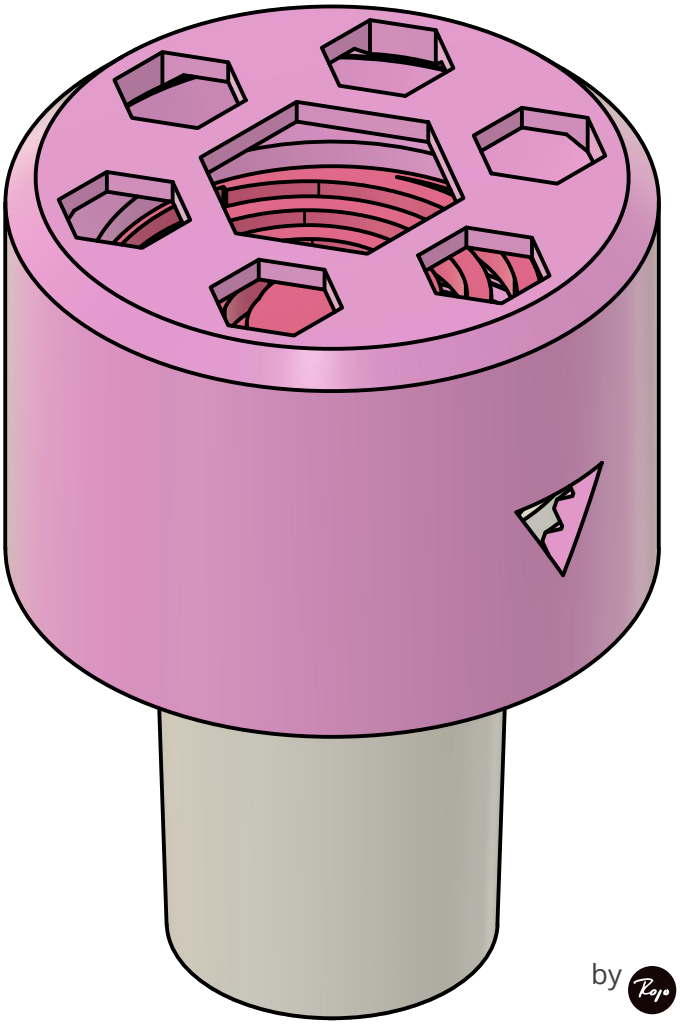
Valve-PEEP

Optimised for 3D Printing



by

PROJECT COVID-19

AN ARIEL ROJO DESIGN STUDIO EFFORT.

Design is a profession that seeks to create new solutions, objects, and spaces based on everyday end-user needs. New demands and requirements for the treatment of patients with COVID-19 have appeared simultaneously and in high demand.

To address this, the Mexican Maker and Designer Community started rendering and producing 3D-Printable and Laser-Cut pieces to help Hospitals and homes tending the needs of those afflicted by the virus. These pieces were assembled, administered, and distributed to Mexico City Hospitals through Claudia Dorenbaum of TOM Mexico.

Architect Juan Carlos Baumgartner and Makers Mexico invited Ariel Rojo Design Studio (ARDS) to join the Mexico Maker Community, which began exploring how to put their creativity and machinery at the service of the medical community and society in general.

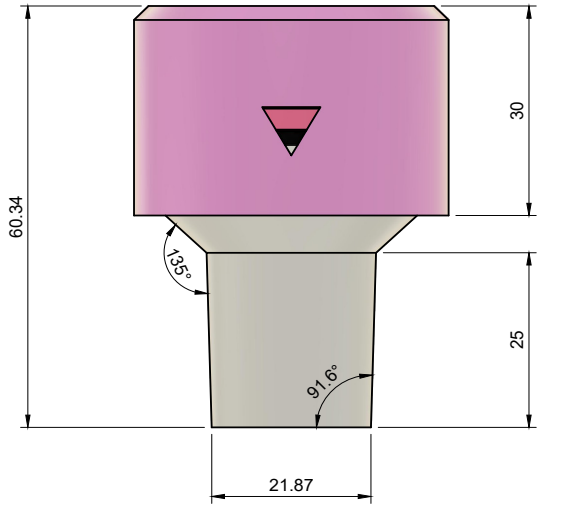
Inspired by similar pieces used in other cities as well as other solutions at first presented to TOM Mexico (while anticipating the probable depletion of medical equipment in highly dense Mexico City) Ariel Rojo designed a new printable “splitter” which allows two patients to share one single respirator at the same time. This unique Design optimized airflow, mechanical resistance, and ease of 3D printing. Note: It’s important to note that this solution is not considered “ideal” but is very viable during the COVID-19 crisis.

