

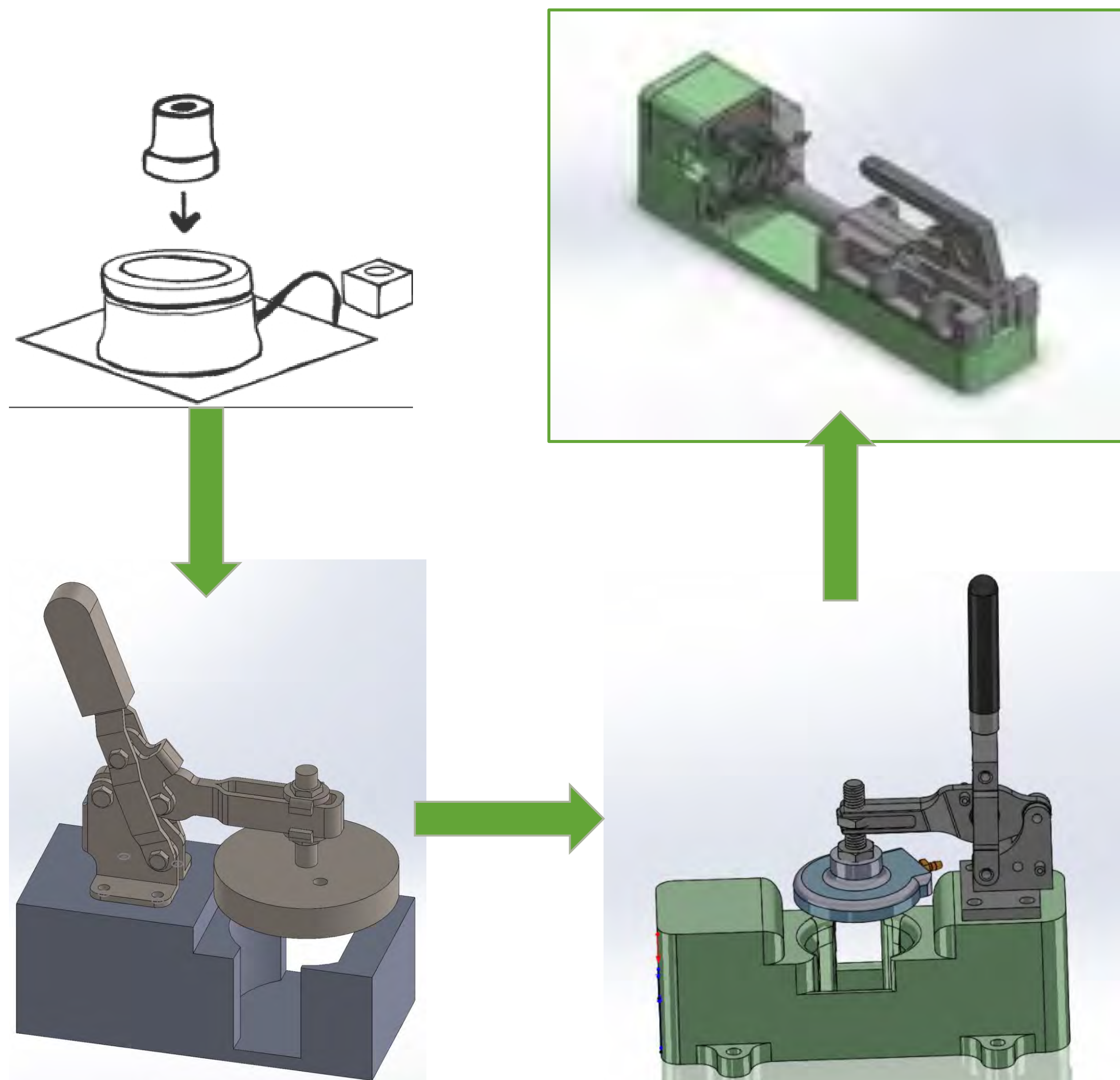
By Team M10 – Dex5  
Sponsored by Dexcom

