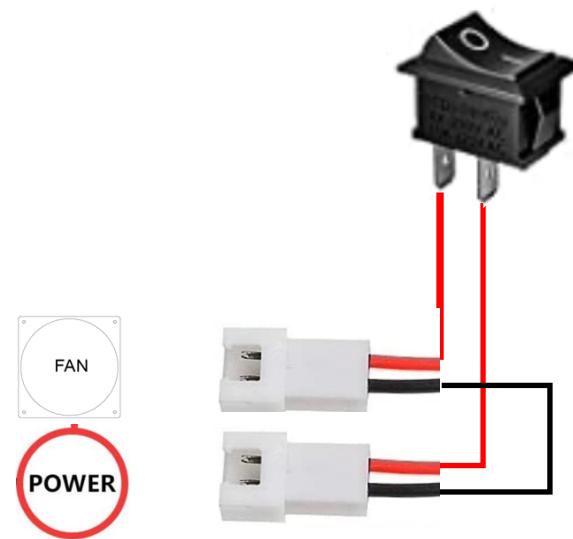


6 Voron adapter part 2

LOGISTICS

	CONFIGURATION 1	CONFIGURATION 2	CONFIGURATION 3
STL	1, 2, 3b, 4a or 4b or 4c, 5 and 6	120×120×25, 3000 RPM, 120 CFM – 150m ³ /h (Best requirement or more)	1, 2, 3b and 4a or 4b or 4c
FAN		Single Sided Foam Tape 1mm – 5mm wide	
FOAM		Option 1 : Commercial Cartridge Option 2 : Mod C17-EXT-CARTRIDGE	
FILTER		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)

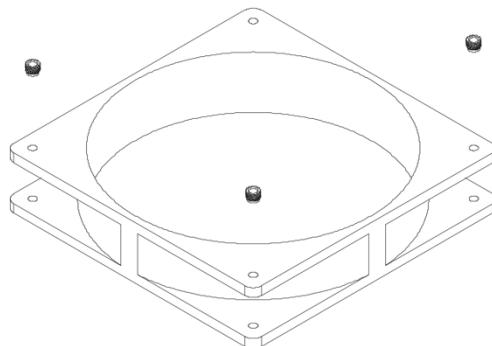
WIRING



CONFIGURATION 1

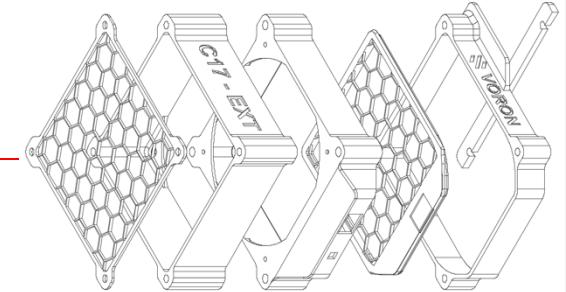
STEP 1

M3

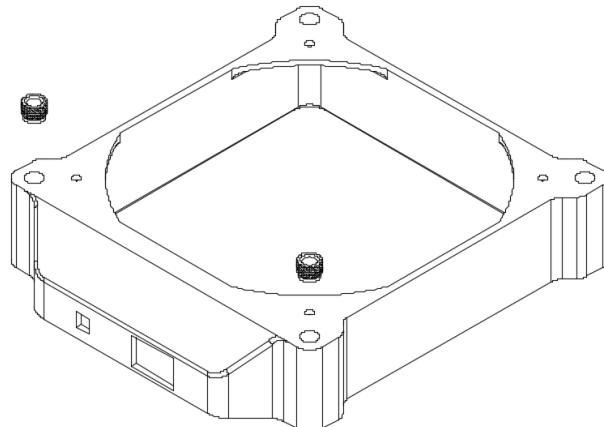


INSTALL HEAT SET INSERTS

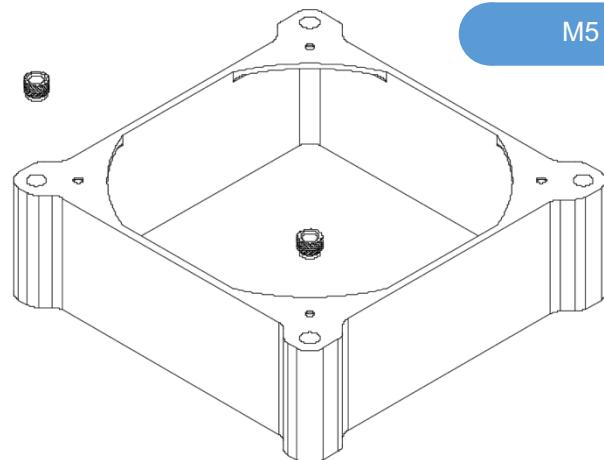
Caution: the inserts must be on the side of the outgoing air flow.