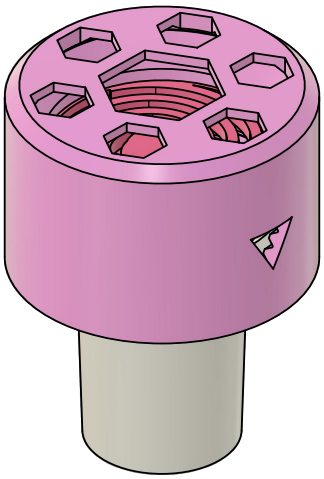
Rojo’s Studio also designed Hospital Ventilator Masks for both doctors and patients, which can connect to other medical ventilator equipment and respirator valves. Both of the above are to be used as Open Source by the worldwide 3D Maker community.

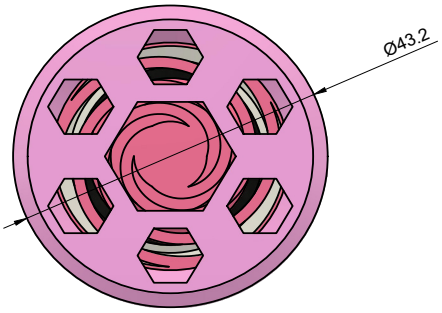
The following people contributed to this project:
Arq. Michael Rodjkind- Link and coordination with the specialized medical team and Carsten Lemme, who as part of ARDS team collaborated in the development of these parts.

The PEEP valve was optimized for 3D printing and can be found on Thingiverse. Dtextor’s PandaPeep GEN2 was a great start but needed some adaptation for the Mexican markets, and our Studio designed the required customization. We recognize this small change to the original Design and are grateful to the original author and Thingiverse for promoting and making these solutions available in the service of humankind.

Ariel Rojo Studio and its associates develop products during a time in which we ask ourselves how we can design for a better society in our belive that Design itself must be for the good of society and collaborative.







The Peep-Valve was adapted from a design found on Thingiverse (https://www.thingiverse.com/thing:4250354/files) The PandaPeep GEN2 created by Dtexter was a great starting point but needed adaptation for our ecosystem here in Mexico.

Health Centers and producers: Please contact Makers México for additional questions or details.

This device is not certified. It's recommended anyone wanting to use the files and documentations to reproduce it work in conjunction with medical experts and technicians. It's not recommended to reproduce or use these files or pieces without prior medical supervision.

Ariel Rojo Design Studio declares that it releases the drawings, logics and any other intellectual property rights relating to Peep-Valve device is released free of charge provided that it is NOT used for commercial purposes.

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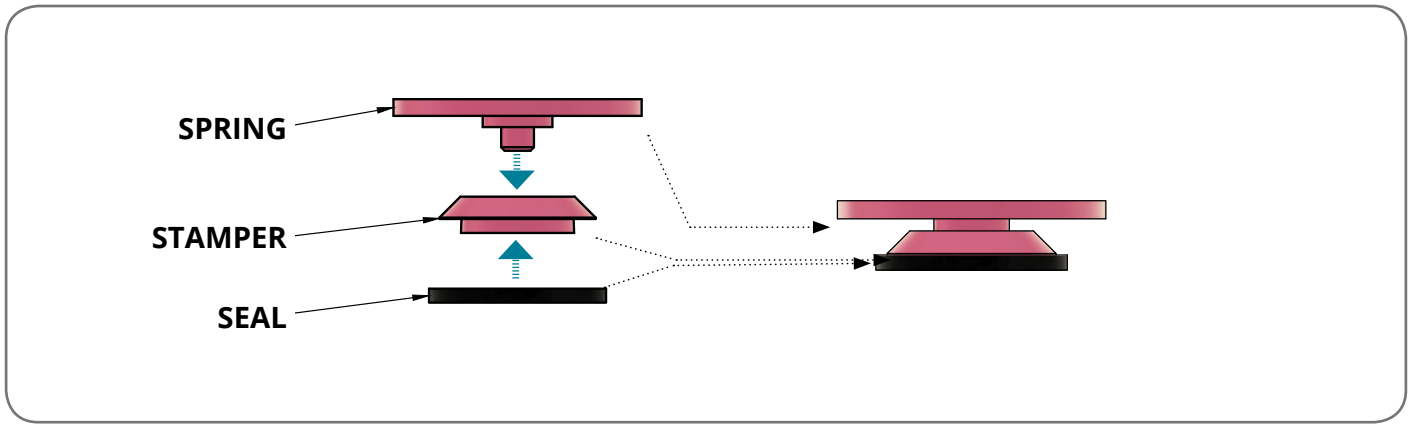
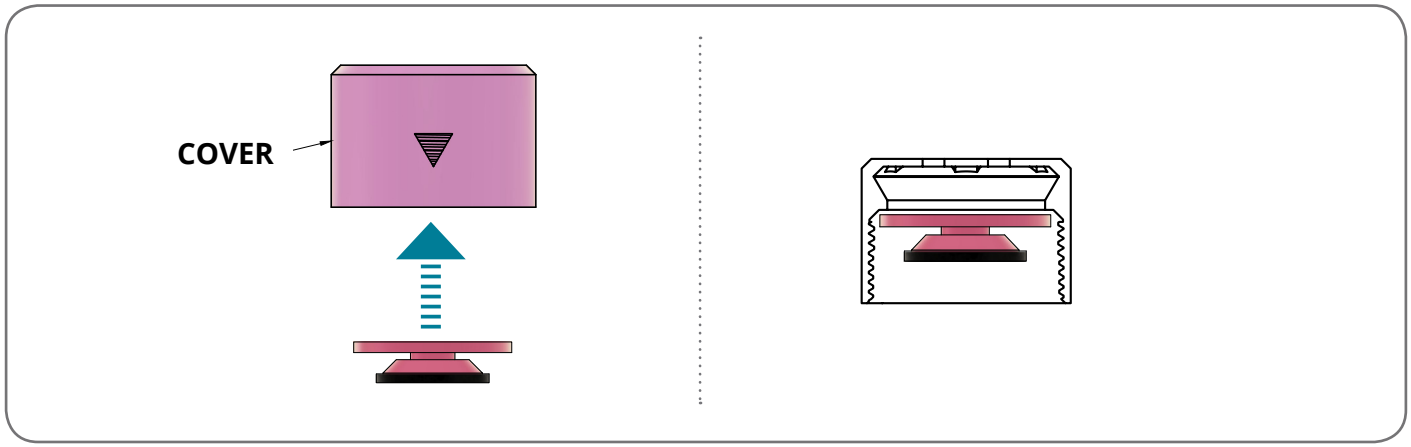
Assembly