## Project Overview

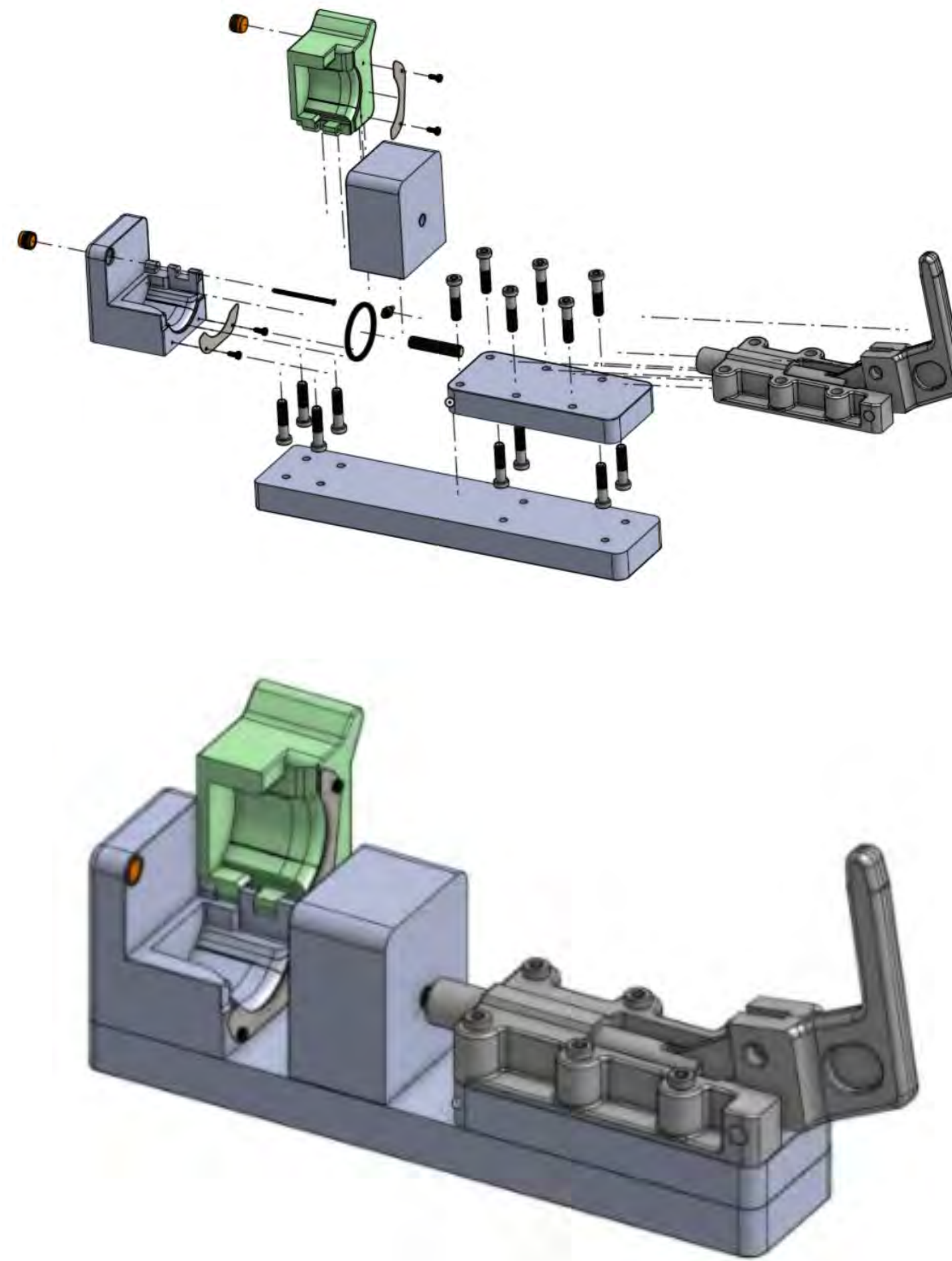
Dexcom's next generation applicator utilizes a Tyvek patch allowing for sterilization. The Tyvek seal onto this cap is a critical assembly step. The automation equipment that is used to seal the Tyvek to the cap needs to be set-up and confirmed for each production lot. The confirmation is conducted by a pressure decay test that must seal against the bottom of the cap and confirm the rate of pressure loss overtime through the Tyvek seal.

The Dex5 team has designed a fixture that allows production operators to easily conduct the pressure decay test required to confirm production equipment, while reducing overall test set up time and steps, and producing a reliable and repeatable result.

