

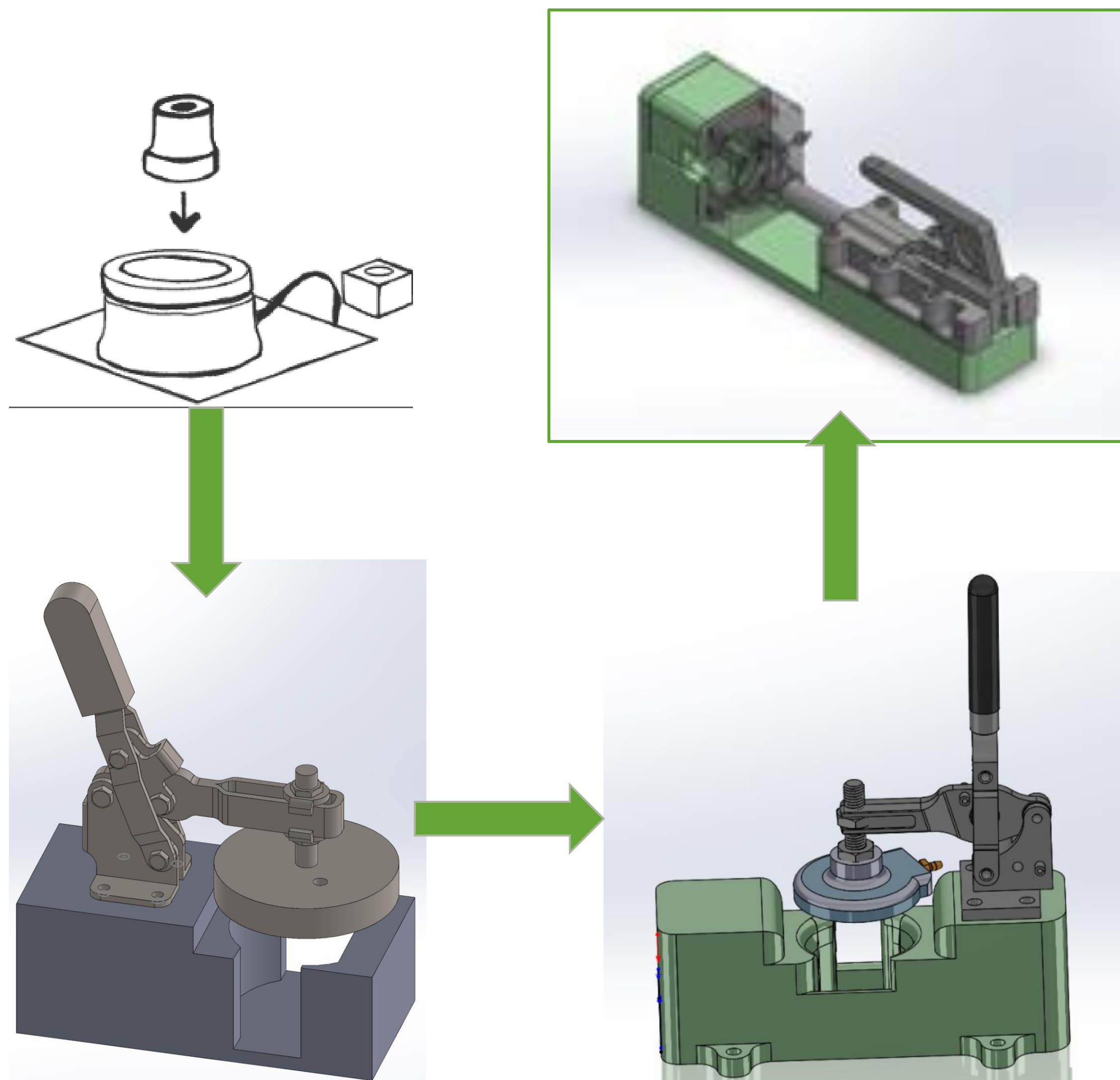
By Team M10 – Dex5
Sponsored by Dexcom

Project Overview

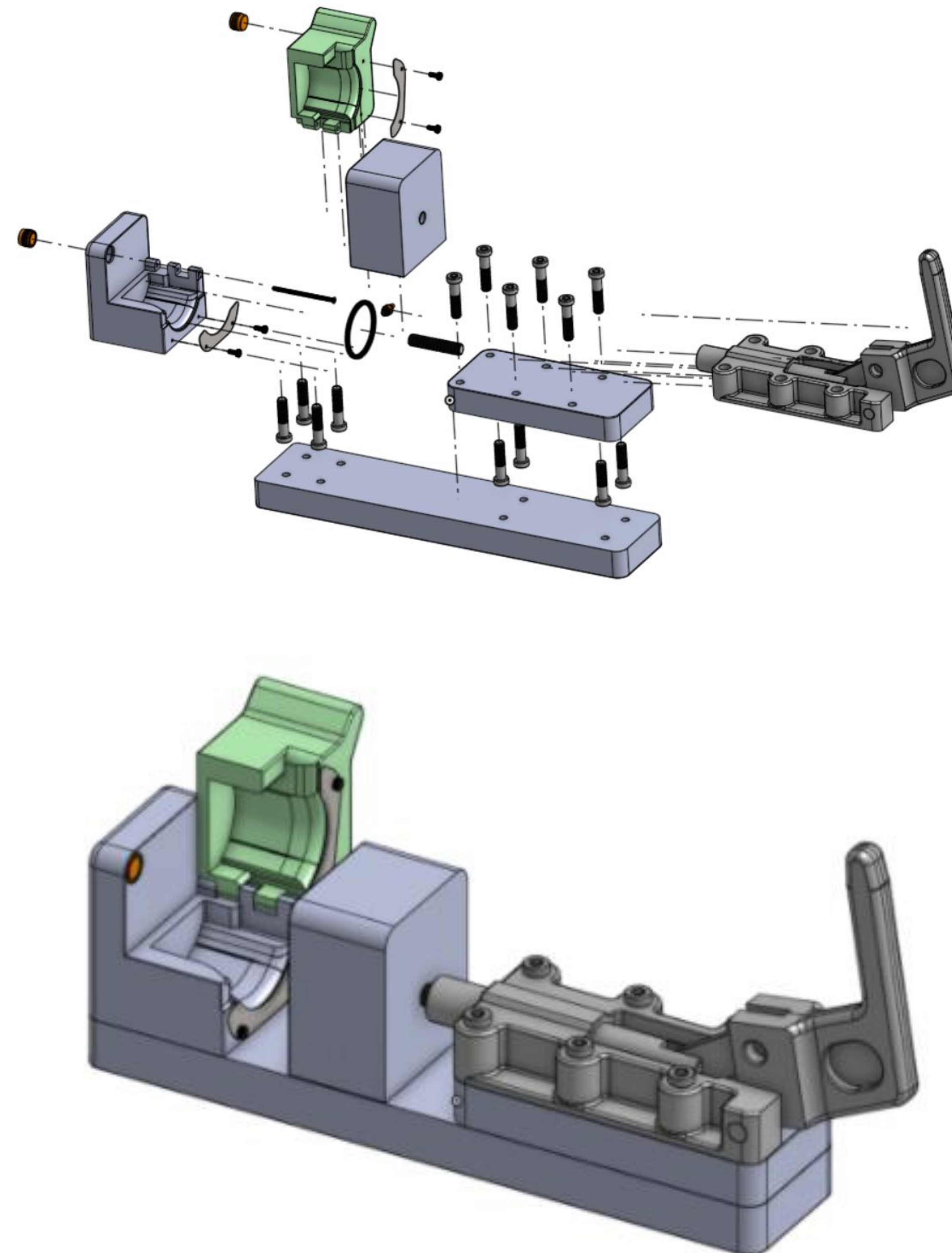
Dexcom's next generation applicator utilizes a Tyvek patch allowing for sterilization. The Tyvek seal onto this cap is a critical assembly step. The automation equipment that is used to seal the Tyvek to the cap needs to be set-up and confirmed for each production lot. The confirmation is conducted by 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