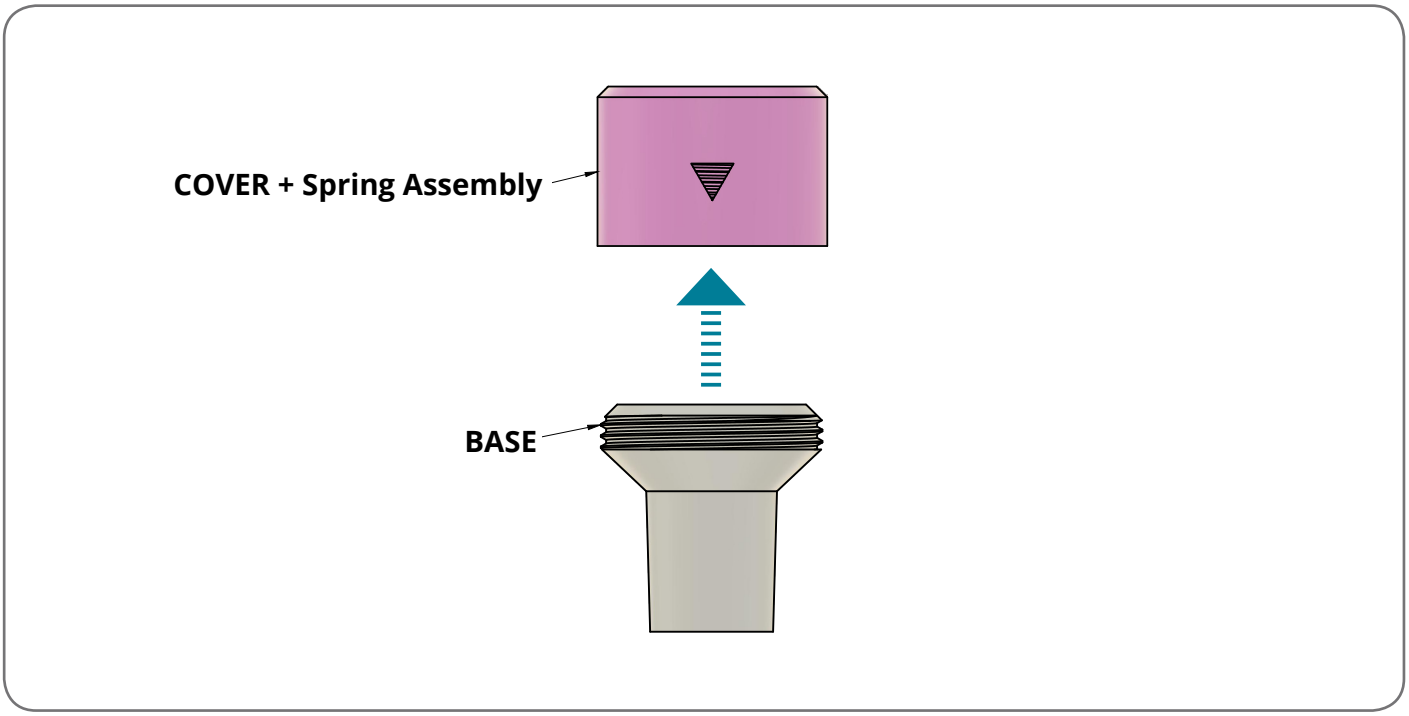
PLA Printed Parts 0.1mm PLA
The SEAL is a standart Rubber Washer (ca. 0.615¨ID/ 1¨OD)