M5



M5



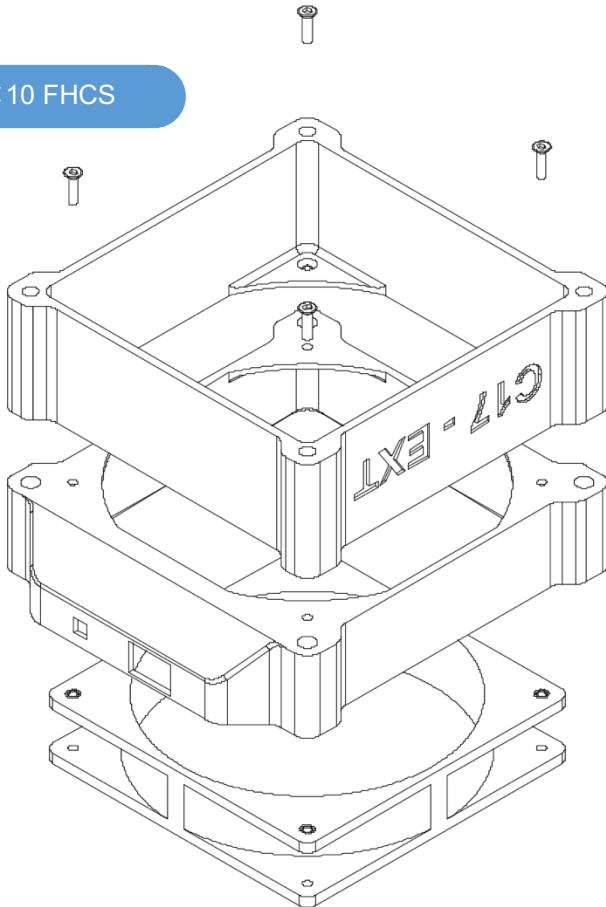
INSTALL HEAT SET INSERTS

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

STEP 2

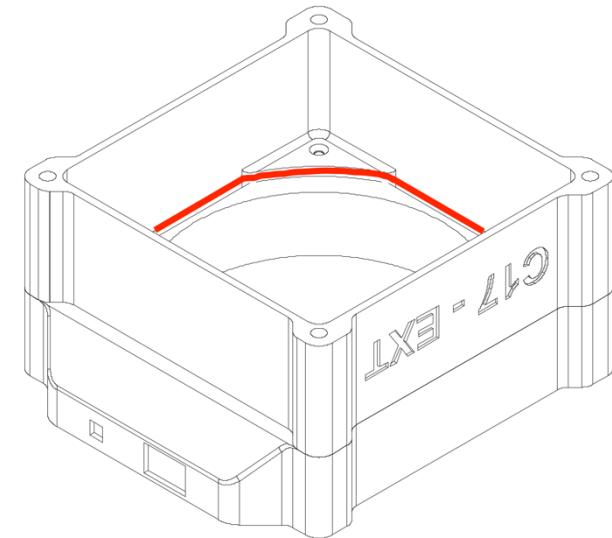
INSTALL FAN

M3×10 FHCS



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

