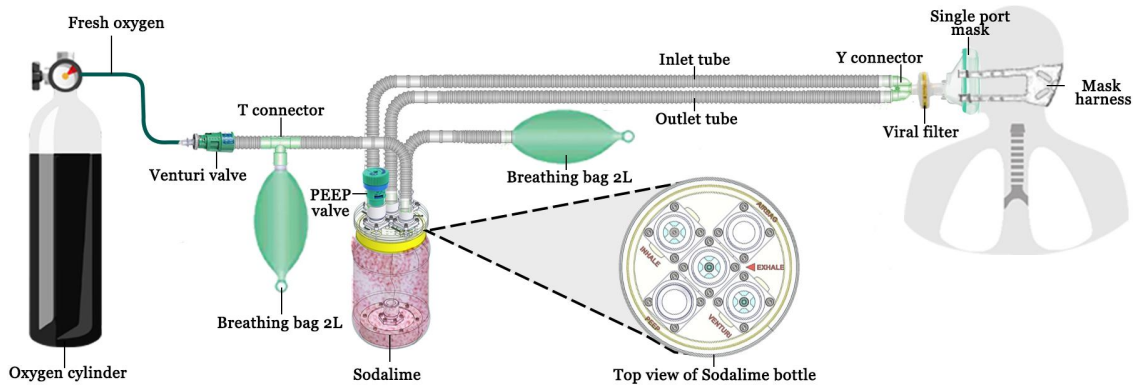


## reBreather Hardware Parts



*reBreather Schematic*

### Individual Components as per BOM list

1. O<sub>2</sub> Inlet Tubing + Adjustable Venturi Valve (1137015 or 1117015)



The venturi valve is for setting a flow rate to obtain a particular FiO<sub>2</sub> value as needed for the patient by rotating the adjustable knob. White tubing is the fresh gas inlet connected to the O<sub>2</sub> cylinder.

It is advised to use a fixed venturi valve if available instead of an adjustable venturi valve.

2. Viral Filter (1344007S)



Acts as a filter to protect the patient from particulate matter. It has a filtration efficiency of 99.998%.

3. Y connector (1926000)



Y connector is for connecting the inlet and outlets tubings at the mask end.

4. FlexTube Ventilator Tubing(2000000) - (Y connector + 1.6m x 2)



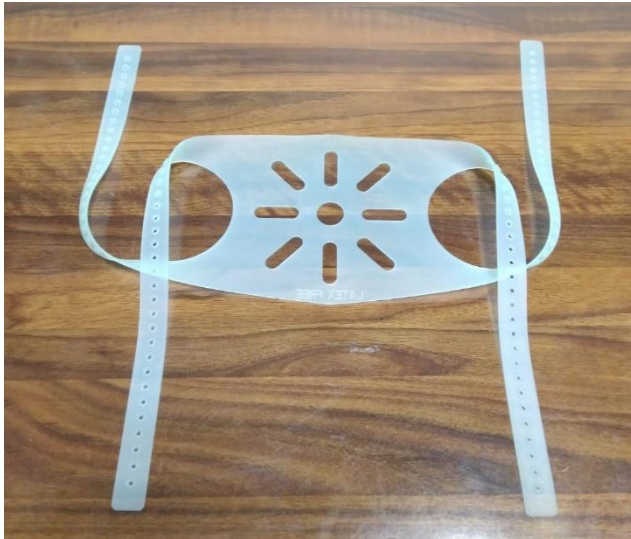
Used for connecting all parts together.

5. Single Port Anaesthetic Face Mask (1516000)



Has an inlet port which is type 22M.

6. CPAP Mask Harness (2224000)



For tightly attaching the mask on the patient's face without any gaps.

7. Adjustable PEEP Valve (2226000)



Positive end-expiratory pressure (PEEP) valve is an adjustable pressure valve to remove some air during the exhaust cycle. It needs to be set at a particular pressure value to maintain a certain pressure in the breathing circuit.



## 8. Rebreathing Bag 2L (2820000)



It's a 2L Reservoir Bag to store air and also acts as a visual indicator of the patient's breathing cycle by expanding and contracting.

## 9. Intersorb Plus Sodalime 5L Can (2180000) Pink to White or (2179000) White to Violet



Soda lime is used for the absorption of  $\text{CO}_2$  in the exhaled air. It comes in various colour configurations. It changes its colour to indicate that the soda lime has exhausted itself by absorbing  $\text{CO}_2$  and that it needs to be replaced in the jar. Common colour combos are pink(fresh) to white(exhausted) or white(fresh) to violet(exhausted). Please ensure that you replace the soda lime as its colour changes so that it can effectively filter  $\text{CO}_2$ . You can also shake the bottle once in a few hours to distribute the soda lime absorption evenly.