## Prototype Iterations



## CAD Model



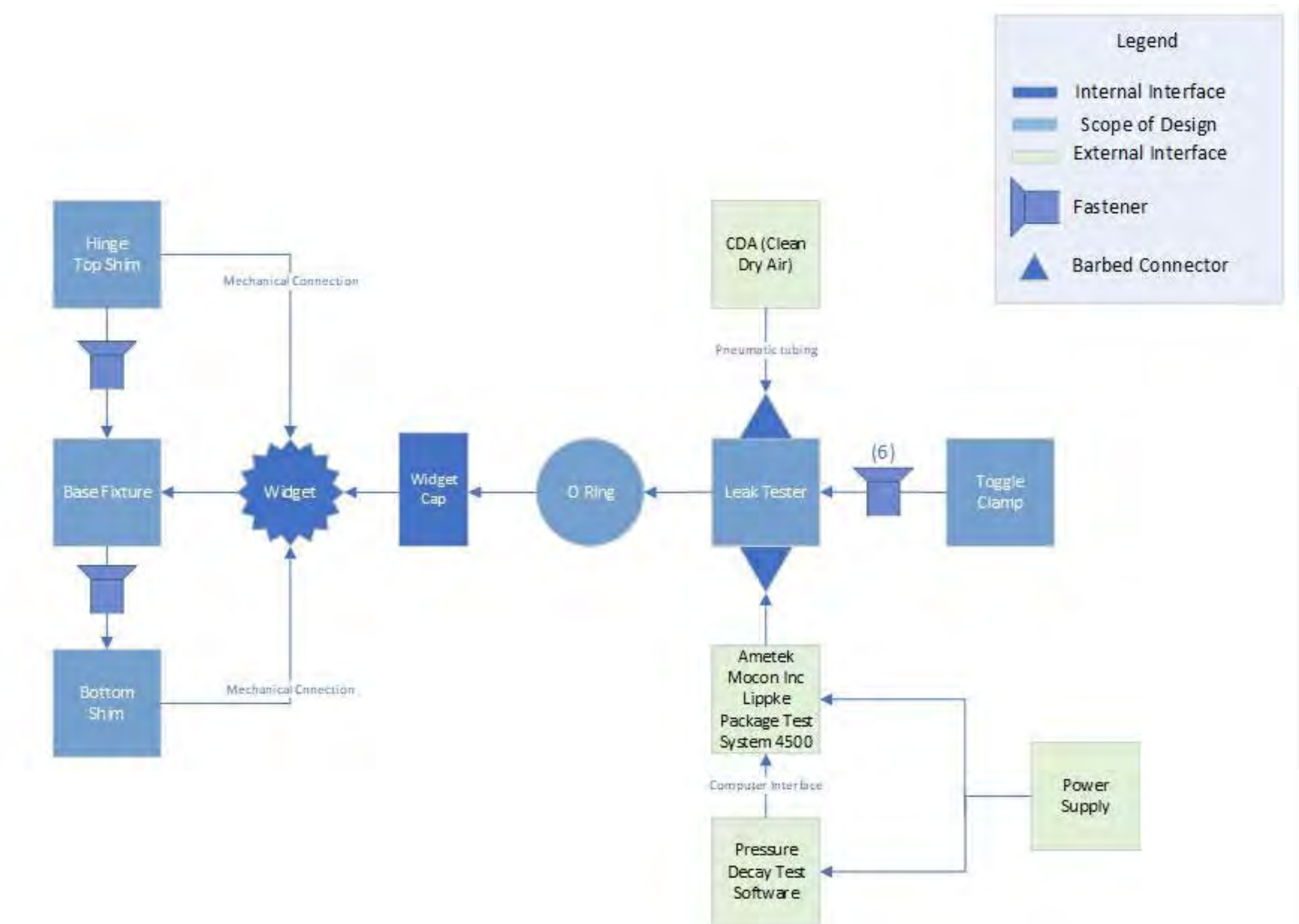
## Manufacturing



## Ametek Mocon Inc. Package Test System Lippke 5000



## System Diagram



## Team Members



Gabby Ahad  
Research Lead



Victoria Carlson  
Technical Project Manager



Jonas Marave  
Manufacturing Lead



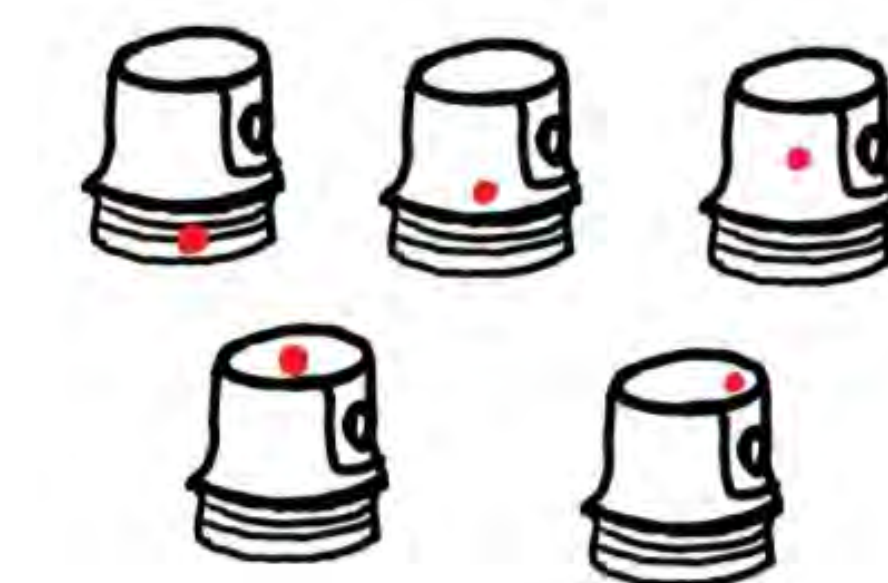
Clint Panian  
Design and Procurement Lead



Andrew Silva  
Design Lead

## Test Methods and Results\*

| Appraiser #  | Number of Specimens |              | Number of Runs for Each Appraiser | Total number of Measurements |
|--------------|---------------------|--------------|-----------------------------------|------------------------------|
|              | No Defect           | 50 µm Defect |                                   |                              |
| Appraiser 1  | 5                   | 5            | 2                                 | 20                           |
| Appraiser 2  | 5                   | 5            | 2                                 | 20                           |
| Appraiser 3  | 5                   | 5            | 2                                 | 20                           |
| <b>Total</b> |                     |              |                                   | <b>60</b>                    |



\*See binder for gage R&R test results.