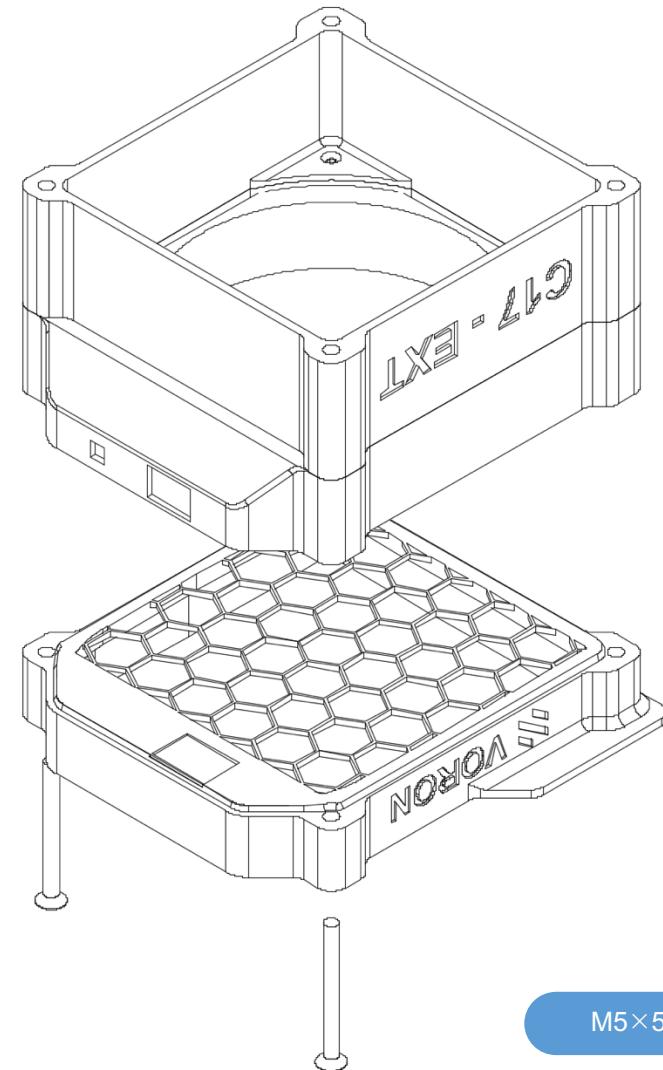
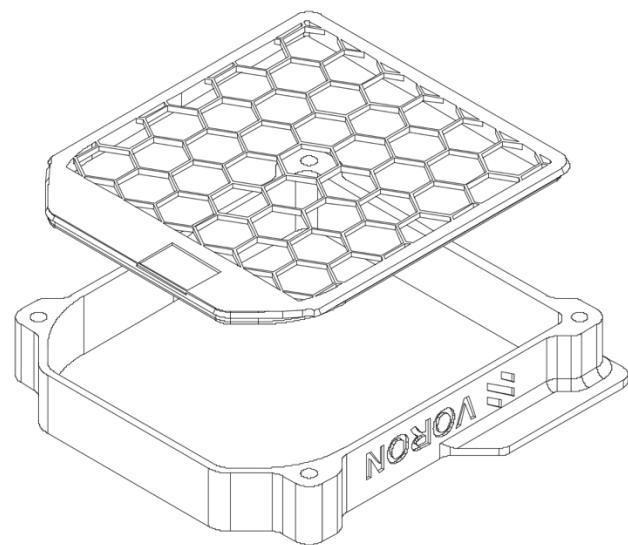
The dimensions of some fans sometimes exceed 120mm.



INSULATE

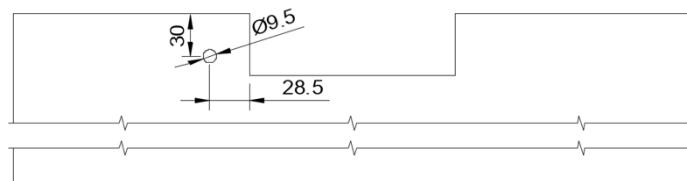
Use single sided foam all around.