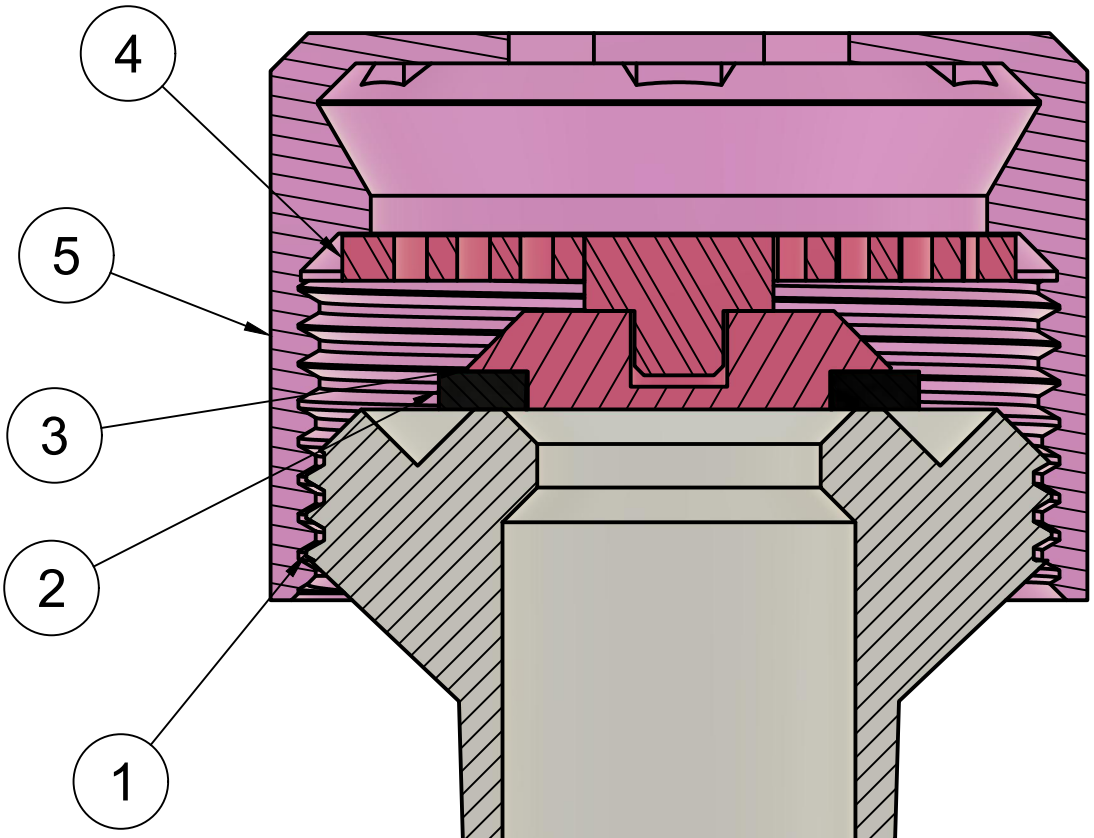
STEP 1. Assemble the SPRING
Use glue if needed



STEP 2. Drop the SPRING
into the cover



STEP 3. Screw the BASE
to the COVER with SPRING inside



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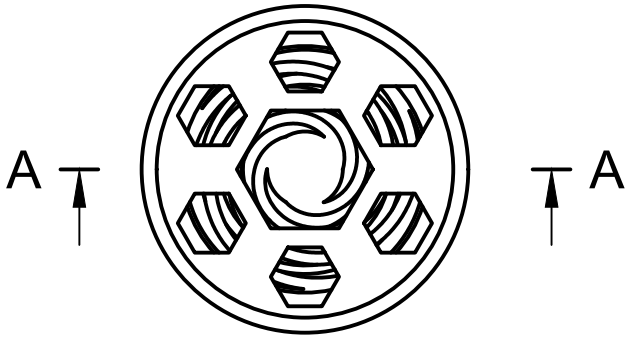

Item	Qty	Part Number
5	1	Cover
4	1	SPRING
3	1	Stamper
2	1	SEAL
1	1	BASE

Parts List