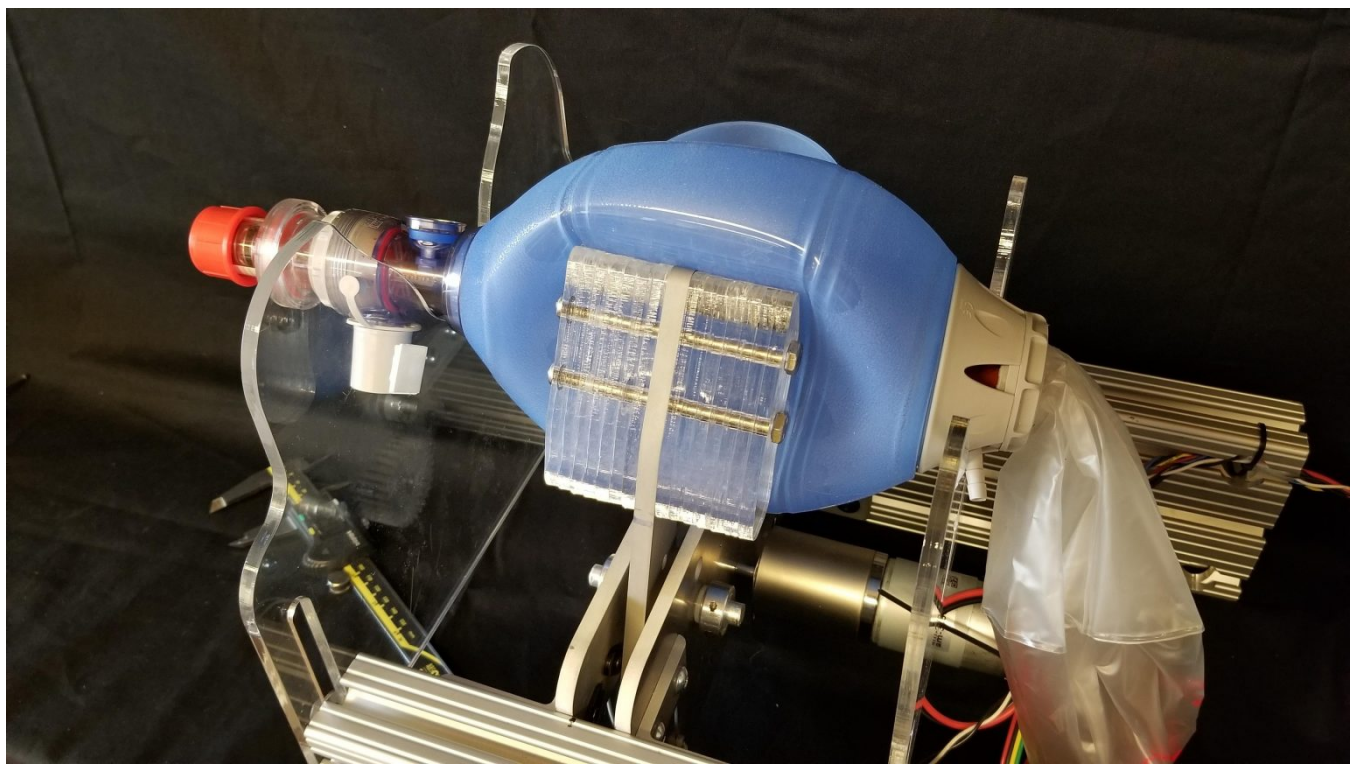
Bag Sizing

6 April 2020

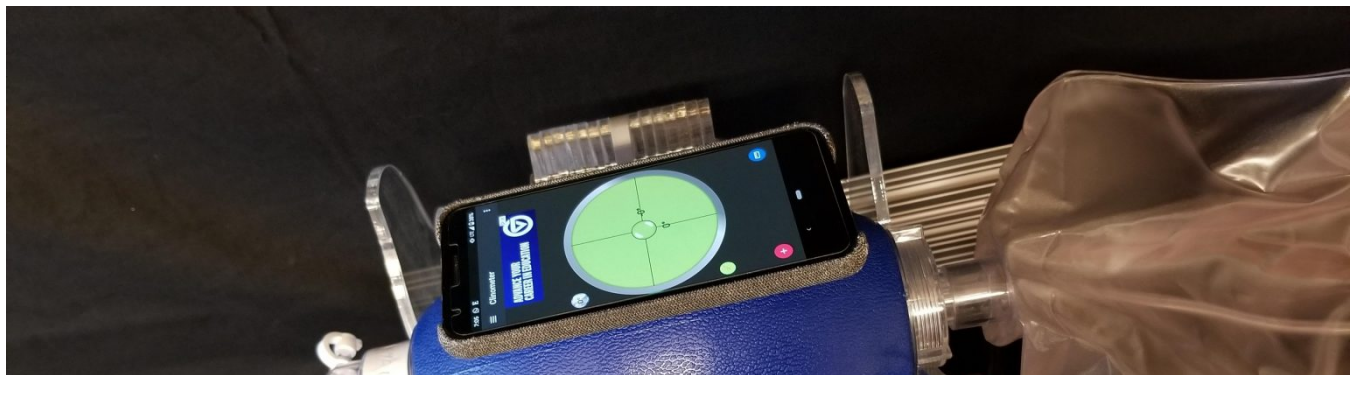
This page details various bag sizes and why the bag supports in any design should be adjustable. The key is to find points on each bag that provide support and lateral constraint, but do allow the bag to flex as it is compressed. The bag should be centered laterally and vertically between the grippers. The table below gives dimensions at the contact points and