STEP 3



M5×50 FHCS

STEP 4



M5×120 SHCS

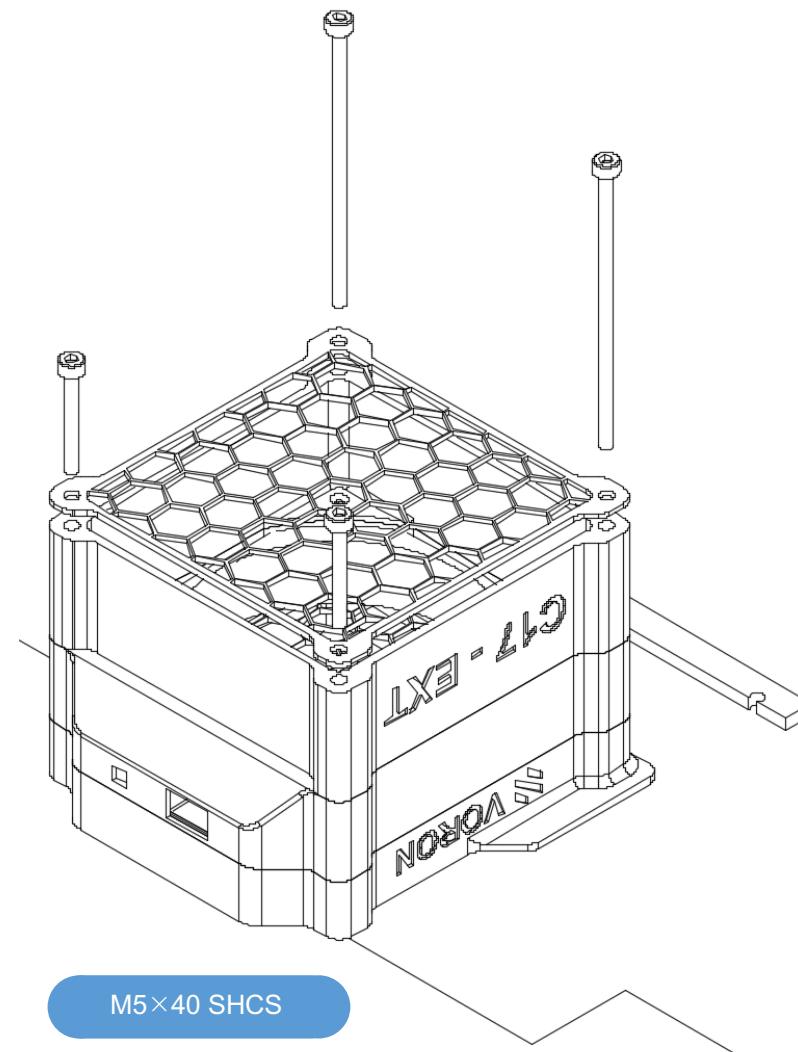
DRILL THE BACK PANEL

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.



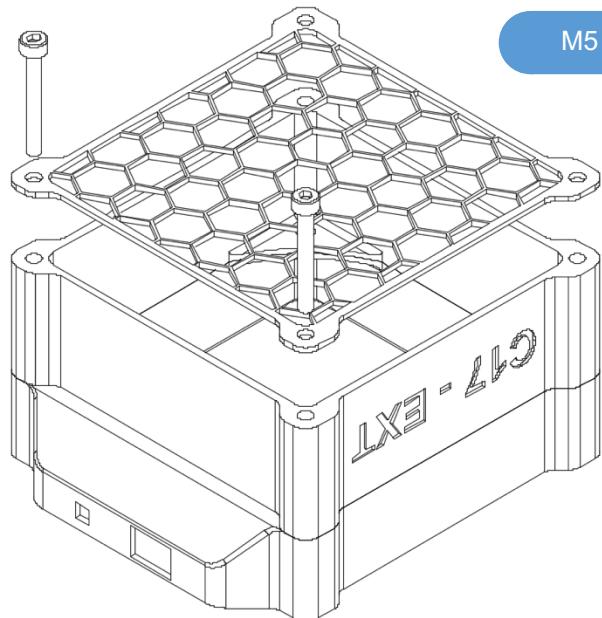
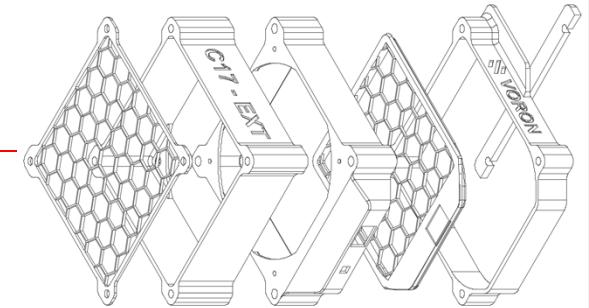
M5×40 SHCS