10. Plastic Jar 2L



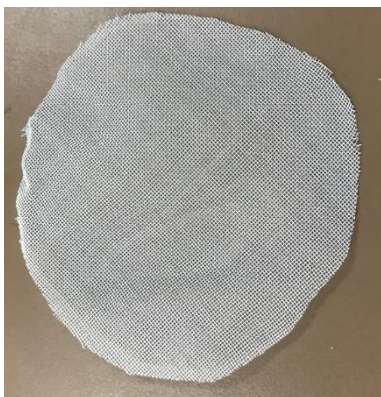
The jar is used to store soda lime and acts as the filtration section of the reBreather.

11. Nuts and Bolts

For Bolts, we need M3 x 40mm x 18pcs, M3 x 15mm x 6pcs, M3 x 10mm x 15pcs

For Nuts, we need M3 x 39pcs to attach the 3D printed parts together.

12. Fine Mesh Plastic Net (Approx 90mm diameter) – Qty 2



This can be repurposed from a fine mesh mosquito net or a plastic tea strainer. It helps in spreading the input exhaled air across the entire width of the jar. It will help in preventing the formation of caking/solidification of soda lime, which happens

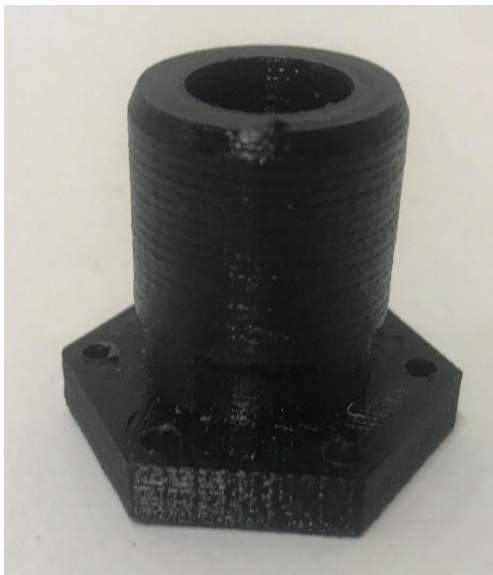
when airflow only goes through a particular route. It also needs to be attached to the top lid to prevent the soda lime from spilling over if the jar tips over on its side.

13. Circular Silicone Disc (Diameter: 26mm)



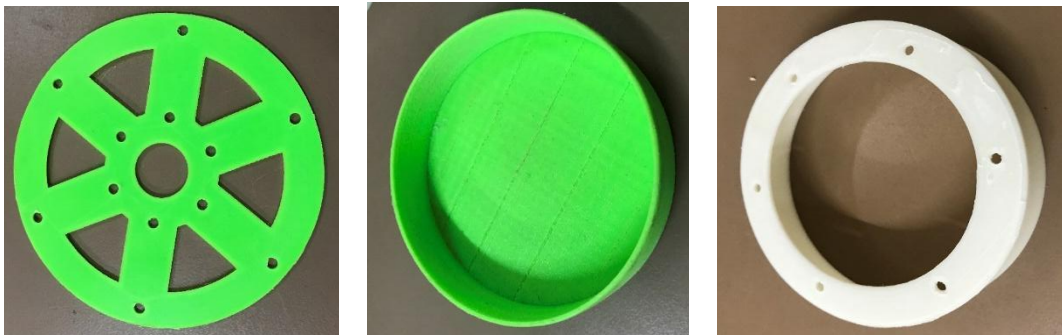
For making unidirectional valves

14. 3D printed Male Connector 22M Port



Used to connect various tubes on the jar.

15. 3D Printed Diffuser Bottom Cover, Diffuser Filter Holder, Diffuser Top Cover



These 3 parts together form the base of the jar and helps in aerodynamically spreading the exhaled air throughout the width of the can.

16. Acrylic Laser Cut Parts: Three discs with smaller cuts inside.



17. One Way Directional Valve 22M Flow in 22F Flow out - Intersurgical:



Also called as NRV or Non Return Valve



18. T connector ( T-piece 22M-22M/15F - 22F):



This T connector is used to connect breathing bag between venturi valve and external NRV