the center of the bag. We place the bag with the bottom towards the motor and head, with patient valving, overhanging. Remember, this valving must be extended as described in **Plumbing**. All measurements are in mm.

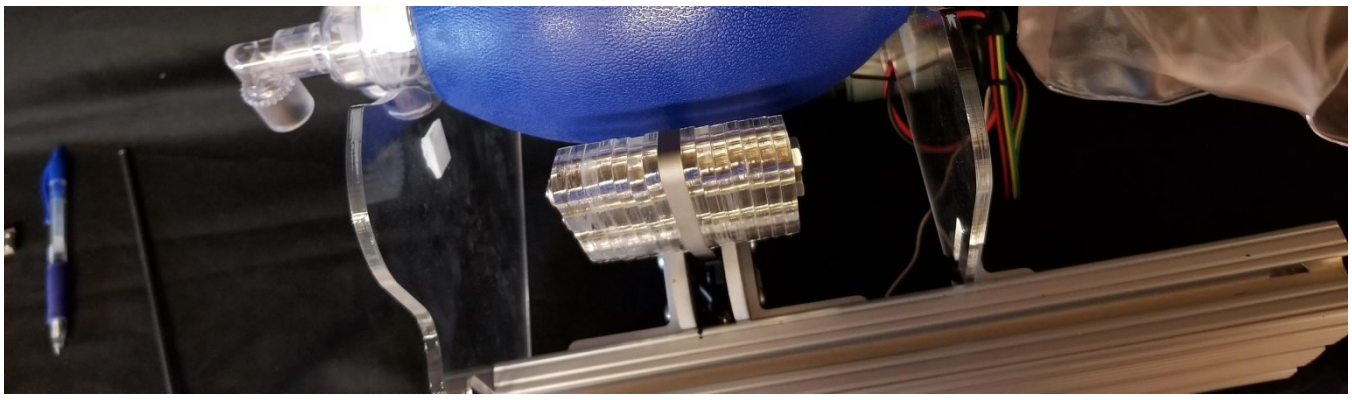
bag	distance	bottom ø	top ø	center ø
Ambu Spur II & Adult Silicon	21	61	29	129
Care Fusion	21	54.5	50	134
Laerdal The Bag	21	na	40	139
Portex	20.5	61.5	37	131

Below are pictures of each bag type that we measured:

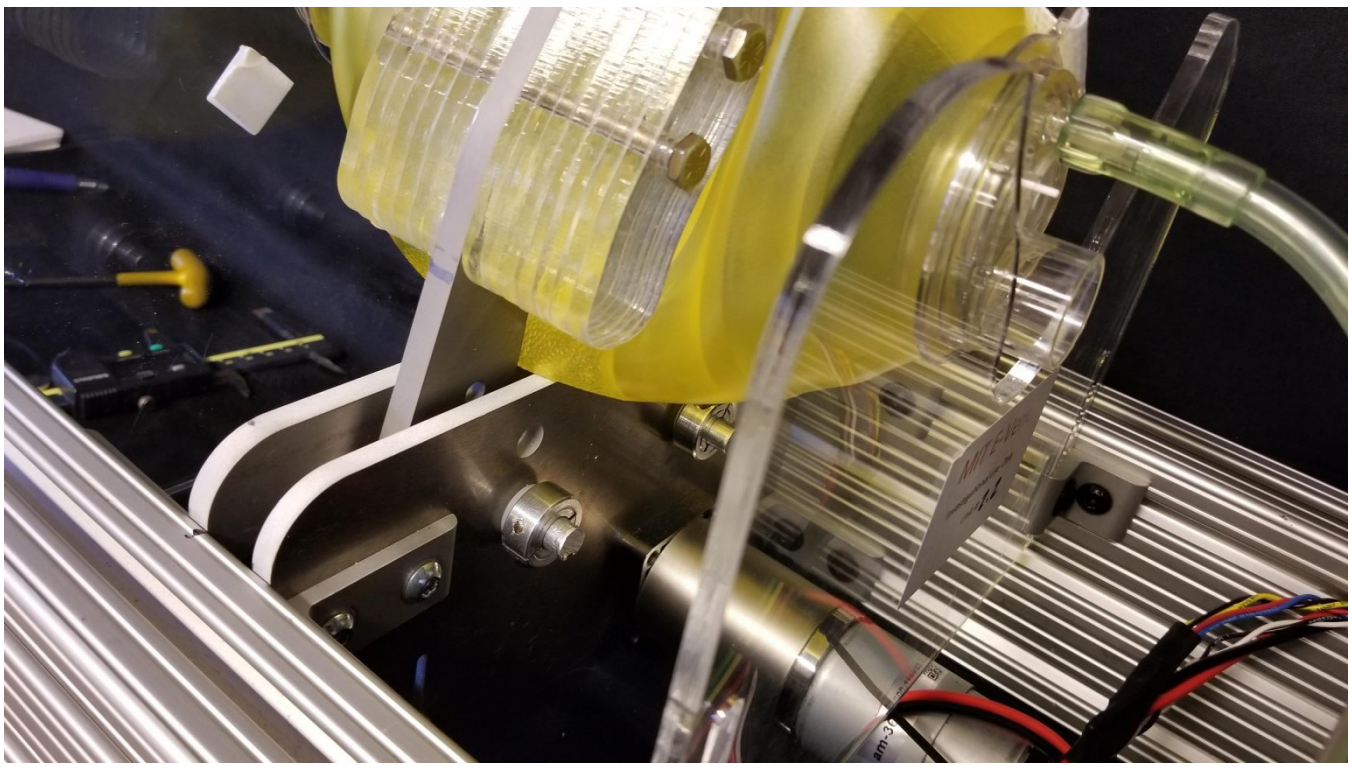


Ambu brand bag, note use of barb fitting to secure rear of bag

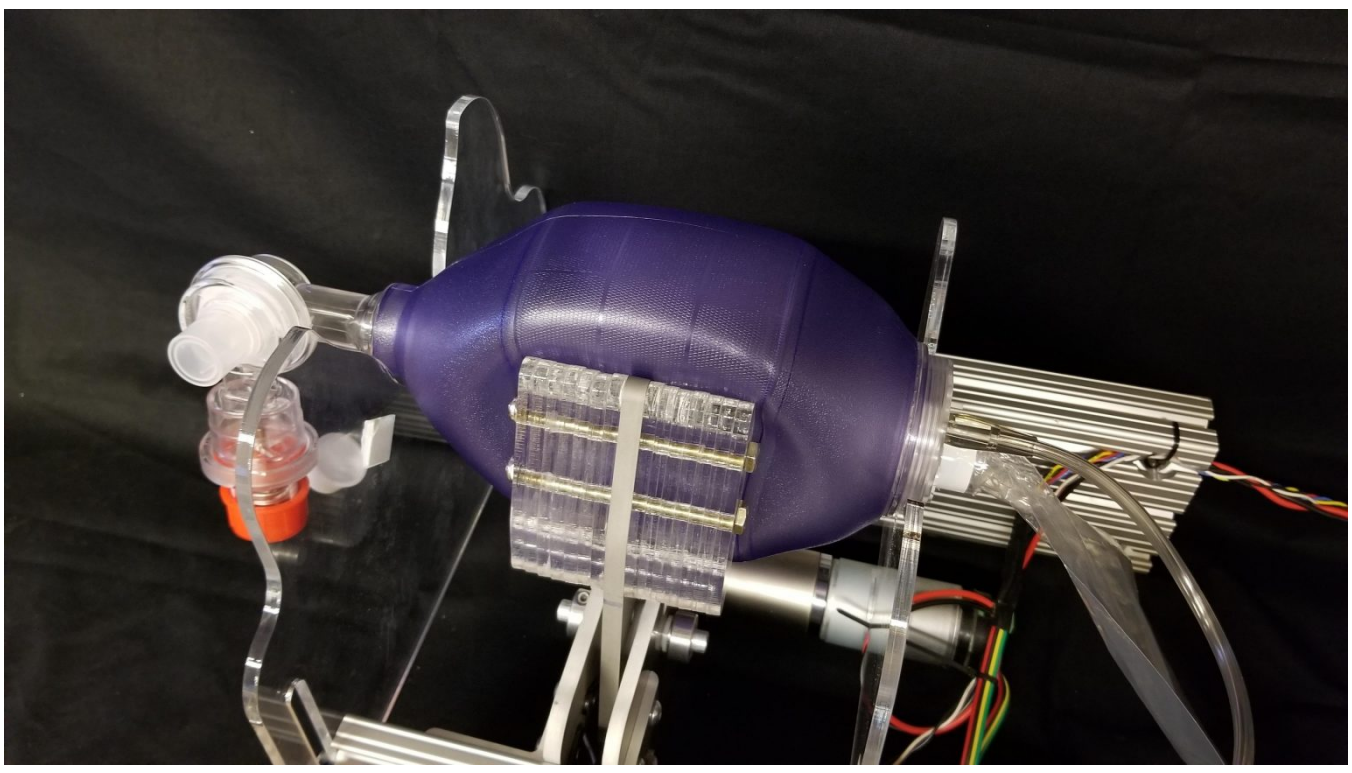




Using a phone level to position a Care Fusion bag



The Laerdal bag is large. Care must be taken to not pinch the bag when compressed and, as seen here, the bag lifts up and out in current configuration. This is not a good fit and longer arms are needed.



The Portex bag is cool because it comes in purple, but it is hard to secure properly.

3 Replies to “Bag Sizing”

Jim Sullivan 7 April 2020 at 01:53 Reply

This is great information – thank you. Are any controller adjustments necessary to accommodate for differences in bag stiffness, or do pump air pressure sensors provide necessary information?

MAREESAN BOSE 7 April 2020 at 05:24 Reply

Gear on motor shaft will create radial load. Hope the bearings of the planetary gear motor are suitable to handle

the bending moment.

Jim Sullivan 7 April 2020 at 10:03 Reply

Also, any consideration to using thin quick release fasteners, such as velcro straps, on the plexiglass ends to secure the bag so it wouldn't be accidentally moved or dislodged? It might also solve the Portex bag problem, and the bag could still be quickly removed for manual use in case of an error or malfunction.

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