

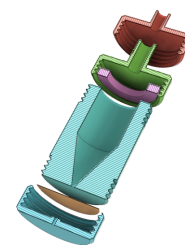
Sep 08, 2020

Version 2

# covid 19 indirect detection thru rise of 100nm filter air resistance V.2

DOI

<https://dx.doi.org/10.17504/protocols.io.bkznkx5e>



Ladislav Nevery

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**DOI:** <https://dx.doi.org/10.17504/protocols.io.bkznkx5e>

**Protocol Citation:** Ladislav Nevery 2020. covid 19 indirect detection thru rise of 100nm filter air resistance . **protocols.io** <https://dx.doi.org/10.17504/protocols.io.bkznkx5e> Version created by [Ladislav Nevery](#)

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**Protocol status:** In development

**We are still developing and optimizing this protocol**

**Created:** September 08, 2020

**Last Modified:** September 08, 2020

**Protocol Integer ID:** 41742

**Keywords:** covid, pressure, test, covid 19 virus particle, filter air resistance, passing saliva sample, saliva of infected person, virus particle, raising filter air resistance, saliva sample, measured filter area, covid, high virus density, filter, filter area, high count of particle, saliva, threshold psi value, infected person, reaching threshold psi value, virus, particle,

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## Abstract

By passing saliva sample thru 200nm filter to remove particles larger than 120nm covid 19 virus particles and concentrating resulting fluid to very small 1 mm<sup>2</sup> area of 100nm filter. Pores in this small area of 100nm filter should be clogged up fast raising filter air resistance. Due to high virus density 5.2 log<sub>10</sub> ml saliva of infected person should clog filter much faster than healthy person. Test is setup in such way that act of compressor automatically turning off after reaching threshold PSI value will indicate high count of particles larger than 100nm of being present in measured filter area.

## Attachments



PrototypeV8Printable...

5MB

## Materials

### MATERIALS

 pragopor 10 **pragochema**

 pragopor 8 **pragochema**

 3d filament

 rubber seal 24×20×2

### STEP MATERIALS

 pragopor 10 **pragochema**

 rubber seal 24×20×2

 Target2&trade; Nylon Syringe Filter, 0.2&micro;m, 30mm **Thermo Fisher Catalog #F2500-2**

## Protocol materials

 Target2&trade; Nylon Syringe Filter, 0.2&micro;m, 30mm **Thermo Fisher Catalog #F2500-2**

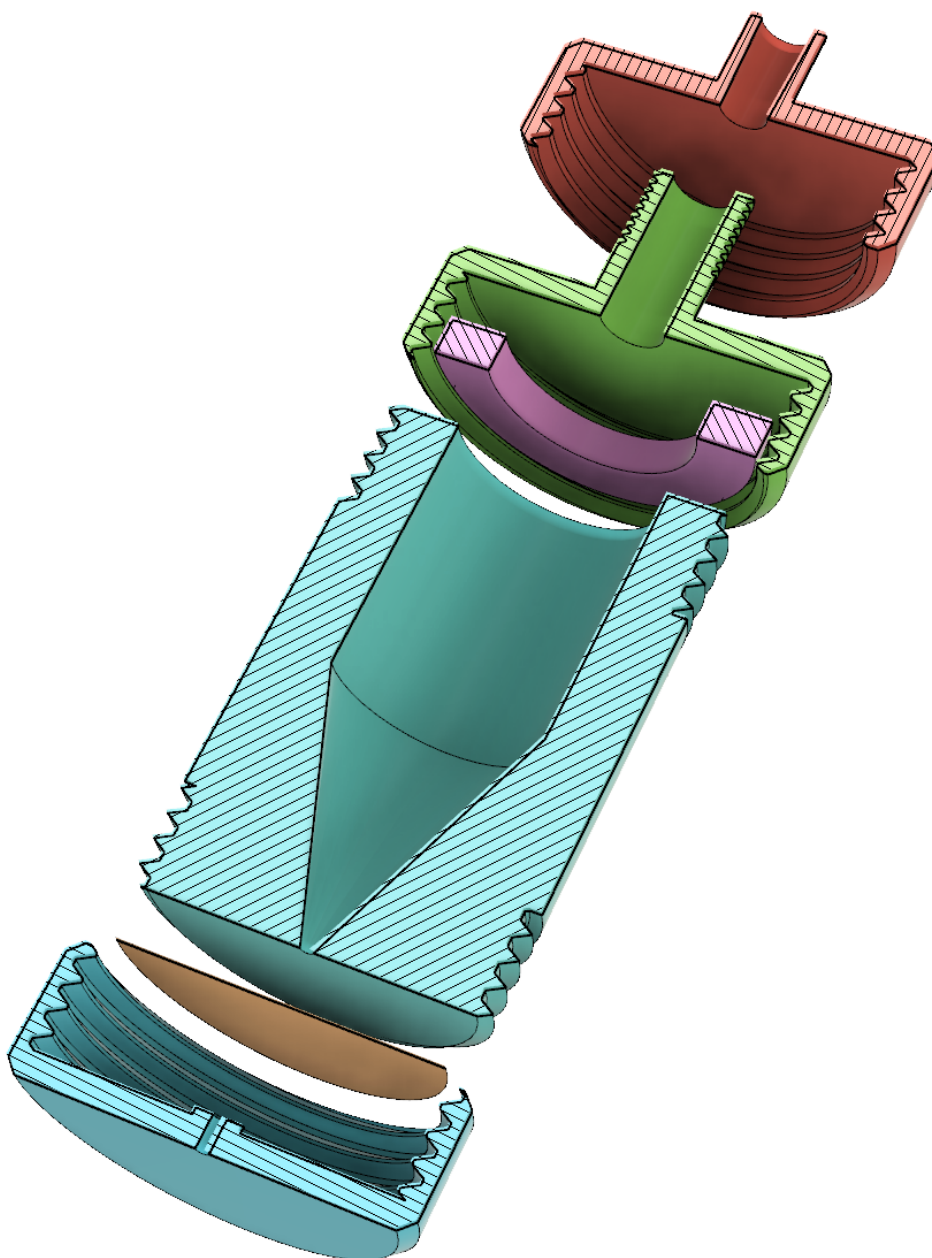
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- 1 3d print all required parts.



- 2 insert any 100nm 24mm filter like for example

 **pragopor 10** **pragochema**

between blueparts and close with red cup

5m

 rubber seal 24×20×2

.Place any comon commercial 200nm filter between syringe and red syringe input port. colors are on attached image above

 Target2&trade; Nylon Syringe Filter, 0.2&micro;m, 30mm **Thermo**  
**Fisher Catalog #F2500-2**

3 pass sample thru both 200nm and 100nm filter by applying manual pressure on syringe.

5m

4 now that 1 mm<sup>2</sup> area of 100nm filter has enough pores clogged up with median 120nm sized virus particles. replace red syringe cap with green compressor input cap. Use any compressor wich can turn itself off when reaching set pressure. I used

5m

#### Equipment

**Xiaomi Portable Compressor**

NAME

Portable Compressor

TYPE

Xiaomi

BRAND

00000000

SKU

<https://www.amazon.com/Xiaomi-Portable-Compressor-Detection-Motorcycle/dp/B07XZCLGVQ>

LINK

set compressor to turn off after reaching threshold amount of psi and turn the compressor on.

#### Expected result

On sample without covid 19 virus threshold psi should not be reached

. If no compressor with proper psi sensitivity is available then monitor pressure in concentration chamber by any external sensitive manometer