CONFIGURATION 2

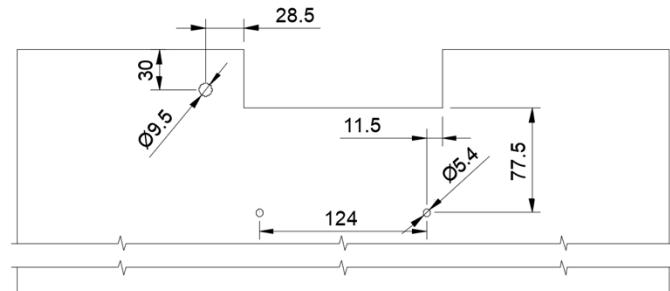
STEP 1 → STEP 3

STEP 1 → STEP 2

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



M5×40 SHCS



INSTALL FILTER

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

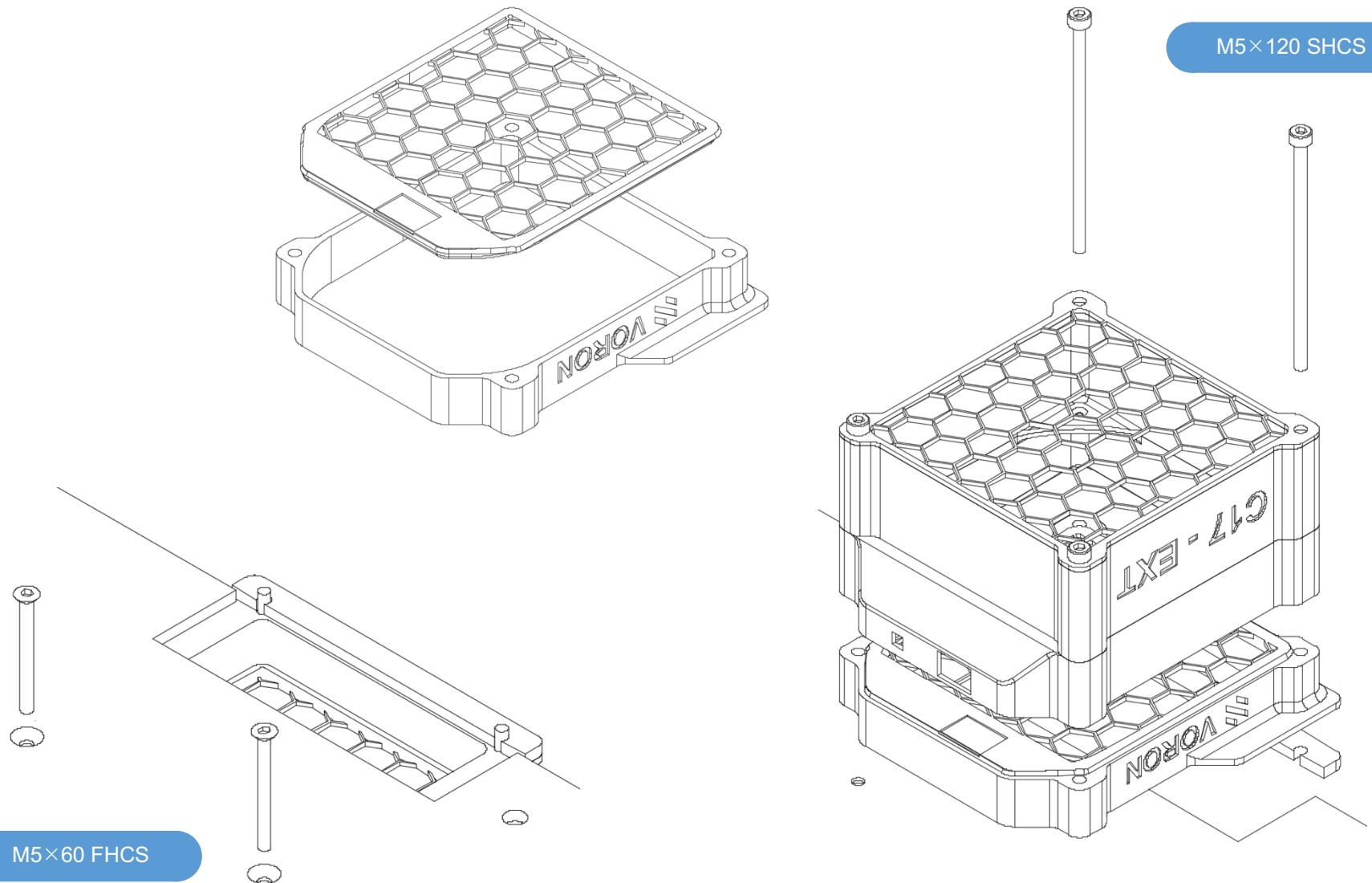
DRILL THE BACK PANEL

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

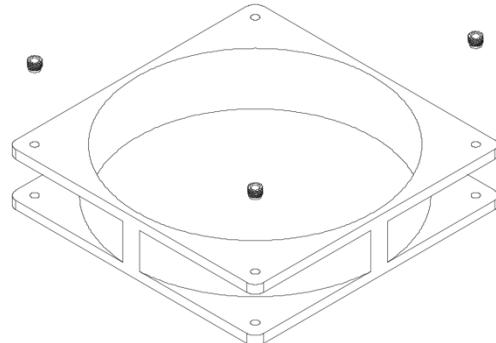