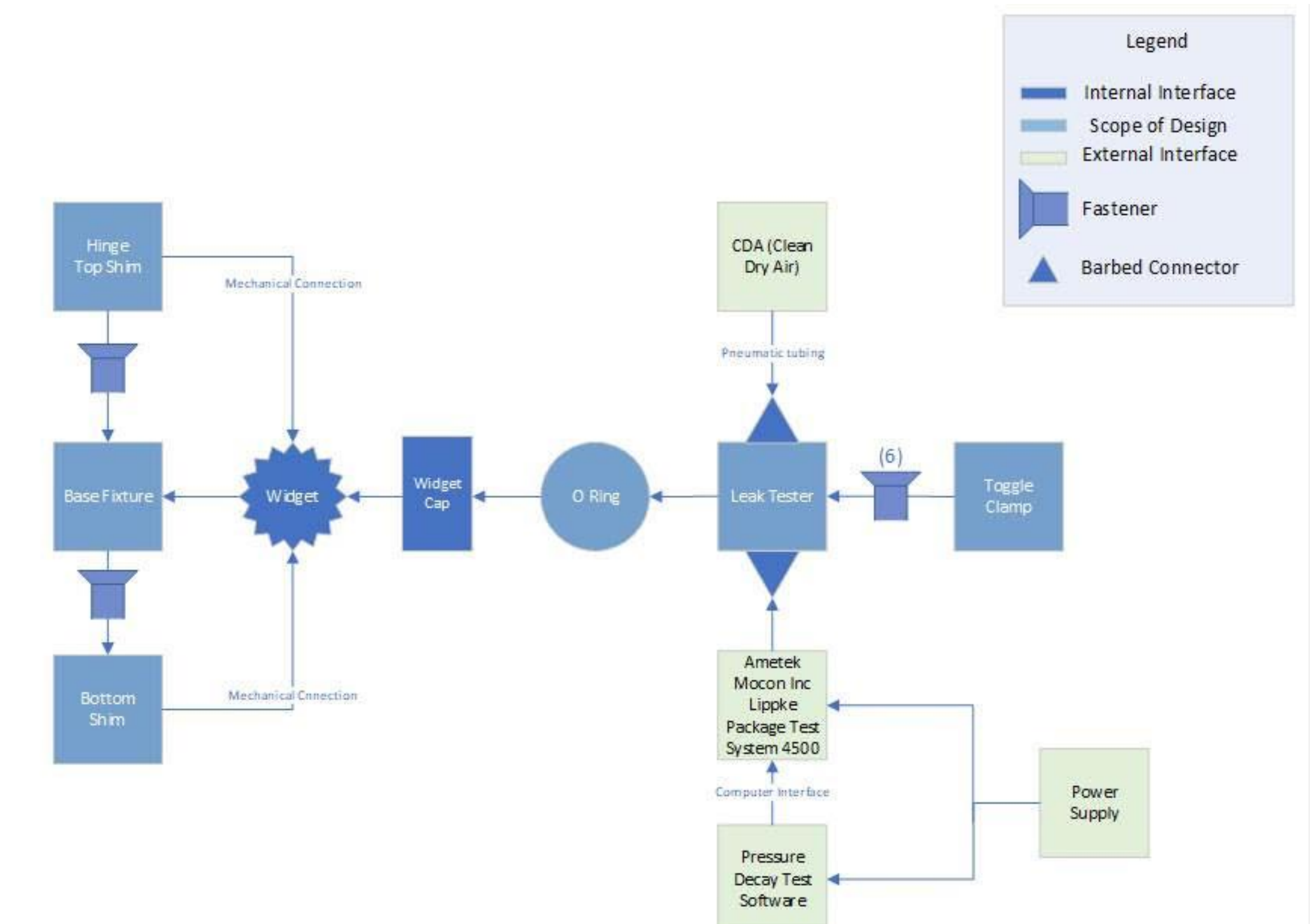
Manufacturing



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
Total				60

*See binder for gage R&R test results.