STEP 4



CONFIGURATION 3

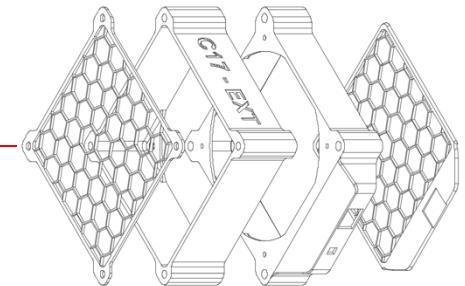
STEP 1

M3

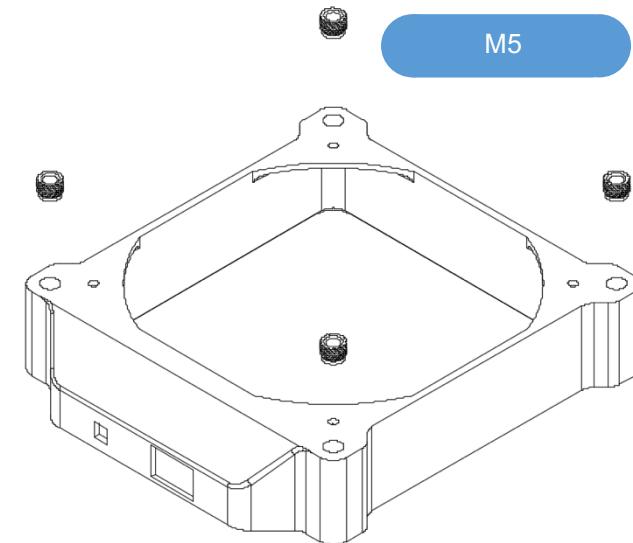
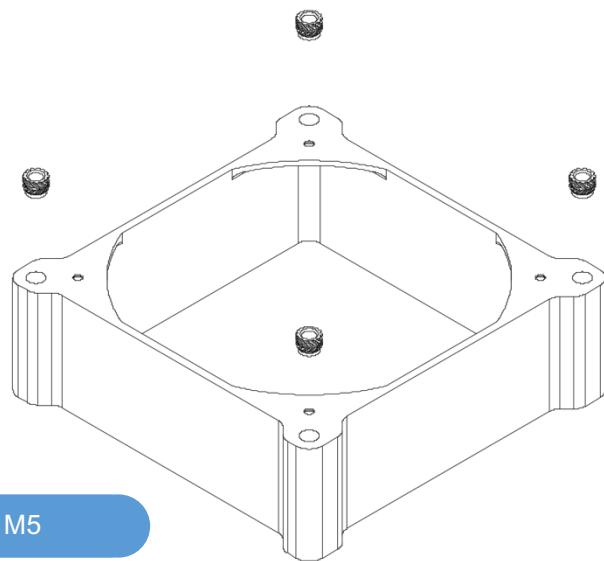


INSTALL HEAT SET INSERTS

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



M5

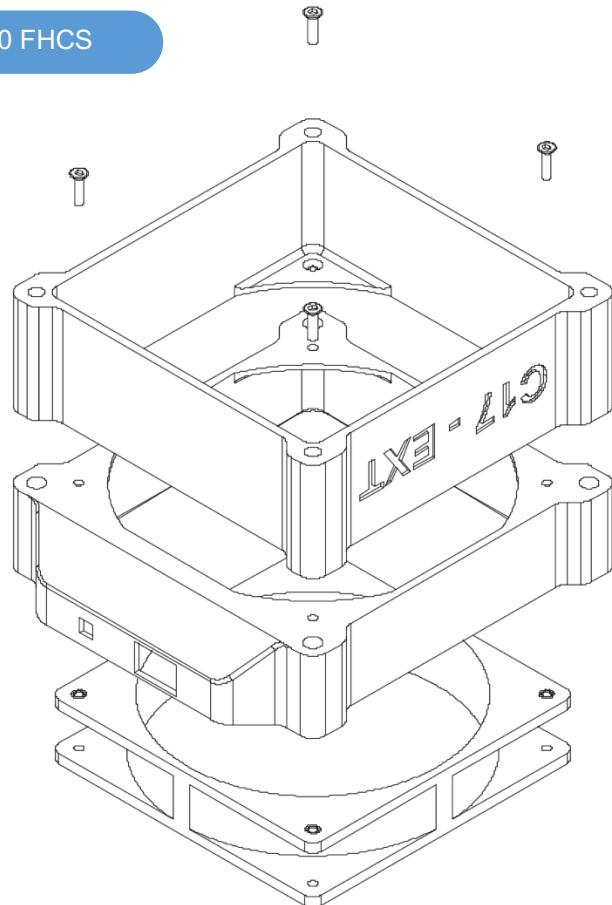


SWITCHWIRE SPECIFIC

 M5 Heat set inserts are not necessary for SwitchWire Model.

STEP 2

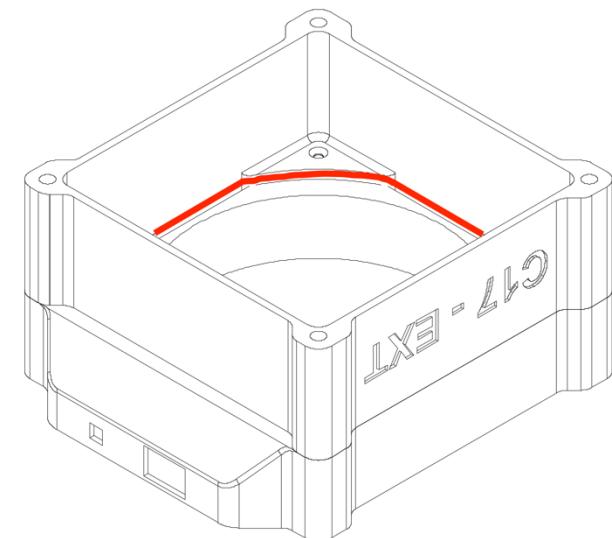
M3×10 FHCS



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.

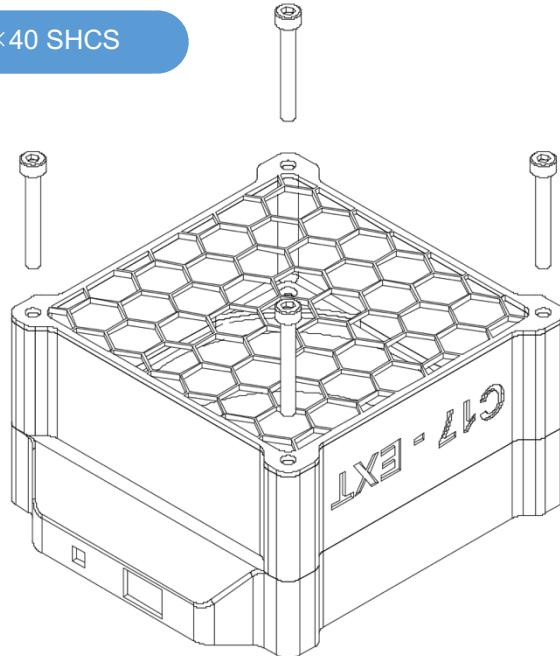


INSULATE

Use single sided foam all around.

STEP 3 – VORON 2.4

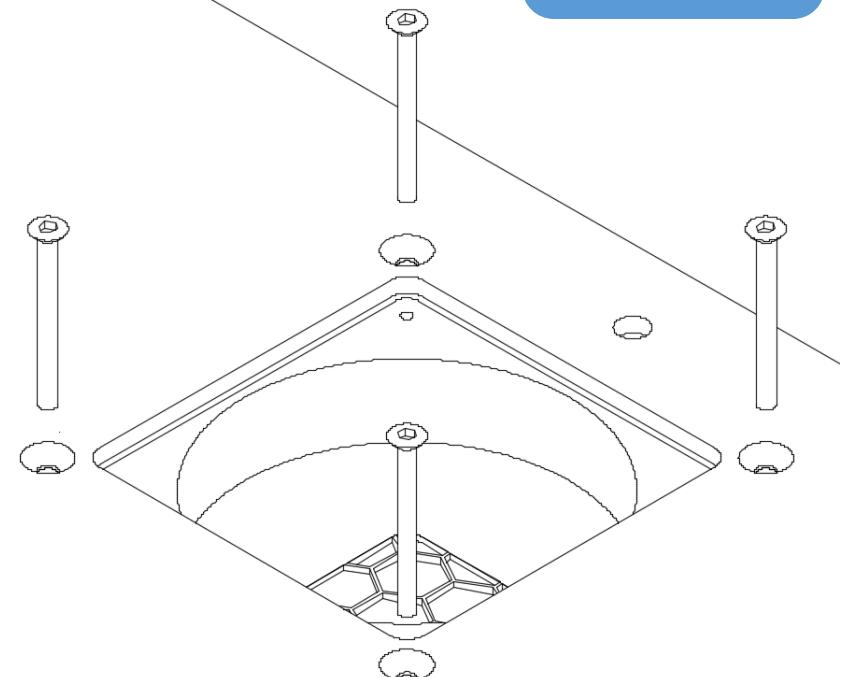
M5×40 SHCS



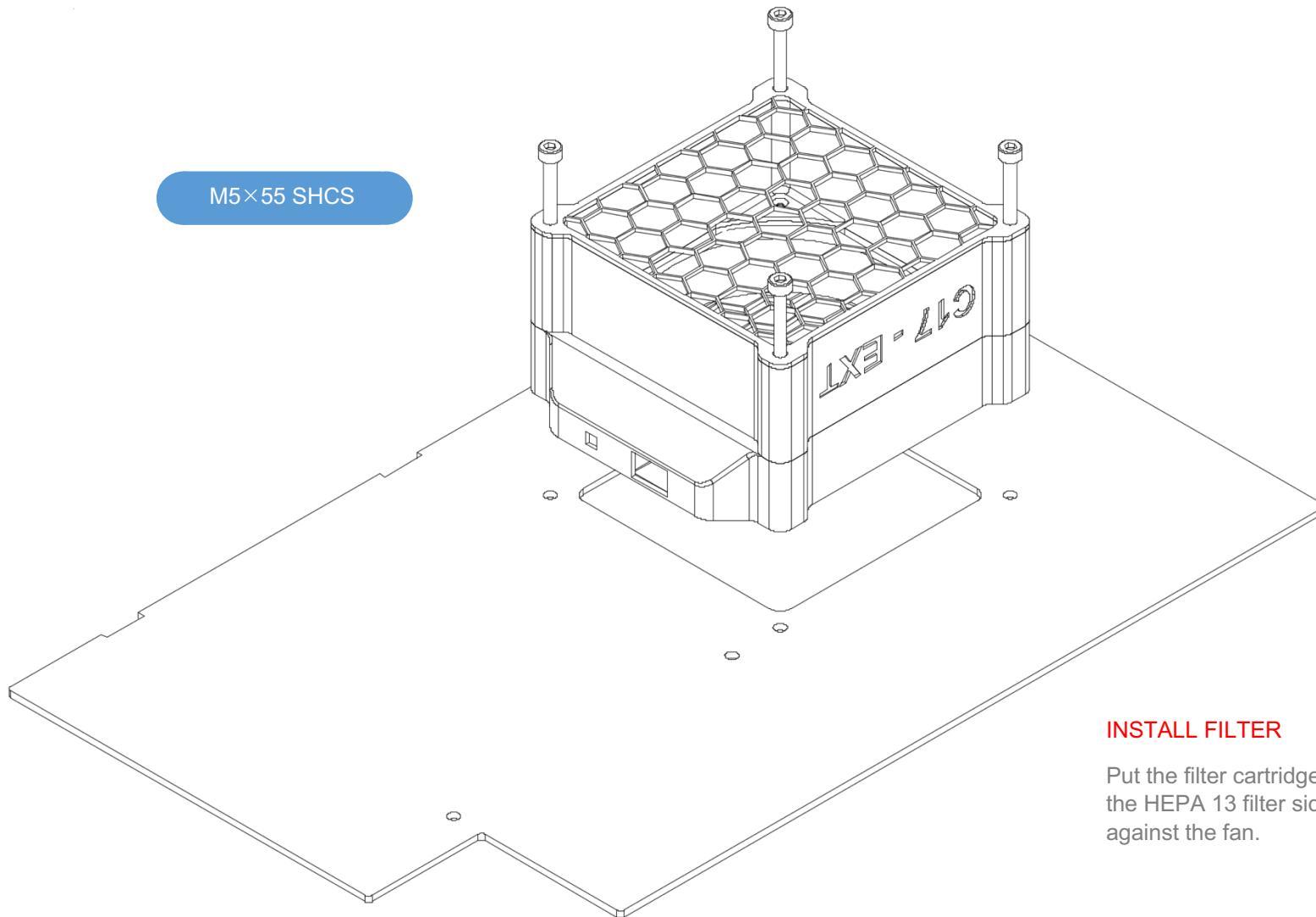
INSTALL FILTER

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

M5×60 FHCS



STEP 3 – SWITCHWIRE



INSTALL FILTER

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

APPENDIX

